



Catalog Extract 2015-2016 Edition

This is an extract of the 2015-2016 AUC catalog edition, for a complete catalog, please check the official website at:
catalog.aucegypt.edu

TABLE OF CONTENTS

SCHOOLS AND DEPARTMENTS.....	3
UNDERGRADUATE ADMISSIONS.....	268
FIRST-YEAR EXPERIENCE PROGRAM.....	275
UNDERGRADUATE STUDIES.....	276
THE CORE CURRICULUM.....	277
ACADEMIC ADVISING CENTER (AAC)	277
UNDERGRADUATE ACADEMIC REQUIREMENTS & REGULATIONS.....	288
GRADUATE ADMISSIONS.....	303
GRADUATE ACADEMIC REQUIREMENTS & REGULATIONS.....	308
PROGRAMS.....	316
COURSE PREFIX IDENTIFICATION AND CODING RATIONALE.....	556
COURSES.....	560

Schools and Departments

The American University in Cairo

The Academy of Liberal Arts

Department of Arabic Language Instruction

Chair of the Department of Arabic Language Instruction: D. Abo El Seoud

Arabic Language Teachers: H. Abdel Wahab, N. Abdel Wahab, D. Abo El-Seoud, J. Allam, N. El Assiouti, S. Attalla, K. Al Ekhrawy, S. El-Ezabi, I. Hafez, A.Haidar, N. Harb, M. K. Hassan (Director, Arabic Language), A. Hassanein , S. Massoud, M. S. Moussa, I. Saad, H. Salem, L. Al-Sawi (Director, Arabic Language Intensive Program), S. Serry, I. Soliman (Executive Director, Center for Arabic Study Abroad), A. Waked, L. White and S. Yacout. (Director, Summer Program), A. Hamdi , H. Abdel Mobdy , H. Kamal Hassanein, M. Mohamed Al-Qaffash, R. Hassan (CALL Director), S.Ismail, W. Farouq, A. Abdou

The Department of Arabic Language Instruction (ALI) is responsible for Arabic Language Instruction within the university's academic structure. The ALI administers regular non-intensive and accelerated courses in Arabic offered for academic credit (ALNG). This Unit offers courses that cater to undergraduates and graduates who need to fulfill their Arabic requirements. It also serves non-degree and study abroad students. ALNG Unit offers courses at the elementary, intermediate, and advanced levels in both Modern Standard Arabic and Egyptian Colloquial Arabic. There are two tracks for Modern Standard Arabic classes: normal and accelerated.

Under the umbrella of the Department of Arabic Language Instruction, three intensive programs are administered: the Arabic Language Intensive Program (ALIN), Arabic Language Intensive Summer Program (ALIS), the Center for Arabic Study Abroad (CASA) and the Center for Advanced Arabic Studies in Cairo (CAASIC). ALIN students who are qualified to change to undergraduate programs may receive up to 12 undergraduate credits in the fall and in the spring semesters from AUC, except elementary undergraduate students who can receive 10 credit hours. In the Summer Program (ALIS), students can receive up to 6 credit hours. Students may be able to obtain credit toward an academic degree at their home institution for their Intensive Arabic Language (ALIN) coursework. They should determine their institution's policy regarding transfer credit before coming to Cairo.

Students registered in the ALIN and wishing to change their program to AUC undergraduate, graduate and non-degree programs have to satisfy the admission requirements listed in the catalog for these programs.

Arabic Language Undergraduate Credit Courses (ALNG)

Director: M. K. Hassan

All Arabic language credit classes at AUC are administered and taught by the Department of Arabic language Instruction. For details of university Arabic language requirements, see the "General Academic Requirements" section.

Arabic Language Undergraduate Credit Courses (ALNG): To see all ALNG courses, please go the "Courses" link in the homepage.

Arabic Language Intensive Program (ALIN)

Director: L. Al-Sawi

The Department of Arabic language Instruction offers intensive Arabic language courses for students, businessmen, diplomats, scholars, and others needing to gain a broad command of contemporary Arabic as quickly and as effectively as possible. For over sixty years, first through its School of Oriental Studies and then through its Center for Arabic Studies, AUC has taught Arabic to foreigners. Since the inception of what is now the Department of Arabic language Instruction, in the 1970s, this program has attracted students from the United States, Africa, Asia and Europe, offering intensive courses in both modern standard and Egyptian colloquial Arabic. A summer program is also offered.

Arabic Language Intensive Program (ALIN) is part of the Department of Arabic language Instruction program. Students must register for a minimum of twelve credit hours per semester, while the normal course load is twenty contact hours per week. All courses are taken for grades, and credit is granted as indicated at the beginning of each course listing. ALIN students who are qualified to change to undergraduate programs may receive up to 12 undergraduate credits in the fall and in the spring semesters from AUC, except elementary undergraduate students who can receive 10 credit hours. Summer students can receive up to 6 credit hours. (see "Non-degree Academic Regulations" for transfer of credit to other universities under "Undergraduate Academic Requirements and Regulations").

Elementary Level

The course for beginners runs from the first week of September through May. The main emphasis is on modern standard Arabic, but Egyptian colloquial Arabic is simultaneously offered (about thirty percent of class time is devoted to colloquial). Arabic is used as the main medium of instruction in the second half of the program. The course comprises up to twenty hours per week of classroom instruction, including language laboratory work, and up to twenty hours of home assignments.

A student who successfully completes the first year of intensive study with the Department of Arabic Language Instruction can expect to possess a working competence in reading and writing modern standard Arabic and understanding and speaking Egyptian colloquial or modern standard Arabic.

Intermediate Level

Courses at this level are designed for those who have completed a year of intensive study at the elementary level of the Department of Arabic Language Instruction or who have studied two or more years elsewhere and can demonstrate a similar level of competence. The program runs from the first week of September through May in the following year.

Arabic is the chief medium of instruction. Students continue work in modern standard Arabic and Egyptian colloquial Arabic. Interested students may, at this level, begin to acquire familiarity with classical Arabic. Attention is given to the Arabic of print and broadcast media, while special lecture courses in Arabic are offered in response to the special interests of the students, such as Middle Eastern economics and politics, business correspondence, medieval and modern Arabic literature.

Students who complete this second year of study should be able to read and write modern standard Arabic with some fluency, to pursue study in topics that specially interest them in Arabic, and to converse freely in Arabic. Intermediate-level students will also have had an opportunity to acquire vocabulary and terminology related to such special fields of interest as business and diplomacy.

Advanced Level

Exceptional students may wish to take a third year. These courses are arranged according to demand, but they typically include advanced work in reading and writing and lecture courses in special topics. At the end of such a course a student should be able to compete with Arab students at the university level. Alternatively, the student should be able to employ Arabic with competence and confidence in the fields of business and/or diplomacy.

Certificate and Program Requirements

ALIN fulltime students must take twenty contact hours per week for which they are awarded twelve to fifteen program credits per semester.

At the end of students' enrollment in the Department of Arabic Language Instruction, certificates of achievement will be awarded from the department (specifying their level, i.e. elementary, intermediate or advanced) (See the Intensive Arabic Language Course listing and the number of program credits awarded for each course).

Arabic Language Intensive Courses (ALIN) (*To see all ALIN courses, please go the "Courses" link in the homepage.*)

ALIN courses are listed sequentially by area. In this three digit system, the first digit represents the level of the course: 1 for elementary, 2 for intermediate, and 3 for advanced.

Prerequisites are not listed for every course. However, entry into all intermediate and advanced courses presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

Arabic Language Intensive Summer Program (ALIS)

Director: S. Yacout

The Department of Arabic Language Instruction offers an intensive summer program from the second week of June until the last week of July. Students must take twenty hours of class per week to be considered full-time. The summer curriculum includes either Modern Standard Arabic (MSA) and Egyptian Colloquial Arabic (ECA) at all levels, or Modern Standard Arabic only, both options as a full load.

In addition, a number of electives are also offered depending on the students' level.

Students in summer receive from six to eight credit hours depending on their level. A certificate of achievement from the Department of Arabic language Instruction is then offered upon successful completion of the program.

Extra Curricular Activities/Student Cultural Activity Program

An integral part of the intensive language program, both full year & summer, is an extensive series of tours of Cairo and trips to the easily visited sites of interest all over Egypt. These tours and trips are supplemented by a lecture series. While the department subsidizes a large portion of the expenses, including transportation (except where air travel is involved) and entrance fees, students are required to pay for their food and lodging.

The Department of Arabic Language Instruction cultural program also includes a cultural component featuring activities such as calligraphy, music, folkloric dance and an overview of Egyptian films.

In addition, the program includes an end of semester summer party which is organized with the active participation of the students.

Arabic Language Intensive Summer Program Courses (ALIS): To see all ALIS courses, please go the "Courses" link in the homepage.

Center for Advanced Arabic Studies in Cairo (CAASIC)

Director (U.S.A.): Nevneka Korica-Sulliavn, Harvard University

Executive Director: Iman Soliman

CAASIC offers full-year, advanced-level training in Arabic language and culture to graduate and undergraduate students at The American University in Cairo. CAASIC welcomes applicants from all nationalities with a minimum of three years of formal instruction in Arabic.

Students receive 12 credit hours per semester (total of three semesters) , twelve credit hours per semester, while the normal course load is twenty contact hours per week.

All courses are taken for grades, and credit is granted as indicated at the beginning of each course listing.

Certificate and Program Requirements

CAASIC students apply and undergo a selection process that requires sitting and passing a language entry exam, submitting transcripts, three letters of recommendation as well as a statement of purpose.

CAASIC fulltime students must take twenty contact hours per week during the summer and fall and 12 contact hours in spring for which they are awarded twelve to fifteen program credits per semester.

At the end of students' enrollment in the Arabic Language Intensive Program, certificates of achievement will be awarded from the Arabic Language Institute (specifying their level, i.e. elementary, intermediate or advanced) (See the Intensive Arabic Language Course listing and the number of program credits awarded for each course)

Program Description

The program consists of three semesters - summer, fall and spring - as explained below:

A. Summer Program

The summer program offers up to 20 contact hours per week and fellows are expected to spend between four to five hours daily doing homework and preparing for class activities for the following day.

The summer academic program includes two courses:

1. Umm Addunia: A Course in Egyptian Colloquial Arabic and Culture 4 cr.

This course offers eight to ten contact hours per week and aims to develop the fellows' proficiency in the Egyptian dialect quickly so that they can function in their new environment. In addition to focusing on the colloquial of daily life, the course places emphasis on aammiyyat al-muthaqqafiin (educated colloquial), in which the colloquial is mixed with formal Arabic. Multiple sections of this course are offered to accommodate varying levels of proficiency.

2. Egypt: Culture and Society 4 cr.

This is a content-based course that offers eight to ten contact hours per week and aims to engage students through a number of historical, political, social and cultural issues of significance to the society in which they are living. The course places emphasis on the development of all language skills with attention to expanding vocabulary and enhancing grammatical accuracy.

B. Fall Academic Program

Description and Courses

The fall semester requires learners to study three core courses at 20 contact hours per week. The following courses are offered in the fall:

1. AIAS 501/5301 - Egyptian Colloquial Arabic (3 cr.)
2. AIAS 521/5151 - Listening And Speaking (3 cr.)
3. AIAS 531/5121 - Reading, Writing And Vocabulary Building (5 cr.)
4. The cultural program offers a structured lecture series aligned with fall curriculum (1 credit)
Objectives and themes. Learners attend a biweekly lecture. Short and long trips are organized by ALI and all CAASIC learners are welcome to join any of the free one-day activities or the long excursions for a fee.

C. Spring Academic Program (12 credits)

The spring semester represents the culmination of the CAASIC program. The spring semester allows learners to utilize the advanced language skills they have developed during the summer and fall by working with Arabic materials in their own fields of specialization. Each fellow is required to study four courses. Each course is for 3 credits, for approximately 12 contact hours per week: two elective core courses with language focus (such as Palestinian literature, the city of Cairo, Arabic media, Arabic literature, Egyptian history through movies, Egyptian colloquial literature and text, etc.), in addition to two elective courses related to the learners' research interest (such as literature, religion, politics, economics, political Islam, etc.). The selection process happens in consultation with the CAASIC director. Fellows choose from a list of courses that have been previously offered.

The community-based learning component of the program, Learners Without Borders, is highly recommended. This is a Community-Based Learning course in which learners design and complete a community project, documentary or presentation based on volunteer work with local organizations or institutions related to their academic and/or general interests. Fellows will engage with the target language community so they can develop superior language proficiency, improve intercultural competence and establish significant lifelong social networks. Each learner will work with a cultural adviser and develop a course agreement specifying the nature of their work. Course projects involving volunteer work will require a signed student organization agreement, outlining roles and responsibilities which should be submitted to the advising professor.

Any spring course offered must have a minimum enrollment of six students.

Language Pledge

All CAASIC students will be required to abide by an Arabic-only speaking policy on campus and off campus as much as possible.

Exit Exam

All CAASIC students will be required to participate in an end of full-year proficiency exit exam. This exam is no substitute for the regular quizzes or monthly and end of semester achievement exams.

Department of English Language Instruction

Chair: N. Kassabgy

Intensive Academic English Program Director: S. Farag

IEP Assessment Specialist: H. Garas

Intensive and Academic English for Graduates Program Director: M. Osman

Academic English for the Liberal Arts (ENGL 0210) Program Director: A. El Shebeenie

Academic English for the Liberal Arts (ENGL 0210) Assessment Specialist: E. Arrigoni

Senior Instructors: N. Aboul Fetouh, E. Arrigoni, M. Bishara, C. Clark, A. Demian, S. Esnawi, S. Farag, H. Garas, K. Helmy, M. Iskander, R. Jabr, L. Kamal, N. Kassabgy, N. Khafagi, S. Abdel Hady Makhlof, A. Mishriki, S. Rizzo, M. El Saady, M. Sarofim, H. Shawarbi, A. Shebeenie, E. Yoder, M. Osman, Y. Salah Eldin.

Instructors: M. Ateek , I. Baza, M. Baza, M. Fairley, S. El Farnawany, N. Kassas, A. Lewko, R. McAuley, W. Mcfeely, M. Salah Eldin.

Mission Statement

The Department of English Language Instruction (ELI) offers intensive, semi-intensive, and modular non-credit courses to prepare undergraduate and graduate students in academic English, critical thinking, and other academic skills that they will need at university. This is accomplished by highly qualified faculty using content-based and learner-centered approaches designed to align with courses at AUC and to empower learners

ELI Program Accreditation - ELI/CEA

The ELI is accredited by the Commission on English Language Program Accreditation (CEA) for the period of five years and agrees to uphold the CEA Standards for English Language Programs and Institutions. CEA is recognized by the U.S. Secretary of Education as a national accrediting agency. For further information about this accreditation, please contact the Commission on English Language Program Accreditation, 801 N. Fairfax St., Suite 402A, Alexandria, VA 22314, (703) 665-3400, www.cea-accredit.org

Undergraduates

Academic Bridge Program

An Academic Bridge Program ensures academic preparedness and provides foundations for success for incoming students needing developmental course-work prior to their freshman semester. The undergraduate courses offered by the Department of English Language Instruction (ELI) are the essential core of AUC's efforts in this regard. As such, their goal is to provide the proficiency in Academic English, along with enhanced reading, critical thinking and study skills, needed for successful study at the American University in Cairo as an English-Language, American style institution of higher learning committed to the principles of a liberal arts education.

As detailed below, the ELI offers two levels of study for undergraduates: Intensive Academic English and Academic English for the Liberal Arts. Both are designed to help transition students into the freshman program at AUC, and to contribute to ensuring future academic success for students, whatever their fields of study.

Attendance

Attendance and participation are considered so important to this intensive language program that a student who for any reason misses the equivalent of six days of class (thirty hours) in any one semester will be asked to withdraw. Students who are asked to withdraw but fail to do so will be suspended. A committee of IEP Administrators and instructors will decide whether or not the suspended student will be allowed to return to the IEP.

Readmission

Suspended students who are not allowed to return to the IEP may be readmitted to AUC only if they submit new iBT or IELTS scores placing them in levels higher than the IEP. Other applicants for readmission may not submit a new TOEFL iBT or IELTS score unless more than six months have elapsed since their last TOEFL iBT or IELTS examination or the IEP exit battery.

Intensive Academic English (ELIN 0101/0102)

The Intensive Academic English (IAE) program for undergraduates offers ELIN 0101 (Intermediate English), and ELIN 0102 (Advanced English). Students are placed in one of the two levels according to their scores on the International English Language Testing System (IELTS) or Test of English as a Foreign Language Internet-Based Test (TOEFL-ibt).

Students in all undergraduate IAE classes take five hours of classes a day. Because of the intensive nature of the classes, regular attendance and active involvement are major factors in a student's success. It is very difficult and often impossible to make up what has been missed. Undergraduate students in Intensive Academic English (IAE) classes are allowed to take up to a full calendar year to reach either the level of ENGL 0210 , Academic English for the Liberal Arts, or the Freshman level (RHET 1010). For example, students entering IAE classes in the spring who do not reach the required level of Academic English (either ENGL 0210 or RHET 1010) by the end of the semester in order to do so. At the end of one calendar year, a student who has still not attained the required level will be suspended.

Academic English for the Liberal Arts (ENGL 0210)

Academic English for the Liberal Arts (ENGL 0210) is a non-credit, concurrent, conference-centered course intended to transition students into a full course of study in the Freshman Program at AUC. Sessions are devoted to the comprehension and summary of university-level texts, the introduction to basic research tools, the writing of essays on science and humanities topics, and remedial grammar, within the context of individual teacher-student conferences. Newly developed materials and approaches, such as close adjuncting to Freshman Program courses or course content, ensure that students see the relevance and impact of their efforts in terms of their long-term academic success.

Since students receive the equivalent of nine credit hours of instruction in Academic English for the Liberal Arts, students taking the course (ENGL 0210) may enroll in no more than two academic courses with a maximum of 7 credit hours of academic course credits. Any student who withdraws from ENGL 0210 must also withdraw from the two other academic courses. Regular attendance in ENGL 0210 is important; a student who for any reason misses more than 10 days will be dropped from the course. A student who is dropped will be allowed to retake the course the following semester. For new students, placement in ENGL 0210 is determined by their score on the International English Language Testing System (IELTS) or Test of English as a Foreign Language- Internet-Based Test (TOEFL-Ibt). For students enrolled in Intensive Academic English (IAE) courses, placement in Academic English for the Liberal Arts (ENGL 0210) is determined by their score on the IAEP exit test. All students who have been admitted into ENGL 0210 must satisfactorily complete the course work within a time period not to exceed two full semesters and a summer session. Students taking ENGL 0210 in summer may not enroll in any other academic course.

The Academic English for Graduates (AEG) Program:

Graduate students who are otherwise qualified to enter the university but whose English does not meet the necessary level of proficiency, based on the applicant's performance on the TOEFL iBT or IELTS, will be admitted to ELIN 0301 or ELIN 0302 , or placed in the appropriate modules of ENGL 123-125/0310, 0311 and 0312.

Graduate students in the intensive ELIN 0301 and ELIN 0302 courses are allowed a maximum of two semesters and a summer to reach the level of Academic English for Graduates (see Academic English for Graduates Modules in this section), or beyond. Graduate students enrolled in the modules are allowed a maximum of three semesters to pass out of the program.

Intensive English for Graduates Courses

The intensive English for Graduates course is offered at ELIN 0301 (intermediate) and ELIN 0302 (advanced) levels. Students are placed in one of the two levels according to their scores on the TOEFL iBT or IELTS. Students in these courses are not allowed to concurrently enroll in other AUC courses.

Content of Courses

Students are placed in sections normally composed of up to twelve students. Students are given a grammar review, extensive reading and writing practice, advanced vocabulary review, and practice in speaking and listening comprehension. Grading in this course is on a Pass/Fail system.

Attendance

Attendance and participation are considered so important to this intensive language program that a student who for any reason misses the equivalent of more than 21 class hours in any one semester will be asked to withdraw. Applicants for readmission may submit an iBT TOEFL or IELTS score. If their score is the intensive level, they will be allowed to return to ELIN 0301 or ELIN 0302. Students who are asked to withdraw but fail to do so will be suspended.

Suspension and Readmission

Graduate students suspended from ELIN 0301 or ELIN 0302 must petition for readmission and must meet all the admission requirements prevailing at the time of readmission. Readmission is not granted automatically. Students suspended from ELIN 0301 or ELIN 0302 who are readmitted to the university must score high enough on the TOEFL iBT or the IELTS for direct admission to Academic English for Graduates or higher, as they will not be allowed to return to ELIN 0301 or ELIN 0302.

Academic English for Graduates Modules

Academic English for graduate students consists of three non-credit modules covering effective writing (ENGL 0310), academic reading (ENGL 0311), listening and speaking (ENGL 0312). Students who are taking all their required modules may take other courses at the same time, thus enabling them to apply what they are learning in these modules to what they will be expected to do in other graduate courses. Grading in these modules is on a Pass/Fail system.

ENGL 0310 meets for two hours two times a week, while the other two modules (ENGL 0311 and ENGL 0312) meet for two hours one time per week. Students who have part-time or full-time jobs are strongly advised not to attempt other undergraduate or graduate courses until they have completed their academic English requirements. Students enrolled in any of the modules are expected to spend at least three hours per week outside of class in preparation for each weekly class meeting of each module in which they are enrolled (e.g., a student enrolled in three modules should expect to spend at least 9 hours per week outside class plus eight hours per week in class).

Generally students taking the modules are limited to taking courses according to the formula below:

Required Academic	English modules Students may take
3 modules	One undergraduate course
2 modules	One undergraduate or one graduate course
1 module	Two undergraduate or graduate courses

Any student who withdraws from a module must first withdraw from any non-ENGL courses. Students who fail any given module(s) may repeat the module(s) twice. Students who are repeating a given module will not be allowed to take concurrent courses without the written approval of the Program Director of Academic English for Graduates (AEG) program. Students who fail the same module three times will be disqualified but may apply for readmission. Applicants for readmission must score high enough on the TOEFL iBT or IELTS to be exempt from English courses as they will not be allowed to return to ENGL 123-125/0310, 0311, 0312.

Department of Rhetoric and Composition

Department of Rhetoric and Composition The Academy of Liberal Arts

Senior Instructors II: A. Elshimi, S. Makhoulf

Senior Instructors: R. Byford, M. Carter, A. Elshimi, G. Elshimi (ALA Associate Dean), M. Gibson, M. Henry (Chair), R. Hoath, D. Jones, G. Marquis (HUSS Associate Dean), G. McCullough, Y. Motawy, K. Saville

Instructors: H. Attiah, F. Boutros, B. Comer, A. Dempsey, A. Elafifi, D. Fyfe, L. Galabi, D. Gomaa, H. Grant, A. Haist, I. Hamam, M. Hassan, T. Headrick, M. Hendershot (Associate Chair), S. Holder, B. Johnston, S. Khabbar, J. Keevy, D. Lamey, A. Leone, J. Maklad, H. El Minyawi, Sh. Nour el Din, Sh. Shash, B. Swanson, J. Verlenden, W. Wali, D. Waszkowski, A. Young, S. Zaki

The Department of Rhetoric and Composition provides a solid foundation for critical thinking, reading, writing, and promoting excellence in research and rhetoric. As part of this effort, we work to maintain a community where knowledge, research methods, rhetorical skills, and universal human values are cultivated to deepen scholarly practices, personal growth and community engagement.

AUC's Freshman Program requires students to take 6 credit hours of writing. The Department of Rhetoric and Composition offers the following sequence of courses to fulfill this requirement:

- RHET 110/1010 - Freshman Writing (3 cr.)
- RHET 120/1020 - Research Writing (3 cr.)

Placement in Department of Rhetoric and Composition Courses:

- Students sitting for the TOEFL or IELTS exams and achieving scores that place them at RHET 1010 entry level will be placed directly in RHET 1010 in their first semester at AUC.
- Students in the English Language Instruction program who pass their exit exam will be placed in RHET 1010.
- Students with university transfer credits, or certain high school credits (e.g. HL or AP English) may transfer credit or be exempted from RHET courses, depending on their circumstances (as indicated in their letters of acceptance from AUC.)
- The University reserves the right to make changes in student placement during the first two weeks of classes, in the rare event this is deemed necessary by program instructors.

Department of Rhetoric and Composition Course Policies:

- All students need to complete 6 credits of RHET courses - RHET1010 (along with its 3-credit partner course, CORE1010), and RHET1020, as described below:
 1. Students who are placed by an external placement exam or the ELI exit exam in RHET 1010 should complete RHET 1010 and RHET 1020 consecutively in their first two semesters as freshmen.
 2. Students who have been exempted from RHET 1010 must complete RHET 1020 in their first semester at AUC, then take an upper division course in the Department of Rhetoric and Composition to complete their requirements.
 3. Students who have been transferred RHET 1010 credit must complete RHET 1020 in their first semester at AUC. This will complete their RHET requirements.
- Students enrolled in RHET 1010 must be concurrently registered in a CORE 1010 course with the same theme. This creates a student learning community across the two courses, emphasizing the scholarly practices necessary for undergraduate success.
- Both RHET 1010 and CORE 1010 must be completed in the freshman year.

- In the event that the department has accepted transfer credits for CORE1010, the student will be placed in a standalone (non-tandem) section of RHET1010 to complete freshman requirements. In the event that the department has accepted transfer credits for RHET1010, the student will be placed in a standalone (non-tandem) section of CORE1010 to complete freshman requirements
- RHET 1020 must be taken in the semester immediately following the passing of RHET 1010.
- Dropping one of the two courses RHET 1010 or CORE 1010 will result in the other course being automatically dropped.
- Students repeating the tandem course CORE 1010/RHET 1010 must enroll in a different theme, unless approved by the department to repeat in the same theme.
- The passing of one of the tandem courses is not contingent upon the passing of the other. Students may pass or fail one or both.
- Students may take each of RHET 1010 and RHET 1020 up to three times in three consecutive semesters in order to fulfill department or graduation requirements.
- Only students repeating RHET or CORE 1010 will be able to enroll during summer semesters. Enrollment will not be open to students wishing to take the course for the first time in summer.
- As of Fall 2014, students retaking RHET 101 (RHET 1000) will instead take the RHET 1010 along with the matching CORE 1010 course. RHET 1010 will also meet the requirement for RHET 102 (RHET 1100).
- As of fall 2014, students taking or retaking RHET 102 (RHET 1100) will take RHET 1010 with the choice of taking the CORE 1010 partner course.
- As of fall 2014, students taking or retaking RHET 201 (RHET 2010) will instead enroll in RHET 1020 - an equivalent course.
- RHET1010, CORE1010 and RHET1020 are part of the freshman program. They are governed by the Timely Completion of Required Freshman Classes policies, found here.

Department of Rhetoric and Composition required courses: Rhetoric and Composition .

Rhetoric and Composition

Core Curriculum Requirements for students entering before Fall 2013.

For students entering Fall 2013 and after, please click here for current core curriculum requirements.

Core Curriculum Requirements

Students must fulfill 9 credits in **Rhetoric and Composition**, in two ways:

- RHET 101/1000 - Approaches to Critical Writing (3 cr.)
- RHET 102/1100 - Effective Argument (3 cr.)
- RHET 201/2010 - Research Writing (3 cr.)

Or

- A 300 or 400 level writing course (3 cr.) (e.g., RHET 3210, RHET 3230, RHET 3320, RHET 4360, or RHET 4260)
- and:
- RHET 102/1100 - Effective Argument (3 cr.)

- RHET 201/2010 - Research Writing (3 cr.)

Core Curriculum

The Core Curriculum

Graduate School of Education

Department of International and Comparative Education

Associate Professor: T. Purinton (Dean of Graduate School of Education), N. Megahed, H. El Deghaidy

Assistant Professor: G. Osman, J. Skaggs

Professor of Practice: M. Zaalouk (Associate Dean of Graduate School of Education and Director of the Middle East Institute for Higher Education)

Associate Professor of Practice: R. Hozayin (Dept. Chair)

Visiting Associate Professor: J. Cosa

Educational Leadership (M.A.) with concentrations in School Leadership and Higher Education

Master of Arts in Educational Leadership (EDUL)

A total of 34 credit hours (10 courses plus the thesis) are required for MA students. Students may, with prior department approval, bring in up to six credit hours of coursework from other relevant programs. The program seeks to enroll students who are passionate about improving educational leadership in schools and higher education in Egypt, the Middle East, and beyond. By focusing on education from an international and comparative perspective, we intend for students to gain professional educational skills in a global context of reform. All students in the MA Program in Educational Leadership must either complete and defend a thesis, or complete the "Alternative to Thesis Option" as described below.

Thesis

The Graduate School of Education conceives of the thesis in one of a variety of ways, including, but not limited to:

1. As a research paper that utilizes quantitative, qualitative, or mixed research methods based on a theoretical framework and a full review of the related literature.
2. As a thorough literature review that utilizes meta-analytic techniques or a theoretical framework to organize and portray a concept, argument, or field-based concern.
3. As an applied project that utilizes a rigorous literature review and a carefully explained problem in order to demonstrate skill in applying research to real problems in the field.

4. As a policy analysis or program evaluation that utilizes various analytic methods to provide interpretation on the effect of a particular policy or program, bolstered by a thorough literature review.

The thesis should be between 10,000 and 20,000 words and should demonstrate capacity to utilize research tools and existing empirical and theoretical literature.

A proposal must be submitted to, and approved by, a committee consisting of a faculty supervisor, a second reader, and the Department Chair. Upon approval, IRB and other research approvals (such as CAPMAS) must be obtained prior to any data being collected. Upon completion of the thesis, the document must be submitted to, and approved by, the same committee. A period of two semesters must be devoted to the thesis.

Alternative to Thesis Option

In lieu of a thesis, the student may opt to: (I) take one extra 3-credit course; and then (ii) sit for a comprehensive exam, through registering for a 1-credit Comprehensive Exam course. The exam will consist of essays written in a specified time period, followed by a brief oral interview conducted by 2 faculty members. The purpose of the interview is to give the candidate the opportunity to amplify and supplement the written papers.

Core Courses

The following courses represent the content Core courses required of all students.

- EDUC 511/5201 - Foundations of Educational Research (3 cr.)
- EDUC 521/5202 - Social Foundations of Education (3 cr.)
- EDUC 531/5203 - Introduction to International & Comparative Education (3 cr.)
- EDUC 541/5204 - Human Development & Learning Theory (3 cr.)
- EDUC 542/5221 - Transformational Leadership (3 cr.)
- EDUC 546/5223 - Organizational Theory and Educational Institutions (3 cr.)

All students must also complete two semesters of the thesis by registering for EDUC 599/5299 - Research Guidance and Thesis (2 cr.) (2 cr. each course) in the last two semesters of the program, for a total of 4 credit hours, or complete the alternative to Thesis option.

Concentrations

Each student will select one of the following concentrations: School Leadership or Higher Education. Students must take a minimum of three courses from their concentration and complete their thesis on a subject within that concentration.

1. School Leadership

Students in the School Leadership concentration are required to complete at least three of the following courses:

- EDUC 551/5205 - Foundations of Instructional Practice (3 cr.)
- EDUC 535/5213 - Educational Evaluation & Assessment (3 cr.)
- EDUC 534/5217 - Strategic Educational Planning and Development (3 cr.)
- EDUC 544/5222 - School Governance and Management (3 cr.)
- EDUC 573/5224 - Research-based Instructional Leadership (3 cr.)
- EDUC 583/5229 - Issues in Comparative Education for Educational Leaders (3 cr.)
- EDUC 556/5233 - Action Research (3 cr.)
- EDUC 580/5282 - Independent Study in International & Comparative Education (3 cr.)

2. Higher Education

Students in the Higher Education concentration are required to complete at least three of the following courses:

- EDUC 534/5217 - Strategic Educational Planning and Development (3 cr.)
- EDUC 552/5231 - Online and Blended Learning Design and Instruction in Developing Countries (3 cr.)
- EDUC 562/5241 - Pedagogy & Theory of Modern Teaching & Learning in Higher Education (3 cr.)
- EDUC 563/5242 - Theories of Student Development in Higher Education (3 cr.)
- EDUC 564/5243 - Policy and Administration in Higher Education (3 cr.)
- EDUC 561/5249 - Current Issues in Higher Education (3 cr.)
- EDUC 580/5282 - Independent Study in International & Comparative Education (3 cr.)

Additional courses for both concentrations can be taken from among the other MA-level courses offered by the Graduate School of Education.

International & Comparative Education (M.A.) with concentrations in International Education Development & Policy and Teaching and Learning

Master of Arts in International & Comparative Education (ICED)

A total of 34 credit hours (10 courses plus the thesis) are required for MA students. Students may, with prior department approval, bring in up to six credit hours of coursework from other relevant programs. The program seeks to enroll students who are interested in improving educational policy and practice in Egypt, the Middle East, and beyond. By focusing on education from an international and comparative perspective, the program prepares students to gain inquiry-based practices and professional educational skills in local, regional and global contexts of reform which offer career opportunities in educational policy, development, and NGOs in addition to classroom teaching. All students in the MA Program in International and Comparative Education must either complete and defend a thesis, or complete the "Alternative to Thesis Option" as described below.

Thesis

The Graduate School of Education conceives of the thesis in one of a variety of ways, including, but not limited to:

1. As a research paper that utilizes quantitative, qualitative, or mixed research methods based on a theoretical framework and a full review of related literature.
2. As a thorough literature review that utilizes meta-analytic techniques or a theoretical framework to organize and portray a concept, argument, or field-based concern.
3. As an applied project that utilizes a rigorous literature review and a carefully explained problem in order to demonstrate skill in applying research to real problems in the world.
4. As a policy analysis or program evaluation that utilizes various analytic methods to provide interpretation of the effect of a particular policy or program, bolstered by a thorough literature review.

The thesis should be between 10,000 and 20,000 words and should demonstrate capacity to utilize research tools and existing empirical and theoretical literature.

A proposal must be submitted to, and approved by, a committee consisting of a faculty supervisor, a second reader, and the Department Chair. Upon approval, IRB and other research approvals (such as CAPMAS) must be obtained before

any data are collected. Upon completion of the thesis, the document must be submitted to, and approved by, the same committee. An oral defense with the thesis committee will be required. A period of two semesters must be devoted to the thesis.

Alternative to Thesis Option

In lieu of a thesis, the student may opt to: (I) take one extra 3-credit course; and then (ii) sit for a comprehensive exam, through registering for a 1-credit Comprehensive Exam course. The exam will consist of essays written in a specified time period, followed by a brief oral interview conducted by 2 faculty members. The purpose of the interview is to give the candidate the opportunity to amplify and supplement the written papers.

Core Courses

The following courses represent the content Core Courses required of all MA students.

- EDUC 511/5201 - Foundations of Educational Research (3 cr.)
- EDUC 521/5202 - Social Foundations of Education (3 cr.)
- EDUC 531/5203 - Introduction to International & Comparative Education (3 cr.)
- EDUC 541/5204 - Human Development & Learning Theory (3 cr.)
- EDUC 551/5205 - Foundations of Instructional Practice (3 cr.)
- EDUC 575/5215 - Educational Policy Analysis (3 cr.)

All students must also complete two semesters of the thesis by registering for EDUC 599/5299 Research Guidance and Thesis (2 cr. each course) in the last two semesters of the program, for a total of 4 credit hours, or complete the alternative to Thesis option.

Concentrations

Each student will select one of the following concentrations: International Education Development & Policy, or Teaching and Learning. Students must take a minimum of three courses from their concentration and complete their thesis on a subject within that concentration.

1. International Education Development and Policy

Students in the International Education Development and Policy concentration are required to complete at least three of the following courses:

- EDUC 532/5211 - Globalization, Development, and Educational Reform in the Arab World (3 cr.)
- EDUC 533/5212 - Comparative Gender, Adolescent, Youth, and Human Development Policy (3 cr.)
- EDUC 535/5213 - Educational Evaluation & Assessment (3 cr.)
- EDUC 536/5214 - Human Rights-based Education (3 cr.)
- EDUC 588/5216 - Research-Based Comparative Approaches to Educational Reform (3 cr.)
- EDUC 534/5217 - Strategic Educational Planning and Development (3 cr.)
- EDUC 585/5219 - Current Issues in International Education Development and Policy (3 cr.)
- EDUC 580/5282 - Independent Study in International & Comparative Education (3 cr.)

2. Teaching and Learning

Students in the Teaching & Learning concentration are required to complete at least three of the following courses:

- EDUC 535/5213 - Educational Evaluation & Assessment (3 cr.)
- EDUC 534/5217 - Strategic Educational Planning and Development (3 cr.)
- EDUC 552/5231 - Online and Blended Learning Design and Instruction in Developing Countries (3 cr.)
- EDUC 554/5232 - Literacy, Learning and Education (3 cr.)
- EDUC 556/5233 - Action Research (3 cr.)
- EDUC 557/5234 - Reaching Diverse and Underserved Learners (3 cr.)
- EDUC 581/5239 - Current Issues in Teaching & Learning (3 cr.)
- EDUC 580/5282 - Independent Study in International & Comparative Education (3 cr.)

Additional courses for both concentrations can be taken from among the other MA-level courses offered by the Graduate School of Education.

Office of the Dean of Graduate Studies

Sustainable Development M.Sc. (Dual Degree)

The M.Sc. Sustainable Development program at AUC and the various English language delivered LaureaMagistrale in Ingegneria, Architecture or Design at the Politecnico di Milano offer a dual degree program. This cooperation between the American University in Cairo and the Politecnico di Milano provides students interested in both universities the opportunity to have two masters but not obligatory. Students interested only to study at the AUC still can apply only for the AUC Masters in Sustainable Development, so they do not have to apply for a second degree from Italy and the same for the students interested only in Politecnico di Milano.

Students from Politecnico di Milano, after completing their first year of LaureaMagistrale and achieving a minimum of 60 ECTS (18 Credit Hours), join the M.Sc. program in Sustainable Development offered by AUC. Such students will complete 18 Credit Hours (60 ECTS), divided into 9 Credit Hours of Core Module courses (GREN 5201 is mandatory, plus selected ones from among GREN 5202, GREN 5203, GREN 5204, and GREN 5205) and 9 Credit Hours from the modules: Green Technologies Module (GREN 5211, GREN 5213, GREN 5214), the Entrepreneurship Module (GREN 5221, GREN 5222, GREN 5223, GREN 5224), the Sustainable Cities Module (GREN 5231, GREN 5232, GREN 5233), or the Sustainable Communities Module GREN 5244. An additional 9 Credit Hours (30 ECTS) are required as Sustainable Development Project, to be carried out either as a project work/internships at the Politecnico di Milano or at AUC in the form of three courses (GREN 5281, GREN 5282, GREN 5283). Finally, such students will produce a final thesis in English through 30 ECTS (9 Credit Hours) defended to faculty at both institutions. After completing 180 ECTS (60 ECTS at POLIMI, 18 Credit Hours at AUC, 9 credit hours/30 ECTS of project and 30 ECTS thesis), students shall be awarded two MSc degrees: the "LaureaMagistrale" in Ingegneria, Architettura or Design, according to the specific course of studies at the POLIMI and the Master of Science in Sustainable Development.

Students from the American University in Cairo, after completing 18 Credit Hours (60 ECTS) in the M.Sc. Sustainable Development program, join one of the English-language delivered LaureaMagistrale programs at the Politecnico di Milano to take 60 ECTS (18 Credit Hours). At AUC, the initial 18 Credit Hours is divided into 9 Credit Hours of Core Module courses (GREN 5201 is mandatory, plus selected ones from among GREN 5202, GREN 5203, GREN 5204, and GREN 5205) and 9 Credit Hours from the modules: Green Technologies Module (GREN 5211, GREN 5213, GREN 5214), the Entrepreneurship Module (GREN 5221, GREN 5222, GREN 5223, GREN 5224), the Sustainable Cities Module (GREN 5231, GREN 5232, GREN 5233), or the Sustainable Communities Module GREN 5244. Upon completion of those 18 Credit Hours, students who began at AUC study for one year at Politecnico di Milano for 60 ECTS (18 Credit Hours) in one of the approved programs; approved courses are those that meet the qualifications for the selected degree program (list of available programs and admission rules can be found under: <http://www.polinternational.polimi.it/educational-offer/laurea-magistrale-equivalent-to-master-of-science-programmes/>

Students will have also to complete an additional 9 Credit Hours (30 ECTS) of Sustainable Development Project at AUC in the form of three courses (GREN 5281, GREN 5282 and GREN 5283) or as a project work/internships at the Politecnico di Milano. Finally, such students will produce a final thesis in English through 9 Credit Hours (GREN 5251, GREN 5252, GREN 5253) defended to faculty at both institutions. After completing total 54 Credit Hours (180 ECTS), students shall be awarded two MSc degrees: the "Laurea Magistrale in Ingegneria, Architettura or Design, according to the specific course of studies at the POLIMI and the Master of Science in Sustainable Development.

The conversion of credits from Politecnico di Milano to the American University in Cairo is calculated as follows: 1 Credit Hours is equal to 3.33 ECTS.

Admissions

A candidate for the Dual Degree Program, at both AUC and the Politecnico di Milano must meet the requirements for admission to the AUC M.Sc. Sustainable Development program and the selected Laurea Magistrale. AUC students can apply after completing their first semester latest by 30th March of each year. Admission to the Dual Degree Program is based on academic qualifications, experience, and a personal statement of interest.

Sustainable Development (M.Sc.)

Director: Hani Sewilam

Steering Committee: Adham Ramadan (Dean of Graduate Studies), Hani Sewilam (Program Director), Salah El-Hagger (SSE), George Marquis (HUSS), Ayman Ismail (BUS), Khaled Abdelhalim (GAPP), Ted Purinton (GSE), and the Associate Deans of the SSE, HUSS, BUS, GAPP and GSE.

Master of Science in Sustainable Development

The MSc program in Sustainable Development is designed to take advantage of sustainable development as an economic growth opportunity. This MSc program aims to create a whole new generation of business and social entrepreneurs with the skills will allow them to start up green businesses, launch innovative ventures and products, and put in place public policy and social entrepreneurship innovations that, together, address society's environmental and natural resource challenges. The program aims to provide students with a sound theoretical and practical understanding of innovation and entrepreneurship in all three sectors-private, governmental and non-profit- in preparation for careers as entrepreneurs and "intrapreneurs" in a range of organizations.

Through this program, students will learn how to identify, assess and shape environmental ideas into real business opportunities and how to support such ventures through entrepreneurial private, government and civil society initiatives. Adopting an interdisciplinary approach, the course work combines a conceptual review of the relationships among business, industry, environment, policy and society, with a much more applied examination of the wide range of initiatives that relate to environmental management and sustainable economic development.

The MSc is facilitated by the available state-of-the-art equipment and facilities available at the SSE, BUS and GAPP.

A minimum of 33 credit hours is required for the MSc. The degree to be awarded is an "AUC MSc in Sustainable Development."

Objectives

The graduates of the MSc in Sustainable Development will

1. Have the multi-disciplinary knowledge of green innovation and the key aspects and dimensions of sustainable development.
2. Foster a strong culture of green entrepreneurship and business in Egypt and the region
3. Engage in advanced green industry careers
4. Excel in an interdisciplinary environment both as individuals and within a team
5. Seize and develop commercial opportunities in the fast advancing green technologies field locally and globally.

Admissions

A candidate for the program must have a bachelor's degree in Engineering, policy, business or social background. Admission is also subject to the general university requirements for graduate study, including English language proficiency. A minimum GPA of 3.0 out of 4.0 is required for full admission into the program. Students who have some deficiency in their undergraduate training but are well-qualified in other aspects maybe admitted provisionally. The program director and track coordinators may prescribe a program of non-credit work to make up for the deficiency.

Courses (24 credit hours)

The program of study is planned with the program director, and should include a minimum of 9 credit hours of core courses and a minimum of 15 credit hours of electives from three of the four sustainable development sub-modules. A maximum of 3 credits hours may be taken as independent study (GREN 000/5910 - Independent Study in Sustainable Development (3 cr.)) with prior approval of the program director. Students might be asked to take additional non-credit courses from the balance module to qualify them for this program.

I. Core Module- M1 (9 Credit Hours)

All students must take GREN 5201 Global Changes and Sustainable Development and select two more courses out of GREN 5202 , GREN 5203 ,GREN 5204 and GREN 5205 .

- GREN 502/5202 - Engineering for a Sustainable Environment (3 cr.)
- GREN 503/5203 - Core Concepts & Applications for Social & Environmental Policy (3 cr.)
- GREN 504/5204 - Entrepreneurship and Innovation (3 cr.)
- GREN 505/5205 - Environment and Society (3 cr.)

II. Balance Module- M2 (0 Credit Hours)

Students might be asked to take one or more courses from a list of courses approved by the GREN advisory committee and selected with their advisor to upgrade their knowledge and qualify them for this program.

III. Sustainable Development Module M3- Electives (15 Credit Hours)

Students should take five courses (15 cr.) in the Sustainable Development Module to cover three of the four sub-modules. These courses are to include three courses (9 cr.) from the sub-module the student wants to concentrate in. All students must take at least one course (3 cr.) out of these five courses from the Green Technologies sub-module M3-A. A maximum of 3 credit hours can be taken as an independent study course or as a 4000-level course of a topic of relevance with prior approval of the program director.

Green Technologies Module (M3-A):

- GREN 511/5211 - Water Desalination (3 cr.)
- GREN 000/5215 - Sustainability of Thermal Systems (3 cr.)
- GREN 513/5213 - Solid and Hazardous Wastes Engineering (3 cr.)
- GREN 514/5214 - Green Buildings (3 cr.)

Entrepreneurship Module (M3-B):

- GREN 521/5221 - Marketing Management (3 cr.)
- GREN 522/5222 - Strategic Management of Innovation (3 cr.)
- GREN 523/5223 - Managing in a Dynamic Environment (3 cr.)
- GREN 524/5224 - Financial Management (3 cr.)

Sustainable Cities Module (M3-C):

- GREN 531/5231 - Policy for Sustainable Cities (3 cr.)
- GREN 532/5232 - Greening the Built Environment (3 cr.)
- GREN 533/5233 - Urban Infrastructure Development for Sustainability (3 cr.)
- GREN 000/5235 - Corporate Social Responsibility and NGO Partnerships (3 cr.)

Sustainable Communities Module (M3-D):

- GREN 544/5244 - Cities: Structure and Dynamics (3 cr.)
- GREN 000/5245 - Community Assessment and Program Evaluation (3 cr.)
- GREN 000/5246 - Community Psychology and Systems Theory (3 cr.)
- GREN 000/5247 - Prevention and Intervention in Communities (3 cr.)
- GREN 000/5248 - Consultation to Non-Profit Organizations (3 cr.)

Thesis (9 Credit Hours)

Each student must submit a thesis topic that has been approved by a faculty supervisor by the end of the first academic year. Various research topics are discussed in GREN 5251 and GREN 5252, Graduate Thesis Seminar I and II, respectively. Students must register for Graduate Thesis Seminar I (GREN 5251) before submitting a thesis topic while Graduate Thesis Seminar II (GREN 5252) should be taken during the execution of the thesis research work. To ensure adequate faculty consultation on the thesis, the student must register for the Research Thesis Guidance Course (GREN 5253) by the completion of 18 credit hours. The GREN 5253 course must be registered over two consecutive semesters after which the course may be registered for one credit hour each semester until completion of the program requirement. The Thesis seminar will be developed and offered by all the schools involved in the program.

- GREN 571/5251 - Graduate Thesis Seminar I (2 cr.)
- GREN 572/5252 - Graduate Thesis Seminar II (1 cr.)
- GREN 573/5253 - Research Guidance Thesis (3 cr. + 3 cr.)

Students are encouraged to "twin" in the thesis work. At least two students can agree on submitting a topic for a "twinning thesis" that has to be approved by their faculty supervisors from at least two different schools by the end of the first academic year. The twinning thesis does not mean reducing the workload, since each student should complete minimum 33 credits to be awarded a twinning MSc degree. Students work on one topic from different perspectives and submit two theses.

Sustainable Development (Graduate Diploma)

Director: Hani Sewilam

Graduate Diploma in Sustainable Development

The Diploma in Sustainable Development considers the concept of sustainable development as an economic growth opportunity. The Diploma is designed for candidates who desire to make a contribution to the emerging field of sustainable development. The Diploma is directed at providing the student with multi-disciplinary background in areas such as innovation and entrepreneurship, sustainable technologies, social and environmental policy. It aims at preparing students for careers in green industry with the capacity necessary to lead sustainable development in Egypt and the Middle East. Adopting an interdisciplinary approach, the course work combines a conceptual review of the relationships between business, industry, environment, policy and society, with a much more applied examination of the wide range of initiatives that relate to environmental management and sustainable economic development.

The Diploma is facilitated by the available state-of-the-art equipment and facilities available at the SSE, BUSS, GAPP, HUSS, GSE and DDC.

A minimum of 18 credit hours (6 courses) are required for the diploma. The degree to be awarded is a "Graduate Diploma" as an AUC Degree.

Objectives:

The graduates of the Diploma in Sustainable Development will

1. Have the multi-disciplinary knowledge of green innovation and the key aspects and dimensions of sustainable development

2. Foster a strong culture of green entrepreneurship and business development in Egypt and the region
3. Engage in advanced green industry careers
4. Excel in an interdisciplinary environment both as individuals and within a team
5. Seize and develop commercial opportunities in the fast-advancing green technologies field locally and globally.

Admissions

A candidate for the program must have a Bachelor's in Engineering, policy, business or social sciences. Admission is also subject to the general university requirements for graduate study, including English language proficiency. A minimum GPA of 3.0 out of 4.0 is required for full admission into the program. Students who have some deficiency in their undergraduate training but are well-qualified in other aspects may be admitted provisionally. The program director and tract coordinators may prescribe a program of noncredit work to make up for the deficiency.

Courses (18 credit hours)

The program of study is planned with the program director, and should include a minimum of 9 credit hours of core courses and a minimum of 9 credit hours of electives from two of the four sustainable development sub-modules. A maximum of 3 credit hours may be taken as independent study (GREN 000/5910 - Independent Study in Sustainable Development (3 cr.)) with prior approval of the program director. Students might be asked to take additional non-credit courses from the balance module to qualify them for this program.

I. Core Module- M1 (9 Credit Hours)

All students must take GREN 5201 and select two more courses out of GREN 5202 ,GREN 5203 ,GREN 5204 and GREN 5205 .

- GREN 501/5201 - Global Changes and Sustainable Development (3 cr.)
- GREN 502/5202 - Engineering for a Sustainable Environment (3 cr.)
- GREN 503/5203 - Core Concepts & Applications for Social & Environmental Policy (3 cr.)
- GREN 504/5204 - Entrepreneurship and Innovation (3 cr.)
- GREN 505/5205 - Environment and Society (3 cr.)

II. Balance Module- M2 (0 Credit Hours)

Students might be asked to take one or more courses from a list of courses approved by the GREN advisory committee and selected with their advisor to upgrade their knowledge and qualify them for this program.

III. Sustainable Development Module M3- Electives (9 Credit Hours)

Students should take a total of three courses (9 cr.) in the Sustainable Development Module to cover two of the four sub-modules. These courses are to include two courses (6 cr.) from the sub-module the student wants to concentrate in. All students must take at least one course (3 cr.) out of these three courses from the Green Technologies sub-module M3-A. A maximum of three credit hours can be taken as an independent study course or as a 4000-level course of a

topic of relevance with prior approval of the program director.

Green Technologies Module (M3-A):

- GREN 511/5211 - Water Desalination (3 cr.)
- GREN 000/5215 - Sustainability of Thermal Systems (3 cr.)
- GREN 513/5213 - Solid and Hazardous Wastes Engineering (3 cr.)
- GREN 514/5214 - Green Buildings (3 cr.)

Entrepreneurship Module (M3-B):

- GREN 521/5221 - Marketing Management (3 cr.)
- GREN 522/5222 - Strategic Management of Innovation (3 cr.)
- GREN 523/5223 - Managing in a Dynamic Environment (3 cr.)
- GREN 524/5224 - Financial Management (3 cr.)

Sustainable Cities Module (M3-C):

- GREN 531/5231 - Policy for Sustainable Cities (3 cr.)
- GREN 532/5232 - Greening the Built Environment (3 cr.)
- GREN 533/5233 - Urban Infrastructure Development for Sustainability (3 cr.)
- GREN 000/5235 - Corporate Social Responsibility and NGO Partnerships (3 cr.)

Sustainable Communities Module (M3-D):

- GREN 544/5244 - Cities: Structure and Dynamics (3 cr.)
- GREN 000/5245 - Community Assessment and Program Evaluation (3 cr.)
- GREN 000/5246 - Community Psychology and Systems Theory (3 cr.)
- GREN 000/5247 - Prevention and Intervention in Communities (3 cr.)
- GREN 000/5248 - Consultation to Non-Profit Organizations (3 cr.)

School of Business

Department of Accounting

Emeritus Professors: S. Farag

Professors: K. Dahawy (Vice President for Student Affairs), M. Hegazy

Associate Professors: A. Abdel-Meguid (Chair), K. Samaha

Visiting Associate Professor: M. El Bannan

Assistant Professor: A. Abdel-zaher

Visiting Assistant Professors: M. Basuony, N. Shehata

Accounting (B.A.C.)

Accounting is both a primary communication channel between business entities and its stakeholders and a comprehensive information system which supports effective decision making. The role of the accounting profession is becoming more pronounced in today's business environment which is characterized by scarce resources, fierce rivalry, complex transactions and increased public scrutiny. Furthermore, auditors are considered the key deterrent to managerial malfeasance, a phenomenon which adversely affects markets and investors' confidence. Students pursuing the Bachelor of Accounting will be exposed to a comprehensive set of technical knowledge of financial accounting, cost/managerial accounting, taxation, and auditing. Ethical considerations, corporate governance and financial transparency issues are covered throughout the course offerings.

Accounting graduates are qualified to work within different professional capacities at corporate multinationals, Big 4 auditing firms, banks, consulting firms, and other types of organizations. In addition, recent graduates of the program have attained, or are currently pursuing, professional certifications such as the Certified Public Accountant (CPA), the Chartered Financial Analyst (CFA), the Certified Management Accountant (CMA), and the Association of Chartered Certified Accountants (ACCA) qualification, in addition to other postgraduate studies.

The objective of the Bachelor of Accounting degree is to provide conceptual and practical knowledge to graduates who will prepare, report and analyze economic and financial information used for making sound managerial decisions.

Students who seek to be admitted to the Bachelor of Accounting (BAC) program through the declaration process must have completed no less than 27 credit hours of study including the courses listed in (1) below. Students who have successfully completed these courses, with the minimum required grades where applicable, and who meet the minimum major weighted grade point average as determined by the department, will be accepted in the major.

1. Required Courses to be completed to declare Accounting as a major

- ACCT 201/2001 - Financial Accounting (3 cr.) with a minimum grade of B
- ACCT 202/2002 - Managerial Accounting (3 cr.) with a minimum grade of B
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.) OR ECON 2011-Introduction to Microeconomics
- MACT 210/2222 - Statistics for Business (3 cr.)

2. Calculation of the Major Weighted Grade Point Average

The major weighted Grade Point Average = Overall GPA at time of declaration x 60% + (Average GPA in ACCT 2001 and ACCT 2002) x 40%.

3. The minimum major Weighted Grade Point Average

Admission to the Accounting major is competitive. Eligible students will be ranked and selected based on their major weighted grade point average.

Students must complete a minimum of 127 credit hours for the Bachelor of Accounting degree.

Students who seek the Bachelor of Accounting degree are not permitted to minor in Business Administration.

Core Curriculum (40 credits)

Collateral Requirements (15 credits)

All students seeking a Bachelor of Accounting degree are required to complete the following collateral requirements (15 credits):

- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)

- ECON 216/2061 - Mathematics for Economists I (3 cr.)
- ECON 303/3041 - Money and Banking (3 cr.)
- MACT 210/2222 - Statistics for Business (3 cr.)

Management Requirements (12 credits)

- BADM 300/3003 - Business Environment and Ethics (3 cr.)
- MGMT 307/3201 - Management Fundamentals (3 cr.)
- MGMT 311/3301 - Business Law (Commercial & Fiscal) (3 cr.)
- BADM 000/4999 - Internship and Career Development (3 cr.)

Finance Requirements (12 credits)

The following 3 courses are mandatory (9 cr.):

- FINC 303/2101 - Business Finance I (3 cr.)
- FINC 404/3201 - Investment Analysis (3 cr.)
- FINC 405/3401 - Applied Banking (3 cr.)
- **One course to be selected from the following (3 cr.):**
- FINC 408/3501 - International Finance (3 cr.)
- FINC 410/4202 - Capital Markets (3 cr.)
- FINC 414/4301 - Corporate Finance (3 cr.)

Management of Information Systems Requirements (9 credits)

- MOIS 305/2101 - Introduction to Information Systems/Technology (3 cr.)
- MOIS 406/3201 - Management Information Systems and Database Management (3 cr.)
- MOIS 444/3703 - Accounting Information Systems (3 cr.)

Accounting Requirements (33 credits)

- ACCT 201/2001 - Financial Accounting (3 cr.)
- ACCT 202/2002 - Managerial Accounting (3 cr.)
- ACCT 301/3001 - Intermediate Accounting I (3 cr.)
- ACCT 302/3002 - Intermediate Accounting II (3 cr.)
- ACCT 303/3003 - Advanced Accounting (3 cr.)
- ACCT 304/3004 - Cost Accounting (3 cr.)
- ACCT 305/3005 - Auditing (3 cr.)
- ACCT 306/3006 - Principles of Taxation (3 cr.)
- ACCT 401/4001 - Contemporary Issues in Auditing (3 cr.)
- ACCT 402/4002 - Special Topics in Tax Accounting (3 cr.)
- ACCT 403/4003 - Contemporary Issues in Accounting (3 cr.)

Electives (9 credits)

Accounting Minor

Students who seek to a minor in accounting must already be declared in another major and completed ACCT 201/2001 - Financial Accounting (3 cr.) with a minimum grade of **B** and ACCT 202/2002 - Managerial Accounting (3 cr.) with a minimum grade of **B**. Students who have successfully completed these courses, with the minimum required grades and who meet the minimum minor weighted grade point average as determined by the department, will be accepted in the minor. Accepted students should plan their minor with their academic advisor with the approval of the department.

Calculation of the Minor weighted grade point Average

The minor weighted grade point Average = Overall GPA at time of minor declaration x 60% + (Average GPA in ACCT 2001 and ACCT 2002) x 40%.

Admission to the Accounting minor is competitive. Eligible students will be ranked and selected based on their minor weighted grade point average.

Students who have a minor in accounting are not permitted to have a minor in business administration.

Students who seek the Bachelor of Business Administration degree are not permitted to minor in accounting.

The accounting minor consists of at least five courses (15 credits) two of which are required, and three are electives, as follows:

Required courses:

- ACCT 201/2001 - Financial Accounting (3 cr.)
- ACCT 202/2002 - Managerial Accounting (3 cr.)

Additional elective courses (at least THREE) from the following with approval of the advisor:

- ACCT 301/3001 - Intermediate Accounting I (3 cr.)
- ACCT 302/3002 - Intermediate Accounting II (3 cr.)
- ACCT 303/3003 - Advanced Accounting (3 cr.)
- ACCT 304/3004 - Cost Accounting (3 cr.)
- ACCT 305/3005 - Auditing (3 cr.)
- ACCT 306/3006 - Principles of Taxation (3 cr.)

Department of Economics

Department of Economics School of Business

Professors Emeritus: G. Amin, W. Mikhail

Professors: A. Beshai (Director of Graduate Studies), N. Rizk, T. Selim (Chair)

Associate Professors: A. Kamaly, H. El-Ramly, M. Said, J. Salevurakis, A. Seghir (Dean of the School of Business), A. El-Shennawy

Assistant Professors: S. Atallah, M. Bouaddi (Associate Chair), D. El Edal, M. Al-Ississ, M. El-Komi, D. Nouredin, S. Ali Shah

Visiting Assistant Professor: N. Abdel Razeq

Teaching Associate: S. Al Ashrafy

A society's scarce resources are allocated among various production activities and among various consumers. An economy is made up of business producing goods and services for sale, individuals working, receiving income, and spending that income on the goods and services, and government taxing businesses and individuals and providing services not available from the private sector. The methods in which this complex system is organized and coordinated through a series of interrelated markets is the subject of economics. The basic training in these methods is provided in concentration requirements covering economic theory, statistics, econometrics, finance, development, trade, and economic history.

The Department of Economics offers three graduate programs in economics: an established master's program and two new programs: an M.A. Economics in International Development and a Graduate Economics Diploma in International Development. Together, these three programs cater to evolving job market needs and keep up with recent developments in the field.

Economics (B.A.)

Bachelor of Arts

The content of the curriculum for the B.A. degree in Economics offers a comprehensive coverage of subjects. The program is designed to prepare students as i) citizens with future influence by virtue of a university degree; ii) future holders of jobs which require training in economics; and iii) future postgraduate students of economics. For the first group, the curriculum offers training in rational thought and the connections between theory and main features of policy. For the second group, the curriculum offers the standard tools of economic analysis and an appreciation of the interdependence of world economies. For the third group, the curriculum, by virtue of its content of research methods and statistics, and econometrics offers entry into M.A. and Ph.D. programs. A holder of the B.A. in Economics from AUC can participate in advanced training on equal basis with undergraduates from major American and British Universities.

A student who seeks a major in Economics must satisfy the following requirements:

1. Complete a minimum of 27 credit hours including ECON 2011, ECON 2021 and ECON 2061.
2. Earn an average of B or higher in ECON 2011 and ECON 2021 with a minimum of B minus in each course, as the student's performance in these courses can provide a good indicator of his/her aptitude in these basic courses and thus how well that student will perform once he/she is admitted in the major.
3. Earn a minimum B in ECON 2061. Equivalently, earn an average of B or higher in MACT 1121 and MACT 1122 with a minimum of B minus in each course.
4. Earn a minimum *Weighted Score of 3.0* based on the following:
(Grade Point of ECON 2011*15%) + (Grade point of ECON 2021*15%)+
(Grade Point of ECON 2061 or its equivalent*20%)+(Overall GPA*50%)

The required minimum overall score to declare a major in economics will vary across semesters, depending on demand by student applicants on one hand, and the number of seats that the department can accommodate, based on available resources in terms of full-time and part-time faculty members as well as facilities, while adhering to minimum accreditation requirements.

Students cannot declare a major in Economics if they have earned 90 credit hours or more.

A total of 120 credits is required for the bachelor's degree in economics:

Core Curriculum (40 credits)

Concentration Requirements (54 credits)

- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)
- ECON 216/2061 - Mathematics for Economists I (3 cr.)
- ECON 218/2081 - Statistics for Economists (3 cr.)
- ECON 301/3021 - Intermediate Macroeconomic Theory (3 cr.)
- ECON 302/3011 - Intermediate Microeconomic Theory (3 cr.)
- ECON 316/3061 - Mathematics for Economists II (3 cr.)
- ECON 318/3081 - Introduction to Econometrics (3 cr.)
- ECON 403/4031 - International Trade (3 cr.)
- MACT 210/2222 - Statistics for Business (3 cr.)

Economics Additional I (Choose four out of the following eight courses)

- ECON 215/2051 - Economic History of the Modern Middle East (3 cr.)
- ECON 224/2091 - Economic History (3 cr.)
- ECON 348/3052 - Agricultural Economics (3 cr.)
- ECON 312/3053 - Economic Development (3 cr.)
- ECON 320/3055 - The Digital Economy: Information Technology, Knowledge and Intellectual Property (3 cr.)
- ECON 415/4051 - Seminar on Economic Development in the Middle East (3 cr.)
- ECON 405/4091 - History of Economic Thought (3 cr.)
- ECON 414/4094 - Economics of Egypt (3 cr.)

Economics Additional II (Choose four out of the following eight courses)

- ECON 303/3041 - Money and Banking (3 cr.)
- ECON 308/3071 - Labor Economics (3 cr.)
- ECON 310/3013 - Public Finance (3 cr.)
- ECON 413/4012 - Cost-Benefit Analysis (3 cr.)
- ECON 404/4041 - Financial Economics (3 cr.)
- ECON 416/4061 - Mathematical Economics (3 cr.)
- ECON 418/4081 - Econometric Methods (3 cr.) and ECON 418P/4082 - Practicum (1 cr.)
- ECON 411/4099 - Seminar: Special Topics in Economics (3 cr.)

Notes:

Students who plan to pursue the Master of Arts in Economics are strongly advised to take ECON 4061 and ECON 4081, since these are prerequisites for the program.

Collateral Requirements (9 credits)

- ACCT 201/2001 - Financial Accounting (3 cr.)
- FINC 303/2101 - Business Finance I (3 cr.)
- BADM 000/4999 - Internship and Career Development (3 cr.)

Electives (17 credits)

Economics Minor

The minor in field of study provides students with an introduction to the fundamental historical, descriptive, and theoretical concepts of the field.

Requirements (15 credits):

- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)

Additional Requirements

- **Three** other economics courses, with a minimum of two 300-level courses or above.

Courses not included

- ECON 216/2061 - Mathematics for Economists I (3 cr.)
- ECON 218/2081 - Statistics for Economists (3 cr.)
- ECON 316/3061 - Mathematics for Economists II (3 cr.)
- ECON 318/3081 - Introduction to Econometrics (3 cr.)

With the approval of the instructor and the unit head, students may substitute other economics courses for credit towards the minor.

Economics in International Development (M.A.)

This program is specially designed for students who wish to acquire in-depth understanding and knowledge in the field of development. An interdisciplinary approach is adopted as an essential requirement for gaining a broader and more integrated perspective of this dynamic field of study. The program should be of interest to those who plan to seek a position or a career with a wide range of development-related institutions at the macro or micro levels. Examples include; United Nations Agencies, The World Bank, bilateral donor representative offices/projects, NGOs, and development-finance institutions. In addition, the program equips students to assume technical positions in government departments directly concerned with development planning and evaluation.

Admission

The applicant for admission to this program should have a good knowledge of the concepts and analytical tools of economics. An applicant whose bachelor's degree is in a discipline other than economics may be admitted provisionally, but in such cases the applicant must either display competence in economics by passing required examinations or develop the necessary competence by completing additional undergraduate courses.

The department uses as reference for admission, minimum acceptable scores on the Graduate Record Exam (GRE) of 150 verbal, 150 quantitative, and 3.0 analytical (which is equivalent to 450 verbal, 600 quantitative, and 3.0 analytical for exams taken prior to September 1, 2011). Prior to full admission, students must have reported their GRE examination scores.

Courses

A minimum of 27 credit hours is required. All students must:

1. Take four core courses

- ECON 500/5251 - The Economic Setting for Development (3 cr.)
- ECON 505/5231 - Advanced International Trade (3 cr.)
- ECON 507/5282 - Quantitative Methods (3 cr.)
- ECON 590/5259 - Research Practicum (3 cr.)

2. Choose five electives

One from each of the following groups of courses as indicated below:

Group 1

- ECON 508/5271 - Labor Economics (3 cr.)
- ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)
- ECON 512/5254 - Economic Growth & Development (3 cr.)
- ECON 519/5213 - Project Evaluation (3 cr.)
- ECON 530/5217 - Health Economics in Developing Countries (3 cr.)

Group 2

- POLS 525/5225 - International Political Economy (3 cr.)
- POLS 535/5235 - Middle East Politics (3 cr.)
- POLS 536/5236 - Contemporary Issues in Political Islam (3 cr.)
- POLS 561/5261 - Public Policy and Development (3 cr.)
- POLS 562/5262 - International Development Organizations (3 cr.)

Group 3

- SOC/ANTH 500/5201 - Classical Social Thought (3 cr.)
- SOC/ANTH 507/5200 - Introduction to Migration and Refugee Studies (3 cr.)
- SOC/ANTH 530/5230 - Theorizing the State (3 cr.)

- SOC/ANTH 535/5235 - Maintaining Systems of Global Inequality (3 cr.)
- SOC/ANTH 560/5260 - Population Dynamics (3 cr.)
- PSYC 525/5253 - Consultation to Non-Profit Organizations (3 cr.)

Group 4

- LAW 503/5203 - Law and Economic Development (3 cr.)
- LAW 512/5212 - Human Rights and the United Nations (3 cr.)
- LAW 516/5216 - Economic, Social, and Cultural Rights (3 cr.)
- LAW 522/5222 - International Economic and Trade Law (3 cr.)

Group 5

- PPAD 504/5222 - Fundamentals of Financial Planning and Management for Government and Nonprofit Organizations (3 cr.)
- PPAD 505/5121 - Institutions, Democratization, and Public Policy (3 cr.)
- PPAD 512/5114 - Management of Development Programs (3 cr.)
- PPAD 517/5126 - Non-profit Management (3 cr.)
- PPAD 520/5133 - Global Health Issues and Policies (3 cr.)
- PPAD 522/5135 - Promotion of Local Economic Development (3 cr.)
- PPAD 526/5128 - Corporate Social Responsibility and NGO Partnerships (3 cr.)

Economics with a Thesis Option or with concentrations in Middle East Economic Development, Competitive Strategy and Valuation, International Economics, and Financial Economics for Non-Thesis Track (M.A.)

Completion of the AUC Graduate Program in Economics opens wide opportunities for prestigious and creative jobs in research centers and departments, both in government and private institutions. AUC graduates of this program have also made valuable additions to several U.N. and international development institutions.

Admission

The applicant for admission to the master's program in economics should have a considerable background in economic theory. An applicant whose bachelor's degree is in a discipline other than economics may be admitted provisionally, but in such cases the applicant must complete additional undergraduate courses. The prerequisite for full admission to the master's degree in economics is completion of ECON 4061 and ECON 4081 with a grade of B or better; i.e. a student must complete ECON 4061 and ECON 4081 before enrolling in any 500 level course.

The department uses as reference for admission, minimum acceptable scores on the Graduate Record Exam (GRE) of 150 verbal, 150 quantitative, and 3.0 analytical (which is equivalent to 450 verbal, 600 quantitative, and 3.0 analytical for exams taken prior to September 1, 2011). Prior to full admission, students must have reported their GRE examination scores.

Students applying for Master in Economics can choose either Thesis Track or Non-Thesis Track option. Total credit hours for completion of the Master Degree for either track is 27 credit hours.

Requirements for Thesis Track

Courses

All students must take the following four courses (12 credit hours)

- ECON 501/5221 - Advanced Macroeconomic Theory (3 cr.)
- ECON 502/5211 - Advanced Microeconomic Theory (3 cr.)
- ECON 518/5281 - Econometrics (3 cr.)
- ECON 525/5201 - Research Workshop (3 cr.)

Three Additional Courses (9 credit hours)

A maximum of three hours of 5000-level courses or 4000 level courses in related fields other than economics may be taken for graduate credit with the approval of the Director of Graduate Studies and the Department Chair.

Thesis (six credit hours)

An M.A. thesis is not allowed to be submitted for examination until the student has made a presentation of a major part of it at the department seminar.

Requirements for Non-Thesis Track

Courses

All students must take the following four courses (12 credit hours)

- ECON 501/5221 - Advanced Macroeconomic Theory (3 cr.)
- ECON 502/5211 - Advanced Microeconomic Theory (3 cr.)
- ECON 518/5281 - Econometrics (3 cr.)
- ECON 525/5201 - Research Workshop (3 cr.)

Three Additional Courses (9 credit hours)

A maximum of three hours of 5000-level courses or 4000 level courses in related fields other than economics may be taken for graduate credit with the approval of the Director of Graduate Studies and the Department Chair.

Concentration Fields

Within the Non-Thesis track student must complete at least one Concentration Field (6 credit hours).

The MA in Economics offers four concentration fields:

1. Middle East Economic Development (6 credit hours)

- ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)
- ECON 512/5254 - Economic Growth & Development (3 cr.)

2. Competitive Strategy and Valuation (6 credit hours)

- ECON 519/5213 - Project Evaluation (3 cr.)
- ECON 520/5215 - Competitive Strategy and Game Theory (3 cr.)

3. International Economics (6 credit hours)

- ECON 505/5231 - Advanced International Trade (3 cr.)
- ECON 517/5233 - International Finance (3 cr.)

4. Financial Economics (6 credit hours)

- ECON 504/5241 - Financial Economics (3 cr.)
- ECON 528/5242 - Financial Econometrics (3 cr.)

Economics in International Development (Graduate Diploma)

This graduate diploma is designed for students who wish to gain a basic understanding and knowledge of development, but who may not intend to proceed to obtain a Master's Degree. This Diploma program is also interdisciplinary to provide a broader and more integrated perspective of development issues.

The Diploma should be of interest to those who plan to seek a position or a career with development-related institutions or with government departments directly concerned with development planning and evaluation.

Admission

The applicant for admission to this program should have a good knowledge of the concepts and analytical tools of economics. An applicant whose bachelor's degree is in a discipline other than economics may be admitted provisionally, but in such cases, the applicant must either display competence in economics by passing required examinations or develop the necessary competence by completing additional undergraduate courses.

The department uses as reference for admission, minimum acceptable scores on the Graduate Record Exam (GRE) of 150 verbal, 150 quantitative, and 3.0 analytical (which is equivalent to 450 verbal, 600 quantitative, and 3.0 analytical for exams taken prior to September 1, 2011). Prior to full admission, students must have reported their GRE examination scores.

Courses

A minimum of 15 credit hours is required. All students must:

1. Take two core courses

- ECON 500/5251 - The Economic Setting for Development (3 cr.)
- ECON 507/5282 - Quantitative Methods (3 cr.)

2. Choose three electives

One from each of the following groups of courses as indicated below:

Group 1

- ECON 505/5231 - Advanced International Trade (3 cr.)
- ECON 508/5271 - Labor Economics (3 cr.)
- ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)
- ECON 512/5254 - Economic Growth & Development (3 cr.)
- ECON 519/5213 - Project Evaluation (3 cr.)
- ECON 530/5217 - Health Economics in Developing Countries (3 cr.)

Group 2

- POLS 525/5225 - International Political Economy (3 cr.)
- POLS 535/5235 - Middle East Politics (3 cr.)
- POLS 536/5236 - Contemporary Issues in Political Islam (3 cr.)
- POLS 561/5261 - Public Policy and Development (3 cr.)
- POLS 562/5262 - International Development Organizations (3 cr.)

Group 3

- SOC/ANTH 500/5201 - Classical Social Thought (3 cr.)
- SOC/ANTH 507/5200 - Introduction to Migration and Refugee Studies (3 cr.)
- SOC/ANTH 530/5230 - Theorizing the State (3 cr.)
- SOC/ANTH 535/5235 - Maintaining Systems of Global Inequality (3 cr.)
- SOC/ANTH 560/5260 - Population Dynamics (3 cr.)
- PSYC 525/5253 - Consultation to Non-Profit Organizations (3 cr.)

Note

Students awarded the Diploma may apply for admission to the M.A. in Economics International Development.

Department of Management

Department of Management School of Business

Emeritus Professors: F. El Hitami, H. El Sherif

Professors: S. Akabawy, M. Badran, M. El Shinnawy, M. Hassanein, T. Hatem, S. Kamel, S. Youssef

Associate Professors: A. Badr El Din, O. Farooq, I. Hegazy, D. Rateb, P. Rostan, A. Tolba (Chair), E. Tooma, I.

Azzam, H. Shamma, A. Sallam, H. Mertzanis

Assistant Professors: A. Hassanein (Associate Dean for Undergraduate Studies and Administration), N. Ahmed, A. Basiouny, D. Bassiouni, S. El Rakabawy, S. Formancek, A. Ismail (Abdul Latif Jameel Chair of Entrepreneurship), M. Mourad, I. Seoudi, N. Becheikh (Associate Dean for Graduate Studies and Research), C. Wishart, R. Samir

Professor of Practice: K. O'Connell (Willard W. Brown Chair of International Business Leadership)

Associate Professor of Practice: A. Awni

Participating Faculty: A. Kais

The Department of Management offers two undergraduate degree programs:

- Bachelor of Business Administration (BBA)
- Bachelor of Business Administration in Management of Information and Communication Technology (MICT) as a joint degree between the School of Business (BUS) and the School of Sciences and Engineering (SSE).

Vision

The vision of the Department of Management is to be a leading business learning institution in the region offering high quality academic programs comparable to those at the best universities worldwide.

Mission Statement

The mission of the Department of Management is to develop business leaders who are dedicated to the betterment of the society by providing a high quality business education to top caliber students from all segments of the Egyptian society as well as from other countries while focusing on continuous improvement and commitment to excellence in learning, intellectual contributions and services.

In support of this mission the department:

- Provides a high quality contemporary - style business education that blends a global perspective with national cultures and is relevant to the business needs of Egypt and the region.
- Provides programs that encourage the development of an entrepreneurial spirit that emphasizes creativity, innovation, individual initiative and teamwork.
- Provides learning environment that fosters faculty/student communication and promotes lifelong learning and career development.
- Encourages faculty development activities that improve teaching, maintain competence and keep faculty current with ideas and concepts in their fields.
- Seeks to develop a portfolio of intellectual contributions to learning and pedagogy, to practice, and to the theory and knowledge base of the disciplines.
- Encourages the establishment of close partnerships with the business community through consultancies and service that enhance the intellectual and economic quality of Egypt while enriching the learning process.

Core Values

In support of the mission, the faculty and staff are committed to share core values that promote:

- Individual excellence
- Personal integrity and ethical professional behavior
- Collaboration, contribution, and inclusiveness
- Life-long learning
- Continuous improvement
- Adaptation to a changing global environment
- Social responsibility and community service

Business Administration, with concentrations in Marketing, Finance, Management of Information Technology, Entrepreneurship and International Business (B.B.A.)

Bachelor of Business Administration (B.B.A.)

A successful economic future for Egypt and the Middle East is highly concerned with a basic understanding of the principles and practices of business as they apply to firms in a dynamic environment. The business administration curriculum provides students with a foundation in the liberal arts and sciences while enabling them to develop expertise in business management and practices. Major emphasis is placed on the role of business in Egypt and the Middle East.

Declaration Policy

The number of students accepted in the Bachelor of Business Administration program is limited and is filled through the declaration of major process.

Students who seek to be admitted to the Bachelor of Business Administration program should apply in their third semester. Students seeking to declare the BBA program must have completed not less than 27 credit hours of study including the four courses listed below.

- ACCT 201/2001 - Financial Accounting (3 cr.)

- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

OR ECON 202/2011 - Introduction to Microeconomics (3 cr.)

- MACT 210/2222 - Statistics for Business (3 cr.)

- BADM 203/2001 - Introduction to Business (3 cr.)

Based on the available space, a limited number of students who have successfully completed these courses and who meet the declaration requirements as determined by the department will be accepted in the major. The selection of students into the Business Major is competitive and will depend on the calculation of an equal weighted score between:

I. Overall GPA

The Overall GPA will be calculated using the following criteria:

1. A minimum of 27 credit hours must be completed.
2. All courses a student has completed will be included in the calculation, excluding, in certain cases, the course with the lowest grade*.

* A student could be eligible to have his/her lowest grade excluded from the calculation of the Overall GPA if he/she has completed 30 or more credit hours

II. Major GPA

The Major GPA based will be calculated using the following criteria:

1. A minimum of 12 credit hours of courses related to the Business Major must be completed.
2. All Business Major courses, including collateral courses, that the student has completed will be included in the calculation, excluding, in certain cases, the course with the lowest grade*.

* A student could be eligible to have his/her lowest grade excluded from calculating the Management Related GPA if he/she has completed 15 or more credit hours

Admission to the Business Administration major is competitive. Eligible students will be ranked and selected based on their weighted grade point average.

Degree Requirements

Students must complete a minimum of 127 credit hours for the Bachelor of Business Administration degree in the following areas: I. Core Curriculum (37 credits), II. Collateral Requirements (18 credits), III. Business Core Requirements (48 credits), IV. Concentration (15 credits), V. General Electives (9 credits)

Students who seek the Bachelor of Business Administration degree are not permitted to the minor in accounting or entrepreneurship.

I. Core Curriculum (37 credits)

Core Curriculum (37 credits) (3 credits are out because MGMT 480/4401 is considered as one of the Core Capstone)

II. Collateral Requirements (18 credits)

All students seeking a Bachelor of Business Administration degree must complete the following collateral requirements:

- ACCT 201/2001 - Financial Accounting (3 cr.)
- ACCT 202/2002 - Managerial Accounting (3 cr.)
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)
- ECON 216/2061 - Mathematics for Economists I (3 cr.)
- MACT 210/2222 - Statistics for Business (3 cr.)

III. Business Core Requirements (48 credits)

- BADM 203/2001 - Introduction to Business (3 cr.)
- BADM 301/3002 - Introduction to International Business (3 cr.)
- BADM 300/3003 - Business Environment and Ethics (3 cr.)
- BADM 480/4001 - Business Planning and Strategy (3 cr.)
- BADM 000/4999 - Internship and Career Development (3 cr.)
- ENTR 413/4102 - Entrepreneurship and Innovation (3 cr.)
- FINC 303/2101 - Business Finance I (3 cr.)
- FINC 404/3201 - Investment Analysis (3 cr.)
- MGMT 311/3301 - Business Law (Commercial & Fiscal) (3 cr.)
- MGMT 404/4202 - Managing the Human Capital (3 cr.)
- MKTG 302/2101 - Principles of Marketing (3 cr.)
- MKTG 405/3201 - Marketing Research (3 cr.)

- MOIS 305/2101 - Introduction to Information Systems/Technology (3 cr.)
- MOIS 406/3201 - Management Information Systems and Database Management (3 cr.)
- OPMG 310/3201 - Operations for Competitive Advantage (3 cr.)
- OPMG 401/4301 - Supply Chain Management (3 cr.)

IV. Concentration Requirements (15 credits)

Students seeking a BBA degree must select only one of the following five options:

1. BBA with a marketing concentration
2. BBA with a finance concentration
3. BBA with a management of information technology concentration
4. BBA with an Entrepreneurship concentration
5. BBA with an International Business concentration

1. Marketing Concentration (15 credits)

Students seeking a concentration in marketing are required to take the following courses:

- MKTG 410/3202 - Consumer-Buyer Behavior (3 cr.)
- MKTG 408/3301 - Marketing Communications Management (3 cr.)
- MKTG 480/4602 - Marketing Strategy (3 cr.)

In addition, choose three of the following marketing elective courses:

- MKTG 411/4401 - Professional Selling (3 cr.)
- MKTG 412/4601 - International Marketing (3 cr.)
- MKTG 414/4501 - Services Marketing (3 cr.)
- MKTG 416/4302 - E-Marketing (3 cr.)
- MKTG 418/4303 - Principles of Public Relations (3 cr.)
- MKTG 420/4203 - Advanced Marketing Research (3 cr.)
- MKTG 470/4970 - Special topics in Marketing (3 cr.)

2. Finance Concentration (15 credits)

Students intending to pursue a concentration in finance in their BBA have to achieve:

1. Average B+ in FINC 2101 and FINC 3201 . BBA students who do not score this average should not be allowed to register for other Finance courses in the concentration
2. In the special event, where a student has FINC 2101 or FINC 3201 transferred from another university, then, a minimum of B+ in either FINC 2101 or FINC 3201 has to be obtained to addition to an average of B in any two additional Finance courses.

For avoidance of doubt, to declare the Finance concentration, a student must take at AUC either FINC 2101 or FINC 3201. In the case where both FINC 2101 and FINC 3201 are transferred, the student will have to repeat FINC 3201 at

AUC.

Students seeking a concentration in finance are required to take the following courses:

- FINC 405/3401 - Applied Banking (3 cr.)
- FINC 414/4301 - Corporate Finance (3 cr.)
- FINC 415/4204 - Portfolio Theory and its Applications (3 cr.)

In addition, choose two of the following finance elective courses:

- FINC 408/3501 - International Finance (3 cr.)
- FINC 410/4202 - Capital Markets (3 cr.)
- FINC 412/4203 - Options and Derivatives (3 cr.)
- FINC 470/4970 - Special Topics in Financial Management (3 cr.)

3. Management of Information Technology Concentration (15 credits)

Students seeking a concentration in Management of Information Technology (MOIS) are required to take the following courses:

- MOIS 435/3301 - Entrepreneurial IT and Electronic Business (3 cr.)
- MOIS 466/3401 - Human Computer Interaction (HCI) (3 cr.)
- MOIS 499/4999 - Internship and Graduation Project (3 cr.)

One course from:

- MOIS 430/4202 - Business Information Systems Analysis and Development (3 cr.)
- MOIS 477/4704 - Systems Integration (3 cr.)

One course to be selected from the MOIS area:

- MOIS 423/3501 - Geographic Information Systems (GIS) (3 cr.)
- MOIS 432/3601 - Decision Support Systems and Business Intelligence (3 cr.)
- MOIS 433/3701 - Marketing Information Systems (3 cr.)
- MOIS 434/3702 - Financial Information Systems (3 cr.)
- MOIS 444/3703 - Accounting Information Systems (3 cr.)
- MOIS 450/3801 - Strategic Information Systems (3 cr.)
- MOIS 470/4970 - Special Topics in Management of Information Systems (3 cr.)

4. Entrepreneurship (15 credits)

Students seeking a concentration in Entrepreneurship are required to take the following courses:

- ENTR 417/4301 - Entrepreneurship Lab: Developing and Launching a New Venture (3 cr.)
- ENTR 418/4302 - Corporate Entrepreneurship (3 cr.)
- ENTR 419/4303 - Social Entrepreneurship (3 cr.)

In addition, choose two courses from:

- ENTR 420/4501 - Family Business (3 cr.)
- ENTR 421/4502 - Innovation and Technology (3 cr.)
- ENTR 470/4970 - Special Topics in Entrepreneurship (3 cr.)

5. International Business (15 credits)

Students seeking to pursue a concentration in International Business are required to take TWO of the following courses:

- ECON 215/2051 - Economic History of the Modern Middle East (3 cr.)
- ECON 312/3053 - Economic Development (3 cr.)
- ECON 348/3052 - Agricultural Economics (3 cr.)
- ECON 414/4094 - Economics of Egypt (3 cr.)
- ECON 415/4051 - Seminar on Economic Development in the Middle East (3 cr.)

In addition, choose THREE of the following courses:

- MKTG 412/4601 - International Marketing (3 cr.)
- FINC 408/3501 - International Finance (3 cr.)
- ECON 403/4031 - International Trade (3 cr.)
- MOIS 432/3601 - Decision Support Systems and Business Intelligence (3 cr.)
- MGMT 470/4970 - Special Topics in Management (3 cr.)

(*) upon departmental approval of exchange program requirements

Students intending to complete this concentration through the cohort exchange program with University of South Carolina (USA), should follow the cohort requirements upon consultation and approval with the exchange program advisor.

V. General Electives (9 credits)

Management of Information and Communication Technology (B.B.A.)

Bachelor of Business Administration in Management of Information and Communication Technology (MICT)

The study of Management of Information and Communication Technology (MICT) is designed with a particular focus to adapt its content in a local context congruent with the needs of Egyptian organizations and capable of addressing IT challenges that arise in such organizations. The MICT curriculum provides students with a foundation in the liberal arts and sciences while enabling them to develop expertise in business management and information technology. This program is a joint degree between the School of Business (BUS) and the School of Sciences and Engineering (SSE).

Students who select a major in MICT should be able to function as a user advocate and select, create, apply, integrate and administer computing technologies to meet the needs of users within a societal and organizational context. Equipped with this knowledge, the students enrolled in the major will be able to analyze, design and manage information and communication technology infrastructure.

All MICT declaration-of-major applicants need to satisfy the cumulative GPA requirement (weight of 75%) as well as the Portfolio and Interview requirement (weight of 25%). All MICT applicants have to submit a Portfolio, after which they will be interviewed. The Portfolio and the Interview are worth 25% of the student score.

Students who seek the MICT degree are not permitted to have a major or a minor in accounting.

Students must complete a minimum of 127 credit hours for the MICT degree with no more than 63 hours of courses in the business area.

Course Requirements

(Total Credit = 127 with no more than 63 hours of courses in the business area)

Course No.	Cr.
RHET 101/1000 - Approaches to Critical Writing (3 cr.) * (P)	3
RHET 102/1100 - Effective Argument (3 cr.) * (P)	3
RHET 201/2010 - Research Writing (3 cr.) * (P)	3
SCI 120/1020 - Scientific Thinking (3 cr.) (P)	3
PHIL 220/2100 - Philosophical Thinking (core curriculum requirement) (3 cr.) (P)	3
LALT 101 (P)	0
Natural Sc + Lab (P)	4
Humanity (P/S)	3
Social Sc. (P/S)	3
Arab World Studies (S) Θ	3
Arab World Studies (S) Θ	3
International World Studies (S)	3
Core Capstone Course (C)	3
Core Capstone Course (C)	3
Total	40

General Electives / Minor

Course No.Cr.

ALING √ 3

ALING √ 3

Total 9

(P) Primary level courses taken during first 3 Semesters.

(S) Secondary level courses taken by students' 6th Semester.

(C) Capstone level courses taken during students' last 2 Semesters.

* Students exempted from RHET 1000 or RHET 1100 or RHET 2010 must take any RHET 300 or 400 course.

√ Non-Thanaweya Amma arabic language holders may be required to take 0-6 credits depending on Arabic placement test score.

⊖Thanaweya Amma arabic language students may not take Arabic Literature in Translation

Before declaration:

- Students must have completed 27 cr. hrs.
- the following courses must be taken: ACCT 2001, CSCE 1001 and MACT 1221 or MACT 1121

Business Core Requirements

Course No.	Cr.
FINC 303/2101 - Business Finance I (3 cr.)	3
BADM 300/3003 - Business Environment and Ethics (3 cr.)	3
MGMT 307/3201 - Management Fundamentals (3 cr.)	3
MGMT 311/3301 - Business Law (Commercial & Fiscal) (3 cr.)	3
MKTG 302/2101 - Principles of Marketing (3 cr.)	3
MOIS 305/2101 - Introduction to Information Systems/Technology (3 cr.)	3
OPMG 310/3201 - Operations for Competitive Advantage (3 cr.)	3
Total	21

Collateral Requirements

Course No.	Cr.
ACCT 201/2001 - Financial Accounting (3 cr.)	3
ACCT 202/2002 - Managerial Accounting (3 cr.)	3
ECON 201/2021 - Introduction to Macroeconomics (3 cr.)	3
ECON 202/2011 - Introduction to Microeconomics (3 cr.)	3
ECON 2061 Ψ	3
MACT 1221 ΨΨ	3
Total	18

Ψ ECON 2061 can be replaced by MACT 1121 / MACT 1122 (for BADM & ACCT majors only)

ΨΨ MACT 1111 is a pre-requisite for MACT 1221 and ECON 2061.

It can be taken with MACT 112 (same semester) but must be taken before ECON 216. It is considered as an elective course.

MOIT Requirements

Course No.	Cr.
MOIS 406/3201 - Management Information Systems and Database Management (3 cr.)	3
MOIS 435/3301 - Entrepreneurial IT and Electronic Business (3 cr.)	3
MOIS 466/3401 - Human Computer Interaction (HCI) (3 cr.)	3
MOIS 499/4999 - Internship and Graduation Project (3 cr.) (double counted with Core Capstone)	3

One course to be selected from the MOIT area:

MOIS 430/4202 - Business Information Systems Analysis and Development (3 cr.)

MOIS 477/4704 - Systems Integration (3 cr.)

Two courses to be selected from the MOIT area:

MOIS 423/3501 - Geographic Information Systems (GIS) (3 cr.) 3

MOIS 432/3601 - Decision Support Systems and Business Intelligence (3 cr.) 3

MOIS 433/3701 - Marketing Information Systems (3 cr.) 3

MOIS 434/3702 - Financial Information Systems (3 cr.) 3

MOIS 444/3703 - Accounting Information Systems (3 cr.) 3

MOIS 450/3801 - Strategic Information Systems (3 cr.)	3
MOIS 470/4970 - Special Topics in Management of Information Systems (3 cr.)	3
Total	21

Computer Science Requirements

Course No.	Cr.
CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)	3
CSCE 110/1101 - Programming Fundamentals (3 cr.)	3
CSCE 210/2201 - Data Structures and Algorithms (3 cr.)	3
CSCE 346/3422 - Introduction to Information Security (3 cr.)	3
CSCE 342/3421 - Computer Systems (3 cr.)	3
Two courses to be selected from the CSCE area:	
CSCE 315/3101 - Programming Language (1-2 cr.)	3
CSCE 316/3102 - Programming in Java (3 cr.)	3
CSCE 456/4502 - Design of Web-based Systems (3 cr.)	3
CSCE 485/4930 - Selected Topics in Computer Science and Engineering (1-3 cr.)	3
Total	21

Business Administration Minor

The minor in business administration is designed to introduce students to the basic concepts, models and techniques of the discipline. Students seeking to minor in Business Administration have to apply for the minor following the completion of the following three courses:

ACCT 201/2001 - Financial Accounting (3 cr.)

BADM 203/2001 - Introduction to Business (3 cr.)

ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

or

ECON 202/2011 - Introduction to Microeconomics (3 cr.)

or

ENGR 345/3222 - Engineering Economy (3 cr.)

Students seeking to minor in Business Administration have to apply for the minor prior to registering for business minor courses. The selection of students into the minor in Business Administration is competitive and will depend on the calculation of an equal weighted score between:

I. Overall GPA

The Overall GPA will be calculated using the following criteria:

1. A minimum of 27 credit hours must be completed.
2. All courses a student has completed excluding the course with the worst grade*.

*The worst grade is only excluded if the student has taken 30 or more credit hours.

II. GPA in Minor Requirement courses

The student's GPA in the above three courses required for minor declaration.

Admission to the Business Administration minor is competitive. Eligible students will be ranked and selected based on their weighted grade point average.

Requirements

The minor requires completion of five courses (15 credit hours) as follows:

1.

- ACCT 201/2001 - Financial Accounting (3 cr.)

2.

- BADM 203/2001 - Introduction to Business (3 cr.)

3.

- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
or
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)
or
- ENGR 345/3222 - Engineering Economy (3 cr.)

4.

- MKTG 302/2101 - Principles of Marketing (3 cr.)

5.

- FINC 303/2101 - Business Finance I (3 cr.)

Entrepreneurship Minor

The Minor in business entrepreneurship is designed to introduce students to the idea of entrepreneurship, the traits and behaviors of an entrepreneur. They will learn how to identify market opportunities and how to conduct simple feasible studies for their business ideas. Students can also expect to learn the basic legal aspects of establishing a company in Egypt, and the basic marketing and financial knowledge and skills they need to manage their new company. This knowledge is finally integrated when students engage in multidisciplinary teams in the challenging yet exciting task of creating a new venture and preparing a full business plan. Further exposure to real life will be attained through an internship that each student will have to attend. Students who have completed the minor requirements and who meet the GPA requirement should apply for the minor in their senior year. Students who minor in entrepreneurship are not permitted to have a minor in business administration or accounting.

Requirements

The Entrepreneurship minor requires completion of five courses (15 credit hours) as follows:

- BADM 203/2001 - Introduction to Business (3 cr.)
- ENTR 303/3201 - Principles of Entrepreneurial Finance (3 cr.)
- ENTR 413/4102 - Entrepreneurship and Innovation (3 cr.)
- ENTR 417/4301 - Entrepreneurship Lab: Developing and Launching a New Venture (3 cr.)
- MKTG 302/2101 - Principles of Marketing (3 cr.)

Information Systems Minor

The study of information systems focuses on the need to improve systems for the benefit of individuals, organizations and society at large. An information system is concerned not only with the technical development of systems applications but also with the interface with people and the support of different business and decision processes. The information systems minor aims to provide a supplementary course of study for students who are taking a major in disciplines outside the departments of Management and Computer Science.

Students who select a minor in information systems (IS) understand the fundamental concepts of information processing and the relationship between the underlying technology and end-user applications that are continuously changing and affecting different elements related to business and organizational development and growth... Equipped with this knowledge, the students enrolled in the minor will be able to solve different computer and information systems related problems, as well as exploring the latest in information and communication technology.

Students who minor in information systems are not permitted to have a minor in business administration or accounting.

Course Requirements

Students who minor in information systems are required to complete the following courses:

- 1.

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)

2.

- CSCE 201/2502 - Information Technology (3 cr.)
or
- MOIS 305/2101 - Introduction to Information Systems/Technology (3 cr.)

3.

- MOIS 406/3201 - Management Information Systems and Database Management (3 cr.)
or
- MOIS 430/4202 - Business Information Systems Analysis and Development (3 cr.)

4.

- MOIS 432/3601 - Decision Support Systems and Business Intelligence (3 cr.)

5.

- CSCE 456/4502 - Design of Web-based Systems (3 cr.)
or
- MOIS 435/3301 - Entrepreneurial IT and Electronic Business (3 cr.)

Finance, with concentrations in Corporate Finance, and Investments (M.Sc.)

The MSc in Finance directly targets the expertise required in today's global financial environment. This program gives a clear understanding of practical financial decision-making. Graduates work in investment and merchant banks, insurance and pension funds, and for governments and multinational companies.

Admission

All applicants must satisfy the university's graduate admission requirements and obtain an acceptable score on the Graduate Management Admission Test (GMAT) or Graduate Record Examinations (GRE). The Applicant must present a bachelor's degree from a regionally accredited college or university with a minimum GPA of 3.0 or very good for non-GPA measured degrees. No previous working experience is needed.

To obtain the MSc in Finance degree, students must complete 42 credit hours of which 33 credit hours of course work and nine credit hours of thesis. Students with relevant background can waive some of the core courses but must complete a minimum of 36 credit hours to be awarded the degree. A research methodology course will be mandatory.

The program will consist of 11 for-credit courses plus a thesis designed to be completed in two full years.

MSc Core Courses (18 credits)

Students must complete six core courses before attempting to take any of the elective courses. Students with relevant background can waive up to two core courses. The core courses are:

- ACCT 501/5201 - Financial Reporting and Analysis (3 cr.)
- FINC 527/5201 - Managerial Economics (3 cr.)
- FINC 535/5204 - Applied Financial Econometrics (3 cr.)
- FINC 540/5202 - Financial Management (3 cr.)
- FINC 541/5203 - Investments and Portfolio Management (3 cr.)
- OPMG 507/5201 - Introduction to Business Statistics (3 cr.)

MSc Electives (12 credits)

The student must complete all core courses before attempting to take any of the elective courses. The student specializes in one of two concentration fields which are Investments and Corporate Finance. The student must take four courses (12 cr.) from his concentration field.

1- Investments Concentration

Students must take four elective (12 credits)

- FINC 512/5313 - Options and Derivatives (3 cr.)
- FINC 513/5331 - Fixed Income Securities (3 cr.)
- FINC 516/5314 - Real Estate Finance (3 cr.)
- FINC 518/5315 - Islamic Finance (3 cr.)
- FINC 542/5311 - International Financial Management (3 cr.)
- FINC 543/5312 - Financial Institutions and Markets (3 cr.)
- FINC 545/5333 - Private Equity and Venture Capital (3 cr.)
- FINC 570/5370 - Selected Topics in Financial Management (3 cr.)
- FINC 575/5375 - Independent Study in Financial Management (1-3 cr.)

2- Corporate Finance Concentration

- FINC 512/5313 - Options and Derivatives (3 cr.)
- FINC 514/5353 - Financial Risk Analysis (3 cr.)
- FINC 517/5352 - Financial Modeling (3 cr.)
- FINC 518/5315 - Islamic Finance (3 cr.)
- FINC 542/5311 - International Financial Management (3 cr.)
- FINC 543/5312 - Financial Institutions and Markets (3 cr.)
- FINC 544/5351 - Advanced Corporate Finance (3 cr.)
- FINC 545/5333 - Private Equity and Venture Capital (3 cr.)
- FINC 570/5370 - Selected Topics in Financial Management (3 cr.)
- FINC 575/5375 - Independent Study in Financial Management (1-3 cr.)

Research Methodology (3 credit hours)

A student must take a research methodology course before starting the thesis.

- FINC 590/5402 - Research Methodology (3 cr.)

Thesis (9 credit hours)

The thesis is not allowed to be submitted for examination until the student has made a presentation of a major part of it at a department seminar.

- FINC 599/5401 - Thesis (9 cr.)

Executive Master of Business Administration (EMBA) Program

Executive Master of Business Administration (EMBA)

The EMBA is a professional degree designed for experienced executives with significant work experience (minimum 8 years) who are seeking to push their boundaries and limits with greater strategic vision, skills and leadership development that can immediately be applied to their current positions and have immediate effect on advancing to senior management positions in their organizations. The program focuses on integrating innovation, entrepreneurship and leadership to encourage future executives to think out the box. The curriculum emphasizes managerial and leadership skills, developing creativity and innovation, building on previous experiences, creating a solid networks with classmates, alumni and faculty as well as mastering broad range of functional and managerial knowledge. It enable students to apply immediately newfound skills and ideas in their workplace and engage in real-time global business challenges.

Admissions

All applicants must satisfy the general university requirements for graduate programs and have a bachelor's degree from a regionally accredited college or university in any academic discipline with minimum GPA of 3.0 and minimum 8 years of experience in his field of work. The GMAT is recommended but not required as the case of the MBA. A personal interview is a must to be accepted in the program. In addition, minimum acceptable results for standardized test for English Language proficiency will be required as in line with university policies for admission i.e TOFEL, 2 recommendation letters, written essay, written letter of commitment from the organization, whether sponsoring or not its employees, to allow their employees off the job during the program. To obtain EMBA degree, a total of 48 credit hours are required.

EMBA Program Structure

The EMBA program is delivered in a highly interactive modular format. It consists of 23 modules for a total of 48 credit hours to satisfy the requirements of the program at AUC.

Program Details

The 23 modules of the program are divided into five sections:

Section 1: General Management Perspectives:

Takes Participants from general insights to challenging business practices of today's economy and globalization, thus preparing them for what they will be doing in the coming modules. Participants will learn general insights about business practices, globalization of economy latest theories and best practices of today, importance of using team-work approach which the program focuses on through out the modules either through group assignments, case studies and projects and building basic framework in a qualitative, analytical and problem solving skills. It covers the following modules:

- EMBA 601/5601 - Change Management and Global Transformation (1.75 cr.)
- EMBA 602/5602 - Team-work & Communication (1.75 cr.)
- EMBA 603/5603 - Data Analysis and Analytical Decision Modeling for Optimizing Decisions (2 cr.)

Section 2: Business Core:

Gaining common business knowledge background with more depth and complexity in order to master the management's fundamentals and disciplines. This section is going to prepare them to master the management fundamentals i.e. accounting, finance, marketing etc., with a much higher level of complexity and expertise. It will expand and strengthens participants' basic knowledge in the fundamental disciplines of business, so they will be able to integrate everything together when making business decisions or developing action plans that provide effective leadership of the organization.

- EMBA 604/5604 - Managerial Economics (1.75 cr.)
- EMBA 605/5605 - Strategic Accounting (1.75 cr.)
- EMBA 606/5606 - Financial Management (2 cr.)
- EMBA 607/5607 - Corporate Financial Management (1.75 cr.)
- EMBA 608/5608 - Talent Management, Coaching & Mentoring (1.75 cr.)
- EMBA 609/5609 - Managerial Decision Making and Operation Management (2 cr.)
- EMBA 610/5610 - Global Marketing Management (International Live-in Module) (2.75 cr.)
- EMBA 611/5611 - Competitive & Corporate Strategy (International Live-in Module) (2.75 cr.)
- EMBA 612/5612 - E- Business & Managers' Toolkit (2 cr.)

Section 3: Managerial Global Leadership:

The modules combine a solid foundation in critical management practices with essential skills for senior level executives i.e. negotiation. It prepares executives to be effective leaders, confident, innovative, visionary, be able to manage entrepreneurial ventures and for the management greatest challenge of all, constant change. The continuous shift in the globalized economy and the rapid advances in communication technology forces organizations to constantly reshape their business strategies, structure and role of their business leaders. Executives have to change themselves to be confident, speedy, visionary, innovative, and responsive to this challenging business environment. Being effective leaders, they will help their organizations to survive in this unpredictable global business environment; relating business to legal environment, competition law and corporate governance and how they affect decision-making. This section addresses what executives should know about legal environment, competition law and about how corporate governance affects the way organizations are directed and controlled. It will address some important aspects such as

separation of ownership and control, property rights and reconciling conflicts between stakeholders. It examines how the quality of corporate governance system influences prices, shares of the company and cost of raising capital and how it complies with the legal and regulatory requirements. It relates business to its legal environment and provides broad analysis of how laws influence management decisions and strategies. Participants will be familiarized with certain basic legal concepts relating to doing business on the national and international levels. Thus completing the cycle by making executives familiar with how business decisions and transactions should comply with national as well as international laws.

- EMBA 613/5613 - Leadership & Management (1.75 cr.)
- EMBA 614/5614 - Innovation and Creating the Best Practices of Tomorrow (1.75 cr.)
- EMBA 615/5615 - Global Supply Chain Management and Operational Excellence (2 cr.)
- EMBA 616/5616 - Negotiation & Conflict Management (1.75 cr.)
- EMBA 617/5617 - Entrepreneurial Management (1.75 cr.)
- EMBA 618/5618 - Doing Business With The East (International Live-in Module) (2.75 cr.)
- EMBA 619/5619 - Doing Business With The East (International Live-in Module) (2.75 cr.)

Section 4: Advanced Business Core:

Relating business to legal environment, competition law and corporate governance and how they affect decision-making. This section addresses what executives should know about legal environment, competition law and about how corporate governance affects the way organizations are directed and controlled. It will address some important aspects such as separation of ownership and control, property rights and reconciling conflicts between stakeholders. It examines how the quality of corporate governance system influences prices, shares of the company and cost of raising capital and how it complies with the legal and regulatory requirements. It relates business to its legal environment and provides broad analysis of how laws influence management decisions and strategies. Participants will be familiarized with certain basic legal concepts relating to doing business on the national and international levels. Thus completing the cycle by making executives familiar with how business decisions and transactions should comply with national as well as international laws.

- EMBA 620/5620 - Corporate Governance & Social Responsibility (2 cr.)
- EMBA 621/5621 - Business & Legal Environment (1.75 cr.)
- EMBA 622/5622 - Development & Rationale for Competitive Law (1.75 cr.)

Section 5: Integrating Project:

This section is the integrating part of the program. Participants undertake a consulting project within their own organization, identify a challenge or an opportunity to seek to address and undertake the appropriate analysis leading to a recommended course of action. They are encouraged to apply and integrate several analytic tools and organizational skills learned in various modules during the program.

- EMBA 623/5623 - Adapting to Global Environment - Integration Consultation Project (4 cr.)

Master of Business Administration (MBA) Program

Business Administration, with tracks in Finance, Marketing, Operations Management, Management of Information Technology and Construction Industry (M.B.A.)

Master of Business Administration (MBA)

The MBA is designed to prepare students who have completed undergraduate work in any academic discipline and intend to pursue a management career. The primary objective of the program is to provide candidates with a general and versatile business acumen, skills and technical competencies, which have become essential for the success of today's business professional. While the curriculum meets international standards, it also addresses local and regional business peculiarities. Advanced and elective courses provide more specialized insights in certain business areas. The program is housed by the School of Business which holds the triple-crown accreditation; the Association to Advance Collegiate Schools of Business (AACSB), European Quality Improvement System (EQUIS), and the Association of MBAs (AMBA) accreditations.

Admission

All applicants must satisfy the university's graduate admission requirements and obtain an acceptable score on the Graduate Management Admission Test (GMAT). In addition, applicants should have three or more years of relevant professional experience. To obtain the MBA degree, a minimum of 39 semester credit hours and a maximum of 48 credit hours are required. The exact number of credits will be determined according to the educational background of each candidate.

MBA Foundation Courses (12-30 credits)

The MBA Foundation courses are directed at providing the student with a basic background in the various functional areas of Business. Once these foundation courses are completed, students will be required to take the Strategic Management course, BADM 5310. The foundation courses are as follows:

- ACCT 501/5201 - Financial Reporting and Analysis (3 cr.)
- FINC 527/5201 - Managerial Economics (3 cr.)
- FINC 540/5202 - Financial Management (3 cr.)
- MGMT 502/5202 - Managing Organizations in a Dynamic Environment (3 cr.)
- MGMT 510/5307 - Entrepreneurship and Innovation (3 cr.)
- MGMT 504/5302 - Managing Human Capital (3 cr.)
- MKTG 520/5201 - Marketing Management (3 cr.)
- MOIS 508/5201 - Information and Communication Technology in Business (3 cr.)
- OPMG 507/5201 - Introduction to Business Statistics (3 cr.)
- OPMG 520/5202 - Operations Management for Competitive Advantage (3 cr.)

Integrating course:

- BADM 000/5310 - Strategic Management (3 cr.)

MBA Electives (12-21 credits)

Following the completion of the foundation courses and BADM 000/5310 - Strategic Management (3 cr.) students would select four elective courses from at least three different tracks. At least three courses should be track mandatory courses. A student may also specialize in a specific track by selecting three courses from the same track (two track mandatory courses and a track elective). The fourth course should be selected from another track or from the list of general electives. Concurrent registration for foundation courses, BADM 000/5310 - Strategic Management (3 cr.), track courses, and general electives is subject to approval.

Available tracks are as follows:

Finance

Marketing

Operations Management

Management of Information Technology

Construction Industry

Finance Track

To complete this track, students must complete four track courses. The two track mandatory courses stated below, and choose one course from the list of track electives. The fourth course is to be taken from any other track or from the list of general electives.

Two Track Mandatory courses

- FINC 541/5203 - Investments and Portfolio Management (3 cr.)
- FINC 544/5351 - Advanced Corporate Finance (3 cr.)

Track Electives (choose one course):

- FINC 512/5313 - Options and Derivatives (3 cr.)
- FINC 542/5311 - International Financial Management (3 cr.)
- FINC 543/5312 - Financial Institutions and Markets (3 cr.)
- FINC 570/5370 - Selected Topics in Financial Management (3 cr.)
- FINC 575/5375 - Independent Study in Financial Management (1-3 cr.)

Marketing Track

To complete this track, students must complete four track courses. The two track mandatory courses stated below, and choose one course from the list of track electives. The fourth course is to be taken from any other track or from the list of general electives.

Two Track Mandatory courses

- MKTG 526/5305 - Integrated Marketing Communication (3 cr.)
- MKTG 530/5306 - Strategic Marketing (3 cr.)

Track Electives (choose one course):

- MKTG 521/5301 - Marketing Research Methods (3 cr.)
- MKTG 524/5304 - Global Marketing (3 cr.)
- MKTG 000/5307 - Strategic Brand Management (3 cr.)
- MKTG 570/5370 - Contemporary Topics in Marketing (3 cr.)
- MKTG 575/5375 - Independent Study in Contemporary Topics in Marketing (1-3 cr.)

Operations Management Track

To complete this track, students must complete four track courses. The two track mandatory courses stated below, and choose one course from the list of track electives. The fourth course is to be taken from any other track or from the list of general electives.

Two Track Mandatory courses:

- OPMG 532/5305 - Operations Strategy (3 cr.)
- OPMG 521/5301 - Managing and Coordinating Supply Chains (3 cr.)

Track Electives (choose one course):

- OPMG 528/5302 - Managing Dynamic Projects (3 cr.)
- OPMG 533/5306 - Business Dynamics (3 cr.)
- OPMG 530/5303 - Data Analysis (3 cr.)
- OPMG 570/5370 - Selected Topics in Operations Management (3 cr.)
- OPMG 575/5375 - Independent Study in Operations Management (1-3 cr.)

Management of Information Technology Track

To complete this track, students must complete four track courses. The two track mandatory courses stated below, and choose one course from list of track electives. The fourth course is to be taken from any other track or from the list of general electives.

Two Track Mandatory courses

- MOIS 549/5301 - Systems Analysis, Design, and Implementation (3 cr.)
- MOIS 550/5302 - Decision Support Systems (3 cr.)

Track Electives (choose one course):

- MOIS 551/5303 - Electronic Business: Doing Business in the Digital Economy (3 cr.)
- MOIS 555/5305 - Information Technology Strategy and Entrepreneurship (3 cr.)
- OPMG 521/5301 - Managing and Coordinating Supply Chains (3 cr.)

- MOIS 570/5370 - Advanced Topics (Next Generation Technologies) (3 cr.)
- MOIS 575/5375 - Independent Research in Management of Information Systems/Technology (1-3 cr.)

Construction Industry Track

To complete this track, students must complete four track courses. The two track mandatory courses stated below, and choose one course from list of track electives. The fourth course is to be taken from any other track or from the list of general electives.

Two Track Mandatory courses

- CENG 530/5261 - Contracts in Construction Industry (3 cr.)
- CENG 531/5262 - Construction Management (3 cr.)

Track Electives (choose one course):

- CENG 532/5263 - Planning, Scheduling and Control (3 cr.)
- CENG 534/5265 - Risk Management and Bidding Strategies (3 cr.)
- CENG 535/5266 - Claims and Disputes in the Construction Industry (3 cr.)

List of General Electives

- ACCT 502/5301 - Managerial Accounting for Decision Making (3 cr.)
- ACCT 570/5370 - Selected Topics in Accounting (3 cr.)
- ACCT 575/5375 - Independent Study in Accounting (1-3 cr.)
- MGMT 506/5304 - Management of International Business Organizations (3 cr.)
- MGMT 509/5306 - Leadership (3 cr.)
- MGMT 511/5308 - Strategic Management of Innovation (3 cr.)
- MGMT 570/5370 - Selected Topics in Management (3 cr.)
- MGMT 575/5375 - Independent Study in Management (1-3 cr.)
- ECON 519/5213 - Project Evaluation (3 cr.)
- ECON 520/5215 - Competitive Strategy and Game Theory (3 cr.)
- ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)
- ECON 508/5271 - Labor Economics (3 cr.)

MBA Capstone (3 credits)

- BADM 000/5401 - Business Consultancy (3 cr.)

School of Global Affairs and Public Policy

Department of Journalism & Mass Communication

Department of Journalism and Mass Communication School of Global Affairs and Public Policy

Professor Emeritus: A. Schleifer

Professor: H. Amin

Associate Professors: R. Abdulla, N. Hamdy (Chair), K. Keenan

Assistant Professors: A. Ismail, S. Peuchaud

Professors of Practice: H. Al Mirazi, S. Friedlander, S. Macleod, M. Abou Oaf, G. Zaki

Associate Professors of Practice: D. Ashmawi, F. Al-Atraqchi, K. Fox

Cairo is not only the capital of the land that gave writing to civilization, but it is also the hub of mass communication for the entire Middle East.

The Journalism and Mass Communication department offers three undergraduate degree programs:

- Bachelor of Arts in Multimedia Journalism
- Bachelor of Arts in Communication and Media Arts
- Bachelor of Arts in Integrated Marketing Communication

Bachelor of Arts

- Communication and Media Arts (B.A.)
- Integrated Marketing Communication (B.A.)
- Multimedia Journalism (B.A.)

Master of Arts

- Journalism and Mass Communication (M.A.)

Communication and Media Arts (B.A.)

Today's communication and media professionals need to have a broad background in both traditional and new media and to understand the impact of the convergence of these media on society. By combining media practice with communication theory, this degree covers a broad spectrum of critical perspectives on the media and introduces a range of contemporary media practices. Consistent with the mission of the School of Global Affairs and Public Policy, our program/s encompass a number of interdisciplinary courses.

The goal of this major is to produce well-rounded students who are knowledgeable about contemporary media theories and research issues, have developed excellent writing skills, have gained production and presentation skills, and are critical thinkers and writers.

Before declaring a CMA major, students must complete 24 credits of university coursework, complete RHET 2010 with a grade B or better, and pass an English Proficiency Test.

CMA majors are not permitted to have a major in MMJ or IMC. Students must complete a minimum of 120 credits for the Bachelor of Arts degree in CMA, of which no more than 40 credits can be in CMA and another 65 of their total credits must be Humanities and Social Sciences.

Core Curriculum (40 credits)

JRMC Core (12 credits)

- JRMC 200/2200 - Introduction to Mass Communication (3 cr.)
- JRMC 201/2201 - Mass Media Writing (3 cr.)
- JRMC 202/2202 - Multimedia Writing (3 cr.)
- JRMC 203/2203 - Mass Media Ethics and Responsibility (3 cr.)

Communication and Media Arts Major (21 credits)

- JRMC 250/2250 - Global Media Systems (3 cr.)
- JRMC 270/2270 - Online Communication (3 cr.)
- JRMC 320/3320 - Mass Communication Research (3 cr.)
- JRMC 406/4406 - Internship (3 cr.)
- JRMC 420/4420 - Media Management (3 cr.)
- JRMC 444/4444 - Media Law and Policy (3 cr.)
- JRMC 482/4482 - Media Convergence Capstone (3 cr.)

Choose two of the following courses : (6 credits)

- JRMC 230/2230 - Photography Foundations 1 (3 cr.)
- JRMC 305/3305 - Introduction to Visual Communication (3 cr.)
- JRMC 330/3330 - Photojournalism and Documentary Practices (3 cr.)
- JRMC 339/3339 - Studio Production: AUC TV (3 cr.)
- JRMC 403/4403 - Feature and Magazine Writing (3 cr.)
- JRMC 405/4405 - Advanced Visual Communication (3 cr.)
- JRMC 415/4415 - Public Relations Theory and Techniques (3 cr.)
- JRMC 460/4460 - Audio Production (3 cr.)
- JRMC 471/4471 - Online Journalism (3 cr.)

General Electives/Minor

Depending on the number of credit hours needed to complete 120 credits required for a bachelor's degree from AUC, CMA majors are required to select elective courses leading to a minor in an area that will complement their major, including Rhetoric and Writing, Middle East Studies, Arabic Studies, History, Political Science, Sociology or the Arts. Double majors are exempt. Selections should be made in consultation with your major advisor.

Integrated Marketing Communication (B.A.)

Integrated Marketing Communication (IMC) is the integration of all marketing communication tools under one strategic communication focus. It takes all communication tools from working in isolation to complementing each other, with the objective of communicating one unified message from the organization (or the brand) to its target consumers. The objective of IMC is to manage all organizational communication in an integrated fashion and to build positive relationships between the organization on one hand and its customers and other stakeholders, such as employees, board members, the media, and society at large. Consistent with the mission of the School of Global Affairs and Public Policy our program/s encompass a number of interdisciplinary courses.

Students majoring in IMC gain skills and experience in all aspects of the marketing communication process through both theoretical learning and hands-on-experience. Components of the program include exposure to the fundamentals of strategic planning, media research, budgeting, creative strategy, creative development, media planning, production, modern corporate image, branding, social responsibility, event marketing, sales promotions, direct marketing, and public relations.

Before declaring an IMC major, students must complete 24 units of university coursework, complete RHET 2010 with a grade of B or better, and an English Proficiency Test.

IMC majors are not permitted to have a major in CMA or MMJ. Students must complete a minimum of 120 credits for the Bachelor of Arts degree in IMC of which no more than 40 credits can be in IMC and another 65 of their total credits must be in Humanities and Social Sciences.

Core Curriculum (40 credits)

JRMC Core (12 credits)

- JRMC 200/2200 - Introduction to Mass Communication (3 cr.)
- JRMC 201/2201 - Mass Media Writing (3 cr.)
- JRMC 202/2202 - Multimedia Writing (3 cr.)
- JRMC 203/2203 - Mass Media Ethics and Responsibility (3 cr.)

Integrated Marketing Communication Major (24 credits)

- JRMC 305/3305 - Introduction to Visual Communication (3 cr.)
- JRMC 315/3315 - Introduction to Advertising (3 cr.)
- JRMC 320/3320 - Mass Communication Research (3 cr.)
- JRMC 355/3355 - Creative Strategy and Advertising Copywriting (3 cr.)
- JRMC 415/4415 - Public Relations Theory and Techniques (3 cr.)
- JRMC 425/4425 - Integrated Marketing Communication Campaigns Capstone (3 cr.)
- MKTG 302/2101 - Principles of Marketing (3 cr.)
- MKTG 410/3202 - Consumer-Buyer Behavior (3 cr.)

Choose one of the following courses: (3 credits)

- JRMC 230/2230 - Photography Foundations I (3 cr.)
- JRMC 270/2270 - Online Communication (3 cr.)
- JRMC 406/4406 - Internship (3 cr.)
- JRMC 420/4420 - Media Management (3 cr.)
- JRMC 441/4441 - Camera and Editing Workshop (3 cr.)
- JRMC 444/4444 - Media Law and Policy (3 cr.)
- MKTG 408/3301 - Marketing Communications Management (3 cr.)
- MKTG 416/4302 - E-Marketing (3 cr.)

General Electives/Minor

Depending on the number of credit hour needed to complete 120 credits required for bachelor's degree from AUC, IMC majors are required to select elective courses leading to a minor in an area that will complement their major, including Rhetoric and Writing, Middle East Studies, Arabic Studies, History, Political Science, Sociology or the Arts. Double majors are exempt. Selections should be made in consultation with your major advisor.

Multimedia Journalism (B.A.)

The Multimedia Journalism major converges the disciplines of traditional and new media into a single stream which exposes students to and trains them to print, broadcast, digital and citizen journalism.

The major stresses basic news gathering, reporting and writing skills for multi-platform delivery, with a particular emphasis on the instantaneous dissemination advantages of social media.

The major is structured as a building process that moves students from the initial broad exposure to mass communication. The focus is on the essentials of media ethics and responsibilities and creating media professionals who will compete in any terrain around the world.

Before declaring a MMJ major, students must complete 24 credits of university coursework, complete RHET 2010 with a grade B or better, and an English Proficiency Test.

MMJ majors are not permitted to have a major in CMA or IMC. Students must complete a minimum of 120 credits for the Bachelor of Arts degree in MMJ, of which no more than 40 credits can be in MMJ and another 65 of their total credit hours must be in Humanities and Social Sciences.

Core Curriculum (40 credits)

JRMC Core (12 credits)

- JRMC 200/2200 - Introduction to Mass Communication (3 cr.)
- JRMC 201/2201 - Mass Media Writing (3 cr.)
- JRMC 202/2202 - Multimedia Writing (3 cr.)
- JRMC 203/2203 - Mass Media Ethics and Responsibility (3 cr.)

Multimedia Journalism Major (24 credits)

- JRMC 230/2230 - Photography Foundations 1 (3 cr.)
- JRMC 301/3301 - Journalism Editing and Design (3 cr.)
- JRMC 312/3312 - Multimedia Journalism Lab: The Caravan (3 cr.)
- JRMC 333/3333 - Research for Journalists (3 cr.)
- JRMC 337/3337 - TV Scriptwriting and Production (3 cr.)
- JRMC 339/3339 - Studio Production: AUC TV (3 cr.)
- JRMC 460/4460 - Audio Production (3 cr.)
- JRMC 480/4480 - Multimedia Reporting Capstone (3 cr.)

Choose One of the following Electives in the Major (3 credits)

- JRMC 305/3305 - Introduction to Visual Communication (3 cr.)
- JRCM 310/3310 - Public Opinion, Persuasion and Propaganda (3 cr.)
- JRCM 330/3330 - Photojournalism and Documentary Practices (3 cr.)
- JRCM 402/4402 - Reporting and Writing in Arabic (3 cr.)
- JRCM 403/4403 - Feature and Magazine Writing (3 cr.)
- JRCM 412/4412 - Newsroom Editing and Management (3 cr.)
- JRCM 441/4441 - Camera and Editing Workshop (3 cr.)
- JRCM 444/4444 - Media Law and Policy (3 cr.)
- JRCM 471/4471 - Online Journalism (3 cr.)

General Electives/Minor

Depending on the number of credit hours needed to complete 120 credits required for bachelor's degree from AUC, MMJ majors are required to select elective courses leading to a minor in an area that will complement their major, including Rhetoric and Writing, Middle, Middle East Studies, Arabic Studies, History, Political Science, Sociology or the Arts. Double Majors are exempt. Selections should be made in consultation with your major advisor.

Journalism and Mass Communication Minor

The study of journalism and mass communication provides the student with a basic exposure to news gathering and reporting skills, multi-media writing skills and other mass media cultures. Students who have completed JRMC 2200 and RHET 1100 and who meet the GPA requirement of 3.4 are encouraged to apply for the minor before their junior year.

Requirements (18 credits):

- JRMC 200/2200 - Introduction to Mass Communication (3 cr.)
- JRMC 201/2201 - Mass Media Writing (3 cr.)

And one of the following:

- JRMC 202/2202 - Multimedia Writing (3 cr.)
- JRMC 203/2203 - Mass Media Ethics and Responsibility (3 cr.)
- JRMC 250/2250 - Global Media Systems (3 cr.)

Additional Requirements:

Three additional courses at the 300 level or above (provided that prerequisites are completed). Courses not included are JRMC 406/4406 - Internship (3 cr.) and JRMC 499/4499 - Directed Individual Study in Mass Communication (1-3 cr.) and Capstone Courses JRMC 4480 , JRMC 4482 and JRMC 4425 and MTKG courses.

Journalism and Mass Communication (M.A.)

Master of Arts

The Master of Arts program in journalism and mass communication is designed to provide intellectual growth and advanced training for persons already engaged in mass media or public information work. Students wishing to specialize in a particular area, such as marketing communication or international business journalism, sociological or political communication, are encouraged to design a sequence of elective courses that best meets their interests.

Admission

Students are required to have a minimum GPA of 3.00 (on a 4.00 scale) on an undergraduate degree from an accredited college or university. For students who have been out of school for some time work experience or other relevant criteria may be considered in lieu of a lower than 3.0 GPA. Students who have below a 3.0 cumulative GPA from their bachelor's degree may still be considered for provisional admission and should provide an explanation of extenuating circumstances and/or a demonstration of outstanding work experience.

Students who do not have an undergraduate degree in a mass communication major from AUC may be asked to complete a set of readings and/or a program of undergraduate prerequisite courses completed with grades of B or higher.

In addition to the general requirements established by the university, the applicant must demonstrate a proficiency in English at an advanced level and obtain an acceptable score on the Graduate Record Examination (GRE) (*currently frozen*).

Students are also required to submit two recommendation letters from relevant, credible sources and a personal statement of purpose, which is evaluated for its clarity of expression, creativity, and persuasiveness in arguing that:

- The applicant has the necessary record of preparation and performance to succeed in the program.
- The applicant's goals can be served by the program's courses and experiences.
- The program itself can benefit from the applicant's experiences.

Applicants are also to submit an updated curriculum vitae, official transcripts of all university degrees, and samples of professionally published or broadcast work if available.

A writing sample that demonstrates the potential to write clearly and critically is also required. If the student has graduated within the last three years, an academic paper from the undergraduate (or M.A.) coursework will suffice. Writing samples may include a term paper, a chapter from an Honors or M.A. thesis, or a conference paper. If the student has graduated more than three years ago, he/she should include an essay of 300-500 words about a recent local, regional, or international communication issue that he/she deems important.

Applicants may be required to take an entry exam administered by the department to measure their writing skills and their overall awareness of the communication field and the word around them. Applicants may also be required to sit through a personal interview.

Admission Checklist:

- GRE Scores (frozen)
- Official transcripts
- Proof of English language proficiency
- Two letters of recommendation
- Personal statement
- Curriculum vitae
- Samples of published/ broadcast work

- Writing sample

Courses

A minimum of 27 graduate credit hours is required, including the following four core courses. Note that the four core courses should be taken as early after admission to the program as possible.

- JRMCM 500/5200 - Seminar in Mass Communication Theory and Literature (3 cr.)
- JRMCM 502/5202 - Seminar: Current Issues in Mass Communication (3 cr.)
- JRMCM 504/5204 - Seminar: Research Methods in Mass Communication (3 cr.)
- JRMCM 550/5250 - Seminar in International Communication (3 cr.)

Note

Students should complete the following courses as early after admission to the program as possible.

- JRMCM 500/5200 - Seminar in Mass Communication Theory and Literature (3 cr.)
- JRMCM 504/5204 - Seminar: Research Methods in Mass Communication (3 cr.)

Additional Requirements

Additional coursework should come from the following list of Master of Arts courses, or because of the interdisciplinary scope of mass communication, students may, with adviser approval, take and apply up to three 500-level courses (9 hours) from other disciplines. A maximum of six credit hours of 400-level coursework may be approved and counted toward the required credit hours.

Master of Arts Courses

- JRMCM 500/5200 - Seminar in Mass Communication Theory and Literature (3 cr.)
- JRMCM 501/5201 - Advanced Reporting and Writing (3 cr.)
- JRMCM 502/5202 - Seminar: Current Issues in Mass Communication (3 cr.)
- JRMCM 504/5204 - Seminar: Research Methods in Mass Communication (3 cr.)
- JRMCM 506/5206 - Internship (3 cr.)
- JRMCM 550/5250 - Seminar in International Communication (3 cr.)
- JRMCM 570/5270 - Seminar in Mass Communication and National Development (3 cr.)
- JRMCM 571/5271 - Digital Journalism (3 cr.)
- JRMCM 580/5280 - Impact of Television: Issues and Developments (3 cr.)
- JRMCM 590/5290 - Special Topics (3 cr.)

Comprehensive Examination

Master of Arts students must complete the following courses in preparation for the comprehensive examination. The examination procedure is described in the “General Requirements” section. An oral examination may be required in addition to the written examination. Students must pass comprehensive examinations before being permitted to begin work on their theses.

- JRMCM 500/5200 - Seminar in Mass Communication Theory and Literature (3 cr.)

- JRCM 502/5202 - Seminar: Current Issues in Mass Communication (3 cr.)
- JRCM 504/5204 - Seminar: Research Methods in Mass Communication (3 cr.)
- JRCM 550/5250 - Seminar in International Communication (3 cr.)

Thesis

A thesis is required for all students. The department's thesis committee must approve the thesis topic after the student, in consultation with an advisor, submits a formal proposal. Written in English, the thesis must be defended by the student before faculty members, and must conform to current university requirements, policies and procedures.

Department of Law

Department of Law

School of Global Affairs and Public Policy

Professor Emeritus: E. Hill

Associate Professors: A. Lorite (on leave), A. Shalakany, T. Skouteris

Assistant Professors: N. Badawi, J. Beckett, M. Khalil, T. Monforte (on leave), U. Natarajan, G. Parolin (on leave), H. Sayed (Chair), J. Terrell.

Senior Instructor: D. Van Bogaert

Political Science (B.A.) and International Human Rights Law (M.A.)

Dual Degree Option in Political Science (B.A.) and International Human Rights Law (M.A.)

The Dual Degree option combines a BA in Political Science and an MA in International Human Rights Law. It is a dual degree, creating a synergy between the existing BA in Political Science and the existing MA in International Human Rights Law.

The dual degree option enables good students to prepare for a postgraduate degree while completing the requirements for the BA in Political Science. Non-law students who achieve a MA Degree under the auspices of the Law Department at AUC qualify for better jobs in Egypt or abroad, or pursue a legal education at prestigious law schools in the United States and elsewhere. The MA degree also provides students with the necessary expertise in international human rights law and with the intellectual, analytical and communication tools needed to intervene critically and effectively in the global policy debates confronting their societies as policy makers, academics, activists and international civil servants.

Interested students have the option of starting the Dual Degree in the sixth semester of the political science BA at AUC. During the fifth semester (i.e., before the semester in which s/he enrolls in POLS 4371) the student has to declare her/his intention to pursue the Dual Degree by submitting a graduate admission application. The student should follow the application procedures for graduate studies. Admission decisions will be made by the Law Department's Admission Committee. Successful applicants will be admitted pending the fulfillment of two conditions: i) finishing the requirements of their undergraduate degrees with at least B (GPA 3); and ii) obtaining an average of at least a B+ (GPA of at least 3.3) across the three cross-listed 'Dual Degree' Law courses. Places are limited.

Under this structure, dual-degree students will be required to take three 400-level courses that are cross-listed under LAW and POLS. These three "Dual Degree" cross-listed courses (see below) will count for credit towards both the BA in Political Science and under the MA in International Human Rights Law.

The three 'Dual Degree' Law courses to be offered to undergraduates in the Political Science Department are the following: (a) POLS 471/4371 - Introduction to Public International Law (3 cr.) (b) POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.) and (c) POLS 478/4378 - Introduction to International Human Rights Law (3 cr.) The curriculum for the MA IHRL requires the completion of nine courses and a thesis, as indicated in the tentative plan below: 3 POLS/LAW undergraduate courses, 2 graduate regional human rights courses, 3 graduate elective courses, LAW 5227, and the thesis.

Tentative Plan for Full-time Students

SEMESTER VI (POLS undergraduate program)

LAW/POLS 471/4371 - Introduction to Public International Law (3 cr.) (counts towards both concentrations in POLS for all students) (and MA IHRL credits)
[4 POLS courses or other courses as required to complete POLS BA degree]

SEMESTER VII (POLS undergraduate program)

LAW/POLS 478/4378 - Introduction to International Human Rights Law (3 cr.) (counts towards both BA POLS and MA IHRL credits)
[4 POLS courses or other core courses as required to complete POLS BA degree]

SEMESTER VIII (POLS undergraduate program)

LAW/POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.) (counts towards both BA POLS and MA IHRL credits)
[4 POLS courses or other core courses as required to complete POLS BA degree]

SEMESTER IX (MA IHRL program)

LAW 514/5214 - Human Rights in the Middle East (3 cr.) * (2 out of 3 starred courses required)
LAW 519/5219 - Human Rights in Africa (3 cr.) * (2 out of 3 starred courses required)
LAW 513/5213 - The European System of Human Rights Protection (3 cr.) * (2 out of 3 starred courses required)
LAW Electives**

SEMESTER X (MA IHRL program)

LAW Electives**
LAW Electives**
LAW 527/5227 - Graduate Law Seminar (3 cr.)

SEMESTER XI (MA IHRL program)

LAW 599/5299 - Research Guidance/Thesis (no cr., graded)

** Lists of LAW elective courses will be provided to students in the program prior to registration for each semester.

International Human Rights Law (M.A.)

International Human Rights Law considers protection of the individual as developed through organs of the United Nations, other international institutions, and at regional and domestic levels in the North and in the South. The program seeks to give students a thorough grounding in the theoretical underpinnings of human rights law and in the methods of solid multidisciplinary research that are required for investigating legal issues pertaining to human rights. It is intended for those presently working, or desiring to work, in humanitarian organizations, in government departments and agencies concerned with humanitarian issues, or in other public, private and international sectors where there is increasingly a need for persons who have an understanding of the law and legal consequences of human rights within an international framework.

It is possible to work towards the MA in International Human Rights Law and the Diploma in Forced Migration and Refugee Studies (FMRS) simultaneously or sequentially, and to cross count 4 courses (12 credits) with the advice and consent of the department for a total of eleven courses (see Dual Graduate Degrees under Academic Requirements and Regulations section).

Admission

The applicant for admission to the MA program should have an acceptable bachelor's degree in law, political science or a closely related social science (preferably with a minor in political science or law studies) with a grade of *gayyid giddan* (very good) or a grade point average of 3.0. Applicants with deficiencies in their preparation may be required to take appropriate courses at the undergraduate level. English language proficiency is required as per general AUC graduate admission requirements. Admitted degree candidates should normally start their course sequence in the fall semester. Students enrolled in the AUC English Language Institute must complete all ELI Courses and modules before being allowed to enroll in Law Classes. For these students, spring enrollment is allowed.

Course Requirements

The International Human Rights Law MA degree requires a total of 27 credits hours.

There are five required courses:

- LAW 509/5209 - International Law (3 cr.)
- LAW 510/5210 - Introduction to International Human Rights and Humanitarian Law (3 cr.)
- LAW 527/5227 - Graduate Law Seminar (3 cr.)

Two out of the following three courses:

- LAW 513/5213 - The European System of Human Rights Protection (3 cr.)
- LAW 514/5214 - Human Rights in the Middle East (3 cr.)
- LAW 519/5219 - Human Rights in Africa (3 cr.)

•

The remaining four courses are electives, two of which have to be Law courses.
Department approval is required for electives offered by other departments.

Thesis Requirements

The research requirement for the MA in International Human Right Law is satisfied by writing a thesis of sufficient depth and length for the topic addressed therein and prepared under the supervision of a faculty member of the

department. Students are required to register for the following course while fulfilling their thesis requirement.

- LAW 599/5299 - Research Guidance/Thesis (no cr., graded)

Degree Time Framework

Fulfilling the M.A. in International Human Rights Law normally calls for two years of study.

Dual Degree Option in Political Science (B.A.) and International Human Rights Law (M.A.)

The Dual Degree option combines a BA in Political Science and an MA in International Human Rights Law. It is a dual degree, creating a synergy between the existing BA in Political Science and the existing MA in International Human Rights Law.

The dual degree option enables good students to prepare for a postgraduate degree while completing the requirements for the BA in Political Science. Non-law students who achieve a MA Degree under the auspices of the Law Department at AUC qualify for better jobs in Egypt or abroad, or pursue a legal education at prestigious law schools in the United States and elsewhere. The MA degree also provides students with the necessary expertise in international human rights law and with the intellectual, analytical and communication tools needed to intervene critically and effectively in the global policy debates confronting their societies as policy makers, academics, activists and international civil servants.

Interested students have the option of starting the Dual Degree in the sixth semester of the political science BA at AUC. During the fifth semester (i.e., before the semester in which s/he enrolls in POLS 4371) the student has to declare her/his intention to pursue the Dual Degree by submitting a graduate admission application. The student should follow the application procedures for graduate studies. Admission decisions will be made by the Law Department's Admission Committee. Successful applicants will be admitted pending the fulfillment of two conditions: i) finishing the requirements of their undergraduate degrees with at least B (GPA 3); and ii) obtaining an average of at least a B+ (GPA of at least 3.3) across the three cross-listed 'Dual Degree' Law courses. Places are limited.

Under this structure, dual-degree students will be required to take three 400-level courses that are cross-listed under LAW and POLS. These three "Dual Degree" cross-listed courses (see below) will count for credit towards both the BA in Political Science and under the MA in International Human Rights Law.

The three 'Dual Degree' Law courses to be offered to undergraduates in the Political Science Department are the following: (a) POLS 471/4371 - Introduction to Public International Law (3 cr.) (b) POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.) and (c) POLS 478/4378 - Introduction to International Human Rights Law (3 cr.) The curriculum for the MA IHRL requires the completion of nine courses and a thesis, as indicated in the tentative plan below: 3 POLS/LAW undergraduate courses, 2 graduate regional human rights courses, 3 graduate elective courses, LAW 5227 , and the thesis.

Tentative Plan for Full-time Students

SEMESTER VI (POLS undergraduate program)

LAW/POLS 471/4371 - Introduction to Public International Law (3 cr.) (counts towards both concentrations in POLS for all students) (and MA IHRL credits)

[4 POLS courses or other courses as required to complete POLS BA degree]

SEMESTER VII (POLS undergraduate program)

LAW/POLS 478/4378 - Introduction to International Human Rights Law (3 cr.) (counts towards both BA POLS and MA IHRL credits)

[4 POLS courses or other core courses as required to complete POLS BA degree]

SEMESTER VIII (POLS undergraduate program)

LAW/POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.) (counts towards both BA POLS and MA IHRL credits)

[4 POLS courses or other core courses as required to complete POLS BA degree]

SEMESTER IX (MA IHRL program)

LAW 514/5214 - Human Rights in the Middle East (3 cr.) * (2 out of 3 starred courses required)

LAW 519/5219 - Human Rights in Africa (3 cr.) * (2 out of 3 starred courses required)

LAW 513/5213 - The European System of Human Rights Protection (3 cr.) * (2 out of 3 starred courses required)

LAW Electives**

SEMESTER X (MA IHRL program)

LAW Electives**

LAW Electives**

LAW 527/5227 - Graduate Law Seminar (3 cr.)

SEMESTER XI (MA IHRL program)

LAW 599/5299 - Research Guidance/Thesis (no cr., graded)

*** Lists of LAW elective courses will be provided to students in the program prior to registration for each semester.*

International and Comparative Law (LL.M.)

The Ibrahim Shihata Memorial LL.M Program in International and Comparative Law

Dr. Ibrahim Shihata, in whose memory this LL.M has been established, made significant contributions to the development of international economic law. In addition to his positions of Senior Vice President and General Counsel with the World Bank, Dr. Shihata also served as Secretary-General of the International Center for the Settlement of Investment Disputes; he was principal architect of the Multilateral Investment Guarantee Agency (MIGA); and he was responsible for the World Bank Guidelines for the Legal Treatment of Foreign Investments. Other positions included first Director General of the OPEC Fund for Economic Development and General Counsel of the Kuwait Fund. He was instrumental in establishing the Inter-Arab Investment Guarantee Agency, and he was the founder of the International Development Law Institute in Rome. Indeed the entire career of Dr. Shihata was devoted to the infrastructures that assisted development. The LL.M program itself, as well as individual courses, are directly concerned with law and development. In Dr. Shihata's words: "Law, as the formal instrument of orderly change in society, plays a pivotal role, even though this role has not always been readily recognized."

The Master of Laws (LL.M) Degree in International and Comparative Law is intended for law school graduates who seek to acquire the intellectual and analytical tools to intervene critically and effectively in the global policy debates confronting their societies, as policy makers, practicing lawyers, judges, academics, activists or international civil servants. In the context of constantly changing global economic and political realities, and the crumbling of old

regulatory models, the Degree is designed to empower students to adapt, innovate and gain mastery over what they don't know.

The Master of Laws (LL.M.) Degree in International and Comparative Law offers a wide range of courses designed to provide students with the intellectual tools to promote and critically assess economic, social, and legal developments. The curriculum is flexible and allows students to pursue advanced studies in specialized areas (e.g., business regulation, Islamic law and Middle Eastern legal systems, gender studies, and international human rights law). LL.M. students have an invaluable opportunity to benefit from the multidisciplinary offerings of the School of Global Affairs and Public Policy (GAPP). Fulfilling the requirements of the LL.M. degree normally calls for two years of study.

Admission

The Applicant for admission to the LL.M degree should have an acceptable bachelor's degree in law, political science or a closely related social science (preferably with a minor in political science or law studies) with a grade of *gayyid* (good) or its equivalent for full admission. Students lacking the grade requirement may be eligible to be considered for provisional admission (as specified in the AUC catalog *supra*). Acceptance is by decision of the Law Faculty Committee, which may grant provisional admission pending the fulfillment of certain conditions. English language proficiency is required as per general AUC graduate admission requirements. Admitted degree candidates should normally start their course sequence in the fall semester. Students enrolled in the AUC English Language Institute must complete all ELI Courses and modules before being allowed to enroll in Law Classes. For these students, spring enrollment is allowed.

For students admitted to the LL.M degree without a first degree in law, the *Equivalent Certificates Committee* (ECC) of the Supreme Council of Universities in Egypt may consider on a case-by-case basis, the equivalence of the LL.M degree.

Requirements

The LL.M degree requires nine courses (27 credits hours) as well as a thesis of sufficient depth and length as specified below.

Four courses are required:

- LAW 500/5200 - Legal Research and Writing (3 cr.)
 - LAW 527/5227 - Graduate Law Seminar (3 cr.)
- Two out of the following three courses:
- LAW 501/5201 - Jurisprudence (3 cr.)
 - LAW 502/5202 - Comparative Law (3 cr.)
 - LAW 509/5209 - International Law (3 cr.)

Electives

Students will be able to take up to five courses as electives, three of which have to be law courses. The Law Department's approval is required for electives offered by other Departments.

Thesis Requirements

The research requirement for the LL.M. is satisfied by writing a thesis of sufficient depth and length for the topic addressed therein and prepared under the supervision of a faculty member of the department. Students are required to register for the following course while fulfilling their thesis requirement.

- LAW 599/5299 - Research Guidance/Thesis (no cr., graded)

International and Comparative Law (Graduate Diploma)

The Graduate Diploma in International and Comparative Law is intended for law school graduates seeking to update their knowledge in international and comparative law and to acquire the intellectual tools to advance academically and professionally. The Graduate Diploma in International and Comparative Law offers the possibility to explore in depth a range of topics in international and comparative law. With a flexible curriculum, students may shape their schedules to focus on the topics of their interest. The fulfillment of the requirements of the Graduate Diploma, normally calls for two semesters of study.

Admission

The applicant for admission to the Graduate Diploma in International and Comparative Law should have an acceptable bachelor's degree in law, political science or a closely related social science (preferably with a minor in political science or law studies) with a grade of *gayyid* (good) or its equivalent for full admission. Students lacking the grade requirement may be eligible to be considered for provisional admission (as specified in the AUC catalog *supra*). Acceptance is by decision of the Law Faculty Committee, which may grant provisional admission pending the fulfillment of certain conditions. English language proficiency is required as per general AUC graduate admission requirements. Admitted degree candidates should normally start their course sequence in the fall semester. Students enrolled in the AUC English Language Institute must complete all ELI Courses and modules before being allowed to enroll in Law Classes. For these students, spring enrollment is allowed.

Following admission to the Diploma in International and Comparative Law, students may apply for admission to the LLM program in International and Comparative Law. As a minimum enabling condition, students need to achieve a B+ grade average at the end of their Diploma studies. The application may be submitted at the end of the fulfillment of the Diploma requirements. If the application is successful, credits earned during the diploma will count towards the LLM, given that the Diploma curriculum is identical with the curriculum of the first year of the LLM program. Upon completion of the LLM requirements the student will receive *only* the LLM degree and therefore *not* the Diploma.

Requirements

The Graduate Diploma requires 18 credit hours.

Two courses are required:

- LAW 500/5200 - Legal Research and Writing (3 cr.)

One out of the following two courses:

- LAW 502/5202 - Comparative Law (3 cr.)
- LAW 509/5209 - International Law (3 cr.)

Electives

Students will be able to take up to four courses as electives. The Law Department's approval is required for electives offered by other departments.

International Human Rights Law (Graduate Diploma)

The Graduate Diploma in International Human Rights Law is intended for graduate students seeking to update their knowledge in human rights law and to acquire the intellectual tools to advance academically and professionally. The Graduate Diploma in Human Rights Law offers the possibility to explore in depth a range of topics in human rights and humanitarian law. With a flexible curriculum, students may shape their schedules to focus on the topics of their interest. The fulfillment of the requirements of the Graduate Diploma, normally calls for one year of study.

Admission

The applicant for admission to the IHRL diploma should have an acceptable bachelor's degree in law, political science or a closely related social science (preferably with a minor in political science or legal studies) with a grade of *gayyid giddan* (very good) or a grade point average of 3.0. Applicants with deficiencies in their preparation may be required to take appropriate course at the undergraduate level. English language proficiency is required as per general AUC graduate admission requirements. Admitted degree candidates should normally start their course sequence in the fall semester. Students enrolled in the AUC English Language Institute must complete all ELI Courses and modules before being allowed to enroll in Law Classes. For these students, spring enrollment is allowed.

Following admission to the Diploma in International Human Rights Law, students may apply for admission to the MA degree in International Human Rights Law. As a minimum enabling condition, students need to achieve a B+ grade average at the end of their Diploma studies. The application may be submitted following fulfillment of the Diploma requirements. If the application is successful, credits earned during the Diploma will count towards the MA, given that the Diploma curriculum is identical with the curriculum of the first year of the MA program. Upon completion of the MA requirements the student will receive *only* the MA Degree and therefore *not* the Diploma.

Requirements

The Graduate Diploma requires 18 credit hours.

There are four required courses:

- LAW 509/5209 - International Law (3 cr.)
- LAW 510/5210 - Introduction to International Human Rights and Humanitarian Law (3 cr.)

And Two out of the following three courses:

- LAW 513/5213 - The European System of Human Rights Protection (3 cr.)
- LAW 514/5214 - Human Rights in the Middle East (3 cr.)
- LAW 519/5219 - Human Rights in Africa (3 cr.)

*

The remaining two courses are electives. The Law Department's approval is required for electives offered by other departments.

Degree Time Framework

Fulfilling the Graduate Diploma in International Human Rights Law normally calls for one year of study.

Department of Public Policy and Administration

Professors: L. El-Baradei (Associate Dean of School of Global Affairs and Public Policy), A. Hamzawy, T. Dolan, E. Shahin

Associate Professor: H. Ali (Chair), Sh. Bhuiyan

Visiting Associate Professor: Kh. Amin

Assistant Professors: G. Barsoum, W. Bowman, A. Hodgkins, Kh. Abdelhalim

Professors of the Practice: I. Awad, M. Shahin

Undergraduate

The mission of the Public Policy and Administration Department is to support evidence-based policy-making, effective and efficient administration of government and non-profit organizations, and better public governance in Egypt and the Middle East by preparing professionals for careers in public service, conducting policy-relevant research, and promoting dialog on issues of public importance. The PPAD Department builds a culture of leadership and service among its graduates and is dedicated to making significant contributions to Egypt and the international community through public service in diverse institutional settings. Students interested in pursuing a career of public service or those interested in public policy and management are encouraged to explore PPAD's course offerings, shown below. Seniors may also request enrollment in PPAD graduate courses.

Graduate

The objective of the PPAD Department is to equip future leaders with the conceptual framework and the specific skills needed to be effective and innovative policy makers and administrators in various spheres of governance within governmental, regional, international and multinational institutions through structured course work, internship and research that explores public policy and administration challenges in the region and globally and their possible solutions.

Development Practice (MDP) option BSc/CENG-MPA

Dual Degree Option BSc/CENG-MPA

Students enrolled in the School of Science and Engineering may apply to complete the MPA on an accelerated basis in conjunction with completion of the BSc. in engineering. At present, this option is open only to students completing the BSc. in Construction Engineering. Students interested in this option should consult with their advisors during the Fall of their fourth year for potential admission to the program in their fifth year. Those interested in this option are required to complete a summer work assignment for Fall practicum in their fifth year. The program is jointly administered by the Department of Public Policy and Administration in the School of Public Affairs and the School of Sciences and Engineering. Admission is based on the recommendation of the student's SSE advisor and review by the PPAD department. The program prepares students for careers in public service with the highest ethical standards, strong competencies in environmental analysis and management as well as public governance, excellent leadership and communication skills, a sound understanding of the use of evidence and analysis in public service settings, and a commitment to building a better future for the people of Egypt and the region. Students pursue careers in government, nonprofit organizations, international development agencies, academia, and the private sector.

Students electing the dual degree option begin taking graduate courses in their ninth semester and receive both the BSc. and the MPA upon the completion of their coursework and master's thesis, normally at the end of their 6th year. The following course sequence has been developed for this option, but students should consult their advisor in CENG to ensure that all SSE requirements are met:

SEMESTER IX

- CENG 424/4253 - Methods and Equipment for Construction II (2 cr.)
- Eng. Concentration 1 elective
- CENG 448/4460 - Financial Management and Accounting for Construction (3 cr.) (MPA credit)
- CENG Elective (1)
- CENG 431/4351 - Transportation Engineering (3 cr.)
- CENG 490/4980 - Senior Project I (1 cr.) (Capstone Core Level I)
- CENG 497/4951 - Practical Training (1 cr.) (Practicum)

SEMESTER X

- Engineering Concentration 2
- CENG 567/5243 - Construction Leadership and Management Skills (3 cr.)
- CENG 491/4981 - Senior Project II (2 cr.) (Capstone Core Level II)
- PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.) (MPA credit)
- PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.) (MPA credit)
- Science elective (from MDP list)
- Summer internship – public/NGO management focus preferred (MPA credit through 5198)

SEMESTER XI

- PPAD 591/5198 - Practicum (3 cr.) (Capstone Level II) (MPA Credit)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.) (MPA Credit)
- PPAD Elective selected with MPA advisor (MPA Credit)
- Science elective (selected with PPAD advisor)
- PPAD 598/5298 - Research Seminar (0 cr.) (MPA Credit)

SEMESTER XII

- PPAD 514/5224 - Human Resource Management for Government and Nonprofit Organizations (3 cr.) (MPA Credit)
- PPAD 516/5132 - Social and Environmental Policy (3 cr.) (MPA Credit)
- PPAD 517/5126 - Non-profit Management (3 cr.) (MPA Credit)
- PPAD 599/5299 - Research Guidance (0 cr.) (MPA Credit)

Summer thesis work, if needed.

Lists of MDP-relevant courses will be provided to students in the program prior to registration for each semester, based on offerings available in the appropriate departments

Global Affairs, with concentrations in International Cooperation, and International Security (MGA)

The Master of Global Affairs (MGA) is administered by the Department of Public Policy and Administration in the School of Global Affairs and Public Policy. The program prepares students for leadership and responsibility positions in the conduct of global affairs and public policy in governments and international and regional multilateral agencies as well as in business and civil society organizations. It is expected that students will be drawn from and/or employed in mid-career positions in institutions working in global affairs or demonstrate promise for such careers, based on their commitment and their academic and professional background.

The MGA program aims to provide students with knowledge and professional skills required for the functioning of the global system in an inclusive manner at the international and national levels, combining conceptual understanding with analytic skills and knowledge of global affairs. Through this program, students will gain the capability to participate effectively in the formulation and implementation of policies in their own countries and in supporting, guiding, and monitoring action on global affairs at the multilateral level. Ultimately, both their own countries and the global system should benefit from the knowledge acquired.

Admission

All applicants must satisfy the university's graduate admission requirements. Candidates for the MGA are recommended but not required to have two or more years of relevant professional experience.

Courses (33 credit hours)

Students seeking the degree of Master of Global Affairs must complete 33 credit hours of coursework plus a master's project. The program core, required of all students, consists of 6 courses (18 credits). Students must also complete a concentration of 5 courses (15 credits). Students may elect either the concentration in International Security or the concentration in International Cooperation. Students are required to declare their concentration before beginning their second semester of enrollment in the program. In addition to coursework, students must complete a master's project consistent with department and university guidelines.

Core Requirement (18 credit hours):

Students must complete four (4) courses in group 1, one (1) course in group 2, and one (1) course in group 3.

Group 1: Complete all four (4) of the following:

- PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.)
- PPAD 527/5251 - International Organization in Global Governance (3 cr.)
- PPAD 528/5252 - Theory and Practice of Negotiation (3 cr.)
- PPAD 540/5161 - Diplomacy: Theory and Practice (3 cr.)

Group 2: Complete one (1) of the following:

- PPAD 524/5129 - Globalization and Development (3 cr.)
- PPAD 529/5151 - Issues in International Security (3 cr.)
- LAW 509/5209 - International Law (3 cr.)

Group 3: Complete one (1) of the following:

- PPAD 502/5231 - Economics for Public Policy Analysis (3 cr.)
- PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.)
- POLS 561/5261 - Public Policy and Development (3 cr.)
- PPAD 508/5211 - Qualitative Analysis for Policy and Administration (3 cr.)
- PPAD 509/5212 - Applied Quantitative Analysis (3 cr.)

Concentration Requirement (15 credit hours):

Students must complete 5 courses in one of the following two areas. In addition to the courses shown for each concentration, students may select a course from the core list shown above as a Group 2 concentration course, if not taken as a core course (i.e., a course may be counted toward only one requirement) or, with advisor approval, may substitute an appropriate offering of PPAD 5199 - Selected Topics in Public Policy and Administration.

MGA Concentration 1: International Security – 5 courses (15 credits) required

Group 1: Required for all students in the concentration

- PPAD 530/5152 - International Intervention and Conflict Management (3 cr.)
- PPAD 539/5258 - Role of Force: Strategy and Statecraft (3 cr.)

Group 2: Complete one (1) of the following:

- PPAD 531/5153 - Armament, Arms Control and Disarmament (3 cr.)
- PPAD 532/5154 - Issues in regional security in the Middle East and Africa (3 cr.)
- POLS 554/5254 - Comparative Foreign Policy: Theories and Applications (3 cr.)
- PPAD 591/5198 - Practicum (3 cr.)
- PPAD 529/5151 - Issues in International Security (3 cr.)
(If not taken in core group 2).
- PPAD 542/5159 - Islam and Global Affairs (3 cr.)
- PPAD 543/5160 - War, Peace and Conflict Resolution in Islam (3 cr.)

Group 3:

Complete two (2) additional relevant courses (other than PPAD 5298 and PPAD 5299; selected in consultation with departmental advisor).

MGA Concentration 2: International Cooperation -- 5 courses (15 credits) required

Group 1: Required for all students in concentration

- PPAD 533/5155 - Cooperation for Development in the Multilateral System (3 cr.)
- POLS 525/5225 - International Political Economy (3 cr.)

Group 2: Complete one (1) of the following:

- PPAD 516/5132 - Social and Environmental Policy (3 cr.)
- PPAD 534/5156 - Comparative Bilateral Cooperation Policies for Development (3 cr.)
- PPAD 535/5157 - Multilateral Cooperation for Development at the Country Level: Issues and Practice (3 cr.)
- PPAD 591/5198 - Practicum (3 cr.)
- PPAD 542/5159 - Islam and Global Affairs (3 cr.)

Group 3:

Complete two (2) additional relevant courses (other than PPAD 5298 and PPAD 5299 ; selected in consultation with departmental advisor).

Master's Project

Students are required to complete a master's project addressing a challenge relevant to their concentration from the point of view of an organization involved in the issue, which will serve as the project's client. If a member of the organization's staff is not available, the client role may be performed by an alternate designated by the department. The preparation of the master's project proposal and final report must comply with departmental guidelines with regard to client involvement, content, format, dates, and the review and supervision process. Students developing a project proposal with a client are strongly encouraged to enroll in PPAD 5198, the practicum. Once the project proposal is approved by the student's master's project supervisor, the student must enroll in PPAD 5298, the research seminar, for one semester and for the additional semesters that are needed to complete the project, in PPAD 5299, research guidance, until the project is completed. The student will pay 3 credits of tuition for the first enrollment in PPAD 5299, subsequent enrollments if needed will require payment of 1 credit per semester. The master's project may be completed as a team or as an individual project.

Public Administration, with concentrations in Management of Public Sector Reform, and Management of Nonprofit and Development Organizations (MPA)

Master of Public Administration

The Master of Public Administration is administered by the Department of Public Policy and Administration in the School of Global Affairs and Public Policy. The program prepares students for leadership and upper management positions in public service. Students, who are generally mid-career at entry, pursue careers in government, nonprofit organizations, international development agencies, academia, and the private sector.

Program objectives

The mission of the MPA Program is to support effective and efficient administration of government and nonprofit organizations and better public governance in Egypt and the Middle East by preparing professionals for careers in public service with the highest ethical standards, strong competencies in public governance, excellent leadership and communication skills, a sound understanding of the use of evidence and analysis in public service settings, and a commitment to building a better future for the people of Egypt and the region.

Admission

All applicants must satisfy the university's graduate admission requirements. Candidates for the MPA or DPA are recommended but not required to have two or more years of relevant professional experience.

Courses (33 credit hours)

Students seeking the degree of Master of Public Administration must complete 33 credit hours plus a thesis. The program core, required of all students, consists of 6 courses (18 credits). Students must complete a concentration of 5 courses (15 credits). Students may elect either the concentration in Management of Public Sector Reform or the concentration in Management of Nonprofits and Development Organizations. Students are required to declare their concentration before beginning their second semester of enrollment in the program. In addition to coursework, students must complete a thesis consistent with department and university guidelines and complete at least one enrollment in each of the mandatory thesis sequence courses (PPAD 5298 and PPAD 5299, both non-credit).

Core Requirement (18 credit hours):

Students must complete four (4) courses in group 1, one (1) course in group 2, and one (1) course in group 3.

Group 1: Complete all four (4) of the following:

- PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.)
- PPAD 501/5221 - Strategic Management for Government and Nonprofit Organizations (3 cr.)
- PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.)
- PPAD 514/5224 - Human Resource Management for Government and Nonprofit Organizations (3 cr.)

Group 2: Complete one (1) of the following:

- PPAD 504/5222 - Fundamentals of Financial Planning and Management for Government and Nonprofit Organizations (3 cr.)
- PPAD 511/5122 - Administrative Environment and Public Policy in Egypt and the Middle East (3 cr.)
- PPAD 512/5114 - Management of Development Programs (3 cr.)

Group 3: Complete one (1) of the following:

- PPAD 508/5211 - Qualitative Analysis for Policy and Administration (3 cr.)

- PPAD 509/5212 - Applied Quantitative Analysis (3 cr.)
- PPAD 515/5202 - Public Policy Analysis and Program Evaluation (3 cr.)

Concentration Requirement (15 credit hours):

Students must complete 5 courses in one of the following two areas. In addition to the courses shown for each concentration, students may select a course from the core list shown above as a Group 3 concentration course, if not taken as a core course (i.e., a course may be counted toward only one requirement).

MPA Concentration 1: Management of Public Sector Reform -- 5 courses (15 credits) required

Group 1: Choose two from the following four courses

- PPAD 510/5113 - Organizational Behavior for Government and Nonprofit Management (3 cr.)
- PPAD 513/5223 - International Models of Public Management (3 cr.)
- PPAD 518/5123 - Governance, Accountability, and Stakeholder Negotiations (3 cr.)
- PPAD 523/5125 - Citizen-centered government (3 cr.)

Group 2: Complete three other courses selected in consultation with the departmental advisor, of which at least two must be PPAD courses. Students are strongly encouraged to take a course in another School of Global Affairs and Public Policy department or center if possible and in particular students in this concentration are strongly recommended to take at least one course in law as a concentration elective.

MPA Concentration 2: Management of Nonprofit and Development Organizations -- 5 courses (15 credits) required

Group 1: Choose two from the following three courses

- PPAD 512/5114 - Management of Development Programs (3 cr.)
- PPAD 517/5126 - Non-profit Management (3 cr.)
- PPAD 526/5128 - Corporate Social Responsibility and NGO Partnerships (3 cr.)

Group 2: Complete three other courses selected in consultation with the departmental advisor, of which at least two must be PPAD courses.

Students are strongly encouraged to take a course in another School of Global Affairs and Public Policy department or center if possible.

Practicum (PPAD 591): 3 credits Graded Pass-Fail

Students are strongly encouraged to undertake a practicum within their concentration, ideally in conjunction with their thesis work.

Thesis

Students are required to write a thesis on some aspect of public administration relevant to their concentration. The preparation of the thesis and the thesis itself must comply with Departmental and AUC guidelines with regard to content, format, dates, and the review and supervision process. Students are responsible for familiarizing themselves with these guidelines and meeting formal deadlines. Students preparing the thesis normally develop a preliminary thesis proposal during PPAD 5201, a required core course, but may prepare an alternative thesis proposal if desired. Once the proposal is approved, students are required to enroll in PPAD 5298, the thesis research seminar, in the first semester in which they are working on the research component and write-up of their thesis. Thereafter, if additional work is

required to complete the thesis, students must enroll each semester in PPAD 5299. Students must pay 3 credits of tuition for the first enrollment in PPAD 5298 and PPAD 5299 and thereafter pay 1 credit of tuition each semester, until the thesis is successfully defended and approved by the Dean.

PPAD 5298, the thesis research seminar, is designed to support the applied research required for the thesis and the writing of the thesis itself. Students will be required to read and comment on the work of other students, both orally and in writing, and to present draft thesis chapters.

Dual Degree Option BSc/CENG-MPA

Students enrolled in the School of Science and Engineering may apply to complete the MPA on an accelerated basis in conjunction with completion of the BSc. in engineering. At present, this option is open only to students completing the BSc. in Construction Engineering. Students interested in this option should consult with their advisors during the Fall of their fourth year for potential admission to the program in their fifth year. Those interested in this option are required to complete a summer work assignment for Fall practicum in their fifth year. The program is jointly administered by the Department of Public Policy and Administration in the School of Public Affairs and the School of Sciences and Engineering. Admission is based on the recommendation of the student's SSE advisor and review by the PPAD department. The program prepares students for careers in public service with the highest ethical standards, strong competencies in environmental analysis and management as well as public governance, excellent leadership and communication skills, a sound understanding of the use of evidence and analysis in public service settings, and a commitment to building a better future for the people of Egypt and the region. Students pursue careers in government, nonprofit organizations, international development agencies, academia, and the private sector.

Students electing the dual degree option begin taking graduate courses in their ninth semester and receive both the BSc. and the MPA upon the completion of their coursework and master's thesis, normally at the end of their 6th year. The following course sequence has been developed for this option, but students should consult their advisor in CENG to ensure that all SSE requirements are met:

SEMESTER IX

- CENG 424/4253 - Methods and Equipment for Construction II (2 cr.)
- Eng. Concentration 1 elective
- CENG 448/4460 - Financial Management and Accounting for Construction (3 cr.) (MPA credit)
- CENG Elective (1)
- CENG 431/4351 - Transportation Engineering (3 cr.)
- CENG 490/4980 - Senior Project I (1 cr.) (Capstone Core Level I)
- CENG 497/4951 - Practical Training (1 cr.) (Practicum)

SEMESTER X

- Engineering Concentration 2
- CENG 567/5243 - Construction Leadership and Management Skills (3 cr.)
- CENG 491/4981 - Senior Project II (2 cr.) (Capstone Core Level II)
- PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.) (MPA credit)
- PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.) (MPA credit)
- Science elective (from MDP list)
- Summer internship – public/NGO management focus preferred (MPA credit through 5198)

SEMESTER XI

- PPAD 591/5198 - Practicum (3 cr.) (Capstone Level II) (MPA Credit)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.) (MPA Credit)

- PPAD Elective selected with MPA advisor (MPA Credit)
- Science elective (selected with PPAD advisor)
- PPAD 598/5298 - Research Seminar (0 cr.) (MPA Credit)

SEMESTER XII

- PPAD 514/5224 - Human Resource Management for Government and Nonprofit Organizations (3 cr.) (MPA Credit)
- PPAD 516/5132 - Social and Environmental Policy (3 cr.) (MPA Credit)
- PPAD 517/5126 - Non-profit Management (3 cr.) (MPA Credit)
- PPAD 599/5299 - Research Guidance (0 cr.) (MPA Credit)

Summer thesis work, if needed.

Lists of MDP-relevant courses will be provided to students in the program prior to registration for each semester, based on offerings available in the appropriate departments

Public Policy, with concentrations in Social and Environmental Policy, Promotion and Regulation of Private Sector Development, and Media Policy (MPP)

Master of Public Policy

The Master of Public Policy is administered by the Department of Public Policy and Administration in the School of Global Affairs and Public Policy. The program prepares students for leadership positions in public service and for careers as policy analysts. Students, who are generally in the early part of their career at entry, pursue careers in government, nonprofit organizations, international development agencies, academia, consulting firms, and the private sector.

Program objectives

The mission of the MPP Program is to support evidence-based policy-making and better public governance in Egypt and the Middle East by preparing professionals for careers in public service with the highest ethical standards, strong competencies in public governance, excellent leadership and communication skills, capability to develop and use evidence and analysis in public service settings, and a commitment to building a better future for the people of Egypt and the region.

Admission

All applicants must satisfy the university's graduate admission requirements. Candidates for the MPP or DPP should have adequate preparation in quantitative analytic methods. Relevant professional experience is desirable but not required.

Courses (33 credit hours)

Students seeking the degree of Master of Public Policy must complete 33 credit hours plus a thesis. The program core, required of all students, consists of 6 courses (18 credits). Students must complete a concentration of 5 courses (15 credits). Students may elect either the concentration in Social and Environmental Policy or the concentration in Government Regulation and Promotion of the Private Sector. Students are required to declare their concentration before beginning their second semester of enrollment in the program and to identify an area of professional concentration at that time. In addition to coursework, students must complete a thesis consistent with department and university guidelines and complete at least one enrollment in each of the mandatory thesis sequence courses (PPAD 5298 and PPAD 5299, both non-credit).

Core Requirement (18 credit hours):

Students must complete four (4) courses in group 1, one (1) courses in group 2, and one (1) course in group 3.

Group 1: Complete all four (4) of the following:

- PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.)
- PPAD 502/5231 - Economics for Public Policy Analysis (3 cr.)
- PPAD 503/5232 - Role of Government in a Market-Oriented Economy (3 cr.)
- PPAD 515/5202 - Public Policy Analysis and Program Evaluation (3 cr.)

Group 2: Complete one (1) of the following:

- PPAD 505/5121 - Institutions, Democratization, and Public Policy (3 cr.)
- PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.)
- PPAD 507/5131 - Government Finance for Policy Analysis (3 cr.)
- PPAD 517/5126 - Non-profit Management (3 cr.)
- PPAD 518/5123 - Governance, Accountability, and Stakeholder Negotiations (3 cr.)
- PPAD 519/5124 - Leadership and Communication for Public Affairs (3 cr.)

Group 3: Complete one (1) of the following:

- PPAD 508/5211 - Qualitative Analysis for Policy and Administration (3 cr.)
- PPAD 509/5212 - Applied Quantitative Analysis (3 cr.)

NOTE: Students with limited preparation management and social science are strongly encouraged to enroll in PPAD 5111 ; conversely, students with a background in management and/or social science may not enroll in PPAD 5111 for credit toward the MPP. Students with strong preparation in economics may substitute any course in Group 2 or 3 to complete their Group 1 requirement.

Concentration Requirement (15 credit hours):

Students must complete 5 courses in one of the concentrations below. In addition to the courses shown for each concentration, students may select a course from the core list shown above as a Group 3 concentration course if not taken as a core course (i.e., a course may be counted towards only one requirement). Students may substitute up to two courses for those shown with permission of the department. Students who have completed at least 4 core courses and who have a GPA of 3.5 or better may petition the department to complete a concentration in another policy field, such as urban policy or health policy, which must include at least 3 PPAD courses.

MPP Concentration 1: Social and Environmental Policy – 5 courses (15 credits) required

Students should select concentration courses based on their chosen area of specialization, which may include health and social services policy, anti-poverty policy, environmental policy, or an area defined by the student.

Group 1: Required for all students in concentration

- PPAD 516/5132 - Social and Environmental Policy (3 cr.)

Group 2: Complete one (1) of the following:

- PPAD 520/5133 - Global Health Issues and Policies (3 cr.)
- PPAD 524/5129 - Globalization and Development (3 cr.)
- PPAD 525/5127 - Reforming Delivery of Social Services (3 cr.)
- PPAD 526/5128 - Corporate Social Responsibility and NGO Partnerships (3 cr.)

Group 3: Complete three (3) additional courses selected in consultation with the departmental advisor, of which at least two should be PPAD courses selected in consultation with departmental advisor. Students are strongly encouraged to take at least one (1) course in another School of Global Affairs and Public Policy department or center if possible.

MPP Concentration 2: Promotion and Regulation of the Private Sector Development – 5 courses (15 credits) required

Students should select concentration courses based on their chosen area of specialization, which may include financial markets; telecommunications, power, and water; private sector development; regional economic development, or a topic identified by the student.

Group 1: Complete two (2) of the following:

- PPAD 521/5134 - Government Regulation of Business and Investment (3 cr.)
- PPAD 522/5135 - Promotion of Local Economic Development (3 cr.)
- PPAD 507/5131 - Government Finance for Policy Analysis (3 cr.)

Group 2: Complete two (2) courses from the offerings of the Law and/or Economics Departments

Selected in consultation with departmental advisor. Students with limited backgrounds in law or economics may take one course at the 400 level in law or economics or select alternative PPAD course(s).

Group 3: Complete one (1) additional PPAD course selected in consultation with the departmental advisor.

MPP Concentration 3: Media Policy - 5 courses (15 credits) required

Group 1: Required for all students in the concentration:

- JRCM 444/4444 - Media Law and Policy (3 cr.)
- JRCM 550/5250 - Seminar in International Communication (3 cr.)
- JRCM 570/5270 - Seminar in Mass Communication and National Development (3 cr.)

Group 2: Complete two of the following:

- JRCM 420/4420 - Media Management (3 cr.)
- JRCM 502/5202 - Seminar: Current Issues in Mass Communication (3 cr.)
- PPAD 511/5122 - Administrative Environment and Public Policy in Egypt and the Middle East (3 cr.)
- LAW 510/5210 - Introduction to International Human Rights and Humanitarian Law (3 cr.)

Practicum (PPAD 5198): 3 credits Graded Pass-Fail

Students are strongly encouraged to undertake a practicum within their concentration, ideally in conjunction with their thesis work. P/F graded.

Thesis

Students are required to write a thesis on some aspect of public policy relevant to their concentration. The preparation of the thesis and the thesis itself must comply with Departmental and AUC guidelines with regard to content, format, dates, and the review and supervision process. Students are responsible for familiarizing themselves with these guidelines and meeting formal deadlines. Students preparing the thesis normally develop a preliminary thesis proposal during PPAD 5201, a required core course, but may prepare an alternative thesis proposal if desired. Once the proposal is approved, students are required to enroll in PPAD 5298, the thesis research seminar, in the first semester in which they are working on the research component and write-up of their thesis. Thereafter, if additional work is required to complete the thesis, students must enroll each semester in PPAD 5299. Students must pay 3 credits of tuition for the first enrollment in PPAD 5298 and PPAD 5299 and thereafter pay 1 credit of tuition for each semester, until the thesis is successfully defended and approved by the Dean.

PPAD 5298, the thesis research seminar, is designed to support the applied research required for the thesis and the writing of the thesis itself. Students will be required to read and comment on the work of other students, both orally and in writing, and to present draft thesis chapters.

Public Administration (Graduate Diploma)

Program Requirements

The Diploma Program requires the completion of 18 credit hours of coursework in the PPAD department, including at least 12 credit hours from the courses making up the MPA core.

Public Policy (Graduate Diploma)

Program Requirements

The Diploma Program requires the completion of 18 credit hours of coursework in the PPAD department, including at least 12 credit hours from the courses making up the MPP core.

The Cynthia Nelson Institute for Gender and Women's Studies

Director: M. Rieker

Affiliated Faculty: Mulki Al Sharmani (SRC), Soraya Altorki (SAPE), Ibrahim Elnur (POLs), Alejandro Lorite Escorihuela (Law), Nadia Farah (POLs), Ferial Ghazoul (ECLT), Barbara Ibrahim (Gerhart Center), Vassiliki Kotini (ECLT), Hoda Lutfi (ARIC), Samia Mehrez (ARIC), Tanya Monforte (Law), Adrienne Pine (SAPE), Helen Rizzo (SAPE), Reem Saad (SRC), Hanan Sabea (SAPE), Mona Said (ECON), Hany Sayed (Law), Amr Shalakany (Law), Hania Sholkamy (SRC), Robert Switzer (PHIL), Mariz Tadros (POLs), Richard Tutwiler (DDC).

**Gender and Women’s Studies in the Middle East/North Africa,
with specializations in Geographies of Gender and Justice,
Gendered Political Economies, and Gender and Women’s
Studies in the Middle East/ North Africa (M.A.)**

**Master of Arts in Gender and Women’s
Studies in the Middle East/North Africa**

The graduate program in Gender and Women’s Studies offers advanced study in **three** tracks:

- Geographies of Gender and Justice
- Gendered Political Economies
- Gender and Women’s Studies in the Middle East/ North Africa

The graduate program in Gender and Women’s studies prepares graduates for a wide variety of professional careers. Specialists in gender and women’s studies are being hired as consultants in international development agencies, local NGO’s, national government agencies, all of which hire people that have special training in understanding gender relations. Students wishing to pursue doctoral work will find that interdisciplinary training in gender and women’s studies equips them with theoretical and methodological strengths in most disciplines and applied research fields. Consistent with the mission of the School of Global Affairs and Public Policy, Gender and Women’s Studies is an interdisciplinary graduate program.

Geographies of Gender and Justice

Geographies of Gender and Justice offers advanced study of contemporary practices and problems of justice ranging from international justice regimes to national legal cultures to social and economic justice claims with a particular focus on the global south.

Gendered Political Economies

The specialization in Gendered Political Economies engages with shifts in the gendering of economic and political trajectories of late modernity. It deals with issues relating to poverty, labor politics, political economies of desire, migration, mobility and development histories and practices. The aim is to provide students with a solid grounding in the nexus between gender and modalities for reorganizing the political economic order in the contemporary world.

**Gender and Women’s Studies in the Middle East/ North
Africa**

The Gender and Women's Studies in the Middle East, North Africa focus offers an interdisciplinary field of analysis that draws its questions and approaches from the humanities and social sciences through investigating how relations of gender are embedded in social, political and cultural formations. It provides students with an interdisciplinary and transnational perspective with special emphasis on the Middle East and North African region.

Core Requirements

There are three core requirements for students in all specializations:

- GWST 500/5100 - Theorizing Gender (3 cr.)
- GWST 505/5205 - Gender and Feminist Research Methodologies (3 cr.)
- GWST 000/5298 - Thesis Writing Seminar (3 cr.)

Specialization in Geographies of Gender and Justice

There are three required courses:

- GWST 502/5102 - Justice: Histories and Theories (3 cr.)
- GWST 508/5108 - Women and Human Rights (3 cr.)
- SOC/ANTH 530/5230 - Theorizing the State (3 cr.)

Electives:

The remaining two courses are 500 level electives one of which must be a GWST course. The list of electives are reviewed by the IGWS Graduate Advisory Committee every academic year. The list of electives for any given semester is available on the IGWS graduate center website.

Specialization in Gendered Political Economics

There are three required courses:

- GWST 504/5104 - Gender and Migration (3 cr.)
- GWST 506/5106 - Reading Capital (3 cr.)
- GWST 507/5107 - Critical Geographies: Reading the Global South (3 cr.)

Electives:

The remaining two courses are 500 level electives one of which must be a GWST course. The list of electives are reviewed by the IGWS Graduate Advisory Committee every academic year. The list of electives for any given semester is available on the IGWS graduate center website.

Specialization in Gender and Women's Studies in the Middle East and North Africa

There are three required courses:

- GWST 501/5101 - Approaches to Gender and Women's Studies in the Middle East/ North Africa (3 cr.)
- GWST 503/5103 - Histories and Theories of Gender and Development (3 cr.)
- GWST 504/5104 - Gender and Migration (3 cr.)

Electives:

The remaining two courses are 500 level electives one of which must be a GWST course. The list of electives are reviewed by the IGWS Graduate Advisory Committee every academic year. The list of electives for any given semester is available on the IGWS graduate center website.

MA Thesis

All students must complete a thesis according to university regulations. Students must register for GWST 5299. Before commencing work on the thesis, the student must have a thesis proposal approved by the IGWS Graduate Advisory Committee. Students should familiarize themselves with the specific procedural requirements of the IGWS thesis. Guidelines are available in the IGWS office and on the web.

Admission

Applicants seeking admission to the graduate program should have an undergraduate degree of high standing in the social sciences or humanities with an overall grade of gayyid giddan or a grade point average of 3.0 or above. Those who lack this background but who are exceptionally well qualified may be admitted provisionally. Provisional admission usually involves additional non-credit coursework to prepare the applicant for graduate work over one or two semesters. Provisionally accepted students must successfully complete the required prerequisites before being admitted to enroll in GWST graduate courses. Students are admitted to the graduate degree program in the fall semester only.

Gender and Women's Studies in the Middle East and North Africa (Graduate Diploma)

Course Requirements

Six courses (18 credit hours) are required for the diploma. Diploma students must take two required courses (GWST 5100 and GWST 5205) and four GWST elective courses.

The diploma option allows students to pursue a disciplinary M.A. at AUC and at the same time acquire gender studies qualifications.

Center for Migration and Refugee Studies

Director: I. Awad

Associate Director: A. Ullah

The Center for Migration and Refugee Studies (CMRS), was first established in 2000 and was expanded in 2008 into a Regional Center encompassing all forms of international mobility, whether voluntary or forced, economic or political, individual or collective, temporary or permanent. Consistent with the mission of the School of Global Affairs and Public Policy, our programs are all multidisciplinary.

CMRS activities include Graduate Education, Research and Outreach activities.

CMRS offers a Master of Arts in Migration and Refugee Studies, a Graduate Diploma in Forced Migration and Refugee Studies and a Graduate Diploma with a Specialization in Psychosocial Intervention for forced migrants and refugees.

The CMRS research program includes a systematic and comparative inventory of the situation regarding migration and refugee movements across the Middle East and North Africa (MENA), as well as in-depth studies of emerging issues in the region.

CMRS outreach includes disseminating knowledge on migration and refugee issues beyond the university's gates, as well as providing a range of educational services to refugee communities.

Migration and Refugee Studies with concentrations in Migration, and in Refugee Studies (M.A.)

Master of Arts

The MA program in Migration and Refugee studies is an interdisciplinary degree program that aims to provide graduates with critical knowledge, research methods and analytical skills of current theoretical, legal, political, economic, social, demographic and psychological issues in migration and refugee studies. The knowledge and skills acquired may be applied in careers within institutions such as governmental, non-governmental and international agencies, as well as universities, research organizations and private corporations dealing with the multitude of issues connected with migration and refugee movements. Students have the option of pursuing concentrations in migration or in refugee studies.

It is possible to work towards the MA in Migration and Refugee Studies with other MAs and Diplomas in the fields of Humanity and Social Sciences simultaneously or sequentially. For more information, see Dual Graduate Degrees under the Academic Requirements and Regulations section: Graduate Academic Requirements & Regulations

Admission

Applicants seeking admission to the Master's program should have an undergraduate degree of high standing (equivalent of a B grade or higher) within the field of Humanities and/or Social Sciences and meet the university's language proficiency. Pre-requisites may be assigned, depending on the student's academic background. Students with related work, research or volunteer experience will be given priority.

Requirements:

Course Requirements

The MA program requires the successful completion of 8 courses (24 credit hours). All students must take the following 5 core courses:

- MRS 507/5200 - Introduction to Migration and Refugee Studies (3 cr.)
- MRS 518/5201 - International Refugee Law (3 cr.)
- MRS 500/5202 - Migration & Refugee Movements in the Middle East and North Africa (3 cr.)
- MRS 501/5203 - International Migration & Development (3 cr.)
- MRS 576/5204 - Research Methods in Migration and Refugees Studies (3 cr.)

For a concentration in migration, students should choose 3 courses from the following electives:

- MRS 504/5104 - Gender and Migration (3 cr.)
- MRS 508/5208 - Special Topics in Migration and Refugee Studies (3 cr.)
(When relevant to migration)
- MRS 509/5209 - Migration, Integration and Citizenship (3 cr.)
- MRS 528/5228 - Migration in International Law (3 cr.)
- MRS 584/5284 - Practicum: Internship or Research (3 cr.)
(Supervised internship with organization working on migration issues)
With Center approval, students may take a course offered by another department or center.

For a concentration in refugee studies, students should choose 3 courses from the following electives:

- MRS 512/5112 - Psychosocial Issues in Forced Migration (3 cr.)
- MRS 505/5205 - Palestinian Refugee Issues (3 cr.)
- MRS 508/5208 - Special Topics in Migration and Refugee Studies (3 cr.)
(When relevant to refugee studies)
- MRS 584/5284 - Practicum: Internship or Research (3 cr.)
(Supervised internship with organization working on refugee issues)
With Center approval, students may take a course offered by another department or center.

To take the degree without a concentration, students may choose 3 courses from any of the electives listed above.

Thesis Requirements

All students must complete a thesis according to university regulations. Before commencing work on the thesis, the student must present a thesis proposal for approval by CMRS. The thesis proposal should comprise a research question, including a set of hypotheses, the sources of information and an outline of the research method to be used – and should not exceed 2000 words. After the acceptance of the thesis proposal, students must register for course MRS 5299 "Research Guidance and Thesis". After the completion of the thesis, it must be defended in an oral examination during which questions may be asked regarding any aspect of the thesis itself or of courses taken in the program particularly as they may relate to the thesis.

Time Line

Completion of the Masters Degree in Migration and Refugee Studies will normally take 2 years.

Migration and Refugee Studies (Graduate Diploma)

Specialized Graduate Diploma in Migration and Refugee Studies

Admission

Applicants seeking admission to the Graduate diploma should have an undergraduate degree of high standing (equivalent of a B grade or higher) within the field of humanities and or Social Sciences and meet the university's language proficiency exam.

Course Requirements

The Graduate Diploma requires the successful completion of 6 courses (18 credit hours). These include four required core courses plus two elective courses.

All students must take:

- MRS 500/5202 - Migration & Refugee Movements in the Middle East and North Africa (3 cr.)
- MRS 501/5203 - International Migration & Development (3 cr.)
- MRS 507/5200 - Introduction to Migration and Refugee Studies (3 cr.)
- MRS 518/5201 - International Refugee Law (3 cr.)

Two electives are to be chosen from the CMRS list of electives offered each semester.

Time Line

Completion of the Graduate Diploma in Migration and Refugee Studies will normally take 1 year. It does not require the completion of a thesis. Students who finish the diploma can develop it into an MA by taking the two extra required courses of the MA program and complete a thesis.

Psychosocial Interventions for Forced Migrants and Refugees (Graduate Diploma)

Specialized Graduate Diploma in Psychosocial Intervention for Forced Migrants and Refugees

The diploma is offered by the Center for Migration and Refugee Studies (CMRS) in collaboration with the Psychology unit of the SAPE department.

Admission

Applicants seeking admission to the Graduate diploma in - Psychosocial Intervention for forced migrants and refugees should have an undergraduate degree of high standing (no less than a GPA of 3.00) within the field of humanities and/or Social Sciences and meet the university's language proficiency exam. Pre-requisites may be assigned, depending on the student's academic background. Students with related work, research or volunteer experience will be given priority.

Applicants must display through a written personal statement in their applications the following traits: leadership, compassion, cultural sensitivity, social responsibility, emotional maturity, good mental health, and ethical standards. Recommendation letters will be required.

Graduates of this new specialized diploma will acquire core competencies that qualify them to think critically and analytically about migration and refugee issues and plan and implement holistic culturally sensitive interventions that minimize or alleviate the psychosocial issues affecting forced migrants and refugees at individual, family, group, community and societal levels. They will learn to plan, manage and implement state-of-the-art interventions that make an impact on the psychosocial well-being of refugee adults and children without discrimination due to ethnicity, gender, religion or capacities. These interventions can be implemented during and after emergencies in urban, rural or camp locations. They will include but not be limited to the provision of humanitarian relief that supports human rights and dignity, provision of basic psychological first aid and psychosocial support, facilitation of psycho-education and support for families and groups, community and child focused activities in support of psychosocial well-being, advocacy, referral, protection, psycho-education and peace building.

Course Requirements

The specialized graduate diploma in applied psychosocial intervention requires the successful completion of 6 courses with 19 credit hours. These will consist of 5 core courses, plus one elective. The practicum course:

- MRS 513/5213 - Practicum in Psychosocial Interventions for Forced Migrants and Refugees (2 cr.) will be taken twice, once in the Fall and once in Spring; each semester will count for 2 credit hours.

The remaining four core courses are:

- MRS 507/5200 - Introduction to Migration and Refugee Studies (3 cr.)
 - MRS 512/5112 - Psychosocial Issues in Forced Migration (3 cr.)
 - PSYC 502/5210 - Community Psychology and Systems Theory (3 cr.)
 - MRS 514/5214 - Psychosocial Interventions for Forced Migrants and Refugees (3 cr.)
- The one elective can be selected based on student interests, with approval from the Director of the psychosocial program.

Time Line

The Graduate Diploma in Psychosocial Intervention can be finished in one year of full time study or two years of part-time study. It does not require the completion of a thesis. Students who finish the diploma can develop it into an MA by taking the MA required courses and completing a thesis.

On the other hand, following completion of the Graduate Diploma in Psychosocial Intervention for forced migrant and refugees, if a student wants to undertake the FMRS Diploma in refugee studies, he/she will need to take one or two courses only of the four core courses depending on the electives taken in the psychosocial diploma plus two electives of the FMRS diploma.

Kamal Adham Center for Television and Digital Journalism

Director: H. Al Mirazi.

The Kamal Adham Center for Television and Digital Journalism is designed to prepare graduate students for careers in television broadcasting and news reporting in the digital age. Through its master's program, the Center offers graduates the opportunity to become reporters, producers, television anchors, hosts and media professionals at the top television and satellite channels locally and internationally.

The 33-credit hour curriculum provides comprehensive knowledge of the literature and practice of television journalism and news media. It is a practical program that provides intensive and hands-on exposure to the skills needed for producing both field reports and in-studio shows. The program courses focus on editorial and technical skills, such

as scriptwriting in English and Arabic, camera use, editing and studio operations, as well as courses on interviewing, talk show hosting and voice coaching. Students learn to use the latest HD and 3D cameras and digital equipment that is comparable to facilities found in major news organizations around the world.

Master of Arts

- Television and Digital Journalism (M.A.)

Television and Digital Journalism (M.A.)

Master's Degree in Television & Digital Journalism

The Kamal Adham Center for Television and Digital Journalism is designed to prepare graduate students for careers in television broadcasting and news reporting in the digital age. Through its master's program, the Center offers graduates the opportunity to become reporters, producers, television anchors, hosts and media professionals at the top television and satellite channels locally and internationally.

The 33-credit hour curriculum provides comprehensive knowledge of the literature and practice of television journalism and news media. It is a practical program that provides intensive and hands-on exposure to the skills needed for producing both field reports and in-studio shows. The program courses focus on editorial and technical skills, such as scriptwriting in English and Arabic, camera use, editing and studio operations, as well as courses on interviewing, talk show hosting and voice coaching. Students learn to use the latest HD and 3D cameras and digital equipment that is comparable to facilities found in major news organizations around the world.

Admission

Applicants are required to have a minimum GPA of 3.00 (on a 4.00 scale) or its equivalent of gayyid giddan (very good) in an undergraduate degree from an accredited college or university. Applicants with relevant work experience, but with a GPA slightly lower than 3.0 may still be considered for admission by the Center's graduate committee.

In addition to general language requirements established by AUC, the applicant must demonstrate a proficiency in English at an advanced level. All applicants will be personally interviewed by the director of the program in order to assess their level of communication and spoken language skills. Some applicants will be asked to complete, with a minimum grade of B, one to three undergraduate courses in broadcast writing and production as prerequisites.

Applicants must submit official transcripts of all university degrees, an updated curriculum vitae, two recommendation letters from relevant, credible sources and a personal statement of purpose. Applicants with media experience must submit samples of their work.

Since the Television and Digital Journalism Master's is a practical and hands-on program, requiring daily assignments outside of normal scheduled classes, students are expected to be available to take classes and complete assignments during the day and evening hours. Students are advised not to hold full-time employment that might conflict with fulfilling the program's requirements.

Admission checklist:

- Proof of English Language proficiency
- Official transcripts

- Curriculum Vitae
- Two letters of recommendation
- Personal statement of purpose
- Samples of published/broadcast work if applicable
- Director interview

TV & Digital Journalism Master's Courses

A minimum of 11 courses totaling 33 credit hours is required for the degree. All students must take the following:

- TVDJ 507/5207 - Practicum: TV or Special Video Assignment (3 cr.)
- TVDJ 537/5237 - TV Digital News Gathering and Script Writing (3 cr.)
- TVDJ 538/5238 - Arabic TV Script Writing (3 cr.)
- TVDJ 539/5239 - TV Presentation and Voice Coaching (3 cr.)
- TVDJ 541/5241 - Field and Studio Digital Camera Production (3 cr.)
- TVDJ 542/5242 - Digital Video Editing (3 cr.)
- TVDJ 545/5245 - TV Studio News Reporting (3 cr.)
- TVDJ 546/5246 - TV Digital Journalism Capstone (3 cr.)
- TVDJ 559/5259 - TV Interviewing and Talk Show Hosting (3 cr.)

Electives

All students must also take two (2) 500-level courses offered either by the Department of Journalism and Mass Communication or departments and/or Centers of the School of Global Affairs and Public Policy. All electives must be approved by the advisor to ensure relevance to the program.

Thesis and Comprehensive Exams

The Master's degree in Television and Digital Journalism is a professional degree. In lieu of comprehensive exams and a thesis, students are required to complete a capstone project. Those students who desire a thesis degree in preparation for eventual PhD study at an Egyptian university must, in addition to the requirements above, take JRMC 5200, JRMC 5202, JRMC 5204 and JRMC 5250, sit for comprehensives and enroll for a thesis.

Middle East Studies Program

Director: S. Gamblin

Middle East Studies (B.A.)

Middle East Studies is an interdisciplinary program. Middle East Studies courses are taught by faculty members from Anthropology, Arabic Studies, Economics, History, Management, Political Science, and Sociology. Through intensive study of the region's history, culture, and current issues, students gain a comprehensive understanding of the modern Middle East. See faculty listings under departmental descriptions.

Bachelor of Arts

A minimum GPA of 2.7 is required in order to declare and maintain a major in the Middle East Studies program.

A total of 120 credits is required for the bachelor's degree in Middle East Studies:

Core Curriculum (40 credits)

Non-Arabic speaking students must take six hours of colloquial or literary Arabic.

Concentration Requirements (45 credits)

Apart from the Core requirements, students must take two courses from the 200 and 300-level courses in each of the following six field fields: Anthropology, Arab Studies, Economics, History, Political Science and Sociology. In addition, the student must take a total of three, 400-level courses selected from the above fields. The rest of the courses beyond the Core and Middle East Studies major must be advanced level courses, unless they are part of the requirements of a Minor.

In the case of ARIC and HIST courses, if the student takes one of the courses listed below as part of the Core requirements, the student must take another course from the Core courses listed under these fields.

200 and 300-level course requirements (36 credits)

- ANTH 202/2101 - Cultural Anthropology (3 cr.)
- ANTH 312/3301 - Peoples and Cultures of the Middle East and North Africa (3 cr.)
- ARIC 246/2346 - Survey of Arab History (3 cr.)
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 215/2051 - Economic History of the Modern Middle East (3 cr.)
- HIST 355/3213 - State and Society in the Middle East, 1699-1914 (3 cr.)
- HIST 356/3214 - State and Society in the Middle East, 1906-present (3 cr.)
- POLS 203/2003 - Introduction to Political Science II (3 cr.)
- POLS 308/3408 - Comparative Politics of the Middle East (3 cr.)
- SOC 303/3303 - Social Movements (3 cr.)
- SOC 370/3085 - Environmental Issues in Egypt (3 cr.)

Choose one of the following

- ARIC 343/3343 - Birth of Muslim Community and Rise of the Arab Caliphates (3 cr.)
- ARIC 336/3336 - Studies in Ibn Khaldun (3 cr.)

400-level course requirements (9 credits)

In addition to the above courses, students are required to take three 400-level courses from the following list:

- ANTH 425/4030 - Women, Islam and the State (3 cr.)
- ANTH 450/4050 - Critical Approaches to Development (3 cr.)
OR ANTH 460/4560 - Development Studies Seminar (3 cr.)

- ARIC 439/5142 - Islamic Law (3 cr.)
- ARIC 451/5133 - Islamic Institutions (3 cr.)
- ARIC 454/5134 - Modern Movements in Islam (3 cr.)
- ECON 415/4051 - Seminar on Economic Development in the Middle East (3 cr.)
- HIST 412/4290 - Selected Topics in Modern Egyptian History (3 cr.)
OR HIST 462/4288 - Selected Topics in the History of the Modern Middle East (3 cr.)
- POLS 420/4420 - Issues in Middle East Politics (3 cr.)
- POLS 423/4523 - The Political Economy of Poverty and Inequality (3 cr.)
- POLS 442/4542 - Environmental Politics (3 cr.)
- SOC 450/4106 - Critical Approaches to Development (3 cr.)
OR SOC 460/4560 - Development Studies Seminar (3 cr.)

Electives (29 -41 credits)

Depending on the number of credit hours needed to complete the 120 stated above.

Middle East Studies (M.A.)

Consistent with the mission of the School of Global Affairs and Public Policy, Middle East Studies is an interdisciplinary academic program designed to provide students with a comprehensive understanding of the peoples, societies and economies of the region. The graduate program offers courses in Arabic language and literature, anthropology, economics, gender and women's studies, history, law, political science and sociology with the purpose of introducing students to a variety of methodologies for studying the Middle East. The graduate program focuses on the period from the 18th century onwards and addresses issues of religion, ecology, history, economy, society, polity, gender, and culture. Given the geographical location of Cairo, the program as a whole concentrates on the Arab region. The program is intended for students who wish to pursue a variety of careers such as academia, diplomacy, other government service, work with NGOs, development, business, finance, journalism, public relations and cultural affairs.

Master of Arts

The master's degree program in Middle East Studies is an interdisciplinary degree program. Applicants for admission should have an undergraduate degree of high standing (GPA of 3.0 or higher). Prerequisites are often assigned depending on the individual student's academic background. The program is designed to meet the needs of aspiring professionals who need in-depth knowledge of the modern Middle East as well as those intending to pursue an academic career.

Admission

Students are normally admitted to the MA degree program in the fall only. The application deadline for fall 2011 is February 1 for application with a fellowship and April 1 for application without a fellowship. Students who are offered admission must indicate their intention to enroll by May 15 and pay a deposit to hold their place.

Language

To obtain the MA each candidate must demonstrate, in addition to the normal university requirements in English, proficiency in Modern Standard Arabic up to the completion of ALNG 2101-2102-2103.

Proficiency is tested by an examination administered by the Arabic Language Institute. Students who have no

background in Arabic are strongly advised to enroll in the summer intensive course (20 contact hours a week, 12 credits) of the Arabic Language Unit before beginning their MA program.

Courses

Ten courses are required for the MA degree (Eight for those who choose to write an MA thesis and enroll in MEST 5298 and MEST 5299. The following two courses are required:

- MEST 569/5201 - A Critical Introduction to Middle East Studies (3 cr.)
- MEST 570/5202 - Interdisciplinary Seminar in Middle East Studies (3 cr.)

Students must choose three of the following eight courses:

- An approved 400 or 500 level course in modern Arabic literature.
- ARIC 451/5133 - Islamic Institutions (3 cr.)
- ARIC 542/5231 - Seminar on the Nineteenth-Century Middle East (3 cr.)
/HIST 5222
- ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)
- GWST 501/5101 - Approaches to Gender and Women's Studies in the Middle East/ North Africa (3 cr.)
- LAW 505/5205 - Islamic Law Reform (3 cr.)
- POLS 535/5235 - Middle East Politics (3 cr.)
- SOC/ANTH 503/5290 - Middle Eastern Societies and Cultures (3 cr.)

Note

The other five courses (or three for thesis writers) may be selected from 400 or 500 level courses related to the Middle East in Anthropology/Sociology, Arabic Studies, Economics, Gender and Women's Studies, History, Law, Middle East Studies and Political Science. No more than two 400 level courses may be counted towards the degree and only one course originally at the 400 level but for which requirement are added to raise it to 500 level may be applied towards the degree. Students must consult with their advisor to ensure an adequate coverage of social science and history.

Thesis

Students opting to do a thesis must complete a thesis in accordance with university regulations. Before commencing work on the thesis, the student must have a thesis proposal approved by three faculty members.

Comprehensive Examination

Students not opting to do a thesis will, after the completion of all course requirements, take a comprehensive examination administered by an interdisciplinary examining board. An oral examination will be given following the written test.

Middle East Studies (Graduate Diploma)

The diploma program in Middle East Studies is designed to fill the need for familiarity with modern Middle Eastern culture and society, particularly for students who have not been exposed to an intensive study of the Middle East at the undergraduate level.

Students are expected to finish the program in two semesters, though they may take up to four semesters to complete their requirements.

Admission

An applicant should have an undergraduate degree of high standing (a GPA of 3.0 or above). Prerequisites may be assigned depending on the applicant's academic background.

Language

To obtain the diploma each candidate must demonstrate, in addition to the normal university requirements in English, proficiency in Modern Standard Arabic up to the completion of ALNG 1101-1102-1103.

Courses

Five courses are required for the Diploma, from at least three departments. Students can take a maximum of two courses at the 400 level. Students must take three of the following courses:

- ARIC 451/5133 - Islamic Institutions (3 cr.)
- ARIC 543/5232 - Seminar on the Twentieth-Century Middle East (3 cr.)
or HIST 5223
- ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)
- MEST 569/5201 - A Critical Introduction to Middle East Studies (3 cr.)
- POLS 535/5235 - Middle East Politics (3 cr.)
- SOC/ANTH 503/5290 - Middle Eastern Societies and Cultures (3 cr.)

The remaining two courses must be related to the Middle East, from Arab & Islamic Civilizations, Economics, Gender and Women's Studies, History, Law, Middle East Studies, Political Science or Anthropology/Sociology.

Prince Alwaleed Bin Talal Bin Abdulaziz Alsaud Center for American Studies and Research

**Prince Alwaleed Bin Talal Bin Abdulaziz Alsaud Center for American Studies and
Research
School of Global Affairs and Public Policy**

Director: M. Shahin

American Studies Minor

The minor in American Studies at AUC is an interdisciplinary program in which students take a minimum of five courses (15 credits) among specified offerings involving the study of the history or culture of the United States and the Americas. Students are required to take ECLT 2019 /HIST 2019 (Introduction to American Studies), and four other courses as electives from among courses offered on American issues and topics in anthropology, journalism, history, literature, philosophy, sociology, political science, and other disciplines. Courses listed under the heading "Selected Topics" may be included if the content is relevant to the United States and the Americas.

Requirements:

- ECLT 209/2019 - Introduction to American Studies (3 cr.)

And at least four of the following:

- AMST 299/2096 - Selected Topics for Core Curriculum (3 cr.)
- AMST 301/3100 - The US and the World Economy (3 cr.)
- AMST 310/3010 - American Literature to 1900 (3 cr.)
- AMST 311/3011 - Modern American Literature (3 cr.)
- AMST 356/3016 - American Philosophy (3 cr.)
- AMST 400/4001 - Selected Topics in American Studies (3 cr.)
- AMST 444/4444 - Media Law and Policy (3 cr.)
- ANTH 360/3080 - Gender, Sexuality and Social Change (3 cr.)
- ANTH 390/3305 - Selected People and Culture Areas (3 cr.)
See footnote one.
- ECLT 308/3008 - Modern European and American Literature (3 cr.)
- HIST 201/2501 - History of American Civilization to the Nineteenth Century (3 cr.)
- HIST 202/2502 - History of Modern American Civilization (3 cr.)
- HIST 401/4588 - Selected Topics in the History of the United States (3 cr.)
- POLS 303/3403 - American Government and Politics (3 cr.)
- POLS 415/4615 - U.S. Foreign Policy (3 cr.)
- SOC 303/3303 - Social Movements (3 cr.)
- SOC 307/3304 - Social Class and Inequality (3 cr.)
See footnote one.
- SOC 332/3060 - Social Constructions of Difference: Race, Class and Gender (3 cr.)
See footnote one.
- SOC 408/4020 - Criminology (3 cr.)
See footnote one.

Notes:

Footnote one: when instructor and the Dean of GAPP deem course content appropriate

Footnote two: with permission of the instructor

See departmental announcements or AUC Catalog entries under departmental headings for complete course descriptions.

School of Humanities and Social Sciences

Department of Applied Linguistics

Department of Applied Linguistics School of Humanities and Social Sciences

Associate Professors: Reem Bassiouney, Raghda El Essawi, Marilyn Plumlee, Robert Williams (Chair), Zeinab Taha

Assistant Professors: Lori Fredricks, Atta Gebril

Professors Emeriti: Yehia El-Ezabi, Fred Perry, Paul Stevens

Applied Linguistics is an interdisciplinary field of inquiry that addresses a broad range of language-related issues in order to improve the lives of individuals and conditions in society. It draws on a wide range of theoretical, methodological, and educational approaches from various disciplines—from the humanities to the social, cognitive, medical, and natural sciences—as it develops its own knowledge-base about language, its users and uses, and their underlying social and material conditions. The Department of Applied Linguistics at AUC has as its primary focus the application of linguistic knowledge to language pedagogy, particularly the Teaching of Arabic as a Foreign Language and the Teaching of English to Speakers of Other Languages.

Linguistics Minor

The linguistics minor is administered by the English Language Institute in cooperation with the Anthropology Unit and the Department of Rhetoric and Composition. It offers courses in linguistics anthropology, Teaching English to Speakers of Other Languages (TESOL), or writing in specific genres. The minor is particularly valuable as a complement to majors such as English and comparative literature, Psychology, Sociology, Anthropology, and Journalism and Mass Communication.

Requirements (9 credits):

- LING 200/2201 - Languages of the World (3 cr.)
- LING 252/2200 - Introduction to Linguistics (3 cr.)
- LING 352/3075 - Language in Culture (3 cr.)
/ANTH 3075

And two of the following elective courses (6 credits)

ANTH 332/3060 - Social Constructions of Difference: Race, Class and Gender (3 cr.)

ANTH 380/3105 - Fieldwork Methods (3 cr.)

LING 268/2210 - Principles and Practice of Teaching English (3 cr.)

LING 299/2299 - Selected Topic for Core Curriculum (3 cr.)

LING 400/4099 - Selected Topics in Linguistics

LING 422/4212 - Language and Human Development (3 cr.)

RHET 322/3320 - Writing in the Social Sciences (3 cr.)

RHET 325/3340 - The Rhetoric of Argument in the Humanities and Social Sciences (3 cr.)

RHET 334/3250 - Digital Rhetoric (3 cr.)

RHET 400/4360 - Writing and Editing for Publication (3 cr.)

RHET 410/4260 - Writing for Project Funding (3 cr.)

Teaching Arabic as a Foreign Language (M.A.)

Associate Professors: Z. Taha, R. El Essawi (Director TAFL program)

Interest in the Arabic language has increased greatly throughout the world. With this has come a demand for professionals trained in the field. Based on modern theory and practice, the master's degree and the diploma programs in Teaching Arabic as a Foreign Language (TAFL) are especially designed to meet this need.

The master's degree requires two years' residence and covers the following areas: linguistics, second language acquisition, and methods of teaching foreign languages. Practice teaching is also required. The courses have been structured to promote research as well as to develop highly trained teachers. In addition, a number of issues related to the role of Arabic in modern society are freshly examined, such as current methods of teaching Arabic to children, reform of the writing system, grammar reform movements, and the problem of diglossia. The TAFL program seeks to inspire new approaches to these problems.

Admission

Applicants for the master of arts degree in TAFL should preferably hold a bachelor of arts degree specializing in Arabic language, Islamic studies, Middle East area studies, or a modern language. Applicants should also meet general university admission requirements. Applicants with undergraduate specialization in a modern language other than Arabic must take a number of additional courses in the field of Arabic studies. Applicants who are not specialized in Arabic language will need also to take an entrance exam to be offered by ALI to show that applicant has sufficient command of Arabic to qualify for admission into an Arabic language program. Applicants for the master of arts degree in TAFL should preferably have teaching experience prior to admission into the program or concurrently with the program. Applicants with no or little experience in teaching are required to work as unpaid teacher assistants for at least one semester before graduation.

Language

Non-native speakers of Arabic and holders of degrees other than Arabic language or Islamic studies must demonstrate in an examination that their proficiency in Arabic is adequate for study in the program. The level of language proficiency required for admission is not less than the level Superior as specified by the guidelines of the American Council for the Teaching of Foreign Languages (ACTFL). Those with less but showing exceptional promise may be recommended for AUC preparatory training for a period not to exceed one year.

An applicant who is not a native speaker of English must have sufficient command of English to qualify for admission as an AUC graduate student. Those with less but showing exceptional promise may be recommended for AUC preparatory training for a period not to exceed one year.

Courses

A minimum of 30 graduate credit hours and a thesis are required except as indicated in the "Thesis" section below.

Required of all students

- APLN 501/5201 - Principles of Linguistic Analysis (3 cr.)
- APLN 503/5202 - Second Language Acquisition (3 cr.)
- APLN 510/5203 - Methods of Teaching a Foreign Language I (3 cr.)

- APLN 511/5204 - Methods of Teaching a Foreign Language II (3 cr.)
- APLN 553/5205 - Sociolinguistics (3 cr.)
- APLN 555/5206 - Seminar on Challenges Facing AFL Teachers (3 cr.)

Electives

Electives should complete the required number of credit hours. Choice will depend upon the thesis topic and the student's undergraduate field of study and must be approved by the adviser. While they are normally selected from among 500-level TAFL courses, with the adviser's approval, electives may include up to two non-TAFL courses. No more than two 400-level courses may be counted toward the degree.

Note regarding required and elective courses:

Both required and elective courses are divided into two phases. Phase one courses include: APLN 5201 ,APLN 5202 ,APLN 5203 and APLN 5204 . Phase two courses include: APLN 5102, APLN 5205, APLN 5206 and/or other elective courses that the student proposes to take in order to finish required credits. Students will have to finish phase one courses before moving to phase two courses.

Comprehensive Examination

The comprehensive examination consists of a written examination followed by an oral examination. It is required only of students not writing theses and may not be taken more than twice.

Thesis

The thesis is usually required for graduation. In some circumstances and with the adviser's approval, a candidate may be allowed to replace the thesis with two additional courses, increasing the total number of minimum credit hours required from 30 to 36. In such cases the candidate would be required to take the comprehensive examination.

The student writing a thesis must produce a professional paper on some aspect of TAFL. The thesis must be prepared under the guidance and close supervision of a faculty adviser and a designated committee.

Teaching English to Speakers of Other Languages (M.A.)

Professors Emeriti: Y. El-Ezabi, E. F. Perry, P. Stevens

Professor: A. Agameya (Chair)

Associate Professors: R. Bassiouney, M. Plumlee, A. Gebril

The graduate programs in Teaching English to Speakers of Other Languages (TESOL) are designed to enhance knowledge, skills, and effectiveness of teachers, researchers, and administrators in the profession. These programs attract an international student body and combine rigorous academic standards with an appropriate balance between theory and practice.

Admission

Applicants for the Master of Arts degree in TESOL must have teaching experience prior to admission into the program, or may acquire this experience concurrent with the program.

Language

Applicants who are not native speakers of English will be required to demonstrate on the TOEFL with TWE that their command of English is adequate for study in the program.

Courses

Required of all students:

- APLN 510/5300 - Methods of TESOL I (3 cr.)
- APLN 501/5301 - Principles of Linguistic Analysis (3 cr.)
- APLN 520/5302 - Research Methods in Applied Linguistics (3 cr.)
- APLN 500/5303 - English Grammar (3 cr.)
- APLN 503/5304 - Second Language Acquisition (3 cr.)
- APLN 502/5305 - Assessment in Language Learning (3 cr.)
- APLN 511/5397 - Methods of TESOL II (3 cr.)

For thesis writers:

For thesis writers, a minimum of 33 graduate hours plus the thesis is required. For non-thesis writers, a minimum of 36 graduate hours is required plus a comprehensive examination.

Electives

In choosing electives, students with assistance of their advisors, are to choose at least one course from two of the groups listed below.

1. Education and research:

- APLN 507/5310 - Computer Assisted Language Learning (CALL) (3 cr.)
- APLN 570/5311 - Thesis Proposal Writing (3 cr.)
- APLN 531/5312 - Second Language Reading and Writing: Theory and Practice (3 cr.)
- APLN 540/5370 - Selected Topics in Applied Linguistics (1, 2, or 3 cr.)

2. Linguistics:

- APLN 521/5320 - English Syntax (3 cr.)
- APLN 548/5321 - Corpus Linguistics (3 cr.)
- APLN 550/5322 - Language Pragmatics (3 cr.)
- APLN 551/5323 - Discourse of Analysis for Language Teachers (3 cr.)
- APLN 540/5370 - Selected Topics in Applied Linguistics (1, 2, or 3 cr.)

3. Cross-linguistic, cross-cultural studies:

- APLN 550/5322 - Language Pragmatics (3 cr.)
- APLN 525/5330 - Language Transfer, Contrastive Analysis, and Error Analysis (3 cr.)
- APLN 553/5331 - Sociolinguistics (3 cr.)
- APLN 540/5370 - Selected Topics in Applied Linguistics (1, 2, or 3 cr.)

Note

In the case of APLN 5370 Selected Topics in Applied Linguistics, the course topic must relate to the general category.

Capstone Portfolio

As a part of their graduation requirements, students will submit a capstone portfolio at the end of their final semester. The capstone portfolio will include various items of graded student work from core and elective courses showing that students have successfully achieved MATESOL program learning outcomes. The capstone portfolio will be submitted as a final assignment in APLN 511/5397 - Methods of TESOL II (3 cr.) .

Comprehensive Examination

The Comprehensive Examination consists of a written examination followed by an oral examination. It is required only of students not writing theses, and may not be taken more than twice.

Thesis

The thesis as a requirement for graduation is optional. The student who chooses to write a thesis must produce a professional paper on some aspect of TESOL/applied linguistics. The thesis must be prepared under the guidance and close supervision of a faculty adviser and a designated committee, and must be defended to the satisfaction of the department. The thesis defense is not open to the public.

TAFL (Graduate Diploma)

Complete the following six TAFL courses:

The diploma program in TAFL is designed for qualified teachers of Arabic who meet the same admission requirements as those for the masters degree. The diploma is awarded to those who successfully complete the following six TAFL courses:

- APLN 516/5102 - The Linguistics of Arabic (3 cr.)
- APLN 510/5203 - Methods of Teaching a Foreign Language I (3 cr.)
- APLN 511/5204 - Methods of Teaching a Foreign Language II (3 cr.)
- APLN 507/5210 - Computer Assisted Language Learning (CALL)/Computer Operations Techniques (3 cr.)
- APLN 502/5305 - Assessment in Language Learning (3 cr.)

Notes

One three-hour elective course to be decided upon by the student

A maximum of one appropriate course may be accepted, with departmental approval, as transfer credit toward the diploma in lieu of APLN 5305 , APLN 5203, APLN 5102, or an acceptable elective.

TESOL (Graduate Diploma)

The Diploma program is designed for qualified teachers of English who meet the same admission requirements as those for the Master of Arts degree.

The Diploma is awarded to those who successfully complete the following six TESL courses:

- Two three-hour additional courses to be decided upon by the student in consultation with the academic adviser
- APLN 500/5303 - English Grammar (3 cr.)
- APLN 501/5301 - Principles of Linguistic Analysis (3 cr.)
- APLN 503/5304 - Second Language Acquisition (3 cr.)
- APLN 510/5300 - Methods of TESOL I (3 cr.)

A maximum of one appropriate course may be accepted

With departmental approval, as transfer credit toward the Diploma in lieu of the following:

- APLN 501/5301 - Principles of Linguistic Analysis (3 cr.)
 - APLN 503/5304 - Second Language Acquisition (3 cr.)
 - APLN 510/5300 - Methods of TESOL I (3 cr.)
 - APLN 511/5397 - Methods of TESOL II (3 cr.)
- or an acceptable elective

Department of Arab and Islamic Civilizations

Department of Arab and Islamic Civilizations

School of Humanities and Social Sciences

Professor Emeritus: H. Sakkout, M. El Rabie, G. Scanlon.

Distinguished University Professor: N. Hanna.

Professors: Ch. Karim, M. Serag, M. Mikhail, S. Mehrez.

Associate Professor Emeriti: E. Sartain, H. Lutfi

Associate Professors: E. Fernandes, (Chair) H. Hammoudah

Assistant Professors: A. ElBendary, L. Sundelin, S. Ahmad, E. Kenney, A. Talib, D. Heshmat.

Arabic Studies, with specializations in Arabic Literature, Middle Eastern History and Islamic Art and Architecture (B.A.)

The department of Arab and Islamic Civilizations provides a multi-disciplinary framework for the study of the history and culture of the Middle East since the rise of Islam. It seeks to explain the thought, movements, processes, institutions and identities of Arab-Islamic civilization. These include but are not limited to aesthetic and intellectual production, political and religious thought, cross-cultural interaction, commerce and economic relations, government, and social, political and religious loyalties. The study and appreciation of these fields forms an important part of the university's mission to give students greater awareness and appreciation of the heritage of the Middle East.

Bachelor of Arts

The objective of the Bachelor of Arts is to develop a broad awareness of Arab-Islamic civilization and to develop in students the ability to examine critically the different aesthetic, intellectual and cultural components of this civilization. Each student is required to fulfill Arabic language requirements and take a common core of courses from Arabic Literature, Islamic Studies, Middle Eastern History and Islamic Art and Architecture. Students should find opportunities in any line of work where knowledge of Middle Eastern culture or analytical and communication skills are important.

A total of 120 credits is required for the degree in Arabic Studies.

Language Requirements

Students must demonstrate their proficiency in Arabic at the advanced level, either by completing ALNG 312/3502 or its equivalent, or by taking a proficiency test, or by holding the Thanawiya 'Amma. Students must reach this level of proficiency before their senior year. The department may give permission for deferral until the senior year in exceptional cases. However, students should note that advanced-level proficiency is a prerequisite for enrollment in certain Arabic literature courses, as described below. Students who are required to take Arabic language proficiency courses may use a maximum of 15 hours of their elective credits to take language courses in Intermediate or Advanced Arabic. Elementary Arabic courses may not be taken for credit.

Students should have the Thanawiya 'Amma certificate, evidence of advanced-level proficiency or consent of instructor before enrolling in any Arabic literature course which is taught in Arabic, or in ARIC 5114 for which the readings are in Arabic.

Core Curriculum (40 credits)

ARIC majors must fulfill their Core Curriculum Arab History and Arabic Literature requirements by taking any 300-level Arabic literature course and any Middle Eastern history course from the core curriculum list other than ARIC 3343. They should take the introductory 200-level courses required by their major before fulfilling their Core Curriculum requirements.

Concentration requirements (48 credits)

All students must take 24 credit hours as follows:

Arabic literature (6 credits)

EITHER

- ARIC 201/2101 - Introduction to Classical Arabic Literature (3 cr.)
- ARIC 202/2102 - Introduction to Modern Arabic Literature (3 cr.)

OR

- ARIC 203/2103 - Classical Arabic Literature in Translation (3 cr.)
- ARIC 204/2104 - Modern Arabic Literature in Translation (3 cr.)

Middle Eastern history (6 credits)

- ARIC 246/2346 - Survey of Arab History (3 cr.)
- ARIC 343/3343 - Birth of Muslim Community and Rise of the Arab Caliphates (3 cr.)

Islamic Studies (6 credits)

- ARIC 335/3435 - Introduction to the Study of Islam (3 cr.)
- ARIC 435/5141 - Studies in the Qur'an (3 cr.)

Islamic Art and Architecture (6 credits)

- ARIC 206/2206 - The City of Cairo (3 cr.)
- ARIC 270-271/2270-2271 - From Andalusia to Indonesia: Introduction to Islamic Art and Architecture (3 cr. per semester)

Additional Requirements

Each student must take another 24 credits of ARIC courses, chosen with the help of the advisor. These must include two additional 400-level courses.

Specializations

Students may, if they wish, take a specialization in Middle Eastern History or in Arabic Literature.

Specialization in Middle Eastern History

Students who wish to specialize in this field must take a minimum of 18 of these 24 credits in Middle Eastern history, medieval and modern. These must include two 400-level courses, and at least one course on modern Middle Eastern history. Students may choose from among the following courses offered by the Department of Arab and Islamic Civilizations (ARIC) and by the Department of History (HIST):

- ARIC 320/3020 - Introduction to Sufism (3 cr.)
- ARIC 321/3321 - Zawiyas, Harems, Coffee shops, Everyday Life in the Pre-Modern Mideast (3 cr.)
- ARIC 322/3322 - Land, Trade and Power: a History of Economic Relations in the Middle East, 600-1800 A.D. (3 cr.)
- ARIC 323/3323 - Marriage and the Family in the Medieval and Early Modern Middle East (3 cr.)
- ARIC 324/3324 - Non-Muslim Communities in the Muslim World (3 cr.)
- ARIC 336/3336 - Studies in Ibn Khaldun (3 cr.)
- ARIC 344/3344 - Caliphs and Sultans in the Age of Crusades and Mongols (3 cr.)
- ARIC 345/3345 - Gunpowder Empires: Ottomans, Safavids and Mughols (3 cr.)

- ARIC 353/3353 - Muslim Political Thought (3 cr.)
- ARIC 404/5113 - Sira and Hadith (3 cr.)
- ARIC 439/5142 - Islamic Law (3 cr.)
- ARIC 440/5131 - Arabic Historical Literature (3 cr.)
- ARIC 451/5133 - Islamic Institutions (3 cr.)
- ARIC 460/5135 - Selected Topics in Middle Eastern History, 600-1800 AD (3 cr.)
- ARIC 463/5101 - Selected Topics in the History of Islamic Thought and Institutions (3cr.)
- HIST 355/3213 - State and Society in the Middle East, 1699-1914 (3 cr.)
- HIST 356/3214 - State and Society in the Middle East, 1906-present (3 cr.)
- HIST 454/4219 - Modern Movements in Islam (3 cr.)
- HIST 462/4288 - Selected Topics in the History of the Modern Middle East (3 cr.)

Specialization in Arabic Literature

Students who wish to specialize in this field must take a minimum of 18 of these 24 credits in Arabic literature, chosen from the list below. It is expected that these courses will be taken in Arabic. However, a student may take up to two Arabic literature courses taught in English, on condition that he/she reads the assigned texts in Arabic. In such cases, the course will be registered for that student under the rubric ARIC 5114 , Special Studies in Arabic Texts, as appropriate.

- ARIC 305/3104 - Arabic Literature and Gender (3 cr.)
- ARIC 306/3106 - Arabic Literature and Film (3 cr.)
- ARIC 307/3107 - The Writer and the State (3 cr.)
- ARIC 308/3108 - Colloquial and Folk Literature (3 cr.)
- ARIC 309/3097 - Selected Themes and Topics in Arabic Literature (3 cr.)
- ARIC 310/3197 - Selected Themes and Topics in Arabic Literature in Translation (3 cr.)
- ARIC 314/3114 - The Arabic Novel (3 cr.)
- ARIC 315/3115 - Arabic Drama (3 cr.)
- ARIC 316/3116 - The Arabic Short Story (3 cr.)
- ARIC 401/5110 - Senior Seminar in Arabic Texts (3 cr.)
- ARIC 402/5111 - Senior Seminar in Arabic Literature in Translation (3 cr.)
- ARIC 403/5112 - Arabic Literary Criticism (3 cr.)

Electives (32 credits)

Depending on the number of credits needed to complete the 20 credits, the student is strongly advised to use some of their electives to take a suitable minor or minors. As stated above, he/she may use up to 15 credit hours to satisfy Arabic language requirements for the ARIC degree.

Specialization in Islamic Art and Architecture

In addition to the Islamic Art and Architecture courses (ARIC 2206 and ARIC 270/2270) stipulated in the Arabic Studies core requirements, the students must take an additional 8 courses (24 credit hours), of which two must be of the 400-level, from among the following:

- ARIC 270-271/2270-2271 - From Andalusia to Indonesia: Introduction to Islamic Art and Architecture (3 cr. per semester)

7 courses (21 credit hours) from among the following courses:

- ARIC 368/3268 - The Art of the Book in the Islamic World (3 cr.)
- ARIC 369/3269 - Ceramic Arts of the Islamic World (3 cr.)
- ARIC 370/3270 - The Age of Transition: Early Islamic Art and the Pre-Islamic Past (3 cr.)
- ARIC 371-372/3271-3272 - Islamic Architecture in Egypt and Syria (3 cr. per semester)
- ARIC 464/5121 - Islamic Art and Architecture in India and Pakistan (3 cr.)
- ARIC 465-466/5122-5123 - Islamic Architecture in Turkey, Persia and Central Asia (3 cr.)
- ARIC 467/5124 - Islamic Architecture in Spain and North Africa (3 cr.)
- EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)
- EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)

Notes:

In addition to the core and specialization requirements an additional 26-38 credit hours can be devoted to electives.

Arab and Islamic Civilizations Minor

Requirements (15 credits):

Any five courses offered by the department (ARIC).

Arabic Literature Minor

Program Requirements (15 credits):

Students should take two (2) introductory courses in sequence either:

- ARIC 201/2101 - Introduction to Classical Arabic Literature (3 cr.)
- ARIC 202/2102 - Introduction to Modern Arabic Literature (3 cr.)

Or

- ARIC 203/2103 - Classical Arabic Literature in Translation (3 cr.)
- ARIC 204/2104 - Modern Arabic Literature in Translation (3 cr.)

Students will also take three (3) courses from the following, depending on the student's area of interest:

- ARIC 305/3104 - Arabic Literature and Gender (3 cr.)
- ARIC 306/3106 - Arabic Literature and Film (3 cr.)

- ARIC 307/3107 - The Writer and the State (3 cr.)
- ARIC 308/3108 - Colloquial and Folk Literature (3 cr.)
- ARIC 309/3097 - Selected Themes and Topics in Arabic Literature (3 cr.)
- ARIC 310/3197 - Selected Themes and Topics in Arabic Literature in Translation (3 cr.)
- ARIC 314/3114 - The Arabic Novel (3 cr.)
- ARIC 315/3115 - Arabic Drama (3 cr.)
- ARIC 316/3116 - The Arabic Short Story (3 cr.)
- ARIC 401/5110 - Senior Seminar in Arabic Texts (3 cr.)
- ARIC 402/5111 - Senior Seminar in Arabic Literature in Translation (3 cr.)
- ARIC 403/5112 - Arabic Literary Criticism (3 cr.)

Classical/Medieval Islamic History Minor

Requirements (15 credits):

5 courses from the following, depending on the student's area of interest:

- ARIC 320/3020 - Introduction to Sufism (3 cr.)
- ARIC 321/3321 - Zawiyas, Harems, Coffee shops, Everyday Life in the Pre-Modern Mideast (3 cr.)
- ARIC 322/3322 - Land, Trade and Power: a History of Economic Relations in the Middle East, 600-1800 A.D. (3 cr.)
- ARIC 323/3323 - Marriage and the Family in the Medieval and Early Modern Middle East (3 cr.)
- ARIC 324/3324 - Non-Muslim Communities in the Muslim World (3 cr.)
- ARIC 336/3336 - Studies in Ibn Khaldun (3 cr.)
- ARIC 343/3343 - Birth of Muslim Community and Rise of the Arab Caliphates (3 cr.)
- ARIC 344/3344 - Caliphs and Sultans in the Age of Crusades and Mongols (3 cr.)
- ARIC 345/3345 - Gunpowder Empires: Ottomans, Safavids and Mughols (3 cr.)
- ARIC 353/3353 - Muslim Political Thought (3 cr.)
- ARIC 440/5131 - Arabic Historical Literature (3 cr.)
- ARIC 451/5133 - Islamic Institutions (3 cr.)
- ARIC 460/5135 - Selected Topics in Middle Eastern History, 600-1800 AD (3 cr.)

Islamic Art and Architecture Minor

This minor gives a greater appreciation of the cultural heritage of the Arab-Islamic world to interested students.

Requirements (15 credits):

- ARIC 206/2206 - The City of Cairo (3 cr.)
- ARIC 270-271/2270-2271 - From Andalusia to Indonesia: Introduction to Islamic Art and Architecture (3 cr. per semester)

Two of the following:

- ARIC 370/3270 - The Age of Transition: Early Islamic Art and the Pre-Islamic Past (3 cr.)
- ARIC 371-372/3271-3272 - Islamic Architecture in Egypt and Syria (3 cr. per semester)

- ARIC 465-466/5122-5123 - Islamic Architecture in Turkey, Persia and Central Asia (3 cr.)

Islamic Studies Minor

The minor is designed for students, particularly those coming from abroad, who wish to gain a deeper knowledge and appreciation of Islam as a culture.

Requirements (15 credits):

- ARIC 404/5113 - Sira and Hadith (3 cr.)
- ARIC 435/5141 - Studies in the Qur'an (3 cr.)
- ARIC 451/5133 - Islamic Institutions (3 cr.)

And two of the following:

- ARIC 336/3336 - Studies in Ibn Khaldun (3 cr.)
- ARIC 353/3353 - Muslim Political Thought (3 cr.)
- ARIC 354/3405 - Islamic Philosophy (3cr.)
- ARIC 454/5134 - Modern Movements in Islam (3 cr.)
- ARIC 463/5101 - Selected Topics in the History of Islamic Thought and Institutions (3cr.)

Arabic Studies, with specializations in Islamic Art and Architecture, Arabic Language and Literature, Middle Eastern History and Islamic Studies (M.A.)

The department of Arab and Islamic Civilizations (ARIC) offers Master's degrees in Arabic Studies with emphases in four fields: Islamic Art and Architecture, Middle Eastern History, Islamic Studies, Arabic Language and Literature. The degree program is designed to give students a solid academic background in the ideas and traditions that form the foundation of the important contributions of the Arab and Muslim peoples to human civilization. Course offerings cover the Arab and Islamic world from the seventh century to the modern era. All students must write a master's thesis based on research using original Arabic language sources. There is no comprehensive exam option. The master's degree in Arabic Studies is best-suited for students who hope to pursue a career in academia, but it will also prove invaluable to students who want to go into diplomacy, government service, journalism, and similar fields.

The student may choose one of the following areas of specialization:

1. Arabic Language and Literature
2. Islamic Art and Architecture
3. Middle Eastern History
4. Islamic Studies

Courses

The student must take a minimum of eight courses in his/her area of specialization.

These must include

For Arabic Language and Literature specialization

Choose one of the following:

- ARIC 504/5210 - Seminar on a Selected Work or Author in Classical Arabic Literature (3 cr.)
OR
- ARIC 507/5211 - Seminar on Modern Arabic Literature: Nineteenth Century (3 cr.)
- ARIC 508/5212 - Seminar on Modern Arabic Literature: Twentieth Century (3 cr.)

For Islamic Art and Architecture specialization

Choose one of the following:

- ARIC 575-576/5222-5223 - Special Studies in Islamic Art and Architecture (3 cr.)

For Islamic Studies Specialization

Choose one of the following:

- ARIC 435/5141 - Studies in the Qur'an (3 cr.)
Or
- ARIC 525/5241 - Seminar on Selected Topics in Sira or Hadith (3 cr.)

Students may also choose one of the following:

- ARIC 526/5242 - Seminar on Selected Topics in Islamic Law and Legal Theory (3 cr.)
Or
- ARIC 527/5243 - Selected Topics in Islamic Theology, Sufism or Philosophy (3 cr.)

For Middle Eastern History specialization

Choose one of the following:

- ARIC 530/5230 - Seminar on a Selected Topic in Medieval Arab/Islamic History, 600-1800 A.D. (3 cr.)
OR
- ARIC 542/5231 - Seminar on the Nineteenth-Century Middle East (3 cr.)
OR
- ARIC 543/5232 - Seminar on the Twentieth-Century Middle East (3 cr.)

Additional Requirements

5100 level courses may be taken as part of the M.A. program in which case extra readings and research will be required of the graduate students. See below:

- ARIC 510-511/5213-5214 - Special Studies in Classical Arabic Literature (3 cr.)
- ARIC 512-513/5215-5216 - Special Studies in Modern Arabic Literature (3 cr.)
- ARIC 521-522/5202-5203 - Special Studies in Islamic Thought and Institutions (3 cr.)
- ARIC 560 - 561/5233-5234 - Special Studies in Middle Eastern History (3 cr.)
- ARIC 575-576/5222-5223 - Special Studies in Islamic Art and Architecture (3 cr.)

Notes:

Subject to departmental approval, up to two courses may be taken outside the area of specialization.

Courses on 19th - 20th century Middle Eastern history are taught by the Department of History.

Admissions

The history unit has a preference for applicants who already have some academic background in Arabic and Islamic studies and who have studied the Arabic language at the university level for at least one year.

Language

To be eligible for the master of arts degree in Arabic Studies the student must reach an acceptable level of proficiency in advanced literary Arabic as established by examinations. The student whose degree concentration is Arabic language and literature is expected to go beyond this minimum requirement. The student whose degree concentration is Islamic Art & Architecture is expected to attain the equivalence of ALNG 2101-2102-2103 by test. The student whose degree concentration is history must reach the ALNG 3103-3104 level or its equivalent before writing his/her thesis. To be eligible for the degree of master of arts in Arabic studies, the student must also demonstrate through examination a reading knowledge of at least one major language other than English, preferably French or German. If the student's research can be performed successfully without knowledge of a third language, the department may exempt the student from this requirement.

Thesis

A thesis is required in all three branches of the master of arts in Arabic studies. The thesis must be written in English and submitted in accordance with university regulations.

Department of English & Comparative Literature

Department of English and Comparative Literature School of Humanities and Social Sciences

Professors: F. Ghazoul (Chair), J. Rodenbeck (Emeritus), D. Shoukri (Emerita)

Associate Professor: W. Melaney

Assistant Professors: I. Dworkin, V. Kotini, A. Motlagh, N. C. Mujahid

English and Comparative Literature (B.A.)

Bachelor of Arts

The program in English and Comparative Literature provides the undergraduate student with an understanding of the role which literature plays in presenting men and women with images of themselves, their society, and their culture and introduces them to the different questions and answers which literature has given to the central problems of human experience.

To major in English and Comparative Literature students must have taken at least one ECLT course with not less than a C grade and be registering for the required program of the major.

A total of 120 credits is required for the bachelor's degree in English and comparative literature:

Core Curriculum (40 credits)

Concentration Requirements (42 credits)

- ECLT 200/2010 - Introduction to Literature (3 cr.)
OR
- ECLT 202/2012 - Global Literature in English (3 cr.)
-
- ECLT 201/2011 - Survey of British Literature (3 cr.)
-
- ECLT 301/3001 - Medieval Literature (3 cr.)
Or
- ECLT 409/4009 - Greek Classics in Translation (3 cr.)
Or
- ECLT 410/4010 - Classics of the Ancient World (3 cr.)
-
- ECLT 302/3002 - Literature of the Renaissance (3 cr.)
Or
- ECLT 303/3003 - Seventeenth-Century Literature (3 cr.)
Or
- ECLT 360/3060 - Shakespeare (3 cr.)
-
- ECLT 304/3004 - Eighteenth-Century Literature (3 cr.)
Or
- ECLT 305/3005 - Romanticism (3 cr.)
Or
- ECLT 306/3006 - Nineteenth-Century European Literature (3 cr.)
-
- ECLT 308/3008 - Modern European and American Literature (3 cr.)
Or
- ECLT 348/3048 - Contemporary Literature (3 cr.)

- - ECLT 310/3010 - American Literature to 1900 (3 cr.)
Or
 - ECLT 311/3011 - Modern American Literature (3 cr.)

- - ECLT 411/4011 - History of Literary Criticism (3 cr.)
 - ECLT 412/4012 - Modern Literary Criticism (3 cr.)

Three additional courses to be chosen from the following courses (9 credits):

- ECLT 209/2019 - Introduction to American Studies (3 cr.)
/HIST 209
- ECLT 330/3030 - Literature and Cinema (3 cr.)
- ECLT 332/3032 - World Literature (3 cr.)
- ECLT 333/3033 - African Literature (3 cr.)
- ECLT 344/3014 - Literature and Philosophy (3 cr.)
- ECLT 345/3045 - Literature and Gender (3 cr.)
- ECLT 346/3046 - Third World Literature (3 cr.)
- ECLT 347/3099 - Selected Topics (3 cr.)
- ECLT 352/3052 - Recurrent Themes in Literature (3 cr.)
- ECLT 353/3053 - Modern Drama (3 cr.)
- ECLT 370/3070 - Creative Writing (3 cr.)
- ECLT 447/4099 - Capstone Seminar: Selected Topics (3 cr.)

Any two Additional ECLT courses (6 cr.)

Collateral Requirements (3 credits)

One course in 300- or 400-level Arabic Literature (in Arabic or in translation).

Electives (29-41 credits)

English and Comparative Literature Minor

The minor in English and Comparative Literature introduces students to the analysis of the various literary genres and seeks to foster a critical appreciation and love of literature as well as an understanding of its role in society and culture.

Requirements (15 credits):

Any five literature courses offered by the department, exclusive of 100-level courses.

Writing Minor

The Minor in Writing introduces and advances the knowledge, understanding and value of rhetoric and writing disciplines at the university. It provides the opportunity for students to study and practice across disciplines of writing, from narrative nonfiction and creative writing, to business and technical writing, to approaches to academic inquiry.

Requirements (15 credits):

Students who opt to minor in Writing must have completed RHET 2010 with a minimum grade of B-.

To fulfill the 15 credits for the Minor in Writing, students take:

Required course for each emphasis area:

- Writing in the Creative Genres: ECLT 3070 (Creative Writing)
- Business/Technical Writing: RHET 3210 (Business Communication)
- Writing and Society: RHET 3310 (Effective Rhetoric: Discourse and Power)

Additional Requirements (12 credits total):

- 6-9 credits in one emphasis area (Writing in the Creativity Genres, Business/ Technical Writing, or Writing and Society)
- 3 credits in a second emphasis area, and
- 0-3 credits in any area of their choice

Minor in Writing courses may be double-counted for:

- Core Curriculum credit at the *secondary* level
- Core Curriculum credit at the *capstone* level

Minor in Writing courses may NOT be double-counted for:

- Primary Core requirement in Rhetoric and Composition (3-9 credits)
- Major/Concentration credit

Students who have already taken any of the writing courses below as *electives* or Core courses (as described above) may count credits retroactively.

Course list by emphasis area:

A. Writing in the Creative Genres

Students who select this area of emphasis will practice and work toward mastery in several creative genres of writing, including the following: narrative nonfiction, autobiography, travel writing, fiction, poetry, playwriting and children's literature. They will read within and practice the conventions of these genres, consider ethical concerns raised in the genres, develop critical mastery of the creative genres, and produce a substantial capstone project demonstrating significant growth in writing in a chosen creative genre.

- ECLT 370/3070 - Creative Writing (3 cr.)
- RHET 340/3120 - Life Narratives: Reading as Writers (3 cr.)
- RHET 341/3130 - Travel Writing (3 cr.)
- RHET 342/3140 - Writing Children's Literature (3 cr.)
- RHET 345/3110 - The Writer's Workshop (3 cr.)
- RHET 380/3150 - Poetry Writing (3 cr.)
- RHET 390/3160 - Fiction writing (3 cr.)
- RHET 450/4160 - Imagining the Book (3 cr.)

B. Business/Technical Writing

Students who select this area of emphasis will practice and work toward professional competency in the fields of business, science and technical communications, including the following: business writing, technical writing, proposal writing, and digital rhetoric. They will read within and practice the conventions of these fields of communication, and will reflect upon ethical and critical standards enforced or called into question by these practices.

- RHET 225/2220 - Public Speaking (3 cr.)
- RHET 320/3210 - Business Communication (3 cr.)
- RHET 321/3230 - Technical Communication (3 cr.)
- RHET 332/3240 - Presentation and Persuasion in Business (3 cr.)
- RHET 334/3250 - Digital Rhetoric (3 cr.)
- RHET 410/4260 - Writing for Project Funding (3 cr.)
- RHET 480/4270 - Research and Writing Internship (3 cr.)
- RHET 490/4280 - Advanced Scientific and Technical Writing (3 cr.)

C. Writing and Society

Students who select this area will focus on the social power of writing: writing as a force in academic disciplines, writing and cognitive studies, and writing for publication in the various disciplines. Students learn how writing drives thought, genres, and the development of disciplines and consider ethical concerns raised through this practice.

- RHET 310/3310 - Effective Rhetoric: Discourse and Power (3 cr.)
- RHET 322/3320 - Writing in the Social Sciences (3 cr.)
- RHET 323/3330 - Changing Words, Changing Worlds (3 cr.)
- RHET 325/3340 - The Rhetoric of Argument in the Humanities and Social Sciences (3 cr.)
- RHET 330/3350 - Writing and Cognition (3 cr.)
- RHET 400/4360 - Writing and Editing for Publication (3 cr.)

Selected Topics and Independent Study

(Depending on 'topic,' these courses may fit in any of above 'emphasis' areas each course may be repeated for credit as long as the content differs each time it is taken.)

- RHET 199/1099 - Selected Topics (3 cr.)
- RHET 299/2099 - Selected Topics (3 cr.)
Public Speaking
- RHET 399/3099 - Selected Topics (3 cr.)

Advanced Style

- RHET 460/4060 - Independent Study (1-3 cr.)

English and Comparative Literature (M.A.)

Admission

An applicant for admission to the master's program in English and comparative literature should have a considerable background in the study of literature. Applicants who are not native speakers of English or graduates of English and comparative literature at AUC will be required to demonstrate on the TOEFL with TWE that their command of English is adequate for study in the program.

Courses

A minimum of twenty-four graduate hours is required. Normally, eight courses are to be taken at the 5000 level. However, up to two of the eight courses might be taken at the 4000-level. All students admitted to the graduate program will be required to take ECLT 5106 "Greek Classics and Translation", ECLT 5108 "The History of Literary Criticism", ECLT 5109 "Modern Literary Criticism", and ECLT 5255 "Research Methods in Literature", unless they have taken these courses at the undergraduate level. No more than two graduate-level courses may be transferred from another university.

With permission of the student's adviser and the chair of the department, a student may take graduate coursework in another department provided that its content is directly concerned with the area of the student's degree work. No more than two such courses will be accepted for credit toward the master's degree.

Language

Before writing a thesis the student must demonstrate, in an examination, knowledge of either French or German. At the discretion of the department another modern language may be substituted, should it be more pertinent to the student's field of interest. The exam for both languages will take place in Spring and Fall of each year.

Thesis

The department conceives of the thesis as a research paper at the recommended length of forty to sixty pages (10,000 to 15,000 words), double-spaced, standard font, which should demonstrate by its high quality the student's ability to handle the techniques of research and to write critically and pointedly about a given subject. The topic must be chosen from subjects in the student's area of concentration. It must be acceptable to the student's thesis director in the light of his/her special qualification and his/her judgment of the student's capability, and the availability of the required library facilities.

A proposal must be submitted to, and approved by, the first and second readers as well as the department chair. This should be approximately one to two thousand words. A working bibliography should be included. There will be a final defense of the thesis and related topics.

Comparative Literary Studies (Graduate Diploma)

The Diploma is administered by the Department of English and Comparative Literature. It offers a program in Literature and Literary Studies, that is both multi-cultural and interdisciplinary, for students from Egypt and abroad. There is a demand—both intellectual and vocational—in our intertwined world to understand how different

cultures and linguistic traditions represent themselves and imagine their world. The Program is designed to familiarize the students with the comparative approach to literature and the interdisciplinary nature of literary studies while highlighting how comparative literary studies contribute to new directions in professional and academic developments. It brings the tools and insights of literary and cultural criticism to bear on contemporary concerns from human rights to gender issues, particularly as influenced by, and in, the “global south.” The program requires students to take eighteen credit hours of courses and seminars. The Diploma can be completed in two semesters by full-time students, but the Program can accommodate part-time students. Should the Diploma student in good standing decide during or after completion of the requirements to work towards an MA degree, the student may apply to transfer to the MA degree but must then meet the requirements of the MA program.

Admission

Applicants seeking admission to the Graduate Diploma in Comparative Literary Studies must have completed an undergraduate degree in any field. They are required to meet the graduate admission standards of AUC and meet the English language requirements of the Department of English and Comparative Literature. Information concerning these can be found in the AUC catalog and the Office of Graduate Admission.

Curriculum

Students take a total of six courses and sit for an examination in a language of their choice other than English. Each diploma student is assigned a faculty advisor who will recommend courses and seminars, taking in consideration the vocational and intellectual interest of the student. Students will have a choice of four graduate courses in ECLT and two graduate courses in specified Departments/Programs of HUSS.

- 1 ECLT course in Period/Genre/Theme/Author. 3 cr.
- 1 ECLT course in Literary Criticism/Hermeneutics/Philosophical Dimension of Literature. 3 cr.
- 2 ECLT courses in Selected Topics in Comparative Literature. 6 cr.
- 2 Humanities/Social Sciences courses relevant to comparative and interdisciplinary studies, approved by the student advisor and by the instructor of the course, from the following fields:

Arabic Literature (either in Arabic or in translation)

Gender and Women’s Studies

Forced Migration and Refugee Studies

International Human Rights Law

Sociology/Anthropology

Department of History

Department of History

School of Humanities and Social Sciences

Professors: K. Fahmy, A. Ezz el Arab, R. Tutwiler (Professor of Practice)

Associate Professors: M. Reimer (Chair), P. Ghazaleh, H. Kholoussy

Visiting Professors: J. Capani, T. Gleason, M. Hojairi

The study of history lies at the foundation of a liberal education. It teaches crucial intellectual and analytical skills, and develops communicative abilities. It plays a key role in instilling curiosity and discernment, and in teaching people how

not to be misled. Understanding the past allows us to better understand the present and to prepare intelligently for the future, and is especially important in an increasingly globalized and fast-changing world.

History (B.A.)

Bachelor of Arts

AUC's history major covers a range of European, American and Middle Eastern topics, and allows students the flexibility to develop and pursue their own interests. All courses develop in students an appreciation of the richness, complexity, and diversity of past civilizations, allowing them to examine the human experience in its fullest dimensions. The program as a whole gives students appropriate historical, academic and personal competencies, develops their intellectual sophistication, and provides a solid foundation for their future lives, preparing them for a wide variety of subsequent careers, from law or diplomacy to journalism or business.

Students interested in declaring History as their major must take at least two courses in History the year they join the major and pass an interview to be conducted by the Department Academic Adviser.

A total of 120 credits is required for a bachelor's degree in History.

Core Curriculum (40 credits)

Concentration Requirements (36 credits)

- HIST 420/4801 - Historical Theory and Methodology (3 cr.)
"Major Capstone"

Eleven additional history courses,

1. of which at least eight must be above the 2000 level
2. and four in subjects other than the history of the Middle East

Students must consult with their advisors to ensure that their courses provide an appropriate coverage of different historical periods.

Electives:

38-50 credits, to be selected in consultation with a history faculty advisor.

Honors Program in History (B.A.)

A total of 120 credits is required for a bachelor's degree in Honors Program in History.

Core Curriculum (40 credits)

Concentration Requirements (39 credits)

- HIST 000/4000 - Honors Thesis (3 cr.)
To be taken in the senior year.
- HIST 420/4801 - Historical Theory and Methodology (3 cr.)
To be taken in the senior year in a section limited to Honors students.

Eleven additional history courses

1. Of which at least eight must be above the 200 level
2. Including at least two courses in three of the four following areas:
 - a. The history of the Middle East
 - b. The history of Europe
 - c. The history of the United States
 - d. Comparative Religion courses that are cross-listed as history courses
3. Including one course at the 5000 level (3 credits)

Electives (41 credits)

Comparative Religion Minor

The minor in Comparative Religion is designed to allow students with an interest in religious studies to pursue their research by choosing from a selection of courses on various aspects of the subject both past and present.

Requirements (15 credits):

- CREL 210/2603 - Religions of the World (3 cr.)

Any two other CREL courses (6 credits)

Either two further CREL courses or any two of the following courses (6 credits):

- ANTH 422/4025 - Religion in a Global World (3cr.)
- ARIC 320/3020 - Introduction to Sufism (3 cr.)
- ARIC 324/3324 - Non-Muslim Communities in the Muslim World (3 cr.)
- ARIC 335/3435 - Introduction to the Study of Islam (3 cr.)
- EGPT 440/4040 - Ancient Egyptian Religion and Ethics (3 cr.)
- EGPT 445/5160 - Selected Topics in Coptic Studies (3 cr.)
- PHIL 226/2112 - Philosophy of Religion (3 cr.)

Notes:

With the approval of the CREL advisor, other 300 or 400 level courses on Islam from ARIC, HIST, POLS or PHIL may be substituted for the non-CREL courses listed above.

History Minor

The minor in History is designed to provide students with a substantial introduction to the craft of history while allowing them to choose their own areas of interest.

Requirements (15 credits):

Any five history courses offered by the department, exclusive of 100-level courses.

Department of the Arts

Department of the Arts School of Humanities and Social Sciences

Associate Professor: J. Baboukis (Chair of the Department of the Arts)

Visual Cultures Program

Visiting Instructor: B. Segone

Visual Art

Associate Professor of Practice: S. El Noshokaty

Visiting Instructor: H. Amin

Film

Professor: M. Khouri

Assistant Professor: T. Ginsberg

Visiting Instructor: T. Kamal-Eldin

Graphic Design

Associate Professor of Practice: B. Shehab (Director of Visual Cultures)

Assistant Professor: H. Nawar

Music

Music Performance

Associate Professor: J. Baboukis (Chair of the Department of the Arts)

Assistant Professor: C. Green

Music Technology

Associate Professor: W. ElMahallawy (Director of the Music Program)

Theatre

Professors: S. Campbell (Director of Theatre Program), M. El Lozy

Associate Professors: J. Arnold, F. Bradley

Film (B.A.)

Bachelor of Arts in Film

Since its early days, cinema has been one of the most influential art forms of the twentieth century. Uniquely situated in the "film" city of Cairo, the major in film, integrates professional film production training with the study of the historical and theoretical nature of the medium. Another critical component of the degree of the degree is studying the dynamics of cinema as a complex cultural, economic, and industrial practice. In conjunction with this academic and professional framework, the degree also provides a balance consideration of international, regional and local facets of the subject. The curriculum covers the following areas: the development of cinema as an art form; the impact of cinema on culture and society; the historical, thematic and stylistic trends within Egyptian and Arab cinema; the development of the theoretical and practical background and appreciation of the art of film making; aesthetic techniques used in production; and the relationship between cinema and the increasingly mediated visual cultures of the world.

Declaration of the Film Major

Students interested in declaring a Film Major are required to take FILM 2120 (introduction to Film), and FILM 2200 (Analogue and Digital Practices). Students with a minimum of B grade average in these FILM courses can apply to declare their Film major. Final recommendation regarding the declaration is made following an interview with the applicant.

The Visual Cultures Programs

The Film major participates in the Visual Cultures Program at AUC, which provides the home for interdisciplinary study in theory and practice across the three individual majors of Visual Art, Graphic Design, and Film. Established within the Department of the Arts in 2011 in response to the increasingly interdisciplinary character of visual creative practice in the 21st century, the Program offers courses that facilitate research-driven creative practice and the critical study and conscious use of diverse visual media in cultural context.

As a contemporary "visual culture" is a necessarily open-ended field in continual transformation, the Visual Cultures Program is a work in progress. It currently supports two introductory courses: the studio course Analogue and Digital Practices, which is cross-listed as ARTV 2200, DSGN 2200, and FILM 2200 and offers foundational study in visual research in a cross-disciplinary environment; and the lecture course Introduction to Visual Cultures, which is cross-listed as ARTV 2113, DSGN 2113, and FILM 2113 and provides students with a primer in the key terms and concepts for the analysis of visual texts past and present.

Major Requirements

A total of 120 credits are required for the bachelor's degree in Film, two courses of which must be FILM courses in the 4000 level.

Core Curriculum (40 credits)

Concentration Requirements (54 credits)

- FILM 200/2200 - Analogue and Digital Practices (3 cr.)
- FILM 220/2120 - Introduction to Film (3 cr.)

1. Film Theory and Aesthetics (21 credits)

- FILM 213/2113 - Introduction to Visual Cultures (3 cr.)
 - FILM 330/3130 - Film Theory and Criticism (3 cr.)
- Choose **FIVE** from among the following:
- FILM 000/2122 - Introduction to Film Criticism (3 cr.)
 - FILM 341/3041 - Anthropology and Film (3 cr.)
 - FILM 370/3070 - Selected Topics in Film (3 cr.)
 - FILM 310/3110 - History of World Cinema (3 cr.)
 - FILM 000/3115 - History of American Cinema 1895 - 1945 (3 cr.)
 - FILM 000/3117 - History of American Cinema 1945 - Present (3 cr.)
 - FILM 320/3120 - Cinema in Egypt and the Arab World (3 cr.)
 - FILM 000/3125 - Topics in National Cinemas (3 cr.)
 - FILM 340/3140 - Documentary Film (3 cr.)
 - FILM 000/3150 - Women and Film (3 cr.)
 - FILM 360/3160 - The Filmmaker (3 cr.)
 - FILM 390/3190 - Film Genres (3 cr.)
 - FILM 470/4370 - Advanced Seminar in Film Study and Research (3 cr.)
 - FILM 402/4402 - Independent Study (1-3 cr.)

2. Film Production (15 credits)

- FILM 351/3251 - Digital Editing (3 cr.)
 - FILM 353/3253 - Digital Cinematography (3 cr.)
- Choose **THREE** from among the following:
- FILM 000/2201 - Acting I (3 cr.)
 - FILM 000/2211 - Acting in Arabic I (3 cr.)
 - FILM 357/3257 - Screenwriting (3 cr.)
 - FILM 336/3306 - Sound for Picture Production (3 cr.)
 - FILM 450/4250 - Senior Film Project (3 cr.)
 - ARTV 204/2204 - Introduction to Time-Based Media (3 cr.)
 - ARTV 230/2230 - Introduction to Digital Photography (3 cr.)
 - DSGN 335/3235 - Animation (3 cr.)

- MUSC 334/3304 - Music Production for Visual Media (3 cr.)
- MUSC 337/3307 - Music for Film (3 cr.)
- THTR 204/2401 - Introduction to Technical Theatre (3 cr.)
- THTR 324/3401 - Design for the Theatre (3 cr.)

3. Film as Cultural Industry (12 credits)

Choose **FOUR** from among the following:

- FILM 352/3352 - The Film Industry (3 cr.)
- FILM 354/3354 - Film Audience and Reception (3 cr.)
- FILM 370/3070 - Selected Topics in Film (3 cr.)
- FILM 452/4352 - The Arab and Egyptian Film Industries: National and Global Perspectives (3 cr.)
- FILM 456/4356 - Experiential Learning in Film (3 cr.)
- FILM 470/4370 - Advanced Seminar in Film Study and Research (3 cr.)

Collateral Requirements (9 credits)

Choose **THREE** from among the following:

Any of the remaining FILM courses:

- ANTH 202/2101 - Cultural Anthropology (3 cr.)
- ARIC 306/3106 - Arabic Literature and Film (3 cr.)
- ECLT 411/4011 - History of Literary Criticism (3 cr.)
- JRMC 420/4420 - Media Management (3 cr.)
- MUSC 331/2301 - Music Production Using Protocols I (3 cr.)
- PHIL 310/3010 - Philosophy and Art (3 cr.)
- SOC 306/3030 - Sociology of Literature (3 cr.)
- THTR 203/1201 - Theatre in the Making (3 cr.)

Electives (17 credits)

Graphic Design (B.A.)

Bachelor of Arts in Graphic Design

The Graphic Design major prepares students for a wide range of professional options. Branding, advertising, publication, web, digital and broadcast design, exhibition and type design are all possible career paths. The major offers both theory and studio courses that will enable design students to integrate a good command of visual language with conceptual work, theory, and technology.

Classes are mostly critique based, encouraging debate, discussion and lateral thinking, utilizing formal and practical knowledge. Most course work is conducted in studios. Classes are taught by a group of accomplished faculty supported by visiting faculty, guest lecturers, field trips, camps and workshops. Students create work that is uniquely theirs helping them build a portfolio from which they can build their careers.

Declaration of the Graphic Design Major

To be eligible to declare a Graphic Design major, students must have completed four courses in the program: DSGN 2200 (Analogue and Digital Practices), DSGN 2113 (Introduction to Visual Cultures), DSGN 2201 (Design I) and DSGN 2115 (History of Graphic Design). After the completion of these four courses, students are requested to sit for a portfolio interview where their work is evaluated by a committee. Based on the availability of space, a limited number of students who have successfully completed their courses and who present a promising portfolio as determined by the department will be accepted in the major.

The Visual Cultures Program

The Graphic Design major participates in the Visual Cultures Program at AUC, which provides the home for interdisciplinary study in theory and practice across the three individual majors of Visual Arts, Graphic Design, and Film. Established within the Department of the Arts in 2011 in response to the increasingly interdisciplinary character of visual creative practice in the 21st century, the Program offers courses that facilitate research-driven creative practice and the critical study and conscious use of diverse visual media in cultural context.

As contemporary "visual culture" is a necessary open-ended field in continual transformation, the Visual Cultures Program is a work in progress. It currently supports two introductory courses: the studio course Analogue and Digital Practices, which is cross-listed as ARTV 2200, DSGN 2200, and FILM 2200 and offers foundational study in visual research in a cross-disciplinary environment; and the lecture course Introduction to Visual Cultures, which is cross-listed as ARTV 2113, DSGN 2113, and FILM 2113 and provides students with primer in the key terms and concepts for the analysis of visual texts past and present

Major Requirements

A total of 120 credits are required for the bachelor's degree in Graphic Design.

Core Curriculum (40 credits)

Concentration Requirements (27 Credits)

- DSGN 200/2200 - Analogue and Digital Practices (3 cr.)
- DSGN 201/2201 - Design I (3 cr.)
- DSGN 210/2210 - Typography I (3 cr.)
- DSGN 213/2113 - Introduction to Visual Cultures (3 cr.)
- DSGN 215/2115 - History of Graphic Design (3 cr.)
- DSGN 250/2250 - Digital Practice I (3 cr.)
- DSGN 420/4220 - Production for Designers (3 cr.)
- DSGN 469/4269 - Senior Project Thesis (3 cr.)
- DSGN 470/4270 - Senior Project Practice (3 cr.)

Additional requirements (27 credits)

1. Professional Practice, Choose FOUR:

- DSGN 202/2202 - Design II: Logo and Corporate Identity (3 cr.)
- DSGN 303/3203 - Design III: Publication (3 cr.)
- DSGN 304/3204 - Design IV: Packaging (3 cr.)
- DSGN 305/3205 - Design V: Retail Design (3 cr.)
- DSGN 320/3220 - Typography II (3 cr.)
- DSGN 330/3230 - Typography III (3 cr.)
- DSGN 365/3265 - Advertising and Branding (3 cr.)

2) Technical Practice, Choose THREE:

- DSGN 240/2240 - Color (3 cr.)
- DSGN 245/2245 - Illustration (3 cr.)
- DSGN 313/3213 - Web Design (3 cr.)
- DSGN 335/3235 - Animation (3 cr.)
- DSGN 350/3250 - Digital Practices II (3 cr.)
- DSGN 360/3260 - Photography for Designers (3 cr.)
- DSGN 400/4200 - Professional Practice (3 cr.)
- DSGN 410/4210 - Portfolio (3 cr.)
- ARTV 201/2201 - Introduction to Drawing (3 cr.)
- ARTV 230/2230 - Introduction to Digital Photography (3 cr.)

3. History and Theory, choose TWO:

- DSGN 315/3115 - History of Graphic Design in the Arab world (3 cr.)
- DSGN 317/3117 - History of Advertising in the Arab World (3 cr.)
- DSGN 318/3118 - History of Arabic Calligraphy (3 cr.)
- ARIC 368/3268 - The Art of the Book in the Islamic World (3 cr.)

Collateral Requirements (6 credits):

Choose **two**:

- ARTV 202/2202 - Introduction to Painting (3 cr.)
- ARTV 203/2203 - Introduction to sculpture/Installation (3 cr.)
- ARTV 204/2204 - Introduction to Time-Based Media (3 cr.)
- ARTV 410/4110 - Contemporary issues in Arab Art (3 cr.)
- FILM 220/2120 - Introduction to Film (3 cr.)
- FILM 310/3110 - History of World Cinema (3 cr.)
- FILM 320/3120 - Cinema in Egypt and the Arab World (3 cr.)
- FILM 354/3354 - Film Audience and Reception (3 cr.)
- FILM 452/4352 - The Arab and Egyptian Film Industries: National and Global Perspectives (3 cr.)
- THTR 324/3401 - Design for the Theatre (3 cr.)

Electives (20 credits)

Music Technology (B.A.)

The mission of the Music Program is to teach the theory, literature, and performance of music, and the theory and practice of music technology, to the highest attainable standard in the context of a liberal arts environment, with an orientation towards performance and study in both Western and Arab music.

The program lays a special emphasis on two aspects of what musicians do which are of particular value to students, whether they aspire to a career in music, or only seek to broaden their understanding of the world by enrolling in one or two courses. First, all students who take private instruction in voice or an instrument will learn to sight-read musical notation fluently, and to comprehend what they hear. Second, in the classroom and studio, lessons, rehearsals, and performances, all students in the program are expected to conform to professional standards: to be punctual and prepared, and to treat their colleagues, and the material to be studied or performed, with the respect that is their due.

Students who major in music may pursue either a Bachelor of Arts degree in music technology, or a Bachelor of Musical Arts (B.M.A) degree in performance. The Bachelor of Arts in music technology is a liberal arts degree which prepares students for a career in sound engineering, ie. Music recording, editing, production, and broadcasting, or for graduate study in the field.

The Institute for Music Technology offers a sequence of courses in music recording, editing, and production, music for video and film, and electronic music. Such training is crucial not only for students interested in a career in these professions, but also to performers and teachers who need to create and edit demos and audition tracks, to use music files in web sites and other internet applications, or to prepare and market recordings of their own performances and compositions. The Institute for Music Technology is responsible for the recording studio, which is used both as a teaching space and for professional recording.

The Cairo Choral Society is a community chorus dedicated to the study, promotion, and performance of the great choral works in the Western musical tradition. It presents performances with a professional orchestra (the Cairo Festival Orchestra) and soloists at various venues in Cairo. The membership is voluntary, multinational, and cross-generational. The Cairo Choral Society was founded in 1983; in the fall choral ensembles in Egypt, it is both a community-based organization and a for-credit course at AUC. Students may also participate in the chorus on a not-for-credit basis.

Bachelor of Arts

Requirements for the Concentration in Music Technology

In order to complete the Bachelor of Art in music with a concentration in music technology, a student will:

- Learn to read music, and acquire intermediate listening and sight-reading skills.
- Learn fundamental principles of music theory, both Western and Arab.
- Demonstrate the ability to play the piano at an intermediate level or better, and to use the key board as a tool for music data entry; more advanced students may also present part of a solo recital, in piano, some other instrument, or voice, with the permission of their teacher.
- Acquire a basic ability to compose and arrange using MIDI ("musical instrument digital interface," the protocol for the transmission of music data between electronic musical instruments).
- Learn advanced techniques of recording, editing, mixing, and mastering with Protocol and other editing software (Protocols software is the industry standard for recording, composing, arranging, editing, and mixing digital music).
- Acquire an advanced understanding of the use of music events (i.e. MIDI and related technologies) using synthesizers and samplers.

Declaration of the Major in Music Technology

To be eligible to declare a major in Music Technology, students must take three courses:

- MUSC 220/2200 - Introduction to Music (3 cr.)
- MUSC 330/2300 - Introduction to Music Technology (3 cr.)
- MUSC 331/2301 - Music Production Using Protocols I (3 cr.)

Final recommendation is made by the Director of the Institute for Music Technology after an interview with members of the music technology faculty.

A total of 120 credits are required for the bachelor's degree in music with a concentration in music technology.

Core Curriculum (40 credits)

Concentration Requirements (56 credits):

Theory, Literature and Performance (26 credits):

- MUSC 220/2200 - Introduction to Music (3 cr.)
 - MUSC 240/2400 - Western Music Theory I (3 cr.)
 - MUSC 241/2401 - Sight-Singing and Aural Skills I (1 cr.)
 - MUSC 245/2450 - Arab Music Theory I (3 cr.)
 - MUSC 246/2451 - Maqam I (Arab Music Sight-Singing and Aural Skills) (1 cr.)
 - MUSC 340/3400 - Western Music Theory II (3 cr.)
 - MUSC 341/3401 - Sight-Singing and Aural Skills II (1 cr.)
 - MUSC 345/3450 - Arab Music Theory II (3 cr.)
 - MUSC 346/3451 - Maqam II (Arab Music Sight-Singing and Aural Skills) (1 cr.)
- And MUSC 2850, 2851 Private Instruction for Piano Proficiency (1 cr. each = 2 cr.)

One of the following:

- MUSC 342/3250 - Music in the Arab Tradition (3 cr.)
- MUSC 360/3200 - Music in the Western Tradition (3 cr.)

Two semesters of ensemble, chosen from among the following:

- MUSC 2620/2621 Arab Music Ensemble (1 cr.)
- MUSC 2630/2631 Guitar Ensemble (1 cr.)
- MUSC 2640/2641 Chamber Music Ensembles (1 cr.)
- MUSC 2650/2651 Rehearsal/Performance Practicum (1 cr.)
- MUSC 2660/2661 Chamber Singers (1 cr.)
- MUSC 2670/2671 Cairo Choral Society (1 cr.)

Music Technology (30 credits):

- MUSC 232-332-432/2302-3302-4302 - Digital Audio / MIDI Lab (1 cr. each)
- MUSC 330/2300 - Introduction to Music Technology (3 cr.)
- MUSC 331/2301 - Music Production Using Protocols I (3 cr.)
- MUSC 333/2303 - Microphone Techniques (3 cr.)
- MUSC 334/3304 - Music Production for Visual Media (3 cr.)
- MUSC 336/3306 - Sound for Picture Production (3 cr.)
- MUSC 439/4309 - Digital Mixing Techniques (3 cr.)
- MUSC 490/4900 - Advanced Seminar (3 cr.)

Two additional courses, to be chosen from among the following:

- MUSC 371/3150 - Western and Arab Musical Instruments (3 cr.)
- MUSC 335/3305 - Electronic Music (3 cr.)
- MUSC 337/3307 - Music for Film (3 cr.)
- MUSC 000/3308 - Live Sound Reinforcement (3 cr.)
- MUSC 438/4308 - Music Production Using Protocols II (3 cr.)

Electives (24 credits)

Theatre (B.A.)

The Department of the Arts offers both a bachelor's degree and three minors in theatre. The curriculum balances solid fundamental study of the literature, history, and theory of theatre with practical theatre experience in performance, directing, design, and technical theatre. The program offers a liberal arts approach to theatre study, an approach that aims at enriching the students' awareness of the role of theatre arts within society.

Performances

The department produces a season of fully-realized plays, sponsors student-directed plays, and hosts visiting productions in its three theatres, the Malak Gabr Theatre, Gerhart Theatre, and Black Box Theatre. The department offers students the opportunity to interact with international renowned guest artists who are brought to AUC to serve as directors, designers, and performers. Students who participate are eligible to receive course credit depending on the extent of their involvement.

The Theatre Program's productions are an integral component of its curriculum and an essential part of the learning and training process. Auditions are open to all registered AUC students. Casting in a play is dependent upon the ability of the student to comply with the rigorous requirements of a given rehearsal schedule.

Bachelor of Arts

Theatre majors follow a program of courses in dramatic literature, theory, and history; a program of studio courses (acting, directing, and design), and play and active role in the department's productions.

A total of 120 credits is required for the bachelor's degree in theatre.

*The Theatre program will not authorize substitution in the case of courses the student has failed.

Core Curriculum (40 credits)

Concentration Requirements (51 credits)

- THTR 203/1201 - Theatre in the Making (3 cr.)
 - THTR 204/2401 - Introduction to Technical Theatre (3 cr.)
 - THTR 225/2201 - Acting I (3 cr.)
 - THTR 230/2301 - Play Analysis (3 cr.)
 - THTR 324/3401 - Design for the Theatre (3 cr.)
 - THTR 328/3301 - Directing I (3 cr.)
 - THTR 340/3601 - Advanced Theatre Practicum (3 cr.)
 - THTR 461/4103 - Dramatic Theory and Criticism (3 cr.)
 - THTR 490/4703 - Senior Thesis (3 cr.)
- Six credits to be chosen from among the following:
- THTR 000/3103 - Drama in Context I: Greeks to English Renaissance (3 cr.)
 - THTR 000/3104 - Drama in Context II: Italian Renaissance to Modern (3 cr.)
 - THTR 000/3105 - Drama in Context III: Modern and Contemporary (3 cr.)

Additional Requirements (15 credits)

Three credits from the following:

- THTR 240/2601 - Production Practicum (1 cr. per production)
- THTR 242/2603 - Rehearsal and Performance Practicum (1 cr. per production)

Five courses in the department to be chosen among the following:

- THTR 226/2211 - Acting in Arabic I (3 cr.)
- THTR 000/3103 - Drama in Context I: Greeks to English Renaissance (3 cr.)
- THTR 000/3104 - Drama in Context II: Italian Renaissance to Modern (3 cr.)
- THTR 000/3105 - Drama in Context III: Modern and Contemporary (3 cr.)
- THTR 227/3201 - Acting II (3 cr.)
- THTR 327/3203 - Special Topics in Acting (3 cr.)
- THTR 000/3207 - Movement for the Stage (3 cr.)
- THTR 326/3211 - Acting in Arabic II (3 cr.)
- THTR 000/3403 - Make Up for the Theatre (3 cr.)
- THTR 360/3501 - Playwriting I (3 cr.)
- THTR 361/3503 - Playwriting II (3 cr.)
- THTR 344/3603 - Design Practicum (3 cr.)
- THTR 428/4301 - Directing II (3 cr.)
- THTR 000/4405 - Stage Lighting (3 cr.)
- THTR 000/4406 - Costume Design for Theatre and Film (3 cr.)
- THTR 495/4705 - Senior Honors Project (3 cr.)

Collateral Requirements (3 credits):

One course chosen from the following:

- ARIC 315/3115 - Arabic Drama (3 cr.)
- ECLT 360/3060 - Shakespeare (3 cr.)
- MUSC 252/1011 - Vocal Methods (3 cr.)

Electives (11 credits):

The program will actively encourage its majors to work towards minors in fields such as anthropology, sociology, literature, music, art, political science, or business administration. Elective credits will be used for the minor.

Visual Arts (B.A.)

Bachelor of Arts in Visual Arts

The Visual Arts major provides students with an opportunity to develop their independent vision and creative practice as artists in an educational environment emphasizing conceptual research and expression across media. The curriculum balances studio-based coursework with historical and theoretical. Students intending to major in Visual Arts begin with foundations classes in visual research and analysis and then progress to intermediate studio courses in specific media and techniques (drawing, painting, sculpture and installation, photography, time-based media, alternative and new media practices, experimental animation, and others). All majors also complete a four-semester sequence of studio courses (Art Studio I, II, III, and IV) designed to foster independent work at an advanced level, followed by a year-long Senior project in the final year, which culminates in a public exhibition at the annual degree show in the Sharjah Art Gallery.

Declaration of the Visual Arts Major

To be eligible to declare a Visual Arts major, students must have completed four courses in the program: ARTV 2200 (Analogue and Digital Practices), ARTV 2113 (Introduction to Visual Cultures), and two more Visual Arts studio courses. Final recommendation is made by the Visual Arts faculty after an interview and portfolio review.

The Visual Cultures Program

The Visual Arts major participates in the Visual Cultures Program at AUC, which provides the home for interdisciplinary study in the theory and practice across the three individual majors of Visual Arts, Graphic Design, and Film. Established within the Department of the Arts in 2011 in response to the increasingly interdisciplinary character of visual creative practice in the 21st century, the program offers courses that facilitate research-driven creative practice and the critical study and conscious use of diverse visual media in cultural context.

As contemporary "visual culture" is a necessarily open-ended field in continual transformation, the Visual Cultures Program is a work in progress. It currently supports two introductory courses: the studio course Analogue and Digital Practices, which is cross-listed as ARTV 2200, DSGN 2200, and FILM 2200 and offers foundational study in visual research in a cross-disciplinary environment; and the lecture course Introduction to Visual Cultures, which is cross

listed as ARTV 2113, DSGN 2113, and FILM 2113 and provides students with a primer in the key terms and concepts for the analysis of visual texts past and present.

Major Requirements

A total of 120 credits are required for the bachelor's degree in Visual Arts:

Core Curriculum (40 credits)

Concentration requirements (27 credits)

- ARTV 200/2200 - Analogue and Digital Practices (3 cr.)
- ARTV 213/2113 - Introduction to Visual Cultures (3 cr.)
- ARTV 311/3211 - Art Studio I (3 cr.)
- ARTV 312/3212 - Art Studio II (3 cr.)
- ARTV 315/3115 - Art Theory (3 cr.)
- ARTV 411/4211 - Art Studio III (3 cr.)
- ARTV 412/4212 - Art Studio IV (3 cr.)
- ARTV 469/4269 - Senior Project (A) (3 cr.)
- ARTV 470/4270 - Senior Project (B) (3 cr.)

Additional Requirements (21 credits)

Choose SEVEN:

- ARTV 201/2201 - Introduction to Drawing (3 cr.)
- ARTV 202/2202 - Introduction to Painting (3 cr.)
- ARTV 203/2203 - Introduction to sculpture/Installation (3 cr.)
- ARTV 204/2204 - Introduction to Time-Based Media (3 cr.)
- ARTV 205/2205 - Introduction to Alternative Practices (3 cr.)
- ARTV 000/2206 - Experimental Animation Art (3 cr.)
- ARTV 230/2230 - Introduction to Digital Photography (3 cr.)
- ARTV 370/3270 - Selected Topics in Art (3 cr.)
- ARTV 410/4110 - Contemporary issues in Arab Art (3 cr.)
- DSGN 250/2250 - Digital Practice I (3 cr.)

Collateral Requirements (6 credits)

Choose TWO:

- DSGN 215/2115 - History of Graphic Design (3 cr.)
- DSGN 210/2210 - Typography I (3 cr.)
- DSGN 315/3115 - History of Graphic Design in the Arab world (3 cr.)
- DSGN 318/3118 - History of Arabic Calligraphy (3 cr.)
- FILM 220/2120 - Introduction to Film (3 cr.)
- FILM 330/3130 - Film Theory and Criticism (3 cr.)

- FILM 353/3253 - Digital Cinematography (3 cr.)
- FILM 354/3354 - Film Audience and Reception (3 cr.)
- FILM 470/4370 - Advanced Seminar in Film Study and Research (3 cr.)
- PHIL 310/3010 - Philosophy and Art (3 cr.)

Elective (16 credits)

Performance (B.M.A.)

The mission of the Music Program is to teach the theory, literature, and performance of music, and the theory and practice of music technology, to the highest attainable standard in the context of a liberal arts environment, with an orientation towards performance and study in both Western and Arab music.

The program lays a special emphasis on two aspects of what musicians do which are of particular value to students, whether they aspire to a career in music, or only seek to broaden their understanding of the world by enrolling in one or two courses. First, all students who take private instruction in voice or an instrument will learn to sight-read musical notation fluently, and to comprehend what they hear. Second, in the classroom and studio, lessons, rehearsals, and performances, all students in the program are expected to conform to a professional standard: to be punctual and prepared, and to treat their colleagues, and the material to be studied or performed, with the respect that is their due.

Students who major in music may pursue either a Bachelor of Arts degree in music technology, or a Bachelor of Musical Arts (B.M.A.) degree in Performance. The Bachelor of Musical Arts in Performance is a professional degree built on a liberal arts core which prepares students for a career in teaching or performance in voice or an instrument, or for graduate study in performance.

The Institute for Music Technology offers a sequence of courses in music recording, editing, and production, music for video and film, and electronic music. Such training is crucial not only to students interested in a career in these professions, but also to performers and teachers who need to create and edit demos and audition tracks, to use music files in web sites and other internet applications, or to prepare and market recordings of their own performances and compositions. The Institute for Music Technology is responsible for the recording studio, which is used both as a teaching space and for professional recording.

The Cairo Choral Society is a community chorus dedicated to the study, promotion, and performance of the great choral works in the Western musical tradition. It presents performances with a professional orchestra (the Cairo Festival Orchestra) and soloists at various venues in Cairo. The membership is voluntary, multinational, and cross-generational. The Cairo Choral Society was founded in 1983; in the fall of 2009 it became an ensemble-in-residence within the Department of the Arts. One of the leading large choral ensembles in Egypt, it is both a community-based organization and a for-credit course at AUC. Students may also participate in the chorus on a not-for-credit basis.

Bachelor of Musical Arts (B.M.A.)

Requirements for the Concentration in Performance

In order to complete the Bachelor of Musical Arts with a concentration in performance, a student will:

- Learn to read music fluently, and demonstrate advanced listening and sight-reading skills.
- Demonstrate the ability to play the piano at an intermediate level or better.
- Develop a significant understanding of Western and Arab music theory.

- Study representative great works of Western and Arab music literature and the composers who produced them.
- Demonstrate the ability to sing or play an instrument at or near a professional level; as a final project the student would present a solo recital.
- Sing in choir, and/or play in an instrumental ensemble.

Students who enter the concentration in performance must choose a primary instrument or voice, in which they must complete at least five semesters of private applied instruction, plus MUSC 4980, the Capstone Solo Recital. In order to be accepted into the major, all students will be required to audition before the faculty in their primary instrument or voice, normally by the end of the freshman year.

All students entering the Bachelor of Musical Arts program must either pass the music literacy placement exam or take MUSC 1805, How to Read Music, concurrently with MUSC 1800-1801, the first semester of Private Applied Instruction. Students who choose a primary instrument other than piano will also be required to pass a piano proficiency exam by the end of the sophomore year in order to graduate; those who fail to pass this exam are required to take MUSC 2850-2851-2852, Private Applied Instruction for Piano Proficiency.

A total of 120 credits are required for the Bachelor of Musical Arts degree. Students who wish to add a second major in another subject can do so by completing 140-145 credits.

Core Curriculum (40 credits)

Concentration Requirements (55 - 63 credits)

Literature (9 credits)

- MUSC 220/2200 - Introduction to Music (3 cr.)
- MUSC 342/3250 - Music in the Arab Tradition (3 cr.)
- MUSC 360/3200 - Music in the Western Tradition (3 cr.)

Theory (20 credits)

- MUSC 240/2400 - Western Music Theory I (3 cr.)
- MUSC 241/2401 - Sight-Singing and Aural Skills I (1 cr.)
- MUSC 245/2450 - Arab Music Theory I (3 cr.)
- MUSC 246/2451 - Maqam I (Arab Music Sight-Singing and Aural Skills) (1 cr.)
- MUSC 340/3400 - Western Music Theory II (3 cr.)
- MUSC 341/3401 - Sight-Singing and Aural Skills II (1 cr.)
- MUSC 345/3450 - Arab Music Theory II (3 cr.)
- MUSC 346/3451 - Maqam II (Arab Music Sight-Singing and Aural Skills) (1 cr.)
- MUSC 440/4400 - Western Music Theory III (3 cr.)
- MUSC 441/4401 - Sight-Singing and Aural Skills III (1 cr.)

Performance (26 - 31 cr.)

- MUSC 280-281/1800-1801 - Applied Private Instruction (1 cr.)
- MUSC 282-283/2800-2801 - Applied Private Instruction (1 cr.)
- MUSC 480-481-482-483/4800-4801-4802-4803 - Advanced Applied Private Instruction (3 cr.)
- MUSC 492/4980 - Capstone Final Recital (3 cr.)

Eight semesters of ensemble, chosen from among the following:

- MUSC 262-362-462/2620-2621-2622 - Arab Music Ensemble (1 cr.)
- MUSC 263-363-463/2630-2631-2632 - Guitar Ensemble (1 cr.)
- MUSC 264-364-464/2640-2641-2642 - Chamber Music Ensembles (1 cr.)
- MUSC 265-365-465/2650-2651-2652 - Rehearsal/Performance Practicum (1 cr.)
- MUSC 266-366-466/2660-2661-2662 - Chamber Singers (1 cr.)
- MUSC 267-367-467/2670-2671-2672 - Cairo Choral Society (1 cr.)

*

All students entering the B.M.A. are required to take the music literacy placement exam. Those who do not achieve a passing grade are required to take the following:

MUSC 180/1805 - How to Read Music (3 cr.)

All students with primary instrument other than piano must take the piano proficiency exam. Those who do not achieve a passing grade are required to take the following:

MUSC 284-285-286/2850-2851-2852 - Private Instruction for Piano Proficiency (1 cr.each)

Specialization Requirements (0 - 3 credits)

Students specialized in Voice will take the following course:

- MUSC 372/3110 - Diction for Singers in the Western Tradition (3 cr.)

Students specialized in Guitar will take the following course:

- MUSC 311/3520 - Guitar Pedagogy (3 cr.)

Electives (9 - 29 credits)

Students who choose to add a second major will in most cases need to complete an additional fifteen to twenty credits.

Students with interest in opera are encouraged to add a minor in Theater.

Digital Media Minor

A minor in Digital media will help students understand creativity in the digital sphere. From web design to animation to different technical skills, students will be exposed to thinking and working in the digital world. Students will develop ideas and projects for TV, the Web and different digital platforms.

Based on the availability of space, a limited number of students will be accepted into the minor. Faculty

recommendations are based on the student's performance in the required two courses for minor declaration, DSGN 2113 and DSGN 2200.

Requirements (15 credits):

Choose FIVE from the following:

- DSGN 200/2200 - Analogue and Digital Practices (3 cr.)
- DSGN 213/2113 - Introduction to Visual Cultures (3 cr.)
- DSGN 250/2250 - Digital Practice I (3 cr.)
- DSGN 313/3213 - Web Design (3 cr.)
- DSGN 335/3235 - Animation (3 cr.)
- DSGN 350/3250 - Digital Practices II (3 cr.)

Film Minor

Minor Requirements:

All Film minor students must complete 18 credit hours of course work as follows:

Complete THREE Foundation Courses (9 credits)

- FILM 200/2200 - Analogue and Digital Practices (3 cr.)
- FILM 220/2120 - Introduction to Film (3 cr.)
- FILM 320/3120 - Cinema in Egypt and the Arab World (3 cr.)

Choose TWO Survey Courses (6 credits)

- FILM 310/3110 - History of World Cinema (3 cr.)
- FILM 340/3140 - Documentary Film (3 cr.)
- FILM 341/3041 - Anthropology and Film (3 cr.)
- FILM 351/3251 - Digital Editing (3 cr.)
- FILM 352/3352 - The Film Industry (3 cr.)
- FILM 353/3253 - Digital Cinematography (3 cr.)
- FILM 354/3354 - Film Audience and Reception (3 cr.)
- FILM 360/3160 - The Filmmaker (3 cr.)
- FILM 390/3190 - Film Genres (3 cr.)
- FILM 456/4356 - Experiential Learning in Film (3 cr.)

Choose ONE from the Following Senior Courses (3 credits)

- FILM 450/4250 - Senior Film Project (3 cr.)
- FILM 470/4370 - Advanced Seminar in Film Study and Research (3 cr.)

Music Minor

In order to complete the minor in music, a student will:

- Learn to read music, and acquire fundamental listening and sight-reading skills.
- Learn the basic principles of music theory, either Western or Arab.
- Study representative great works of music literature and composers who produced them, either Western or Arab.
- Make substantial progress in learning to sing or play an instrument; more advanced students may also present part of a solo recital, with the permission of their teacher.
- Sing in a choir, and/ or play in an instrumental ensemble.

This will require that the student complete 17 credit hours of instruction, normally including the following:

Theory and literature (10 cr.)

- MUSC 220/2200 - Introduction to Music (3 cr.)

EITHER

- MUSC 240/2400 - Western Music Theory I (3 cr.)
AND
- MUSC 241/2401 - Sight-Singing and Aural Skills I (1 cr.)
AND
- MUSC 360/3200 - Music in the Western Tradition (3 cr.)

OR

- MUSC 245/2450 - Arab Music Theory I (3 cr.)
AND
- MUSC 246/2451 - Maqam I (Arab Music Sight-Singing and Aural Skills) (1 cr.)
AND
- MUSC 342/3250 - Music in the Arab Tradition (3 cr.)

Performance (4 cr.)

MUSC 1800-1801 Applied Private Instruction (1 cr. each = 2 cr.)

Two semesters of ensemble, chosen from among the following:

- MUSC 262-362-462/2620-2621-2622 - Arab Music Ensemble (1 cr.)
- MUSC 263-363-463/2630-2631-2632 - Guitar Ensemble (1 cr.)
- MUSC 264-364-464/2640-2641-2642 - Chamber Music Ensembles (1 cr.)
- MUSC 265-365-465/2650-2651-2652 - Rehearsal/Performance Practicum (1 cr.)
- MUSC 266-366-466/2660-2661-2662 - Chamber Singers (1 cr.)
- MUSC 267-367-467/2670-2671-2672 - Cairo Choral Society (1 cr.)

Music Technology (3 cr.)

EITHER

- MUSC 330/2300 - Introduction to Music Technology (3 cr.)
- OR
- MUSC 331/2301 - Music Production Using Protocols I (3 cr.)

Music Technology Minor

In order to complete a minor in music technology, a student will:

- Learn to read music, and acquire fundamental listening and sight-reading skills.
- Learn the basic principles of music theory (either Western or Arab).
- Acquire some fluency at playing piano, and at using the keyboard as a tool for music data entry; more advanced students may present a part of a solo recital, in piano or another instrument, with permission of their teacher.
- Learn the fundamental techniques of recording, editing, mixing, and mastering.
- Acquire an intermediate knowledge of Protocols and editing software.
- Acquire an intermediate understanding of MIDI.

This will require the student to complete 18 credit hours of instruction, normally including the following:

Theory and literature (7 cr.)

- MUSC 220/2200 - Introduction to Music (3 cr.)

EITHER

- MUSC 240/2400 - Western Music Theory I (3 cr.)
- AND
- MUSC 241/2401 - Sight-Singing and Aural Skills I (1 cr.)

OR

- MUSC 245/2450 - Arab Music Theory I (3 cr.)
- AND
- MUSC 246/2451 - Maqam I (Arab Music Sight-Singing and Aural Skills) (1 cr.)

Performance (2 cr.)

- MUSC 284-285-286/2850-2851-2852 - Private Instruction for Piano Proficiency (1 cr. each)

Music Technology (9 cr.)

- MUSC 232-332-432/2302-3302-4302 - Digital Audio / MIDI Lab (1 cr. each)
- MUSC 330/2300 - Introduction to Music Technology (3 cr.)
- MUSC 331/2301 - Music Production Using Protocols I (3 cr.)

Theatre Minor

The minor in theatre provides a general introduction to the art and craft of theatre through the study of dramatic literature and the exploration of performance processes through practical application.

Students are encouraged to declare the minor early in their academic career to accommodate necessary prerequisites and give the student the benefit of practical experience. After declaring, all students must have an advising session with the Director of Theatre to define the selected course of study.

Requirements:

A minimum of 18 credits in Theatre:

- THTR 203/1201 - Theatre in the Making (3 cr.)
 - THTR 230/2301 - Play Analysis (3 cr.)
 - Three credits total from the following:
 - THTR 204/2401 - Introduction to Technical Theatre (3 cr.)
 - THTR 240/2601 - Production Practicum (1 cr. per production)
 - THTR 242/2603 - Rehearsal and Performance Practicum (1 cr. per production)
 - One from the following:
 - THTR 225/2201 - Acting I (3 cr.)
 - THTR 226/2211 - Acting in Arabic I (3 cr.)
 - THTR 461/4103 - Dramatic Theory and Criticism (3 cr.)
- One additional Theatre course, must be a 300 level course or higher.**

Type Design Minor

Students will learn about the intricacies of Type in the Type Design Minor. The skill for using and manipulating both Latin and Arabic typography is the highlight of this minor. Special focus is paid to the history and practice of Arabic script and type.

Based on the availability of space, a limited number of students will be accepted into the minor. Faculty recommendations are based on the student's performance in the required courses for minor declaration, DSGN 2113 DSGN 2200 .

Requirements (15 credits):

Choose FIVE from the following:

- DSGN 200/2200 - Analogue and Digital Practices (3 cr.)
- DSGN 210/2210 - Typography I (3 cr.)
- DSGN 213/2113 - Introduction to Visual Cultures (3 cr.)
- DSGN 318/3118 - History of Arabic Calligraphy (3 cr.)
- DSGN 320/3220 - Typography II (3 cr.)
- DSGN 330/3230 - Typography III (3 cr.)

Department of Philosophy

Department of Philosophy School of Humanities and Social Sciences

Professors: S. Stelzer (Chair), E. Wolf-Gazo, W. Lammi (Emeritus), G. Harman (Distinguished University Professor)

Associate Professors: R. Switzer (Dean of Undergraduate Studies & Director of Core Curriculum), N. Bowditch (Dean of the School of Humanities and Social Sciences), C. Belo, R. Fincham

Assistant Professors: R. Pandya, G. Rae, S. Singh, A. Topa

Post-Doctorate Teaching Fellows: M. Crippen, R. Weiss

Visiting Assistant Professor: J. Blum

The study of philosophy involves engaging in a process of coming to terms with oneself, and thus with one's place in the world. This requires a clear and careful thinking of a wide ranging sort, questioning assumptions and attitudes, analyzing problems thoroughly and seeking their solutions through sound reasoning and evidence. Some of the major concerns addressed by philosophy are: moral and socio-political values, the nature of knowledge, the relation of the mind to the body, the principles of the sciences, the arts, and religion. Philosophy aims, in addition, comprehensively to situate these subjects in terms of underlying questions about the meaning of existence and the nature of reality.

Philosophy (B.A.)

Bachelor of Arts

The philosophy major stresses a firm grounding in both the history and the disciplines of philosophy. It is strongly recommended that students majoring in Philosophy minor in another discipline and to explore other areas of study offered by the university. Forty-two credit hours of philosophy course-work are required for the major in philosophy. A total of 120 credit hours are required for the bachelor's degree in philosophy. Declared majors must enroll in a minimum of 6 credit hours of philosophy every semester. Exception to the 6 credit per semester minimum requires written permission from the department.

To major in Philosophy, students must have taken PHIL 2100 course with not less than a "B" grade. In addition, they must take a philosophy major aptitude exam.

PHIL 2100 is prerequisite for all philosophy courses except PHIL 1010, PHIL 1099 and PHIL 2010.

Core Curriculum (40 credits)

Required Courses (12 credits)

- PHIL 312/3001 - Ancient Philosophy (3 cr.)
- PHIL 313/3002 - Medieval Philosophy (3 cr.)
- PHIL 314/3003 - Modern Philosophy (3 cr.)
- PHIL 316/3004 - Twentieth Century Philosophy (3 cr.)

Area Electives (9 credits)

Two of the following:

- PHIL 230/2113 - Introduction to Ethics (3 cr.)

- PHIL 258/2117 - Political Philosophy (3 cr.)
- PHIL 310/3010 - Philosophy and Art (3 cr.)
- PHIL 318/3012 - Theory of Knowledge (3 cr.)
- PHIL 402/5111 - Metaphysics (3 cr.)

One of the following:

- PHIL 418/5114 - Philosophical Masterpieces (3 cr.)
- PHIL 420/5115 - Philosophical Figures (3 cr.)

Electives in Philosophy (21 credits)

Any seven courses in philosophy excluding 1000-level courses, PHIL 220/2100 - Philosophical Thinking (core curriculum requirement) (3 cr.), and PHIL 299/2099 - Selected Topics for Core Curriculum (3 cr.) .

General Electives (38 credits)

Philosophy Minor

The minor in philosophy introduces the student to the specific forms of philosophic questioning and to philosophic methods and modes of thought. It offers an opportunity for students to learn about the unique contribution philosophical traditions have made to civilization; moreover the minor shows students the close relationship philosophy has with the social sciences, the arts, and the natural sciences.

Requirements (15 credits):

Any five philosophy courses, exclusive of 1000-level courses and PHIL 2100, selected in consultation with a member of the philosophy faculty.

PHIL 2100 is prerequisite for all philosophy courses except PHIL 1010, PHIL 1099, and PHIL 2010.

Philosophy (M.A.)

Mission and Goals:

The mission statement of the M.A. program in Philosophy (reflecting those of the Department and the University) is as follows:

Engaging in graduate study in philosophy is to engage in a process of coming to understand one's self and one's place in the world. The M.A. in Philosophy is devoted to this endeavor through its content and form. It engages students in asking questions about the possibility of knowledge, the nature of morality, beauty and aesthetic experience, the meaning of religious experience, the justification and limits of power, and the purpose and meaning of philosophical inquiry itself. And it holds that to be successful in this enquiry clear and careful thinking, the ability to question deeply held assumptions and attitudes, and a commitment to sound reasoning and careful appraisal of evidence is needed.

The goal of the M.A. in Philosophy is therefore to offer the highest quality liberal arts education to our graduate students. Philosophy postgraduates will finish this M.A. program with an in-depth knowledge of the professional discipline as well as the detailed understanding of the history of ideas more generally. This entails rigorous training in rational and critical thought, the close reading and interpretation of some of the history of philosophy's most challenging texts, exemplary intellectual responsibility, and the ability to clearly and effectively present the results of independently conducted research within the form of a M.A. thesis.

In the words of the executive director of the American Philosophical Association, "The skills that philosophy teaches you are wonderfully transferable." Our program aims at teaching students advanced philosophical skills, which they will be able to usefully apply either within the context of a future professional career or as preparation for entering a Ph.D. program at another institution. Students often register for graduate study in Philosophy because of their love of the discipline, rather than for any utilitarian purpose.

Nonetheless, a background in Philosophy can be professionally beneficial, insofar as employers and professional schools have become increasingly aware over the last couple of decades that philosophers tend to have the best training in thinking and writing, and are open and flexible.

Requirements

The M.A. in Philosophy is aimed at any undergraduate with a background in the study of philosophy. A minimum of twenty-four graduate hours are required.

Eight courses must be taken, at least six of which must be taken within the Department of Philosophy at the 5000 level. Students are required to follow the Philosophy Graduate Core, a series of advanced 5000 level seminars that are open only to Masters students. Two such 5000 level seminars are taught each semester. The Department also offers a series of electives: a select number of undergraduate courses that can also be taken at the 5000 level.

A maximum of two courses may be taken within other departments at AUC, at either the 4000 or 5000 level but only with the Chair's approval. Students who are not native speakers of Arabic and who wish to write a thesis within the sphere of Islamic Philosophy will be strongly encouraged to elect for credit at least one of the courses (at an appropriate level) offered by the Arabic Language Institute. Although AUC does not currently offer formal instruction in modern European language, students intending to write a thesis within the sphere of Continental Philosophy will be required to have a basic reading knowledge of either French or German. Any student who wishes to write a thesis in the sphere of Continental Philosophy but who lacks such knowledge is strongly encouraged to privately arrange some tuition outside of AUC.

Before commencing work upon the thesis students will be required to write a thesis proposal. The thesis itself should take the form of a research paper of approximately 15,000 words in length. There will also be a final defense of the finished thesis.

The Philosophy Graduate Program Director organizes a series of (non-credit) seminars at the beginning of every academic year, which all graduate students are expected to attend in order to ensure that they possess the research and academic writing skills requisite for tackling the thesis (PHIL 5299). This training will be further reinforced by the course requirements for the Department's Philosophy Graduate Core courses, in which the students are required to find and engage with relevant secondary literature and write in a highly professional manner for the papers upon which they are examined.

Breakdown of Courses

4 Philosophy Graduate Core courses and 4 optional courses (2 of which can be taken within other departments) and a thesis (PHIL 5299 (no cr.)):

Required Philosophy Graduate Core:

- PHIL 500/5201 - Classical Western Philosophy (3 cr.)
- PHIL 501/5202 - Advanced Seminar in Islamic Philosophy (3 cr.)
- PHIL 504/5203 - Kant and Idealism (3 cr.)
- PHIL 505/5204 - Advanced Seminar in Phenomenology (3 cr.)

Optional Philosophy Graduate Courses:

- PHIL 502/5111 - Metaphysics (3 cr.)
- PHIL 503/5199 - Selected Topics in Philosophy (3 cr.)
- PHIL 510/5112 - Advanced Seminar in Aesthetics (3 cr.)
- PHIL 517/5113 - Current Trends in Philosophy (3 cr.)
- PHIL 518/5114 - Philosophical Masterpieces (3 cr.)
- PHIL 520/5115 - Philosophical Figures (3 cr.)
- PHIL 530/5116 - Advanced Ethics (3 cr.)
- PHIL 458-558/5119 - Advanced Seminar in Political Philosophy (3 cr.)
- PHIL 560/5117 - Philosophy of Language and Communication (3 cr.)
- PHIL 562/5118 - Formal and Mathematical Logic (3 cr.)

Department of Political Science

Department of Political Science School of Humanities and Social Sciences

Professor Emeriti: E. Hill, E. Sullivan, A. Lesch, S. El Musa

Professors: W. Kazziha, B. Korany, D. Tschirgi, N. Farah

Associate Professors: R. El Mahdi, I. El Nur (Chair), M. Kassem, J. Maswood, E. Fishere, H. Albrecht

Assistant Professors: S. Mc-Mahon, R. Bahi, N. Sika, M. Pinfari, N. Badawi, K.Koehler

Associate Professor of Practice: G. Soltan

Political Science is the systematic study of structures and processes pertaining to governing, policy making, and political life. It concerns ideas about governing and political participation, about rights and duties of governors and governed. Political science includes the study of modern state, its historical evolution, variations in its present configurations, and relations between and among nations, including institutions that organize these relations. It seeks to understand relationships between politics, the economy and society. The scope of Political Science is local, national, regional, international, and global. The program at AUC includes major fields and subfields of Political Science, vis: Comparative Politics, Development, International Relations, Political Economy, Political Theory and Philosophy, and Public and International law. The Middle East, Africa, and the Third World generally are emphasized in the program. As extra curricular enhancement, the Political Science Department sponsors a Model Arab League each year in the Fall and a Model United Nations in the spring.

Honors Program in Political Science (B.A.)

Students may apply for admission to the Honors program following completion of 24 credit hours in Political Science or more with a minimum major GPA of 3.4 and must maintain this GPA to continue in the honors program.

Requirements: 45 credits in Political Science as follows:

- A. Concentration requirements: 27 cr. or 30 cr.
- B. Political Science Specialization: 9 cr.
- C. Honors Requirements: 9 cr.

A. Concentration Requirements: (27 or 30 credits)

- POLS 203/2003 - Introduction to Political Science II (3 cr.)
This course must be taken if, and only if, POLS 1001 was not taken during the Freshman year.
- POLS 204/2104 - Introduction to Research Methods in Political Science (3 cr.)
- POLS 205/2403 - Europe in the Age of Revolution and Reform (1789-1914) (3 cr.)
- Or
- POLS 206/2404 - Europe in International Politics in the Twentieth Century (3 cr.)
/HIST 206
- POLS 301-302/3201-3202 - History of Political Theory (3 cr. per semester)
(POLS 3201 or 3202)
- POLS 308/3408 - Comparative Politics of the Middle East (3 cr.)
- POLS 310/3510 - Introduction to Development (3 cr.)
- POLS 313/3401 - Introduction to Comparative Politics (3 cr.)
- POLS 320/3620 - International Relations (3 cr.)
- POLS 350/3550 - Introduction to Political Economy (3 cr.)
- POLS 471/4371 - Introduction to Public International Law (3 cr.)

B. Political Science Specialization: 9 crs.

If the student does not opt for a specific specialization the (9) credits will be taken as electives toward an honors general degree. Courses for each specialization is stated in the Catalog.

C. Honors Requirements: 9 crs.

- Honor Seminar POLS 4000: (3 credits)
- Methodology course POLS 4104 : (3 credits)
- Senior Year Thesis POLS 4099 : (3 credits)

Other Requirements:

Students must complete the general electives and the collateral courses required of all Political Science majors, depending on the number of core curriculum credits taken to make up 120 credits total. Before registering in the 400 and 500 level course students will normally have taken the concentration requirements, or its equivalent.

Political Science, with specializations in General Political Science, International Relations, Middle East Politics, and Political Economy (B.A.)

Bachelor of Arts

Political Science at AUC is taught as a humanistic discipline with the overall objectives of fostering understanding of the contemporary world and developing knowledge about, and an appreciation of, the complex mechanisms, authoritative structures, and the allocation of values, which characterize contemporary human communities. Political Science at AUC requires students to develop abilities of comprehension and analysis, and skills for oral and written presentations. The graduate of Political Science is thus well equipped for life in the modern world, and to follow those professions and lines of work that require independence of thought, initiative, creativity in solving problems, and continuing self development. AUC graduates of Political Science are presently found in business, journalism, research, analytic writing, and public contact work. They occupy positions in public, private, development agencies, the diplomatic service, governmental ministries and agencies, and university teaching. A significant number of past graduates have subsequently completed M.A. and Ph.D. degrees.

For students to declare a major in Political Science, they must take either POLS 1001 or POLS 2003. POLS 1001 may only be taken in the Freshman Year by students who have a minimum of 2.5 GPA and will fulfill the Social Science requirement at the primary level of the Core Curriculum and will not be counted as part of the 45 credits required for the Political Science major. POLS 2003 must be taken after the Freshman Year and for those who have not taken POLS 1001. Students wishing to transfer from another major after their sophomore year will be considered on a case by case basis. Junior-year (300-level) courses are required in four subfields and are prerequisite to the more advanced courses and seminars (400-level). Each semester a selection of 300 and 400 level courses and seminars is offered from which students may choose courses to complete the requirements of the major.

A total of 120 credits is required for the bachelor's degree in Political Science:

Core Curriculum (40 credits)

Political Science Requirements (45 credits) to be taken as follows:

1. if POLS 1001 has already been taken in the Freshman Year:
27 credits (9 courses) in the concentration plus 18 credits (6 courses) as electives.
2. if POLS 1001 has not been taken in the Freshman Year:
30 credits (10 courses) in the concentration plus 15 credits (5 courses) as electives.

Collateral requirements: (6 or 9 credits)

General Electives: (26-29 credits)

All Political Science major and minor students must abide with the following regulations:

- ENGL 0210 is a prerequisite to POLS 1001 or POLS 2003
- RHET 1000 is a prerequisite to POLS 2104 and all 300 level POLS courses
- RHET 1100 May be taken concurrently with POLS 2104 and 300 level POLS courses
- RHET 2010 is prerequisite to all 400 level POLS courses

For all Political Science students:

Political Science concentration requirements (27 or 30 credits)

- POLS 203/2003 - Introduction to Political Science II (3 cr.)
This course must be taken if, and only if, POLS 101 was not taken during the Freshman year.

- POLS 204/2104 - Introduction to Research Methods in Political Science (3 cr.)
- POLS 205/2403 - Europe in the Age of Revolution and Reform (1789-1914) (3 cr.)
or POLS 2404 Europe in International Politics in the Twentieth Century Students specializing in International Relations are strongly encouraged to take POLS/HIST 206)
- POLS 301-302/3201-3202 - History of Political Theory (3 cr. per semester)
- POLS 308/3408 - Comparative Politics of the Middle East (3 cr.)
- POLS 310/3510 - Introduction to Development (3 cr.)
- POLS 313/3401 - Introduction to Comparative Politics (3 cr.)
- POLS 320/3620 - International Relations (3 cr.)
- POLS 350/3550 - Introduction to Political Economy (3 cr.)
- POLS 471/4371 - Introduction to Public International Law (3 cr.)

Collateral requirements

- HIST - One Modern History course (3 cr.)
(not to be taken as an independent study) in addition to:
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

General Electives

Students may use 15 hours of elective credit to minor in a discipline of their choice. Minorng is optional. Courses taken as collateral requirements may count towards the minor.

Students have the choice to use the 18 elective credits in Political Science (or 15 elective credits if they had to take POLS 2003 to fulfill their concentration requirements) to obtain BA in Political Science in:

1. General field in Political Science
2. Specialization in International Relations
3. Specialization in Middle East Politics
4. Specialization in Political Economy

Three courses are required for each specialization as specified below.

Students opting for a double specialization need to be encouraged to take a combination of courses from the two specializations rather than having to stick to the History courses required for one of the specializations.

1. Requirements for the General Political Science field:

Students must take five or six Political Science courses, one of which must be a seminar.

Collateral Requirements (6 credits)

General Electives (29 credits)

Depending on the number core curriculum credits taken to make up 120 credits total.

2. Requirements for the Specialization in International Relations

To specialize in International Relations, Political Science majors must, as a minimum, take the following three courses:

Requirements:

- POLS 405/4605 - International Politics in the Middle East (3 cr.)
- POLS 409/4609 - Seminar: International Organization (3 cr.)
- POLS 410/4610 - International Security (3 cr.)
or
- POLS 411/4611 - Contemporary Foreign Policies (3 cr.)

Options:

To further their understanding in this specialization, students have the option to take a number of recommended courses including:

- POLS 414/4614 - Egyptian Foreign Policy (3 cr.)
- POLS 415/4615 - U.S. Foreign Policy (3 cr.)
- POLS 440/4640 - Seminar: Special Topics in International Relations for Undergraduates (3 cr.)

Collateral Requirements (9 credits)

- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

Two additional history courses chosen from among the following:

- HIST 202/2502 - History of Modern American Civilization (3 cr.)
- HIST 308/3406 - Europe in the Age of Reason (3 cr.)
- HIST 356/3214 - State and Society in the Middle East, 1906-present (3 cr.)
- HIST 401/4588 - Selected Topics in the History of the United States (3 cr.)
(when approved by POLS department)
- HIST 402/4488 - Selected Topics in European History (3 cr.)
(when approved by POLS department)
- HIST 462/4288 - Selected Topics in the History of the Modern Middle East (3 cr.)

Electives (26 credits)

Depending upon the number of core curriculum credits taken.

3. Requirements for the Specialization in Middle East Politics

To specialize in Middle East Politics, Political Science majors must, as a minimum, take the following three courses:

Requirements:

- POLS 354/3454 - Political and Social Thought in the Modern Arab World (3 cr.)
- POLS 420/4420 - Issues in Middle East Politics (3 cr.)
- POLS 422/4422 - Contemporary Egypt (3 cr.)

Options:

To further their understanding in this specialization, students have the option to take a number of *recommended* courses including:

- ARIC 439/5142 - Islamic Law (3 cr.)
- POLS 325/3425 - Government and Politics of Egypt (3 cr.)
- POLS 405/4605 - International Politics in the Middle East (3 cr.)
- POLS 414/4614 - Egyptian Foreign Policy (3 cr.)
- POLS 424/4524 - Political Economy of the Middle East and North Africa (3 cr.)
- POLS 430/4030 - Seminar: Special Topics in Political Science for Undergraduates (3 cr.)
(If topic is applicable to the ME)
- POLS 472/4372 - International Law in the Middle East (3 cr.)
- POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.)
- POLS 477/4377 - Law and Development (3 cr.)

Collateral Requirements (6 credits)

- Modern Middle East History at 300 or 400 level Credits: (3 cr.)
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

General Electives (29 credits)

Depending on the number of core curriculum credits taken.

4. Requirements for the Specialization in Political Economy

To specialize in Political Economy, Political Science majors must, as a minimum, take the following three courses:

Requirements:

- POLS 351/3551 - Theory and History of Political Economy (3 cr.)
- POLS 424/4524 - Political Economy of the Middle East and North Africa (3 cr.)
- POLS 425/4525 - Global Political Economy (3 cr.)

Options:

To further their understanding in this specialization, students have the option to take a number of recommended courses including:

- POLS 413/4513 - International Financial Institutions (3 cr.)
- POLS 442/4542 - Environmental Politics (3 cr.)

Collateral Requirements (6 credits)

- One Modern History course (not to be taken as an independent study)
in addition to:
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

General Electives (29 credits)

Depending on the number of core curriculum credits taken.

Dual Degree Option in Political Science (B.A.) and International Human Rights Law (M.A.)

The Dual Degree option combines a BA in Political Science and an MA in International Human Rights Law. It is a dual degree, creating a synergy between the existing BA in Political Science and the existing MA in International Human Rights Law.

The dual degree option enables good students to prepare for a postgraduate degree while completing the requirements for the BA in Political Science. Non-law students who achieve a MA Degree under the auspices of the Law Department at AUC qualify for better jobs in Egypt or abroad, or pursue a legal education at prestigious law schools in the United States and elsewhere. The MA degree also provides students with the necessary expertise in international human rights law and with the intellectual, analytical and communication tools needed to intervene critically and effectively in the global policy debates confronting their societies as policy makers, academics, activists and international civil servants.

Interested students have the option of starting the Dual Degree in the sixth semester of the political science BA at AUC. During the fifth semester (i.e., before the semester in which s/he enrolls in POLS 4371) the student has to declare her/his intention to pursue the Dual Degree by submitting a graduate admission application. The student should follow the application procedures for graduate studies. Admission decisions will be made by the Law Department's Admission Committee. Successful applicants will be admitted pending the fulfillment of two conditions: i) finishing the requirements of their undergraduate degrees with at least B (GPA 3); and ii) obtaining an average of at least a B+ (GPA of at least 3.3) across the three cross-listed 'Dual Degree' Law courses. Places are limited.

Under this structure, dual-degree students will be required to take three 400-level courses that are cross-listed under LAW and POLS. These three "Dual Degree" cross-listed courses (see below) will count for credit towards both the BA in Political Science and under the MA in International Human Rights Law.

The three 'Dual Degree' Law courses to be offered to undergraduates in the Political Science Department are the following: (a) POLS 471/4371 - Introduction to Public International Law (3 cr.) (b) POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.) and (c) POLS 478/4378 - Introduction to International Human Rights Law (3 cr.) The curriculum for the MA IHRL requires the completion of nine courses and a thesis, as indicated in the tentative plan below: 3 POLS/LAW undergraduate courses, 2 graduate regional human rights courses, 3 graduate elective courses, LAW 5227 , and the thesis.

Tentative Plan for Full-time Students

SEMESTER VI (POLS undergraduate program)

LAW/POLS 471/4371 - Introduction to Public International Law (3 cr.) (counts towards both concentrations in POLS for all students) (and MA IHRL credits)

[4 POLS courses or other courses as required to complete POLS BA degree]

SEMESTER VII (POLS undergraduate program)

LAW/POLS 478/4378 - Introduction to International Human Rights Law (3 cr.) (counts towards both BA POLS and MA IHRL credits)

[4 POLS courses or other core courses as required to complete POLS BA degree]

SEMESTER VIII (POLS undergraduate program)

LAW/POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.) (counts towards both BA POLS and MA IHRL credits)

[4 POLS courses or other core courses as required to complete POLS BA degree]

SEMESTER IX (MA IHRL program)

LAW 514/5214 - Human Rights in the Middle East (3 cr.) * (2 out of 3 starred courses required)

LAW 519/5219 - Human Rights in Africa (3 cr.) * (2 out of 3 starred courses required)

LAW 513/5213 - The European System of Human Rights Protection (3 cr.) * (2 out of 3 starred courses required)

LAW Electives**

SEMESTER X (MA IHRL program)

LAW Electives**

LAW Electives**

LAW 527/5227 - Graduate Law Seminar (3 cr.)

SEMESTER XI (MA IHRL program)

LAW 599/5299 - Research Guidance/Thesis (no cr., graded)

*** Lists of LAW elective courses will be provided to students in the program prior to registration for each semester.*

International Relations Minor

Requirements:

- POLS 203/2003 - Introduction to Political Science II (3 cr.)
This course must be taken if, and only if, POLS 1001 was not taken during the Freshman year.
- POLS 205/2403 - Europe in the Age of Revolution and Reform (1789-1914) (3 cr.)
Or
- POLS 206/2404 - Europe in International Politics in the Twentieth Century (3 cr.)
Students minoring in International Relations are strongly encouraged to take POLS 2404.
- POLS 320/3620 - International Relations (3 cr.)

Additional Requirements

Plus **three** courses (**two** courses, if POLS 2003 had to be taken) chosen from:

- POLS 405/4605 - International Politics in the Middle East (3 cr.)
- POLS 409/4609 - Seminar: International Organization (3 cr.)
- POLS 411/4611 - Contemporary Foreign Policies (3 cr.)
- POLS 413/4513 - International Financial Institutions (3 cr.)
- POLS 430/4030 - Seminar: Special Topics in Political Science for Undergraduates (3 cr.)
- POLS 440/4640 - Seminar: Special Topics in International Relations for Undergraduates (3 cr.)
- POLS 471/4371 - Introduction to Public International Law (3 cr.)

Middle East Politics Minor

The minor in Middle East politics is open to students majoring in disciplines other than political science. It requires successful completion of five courses selected from the following, which may be taken with the consent of the instructor:

Requirements:

- POLS 203/2003 - Introduction to Political Science II (3 cr.)
This course must be taken if, and only if, POLS 101 was not taken during the Freshman year.
- POLS 308/3408 - Comparative Politics of the Middle East (3 cr.)

Additional Requirements

and **Four** courses (**three** courses if POLS 202 had to be taken) selected from the following:

- POLS 325/3425 - Government and Politics of Egypt (3 cr.)
- POLS 354/3454 - Political and Social Thought in the Modern Arab World (3 cr.)
- POLS 405/4605 - International Politics in the Middle East (3 cr.)
See footnote one.
- POLS 420/4420 - Issues in Middle East Politics (3 cr.)
- POLS 422/4422 - Contemporary Egypt (3 cr.)
- POLS 430/4030 - Seminar: Special Topics in Political Science for Undergraduates (3 cr.)
(Whenever content is relevant. May be taken more than once for credit if content changes)
- POLS 432/4432 - Seminar: Comparative Politics and/or Policies (3 cr.)
(Whenever content is relevant)

Notes:

Footnote 1: The requirement that POLS 3620 be taken as a prerequisite for POLS 4605 may be waived for minors with the consent of the instructor.

Political Economy Minor

The minor in Political Economy is open to students majoring in disciplines other than Political Science.

Requirements:

The Minor requires successful completion of :

- POLS 203/2003 - Introduction to Political Science II (3 cr.)
(This course must be taken if, and only if, POLS 1001 was not taken during the Freshman year)
- POLS 350/3550 - Introduction to Political Economy (3 cr.)
- POLS 351/3551 - Theory and History of Political Economy (3 cr.)
- POLS 425/4525 - Global Political Economy (3 cr.)

Additional Requirements

Plus **two** courses (**one** course if POLS 2003 had to be taken) from the following:

- POLS 413/4513 - International Financial Institutions (3 cr.)
- POLS 424/4524 - Political Economy of the Middle East and North Africa (3 cr.)
- POLS 442/4542 - Environmental Politics (3 cr.)

Political Science Minor

Requirements (15 credits) to be taken as follows:

1. if POLS 1001 has already been taken in the Freshman Year:
five Political Science courses at 300 or 400 level.
2. if POLS 1001 has not been taken in the Freshman Year:
POLS 2003 plus four Political Science courses at 300 or 400 level.

Political Science, Joint Program with University of Tubingen (Comparative and Middle East Politics and Society- CMEPS), with specializations in Comparative Politics, International Relations, and Development Studies (M.A.)

The Department of Political Science at the American University in Cairo and the Institute of Political Science at the University of Tubingen conduct a joint MA program in Comparative Middle East Politics and Society. Students are required to be enrolled full time, and the third semester of study takes place in the partner institution.

Required Courses

- POLS 501/5201 - Comparative Theory (3 cr.)
(1st semester)
- POLS 535/5235 - Middle East Politics (3 cr.)
(1st semester)
- POLS 558/5258 - Comparative Politics and the Middle East (3 cr.)
(2nd semester)
- POLS 530/5230 - Regime Change and Democratization (3 cr.)
(or Tubingen equivalent 3rd semester)
- POLS 545/5245 - Development Politics and International Cooperation (3 cr.)
(3rd semester)

Plus- elementary German Proficiency.

Plus four more courses in consultation with the Graduate Advisor/Coordinator of the Joint Degree Program

Plus Thesis

Political Science, with specializations in Comparative Politics, International Relations, and Development Studies (M.A.)

The graduate program in Political Science Department offers advanced study in the discipline of Political Science, with particular emphasis and specializations in three areas; Comparative Politics; International Relations, and; Development Studies (previously Professional Development).

The Political Science Department values its location in the heart of the Middle East and seeks, through its faculty, courses and activities, to link the discipline of political science to the thriving and complex political realities of Cairo, Egypt and the region. Its graduate programs offer students a thorough grounding in the theoretical underpinnings of the political phenomena as well as a deep understanding of political realities in Egypt, the Arab World and the international arena. The programs combine courses aimed at familiarizing students with the knowledge necessary for developing their understanding of these political realities with research seminars that are required for familiarizing students with research methods that they will need to independently analyze complex political phenomena.

The graduate programs are intended for students who would like to pursue academic careers as well as those presently working, or desiring to work, in international political bodies, government departments concerned with political issues, or in other public, private and international sectors where there is increasingly a need for persons who have a scientific understanding of the political realities of the Middle East and the World.

Students have the option of pursuing a one-year Graduate Diploma or a Master's degree in any of the three specializations offered by the Department. In addition to the requirements of each option, students will be able to choose elective courses covering the political topics closest to their interest. They are also encouraged to take up to two relevant courses from other departments and units of AUC. The Department works closely with its students to ensure that their chosen courses correspond to and serve their academic and professional goals.

Graduate students constitute an integral part of the academic life of the Political Science Department. They are encouraged to participate, individually and through their association, at the events and activities organized by the Department both inside AUC campus and in the thriving metropolis that constitutes its environment.

Comparative Politics

The strength of Comparative Politics at AUC is in the areas of Third World Politics and Development, with greatest faculty expertise being in Egypt and the Middle East. Graduate studies in Comparative Politics seek to increase students' knowledge about the political dynamics of disparate systems within the larger contexts of state and society, political economy, interstate and regional relations. It seeks to develop skills of analysis and writing in order to enhance students' understanding of their region of interest and its relations with the world. Comparative Politics is particularly suitable for students who wish to pursue a career in academia, research, journalism, political consultancy, or similar positions in which a solid political background and analytical abilities are required.

International Relations

International Relations include examination of current world politics as well as the many dimensions of the international system. This includes regional relations, foreign policies of selected states, as well as Middle Eastern international and interstate relations, and international political economy. The International Relations option seeks to

provide greater depth of understanding of the forces operating in the international arena and the constraints that face foreign policy makers. Practice in analyzing current world and regional events and in the skills of written and oral presentation is provided as well as extra curricular activities that are designed to give students the opportunity to put their academic learning into practice. International Relations option is valuable for students who are working or seek to work in foreign relations, either in their own government or in international organizations. The field also prepares students for employment in other kinds of positions that require the ability to analyze and write about national or international politics.

Development Studies

Development Studies (previously Professional Development) is designed for those who have an interest in studying the developing world. The program includes (but is not limited to) courses with practical components and requires an internship usually done in the summer between the first and second years. Development Studies (previously Professional Development) seeks to prepare students to assume positions of greater responsibility in development agencies and organizations by expanding their understanding of the development field, its aims, objectives, methods of operation, and the broad scope of development work in the world today. It seeks to develop students' critical and analytical capacities, and provide practice in linguistic and writing skills needed for development work. Creativity in finding solutions to development problems is encouraged so that graduates may have an impact in their chosen areas of work in development. Practice in preparing project documents is included in the program. Development Studies (previously Professional Development) is designed for those who are either presently working in development organizations or who are seeking to enter a development career.

Admission

The applicant for admission to the master's program should have an acceptable bachelor's degree in political science or in a closely related social science (preferably with a minor in political science), and a grade-point average of at least 3.00 (an overall grade of gayyid giddan for graduates from Egyptian universities). Applicants with deficiencies in their preparation may be required to take appropriate courses at the undergraduate level.

The requirements for the specializations are as follows

All specializations have gateway courses that situate each specialization within its theoretical context and provide students with analytic tools for other courses. These introductory courses also prepare students for research and analysis needed for writing original seminar papers and for the thesis.

Requirements

Specialization in Comparative Politics

A specialization in Comparative Politics requires the following courses.

- POLS 501/5201 - Comparative Theory (3 cr.)
- POLS 504/5204 - Advanced Political Science Methods (3 cr.)
- POLS 530/5230 - Regime Change and Democratization (3 cr.)
- POLS 558/5258 - Comparative Politics and the Middle East (3 cr.)

Plus one course from the following:

- POLS 502/5202 - Scope and Method of Developmental Analysis (3 cr.)
- POLS 503/5203 - International Relations Theory (3 cr.)
- POLS 525/5225 - International Political Economy (3 cr.)

In addition, three courses to be chosen in consultation with the Graduate Studies Director, for a total of 24 credit hours.

Specialization in International Relations

A specialization in International Relations requires the following course.

- POLS 503/5203 - International Relations Theory (3 cr.)
- POLS 504/5204 - Advanced Political Science Methods (3 cr.)

Plus one course from the following:

- POLS 501/5201 - Comparative Theory (3 cr.)
- POLS 502/5202 - Scope and Method of Developmental Analysis (3 cr.)
- POLS 525/5225 - International Political Economy (3 cr.)

Plus two courses from the following:

- POLS 505/5205 - Identity, Culture and Norms in World Politics (3 cr.)
- POLS 510/5210 - Global Governance and World Order(s) (3 cr.)
- POLS 554/5254 - Comparative Foreign Policy: Theories and Applications (3 cr.)
- POLS 555/5255 - Conflict and Security in Global Politics (3 cr.)

In addition, three courses to be chosen in consultation with the Graduate Studies Director, for a total of 24 credit hours.

Specialization in Development Studies

A specialization in Development Studies (previously Professional Development) requires the following courses:

- POLS 502/5202 - Scope and Method of Developmental Analysis (3 cr.)
- POLS 504/5204 - Advanced Political Science Methods (3 cr.)
- POLS 584/5284 - Practicum: Internship or Research (3 cr.)
- POLS 585/5285 - Project Seminar (3 cr.)
- POLS 586/5286 - Skills in Development Practice (3 cr.)

Plus one course from the following:

- POLS 501/5201 - Comparative Theory (3 cr.)
- POLS 503/5203 - International Relations Theory (3 cr.)

- POLS 525/5225 - International Political Economy (3 cr.)

In addition, two courses to be chosen in consultation with the Graduate Studies Director, for a total of 24 credit hours.

Note

With department approval, students are strongly encouraged to take up to six hours of relevant courses outside the department.

Thesis

A thesis, written in English and submitted in accordance with university regulations, is required of all specializations for the master's degree in Political Science. Students, working with a supervisor of their choice, should submit a detailed thesis prospectus to the department for approval. Once approved, students must register for thesis supervision until graduation. The thesis must be defended in an oral examination.

The Department encourages its students to familiarize themselves with procedures regarding committee selection, writing of the thesis, presentation to the supervisor and readers, and defense of the thesis. It strongly encourages them to plan ahead their program in order to successfully meet the procedural requirements within the specified time frame.

Political Science (Graduate Diploma)

The Diploma in Political Science is designed as a one-year (two semesters) program for students who wish to enhance their professional qualifications or pursue an academic interest in the field of politics. The Diploma Program requires the completion of any six courses chosen from the graduate offerings in Political Science, which include Middle East Politics, International Relations, Development Studies, Political Economy, and Comparative Politics.

Admission

Requirements for admission to the Diploma program are the same as those for admission to the graduate degree program of the department. Should a student in good standing decide during or after completion of the requirements for the Diploma that he/she wishes to work towards the MA degree he/she may apply to transfer to one of the degree specializations

Department of Sociology, Anthropology, Psychology, and Egyptology

Department of Sociology, Anthropology, Psychology, and Egyptology
School of Humanities and Social Sciences

Anthropology

Professor Emeritus: D. Cole, N. Hopkins

Professor: S. Altorki

Associate Professor: R. Saad, H. Sabea (Chair)

Assistant Professors: H. Al-Rustom, M. Tabishat, M. Khayyat, M. Anawati, M. Westmoreland

Assistant Professor and Post-Doctoral fellow: R. Aly

Sociology

Professor Emeritus : Dr. S. Ibrahim

Professor: M. Abaza

Associate Professors: N. Nosseir, H. Rizzo

Assistant Professors: A. Holmes, I. Morrison, A. Parrs, M. Rouchdy, M. Ryan

Sociology is the systematic study of society with special attention to social interaction and the social making of humans. It investigates the forces that hold society together and that threaten to pull it apart through the analysis of interaction at every level from micro-group interaction to competition of nation states. Having as its goal a holistic understanding of human society, human beings and their lives, sociology is relevant to a wide range of other disciplines and every day life issues. As a result, sociology has a broad scope that includes culture, family, gender, crime, religion, politics, development, population, and urbanization, among others. Besides their coursework, sociology majors are given the opportunity to carry out supervised field research as a part of their undergraduate program.

Egyptology

Professor Emeritus: K. Weeks

Professors: F. Haikal, S. Ikram, J. Swanson (Associate Provost)

Associate Professor: M. Ayad

Assistant Professors: L. Sabbahy

Assistant Professor & Post Doc Fellow: E. Salgues

Egyptology is the scientific study of the history and culture of Ancient Egypt, from the earliest times to the Arab conquest, a time span covering some 4,600 years. Egyptology covers all aspects of Ancient Egyptian civilization, from language and religion to art, architecture and social structure.

Psychology

Professor Emeritus: O. Farrag

Professor: C. Forden, H. Zaky

Associate Professors: A. Justus, M. Amer, H. Henry

Assistant Professors: A. Carrillo, B. Settlege

Assistant Professor & Post Doc Fellow: K. Ellis

Psychology is the multifaceted scientific study of human behavior and mental processes. The program at AUC emphasizes physical, cognitive, emotional, personal, and social development from infancy to adulthood. This development is studied against a background of major theoretical and applied domains of psychology, concentrating on important aspects of individual, group, and cultural dynamics.

Sociology - Anthropology

Professor Emeriti: A. Cole, N. Hopkins , S. Ibrahim

Professors: S. Altorki, M. Abaza

Associate Professors: N. Nosseir, H. Rizzo, H. Sabea, R. Saad

Assistant Professors: A. Holmes, I. Morrison, A. Parrs, S. Perdigon , M. Rouchdy, M. Succarie, M. Tabishat, M. Westmoreland

Anthropology (B.A.)

Anthropology spans the social and natural sciences as well as the humanities, offering interpretations of all aspects of human life. Socio-cultural anthropology, one of the four traditional subfields of the discipline, seeks to understand human life-worlds in all their variation across time and space using people's lived experiences, practices, ideas and explanations as a principle source of knowledge about the world.

AUC Anthropologists specialize in ethnographic field research and are involved in innovative theoretical engagement with emergent issues of both local and global concern. Our faculty who come from across the region maintain diverse research interests in areas like: religion and ritual, gender and feminism, youth cultures and activism, post-colonial theory, rural studies, cities and globalization, history, memory, and identity, health and the body, war and violence, art, film and aesthetics.

Our research is enhanced by our commitment to training students in the history and foundations of social and cultural theory. The Anthropology program at the American University in Cairo was founded in 1956, making it one of the first in the Arab region, and situated in the region's largest city. We offer a BA program for undergraduate Anthropology majors, as well as minors in Anthropology and in Community Development. We also run a joint MA program in Sociology-Anthropology, as well as a wide offering of courses that provide students majoring in Middle East studies, economics, psychology and architecture, with new perspectives on their disciplines. Our approach to teaching anthropology is enhanced through fieldtrips, film screenings and seminars where we showcase the research of both faculty and students.

Bachelor of Arts

The undergraduate program aims to present the main themes and trends in cultural and social anthropological thought and practice and thereby to nurture critical, intercultural, and reflexive perspectives as part of liberal education. In doing so, it seeks to foster understanding of the transformation of society and culture in Egypt and the region. The program also engages with other parts of the world, such as Africa, South Asia and Latin America. Our aim is to prepare students for graduate studies and for living and working in an increasingly complex and changing world. Upon graduation our students are well-positioned to pursue careers in teaching, research and applied anthropology, such as in international development agencies, non-governmental organizations, private sector, social service, media, and heritage preservation.

To declare a major in Anthropology:

- 1) A student must earn a B in "Introduction to Cultural Anthropology" ANTH 2101 .
- 2) A student must have an overall GPA at the time of the declaration of C+ (2.3 GPA)
- 3) Successful interview by unit head at the time of declaring the major

Upper-division (300-400 level) courses are normally taken during the junior and senior years. Students must take ANTH 3102 and ANTH 3104 during the junior year. Students must take ANTH 4107 in their last full academic year. Most of the other courses are offered in alternate years and so may be taken in any order. Courses at the 500-level are also open to selected advanced undergraduates.

A total of 120 credits is required for the bachelor's degree in anthropology:

Core Curriculum (40 credits)

Students with Thanawiya'Amma art or equivalent background should take BIOL 100 (Introductory Biology); those with Thanawiya 'Amma science or equivalent must take BIOL 104 (Unity of Life).

Concentration Requirements (42 credits)

- ANTH 202/2101 - Cultural Anthropology (3 cr.)
- ANTH 309/3102 - History of Social Theory (3 cr.)
cross listed with SOC 3102
- ANTH 311/3104 - Contemporary Anthropological Theory (3 cr.)
- ANTH 380/3105 - Fieldwork Methods (3 cr.)
- ANTH 495/4107 - Senior Seminar (3 cr.)
See footnote one.

One of the following people-and-culture courses:

- ANTH 312/3301 - Peoples and Cultures of the Middle East and North Africa (3 cr.)
- ANTH 382/3302 - Peoples and Cultures of Sub-Saharan Africa (3 cr.)
- ANTH 384/3303 - Peoples and Cultures of Latin America (3 cr.)
- ANTH 386/3304 - Peoples and Cultures of Asia (3 cr.)
- ANTH 390/3305 - Selected People and Culture Areas (3 cr.)

Additional Requirements

- **Eight** additional anthropology courses, of which three must be at the 400 level.

Collateral Requirements (21 credits)

- Two 300 or 400 level courses in the social sciences
- A minor (five courses) in any field to be selected in consultation with the advisor.

Electives (11-23 credits)

Total 120 Credits

Notes:

Footnote one: Cross listed with Sociology

Egyptology (B.A.)

Egyptology is the scientific study of the history and culture of Ancient Egypt, from the earliest times to the Arab conquest, a time span covering some 4,600 years. Egyptology covers all aspects of Ancient Egyptian civilization, from language and religion to art, architecture and social structure.

Bachelor of Arts in Egyptology

The Program aims at preparing students for careers in Egyptology and the preservation and management of Egypt's material heritage. Research, writing, critical thinking and presentation skills are also stressed. Students will:

1. Acquire knowledge, appreciation and understanding of Ancient Egypt's cultural heritage and its legacy in the world.
2. Master the research tools upon which a career in Egyptology must depend, including Ancient Egyptian language and scripts as well as skill in excavation and site analysis.
3. Prepare properly to assume the responsibility of caring for, maintaining and preserving Ancient Egypt's unique cultural heritage.

A student in good standing with the university who wishes to declare a major in Egyptology should have passed an Egyptology course (e.g. EGPT 2020 or EGPT 2551) with a grade of B- or higher. Additionally, a writing sample showing the student's writing ability should be submitted to the Egyptology faculty, who will then arrange for a personal interview with the student prior to declaration. The writing sample should demonstrate linguistic ability commensurate with the demands of Egyptology.

A total of 120 credits is required for the bachelor's degree in Egyptology:

Core Curriculum (40 credits)

Concentration Requirements (48 credits)

All Twelve of the following (36 credits):

- EGPT 343/3211 - History of Ancient Egypt I: Pre-Dynastic Through Middle Kingdom Egypt (3 cr.)
- EGPT 344/3212 - History of Ancient Egypt II: Middle Kingdom through Ptolemaic Egypt (3 cr.)
- EGPT 250/2250 - Ancient Egyptian Literature in Translation (3 cr.)
- EGPT 253/2251 - Hieroglyphics I (3 cr.)
- EGPT 254/2252 - Hieroglyphics II (3 cr.)
- EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)
- EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)
- EGPT 304/5100 - Culture and Society of Ancient Egypt (3 cr.)
- EGPT 346/5130 - Societies and Culture of the Ancient Near East (3 cr.)
- EGPT 353/5151 - Hieroglyphics III (3 cr.)
- EGPT 402/5153 - Hieroglyphics IV (3 cr.)

- EGPT 440/4040 - Ancient Egyptian Religion and Ethics (3 cr.)

From among the following (12 credits):

- EGPT 202/2020 - Ancient Egypt: An Introduction (3 cr.)
- EGPT 204/2210 - Introduction to Archaeology (3 cr.)
- EGPT 301/3010 - Temples, Tombs and Hieroglyphs (3 cr.)
- EGPT 341/5110 - Egypt in the First Millennium BC (3 cr.)
- EGPT 342/5120 - History of Egypt in the Graeco-Roman Era (3 cr.)
- EGPT 348/5140 - Societies and Cultures of Ancient Nubia (3 cr.)
- EGPT 400/5150 - Introduction to Coptic (3 cr.)
- EGPT 401/5152 - Introduction to Hieratic (3 cr.)
- EGPT 403/4030 - Independent Study in Egyptology (1-3 cr.)
- EGPT 445/5160 - Selected Topics in Coptic Studies (3 cr.)
- EGPT 459/5170 - Selected Topics in Cultural Resource Management and Museology (3 cr.)
- EGPT 491/5191 - Field Work in Egyptological Method and Theory (3 cr.)
- EGPT 499/5199 - Selected Topics in Egyptology (3 cr.)

Notes:

Students intending to pursue graduate studies in Egyptology at an Egyptian national university must take EGPT 5152 Introduction to Hieratic and EGPT 5150 Introduction to Coptic.

Collateral Requirements (11-12 credits)

Courses in related disciplines, such as anthropology (e.g. Cultural Anthropology), history and art, Islamic art and archaeology, linguistics, or science (Archaeological Science), possibly to constitute a minor.

Electives (20-21 credits)

Psychology (B.A.)

Psychology is the multifaceted scientific study of human behavior and mental processes. The program at AUC emphasizes physical, cognitive, emotional, personal, and social development from conception to death. Biopsychosocial development is studied against a background of major theoretical and applied domains of psychology, concentrating on important influences of individual, group, and multicultural dynamics.

Bachelor of Arts

The aim of psychology at AUC is to provide students with a solid background in the current major areas of the discipline. It will give them insights which can be of personal as well as of practical value in many other occupations. In addition, the program will prepare students wishing to continue further studies leading to a professional career.

Students who intend to seek the Psychology degree must have taken PSYC 1000 and have obtained a grade of "B" or higher. In addition, students must have successfully taken or be currently enrolled in PSYC 2000. Admission is competitive. A combination of discipline-relevant factors, including performance in PSYC 1000 and PSYC 2000, GPA and involvement in extracurricular activities related to psychology will be used to determine eligibility.

A total of 120 credit hours is required for the bachelor's degree in psychology:

Core Curriculum (40 credits)

Students must take one of the following for the science requirement:

- BIOL 103/1010 - Introduction to Life Sciences (3 cr. + 1 cr. lab)
- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)

Concentration Requirements (49 credits)

- PSYC 201/1000 - Introduction to Psychology (3 cr.)
- PSYC 207/2000 - Introduction to Psychological Statistics (3 cr.)
- PSYC 208/2100 - Research Methods for Psychology (3 cr. + 1 cr. lab)
- PSYC 301/3010 - Social Psychology (3 cr.)
- PSYC 304/3040 - Lifespan Development (3 cr.)
- PSYC 308/3080 - Cognitive Psychology (3 cr.)
- PSYC 313/3130 - Learning and Behavioral Psychology (3 cr.)
- PSYC 315/3150 - Psychological Testing and Assessment (3 cr.)
- PSYC 327/3270 - Theories of Personality (3 cr.)
- PSYC 342/3420 - Abnormal Psychology (3 cr.)
- PSYC 380/3800 - Biopsychology (3 cr.)
- PSYC 403/4030 - History and Systems of Psychology (3 cr.)

Additional Requirements

- **One** additional 300-level psychology course
- **Three** additional 400-level psychology courses (not including PSYC 4001 or PSYC 4002)

Collateral Requirements (24 credits)

Six courses to be approved by the adviser in addition to:

- ANTH 202/2101 - Cultural Anthropology (3 cr.)
- SOC 201/2101 - Introduction to Sociology (3 cr.)

Electives (7 credits)

Sociology (B.A.)

Sociology is the systematic study of society with special attention to social interaction and the social making of humans. It investigates the forces that hold society together and that threaten to pull it apart through the analysis of interaction at every level from micro-group interaction to competition of nation states. Having as its goal a holistic understanding of human society, human beings and their lives, sociology is relevant to a wide range of other disciplines and every day life issues. As a result, sociology has a broad scope that includes culture, family, gender, crime, religion, politics, development, population, and urbanization, among others. Besides their coursework, sociology majors are given the opportunity to carry out supervised field research as a part of their undergraduate program.

Bachelor of Arts

In addition to the possibility of pursuing advanced graduate work in sociology or related fields, majors are trained for employment in international development agencies, government, non-governmental organizations or the private sector in social and community services or research and managerial positions.

In order to declare the major in sociology, students must pass SOC 2101 with at least a "B". Continuation within the major is dependent on maintaining at least 2.5 GPA within their concentration requirements. Students must take SOC 4107 in their last full academic year. Courses at the 500-level are also open to selected advanced undergraduates.

Students need to fill out the application for declaration form. Upon review and approval of the application, students may be asked to sit for a short interview.

A total of 120 credits is required for the bachelor's degree in sociology:

Core Curriculum (40 credits)

Concentration Requirements (42 credits)

- SOC 201/2101 - Introduction to Sociology (3 cr.)
- SOC 204/3103 - Social Statistics (3 cr.)
- SOC 309/3102 - History of Social Theory (3 cr.)
See footnote one.
- SOC 310/3104 - Contemporary Sociological Theory (3 cr.)
See footnote one.
- SOC 381/3105 - Doing Survey Research in the Social Sciences (3 cr.)
- SOC 450/4106 - Critical Approaches to Development (3 cr.)
See footnote one.
- SOC 495/4107 - Senior Seminar (3 cr.)
See footnote one.

One of either

- SOC 203/2301 - Social Problems of the Middle East (3 cr.)
- SOC 206/2302 - Arab Family Structure and Dynamics (3 cr.)

One of either

- SOC 303/3303 - Social Movements (3 cr.)
- SOC 307/3304 - Social Class and Inequality (3 cr.)

Additional Requirements

Two additional 300 level courses in sociology

Three additional 400 level courses in sociology

Collateral Requirements (24 credits)

Three of the following courses:

- ANTH 202/2101 - Cultural Anthropology (3 cr.)
- ANTH 380/3105 - Fieldwork Methods (3 cr.)
- CSCE 102/1002 - Introduction to Computers and their Applications (3 cr.)
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- JRMC 200/2200 - Introduction to Mass Communication (3 cr.)
- POLS 101/1001 - Introduction to Political Science (3 cr.)
- PSYC 201/1000 - Introduction to Psychology (3 cr.)

Additional Requirements

Five additional courses from any social science or humanities discipline, or relevant substitutes, to be approved by the advisor, at least three of which must be at the 300 or 400 level.

Electives (14 credits)

Notes

Footnote 1: Cross listed with Anthropology

Anthropology Minor

The minor in Anthropology provides students with a basic knowledge of anthropological method and theory from a cross-cultural perspective on selected aspects of the world's cultures and societies.

Fifteen credits are required for the minor in Anthropology: ANTH 2101 , ANTH 3105 and three additional anthropology courses of which at least one must be at the 400-level.

Community Development and Organizing Minor

The minor in Community Development provides students with theoretical and practical knowledge that enhances their understanding and vision of a strong civil society, one that is engaged and participatory. The required curriculum includes hands-on community-based learning experiences to initiate the students' professional development in an applied setting. Students learn about the relevance and role of community and personal empowerment in response to population needs. The practicum model is designed with a broad educative focus meant to provide students not only with skills and techniques, but also opportunities for inquiry, for trying and testing new ideas within collaborative relationships, and for engaging community development in new ways.

Academic Advising will be provided to minors through the Anthropology, Sociology and Psychology units. Students need to consult the academic advisor in the SAPE Department in order to declare Community Development and Organizing as a minor.

Course requirements: 15 credits, including the following:

Required Courses (9 credits)

- PSYC 240/2201 - Introduction to Community Development (3 cr.)

- PSYC 340/3202 - Participatory Action Research in Community Settings (3 cr.)
AND
SOC/ANTH/PSYC 4203 - Practicum in Community Development (3 cr.)

Electives (6 credits) two of the following:

- ANTH 303/3020 - Social Movements (3 cr.)
- ANTH 370/3085 - Environmental Issues in Egypt (3 cr.)
- ANTH 372/3090 - Public Anthropology (3 cr.)
- ANTH 380/3105 - Fieldwork Methods (3 cr.)
- ANTH 450/4050 - Critical Approaches to Development (3 cr.)
- ANTH 460/4560 - Development Studies Seminar (3 cr.)
- SOC 203/2301 - Social Problems of the Middle East (3 cr.)
- SOC 307/3304 - Social Class and Inequality (3 cr.)
- SOC 435/4040 - Gender and Power in Development (3 cr.)
- SOC 304/3025 - Development Agencies (3 cr.)
- PSYC 330/3003 - Community Psychology (3 cr.)
- PSYC 430/4063 - Advanced Community Psychology (3 cr.)

Coptic Studies Minor

The minor in Coptic Studies provides students with an introduction to the Coptic period as it follows on from the Pharaonic period and into the Islamic period. This interdisciplinary program, drawing primarily from the Egyptology and Arabic Studies, will cover religion, art, literature, & social and political history from the early days until the present. Influences between different groups, as manifested culturally, will also be studied. Although the main offerings for this minor are currently based in Egyptology and Arabic Studies, other offerings from Political Science, Religion, Art History, History, etc. can also be included, where appropriate.

The minor is supervised by the head of the Egyptology Unit in the SAPE Department.

Requirements (15 credits):

- EGPT 400/5150 - Introduction to Coptic (3 cr.)

Any two of the following:

- EGPT 342/5120 - History of Egypt in the Graeco-Roman Era (3 cr.)
- EGPT 445/5160 - Selected Topics in Coptic Studies (3 cr.)

Any two of the following:

- ARIC 324/3324 - Non-Muslim Communities in the Muslim World (3 cr.)
- ARIC 344/3344 - Caliphs and Sultans in the Age of Crusades and Mongols (3 cr.)
- ARIC 370/3270 - The Age of Transition: Early Islamic Art and the Pre-Islamic Past (3 cr.)

Notes:

Appropriate courses from other departments may be substituted.

Development Studies Minor

Advisor: H. Sabea (Anthropology)

The purpose of the development studies minor is to offer students an introduction to the various social, political, economic, and cultural factors related to the process of development. The approach is interdisciplinary and comparative, with primary emphasis upon development-related issues.

Academic advising is provided through the Anthropology and Sociology units of the Department of Sociology, Anthropology, Psychology, and Egyptology on behalf of an interdisciplinary group of faculty.

Requirements (15 credits):

From the following lists of approved courses, three "development courses" from at least two disciplines other than the major, one "area studies course" not included in the major, and the Development Studies Seminar to be taken after or concurrent with the completion of other courses in the minor:

Approved Development Courses:

- ANTH 320/3040 - States, Capital and Rural Lives (3 cr.)
- ANTH 321/3045 - The Urban Experience (3 cr.)
- ANTH 360/3080 - Gender, Sexuality and Social Change (3 cr.)
- ANTH 372/3090 - Public Anthropology (3 cr.)
- ANTH 450/4050 - Critical Approaches to Development (3 cr.)
- ANTH 462/4065 - Culture, Economy and the Everyday (3 cr.)
- ANTH 492/4070 - Political Anthropology (3 cr.)
- ECON 224/2091 - Economic History (3 cr.)
- ECON 310/3013 - Public Finance (3 cr.)
- ECON 312/3053 - Economic Development (3 cr.)
- POLS 310/3510 - Introduction to Development (3 cr.)
- POLS 323/3423 - Comparative Government and Politics: Developing Systems (3 cr.)
- POLS 460/4560 - Development Studies Seminar (3 cr.)
- SOC 303/3303 - Social Movements (3 cr.)
- SOC 321/3045 - The Urban Experience (3 cr.)
- SOC 322/3050 - Rural Sociology (3 cr.)
- SOC 323/3055 - Fundamentals of Population Studies (3 cr.)
- SOC 431/4035 - Political Sociology (3 cr.)
- SOC 435/4040 - Gender and Power in Development (3 cr.)
- SOC 450/4106 - Critical Approaches to Development (3 cr.)

Approved Area-Studies Courses:

- ANTH 312/3301 - Peoples and Cultures of the Middle East and North Africa (3 cr.)
- ANTH 382/3302 - Peoples and Cultures of Sub-Saharan Africa (3 cr.)
- ANTH 384/3303 - Peoples and Cultures of Latin America (3 cr.)

- ANTH 386/3304 - Peoples and Cultures of Asia (3 cr.)
- ECON 215/2051 - Economic History of the Modern Middle East (3 cr.)
- ECON 414/4094 - Economics of Egypt (3 cr.)
- ECON 415/4051 - Seminar on Economic Development in the Middle East (3 cr.)
- POLS 206/2404 - Europe in International Politics in the Twentieth Century (3 cr.)
- POLS 308/3408 - Comparative Politics of the Middle East (3 cr.)
- POLS 324/3424 - Comparative Government and Politics in Contemporary Eastern Europe and Russia (3 cr.)
- POLS 354/3454 - Political and Social Thought in the Modern Arab World (3 cr.)
- POLS 420/4420 - Issues in Middle East Politics (3 cr.)
- POLS 439/4439 - Government and Politics in the Modern Caucasus and Central Asia (3 cr.)
- SOC 203/2301 - Social Problems of the Middle East (3 cr.)

Special Topics

Selected special topics courses may be accepted as part of "development courses" or "area-studies courses" by the approval of the Advisor:

- SOC 400/4099 - Selected Topics in Sociology (3 cr.)

Egyptology Minor

Egyptology is the science and study of Ancient Egypt, including the different aspects of its material and nonmaterial culture. The minor in Egyptology is designed to provide students with a substantive introduction to Ancient Egyptian civilization through the study of its history, art and architecture, religion and literature.

Requirements (15 credits):

All three of the following:

- EGPT 343/3211 - History of Ancient Egypt I: Pre-Dynastic Through Middle Kingdom Egypt (3 cr.)
- EGPT 344/3212 - History of Ancient Egypt II: Middle Kingdom through Ptolemaic Egypt (3 cr.)
- EGPT 304/5100 - Culture and Society of Ancient Egypt (3 cr.)

Two from among the following

- EGPT 250/2250 - Ancient Egyptian Literature in Translation (3 cr.)
- EGPT 253/2251 - Hieroglyphics I (3 cr.)
- EGPT 254/2252 - Hieroglyphics II (3 cr.)
- EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)
- EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)
- EGPT 440/4040 - Ancient Egyptian Religion and Ethics (3 cr.)

Psychology Minor

The minor in psychology provides a general introduction to the field without the depth of methodological training required of majors.

Students who intend to seek a minor in Psychology must have taken PSYC 1000 and have obtained a grade of "B" or higher. Admission is competitive. A combination of discipline-relevant factors, including performance in PSYC 1000, GPA, and involvement in extracurricular activities related to psychology will be used to determine eligibility. Selection of classes for the Minor should be approved in consultation with the Psychology faculty.

Core requirements (3 credits)

- PSYC 201/1000 - Introduction to Psychology (3 cr.)

General Requirements (6 Credits)

Students must select at least one course from each of the groups listed below

- Individual Context (3 credits)
 - PSYC 327/3270 - Theories of Personality (3 cr.)
or
 - PSYC 342/3420 - Abnormal Psychology (3 cr.)
- Social Context (3 credits)
 - PSYC 301/3010 - Social Psychology (3 cr.)
or
 - PSYC 330/3003 - Community Psychology (3 cr.)

Additional Requirements (6 credits)

Two additional psychology courses. Psychology minors are permitted to enroll in any psychology courses for which they meet the requirements.

Sociology Minor

The minor in sociology introduces students to the central concepts and methods of the field. Emphasis is on the theoretical perspectives of sociology in the study of society, culture, and the individual.

Requirements (15 credits)

Prerequisites for these courses must be completed in order to minor in sociology.

- **One** 300-level sociology course
- **One** 400-level sociology course
- SOC 201/2101 - Introduction to Sociology (3 cr.)
- SOC 309/3102 - History of Social Theory (3 cr.)
- SOC 381/3105 - Doing Survey Research in the Social Sciences (3 cr.)

Community Psychology (M.A.)

Master of Arts in Community Psychology

The Master of Arts in Community Psychology is administrated by the graduate program in Counseling and Community Psychology. The Community Psychology degree places its graduates at the forefront of advancing global trends towards multicultural and systemic community psychology practice. Courses prepare students to work with communities, schools, governments, international or multilateral organizations and/or nongovernmental organizations to develop, implement, and evaluate psychosocial interventions that promote psychological and physical health and well-being. The program exposes students to methods of community psychology practice that are ethically responsible and culturally appropriate to Egypt and the region.

Admission

The applicant should have a minimum of 3.0 GPA in undergraduates studies; if the student has an MA in a related field already, a 3.0 GPA will also be expected at that level. Applicants should have taken an introduction to psychology course and completed previous coursework in statistics and research methods relevant to the social sciences. It is preferred that applicants have completed an undergraduate major in psychology or a related filed, or have relevant work experience.

The program course sequence only starts in the fall semester. Admitted students with course prerequisite requirements and/or English language requirements, must complete these requirements before being allowed to enroll in the program classes. In this respect, applicants to the program are strongly encouraged to apply before mid-November of each year. This will allow for an early evaluation of prerequisite requirements so that whenever possible, these requirements can be met before the start of the fall semester.

Language Requirement

The applicant should demonstrate proficiency in the English language in accordance with AUC standards.

Courses (36 credit hours)

Course work for the Master of Art requires the completion of 36 credits as follows:

1. Core courses

15 credits Required / 5 courses

- PSYC 500/5200 - Fundamentals of Counseling (3 cr.)
- PSYC 502/5210 - Community Psychology and Systems Theory (3 cr.)
- PSYC 505/5230 - Ethics and Professional Issues (3 cr.)
- PSYC 508/5220 - Applied Research Design and Statistical Analysis (3 cr.)
- PSYC 540/5270 - Community and Group Interventions (3 cr.)

2. Specialization courses

9 credits Required / 3 courses

- PSYC 525/5253 - Consultation to Non-Profit Organizations (3 cr.)
- PSYC 530/5233 - Community Assessment and Program Evaluation (3 cr.)
- PSYC 535/5243 - Prevention and Intervention in Communities (3 cr.)

3. Elective

3 credits Required / 1 Elective course

4. Internship/Final Project

6 credits Required 8 months

- PSYC 596/5263 - Internship in Community Psychology (3 cr.)

5. Thesis

A thesis must be written in English and submitted in accordance with university regulations. Students should familiarize themselves with procedures regarding committee selection, writing of the thesis, presentation to the supervisor and readers, and defense of the thesis. Complying with the procedural requirements within the specified time sequences is the responsibility of the student.

- PSYC 599/5299 - Research Guidance and Thesis (3 cr.)

Counseling Psychology (M.A.)

Master of Arts in Counseling Psychology

The Master of Arts in Counseling Psychology is administrated by the graduate program in Counseling and Community Psychology. The Counseling Psychology program will help students develop skills and knowledge that are needed to provide counseling services to individuals, couples, and groups struggling with psychosocial issues and mental illness. The program exposes students to methods of psychological practice that are ethically responsible and culturally appropriate to Egypt and the region.

Admission

The applicant should have a minimum of 3.0 GPA in undergraduate studies; if the student has an MA in a related field already, a 3.0 GPA will also be expected at that level. The applicant should have also completed an undergraduate major in psychology and/or the completion of a minimum of 15 credits (or equivalent) in psychology or related social/behavioral sciences including: Statistics, Research Design, and Psychopathology.

The program course sequence only starts in the fall semester. Admitted students with course prerequisite requirements and/or English language requirements, must complete these requirements before being allowed to enroll in the program classes. In this respect, applicants to the program are strongly encouraged to apply before mid-November of each year. This will allow for an early evaluation of prerequisite requirements so that whenever possible, these requirements can be met before the start of the fall semester.

Language Requirement

The applicant should demonstrate proficiency in the English language in accordance with AUC standards

Courses (42 credit hours)

Course work for the Master of Art requires the completion of 42 credits as follows:

1. Core Courses

18 credits Required / 6 courses

- PSYC 500/5200 - Fundamentals of Counseling (3 cr.)
- PSYC 502/5210 - Community Psychology and Systems Theory (3 cr.)
- PSYC 504/5291 - Advanced Lifespan Development (3 cr.)
- PSYC 505/5230 - Ethics and Professional Issues (3 cr.)
- PSYC 508/5220 - Applied Research Design and Statistical Analysis (3 cr.)
- PSYC 540/5270 - Community and Group Interventions (3 cr.)

2. Specialization courses:

18 credits/ 6 courses

- PSYC 506/5261 - Psychopathology and Resilience across Cultures (3 cr.)
- PSYC 510/5241 - Theories of Counseling and Psychotherapy (3 cr.)
- PSYC 515/5251 - Psychological Assessment (3 cr.)
- PSYC 550/5281 - Couples Counseling and Human Sexuality (3 cr.)
- PSYC 580/5264 - Practicum I in Counseling Psychology (3 cr.)
- PSYC 581/5274 - Practicum II in Counseling Psychology (3 cr.)

3. Internship

6 credits Required 8 months.

- PSYC 590/5284 - Internship in Counseling Psychology (3 cr. + 3 cr.)

**Egyptology and Coptology MA, with tracks in Art,
Archaeology and History; Language, Literature and Religion;
and Coptology (M.A.)**

Master of Arts in Egyptology & Coptology

The graduate program in Egyptology/Coptology at AUC offers an outstanding opportunity to study Egyptology/Coptology at the graduate level in Egypt.

There are 3 different possible tracks for the MA:

1. Art, Archaeology and History
2. Language, Literature and Religion
3. Coptology

The graduate program will help prepare students for careers in Egyptology/Coptology and for further studies in the discipline. It takes full advantage of being located in Egypt where students can visit and study the monuments in context, as well as gain practical experience in their chosen field. The program is designed to expose students to different aspects of the discipline, teach them to think critically and creatively, and put into practice the academic skills that they are acquiring. To ensure AUC graduates a high quality of academic opportunity and flexibility, these programs follow international guidelines for similar degrees at accredited institutions in the USA.

Requirements

The MA consists of a total of 27 credits: 8 courses (7 classroom courses, 1 of field-work, appropriate to each candidate's interest), and a thesis. 4 are core courses, and 4 can be chosen by the student. Thus, for students with an archaeological interest this will be more excavation focused, and for students who are more philologically inclined, this will be more epigraphic in nature. If students have a non-Egyptology background, up to a year of additional course work of prerequisites might be required. These will be drawn from the undergraduate offerings, but for graduate students will require extra work in the form of a more extensive reading list, more detailed and longer papers, and more challenging exams.

We also require students to have a reading knowledge of either French or German prior to writing a thesis, which would be tested by a language exam. If the student's research can be performed successfully without knowledge of a second language, the department may exempt the student from this requirement.

A thesis is required in all three branches of the MA in Egyptology and Coptology. The thesis must be written in English and submitted in accordance with university regulations.

A maximum of two 400-level courses may be taken as part of the MA program. Approved 300 and 400 level courses may be taken at the 500 level in special circumstances.

Admission Criteria

Applicants seeking admission to the graduate program should have an undergraduate degree of high standing (3.0 equivalent to a B or higher), and pass the Egyptology Unit's English language proficiency test (if deemed necessary). Admission will only be in the fall semester. To continue in the program, a 3.0 average must be maintained.

Breakdown of Courses for Each Track:

Egyptology: Art, Archaeology, and History (after fulfilling prerequisites):

4 core courses and 4 optional courses and a thesis (EGPT 5992)

Required:

- EGPT 540/5180 - Advanced Method and Theory: Archaeological and Historical (3 cr.)
- EGPT 598/5991 - Research Seminar: Research Design and Writing (3 cr.)
- EGPT 541/5420 - Material Culture: Looking at Artifacts in Context (3 cr.) or EGPT 542/5430 - Site Analysis (3 cr.)

If a student has had no field experience, s/he should take

- EGPT 591/5191 - Field Work (3 cr.)

If the student has had sufficient field experience, the fourth course should be chosen from the list below, in consultation with the advisor.

Optional:

Four choices from other courses depending on individual interest (if students were AUC undergraduates, they will have to take courses that they have never taken before):

- EGPT 510/5100 - Culture and Society of Ancient Egypt (3 cr.)
- EGPT 512/5130 - Art, Societies, and Cultures of the Ancient Near East (3 cr.)
- EGPT 530/5120 - Graeco-Roman Egypt (3 cr.)
- EGPT 519/5199 - Selected Topics in Ancient Egyptian Art and Culture (3 cr.)
** Can be taken more than once if the subject matter changes.
- EGPT 521/5140 - Societies and Cultures of Ancient Nubia (3 cr.)
- EGPT 522/5220 - Ancient Egyptian Religion and Ethics (3 cr.)
- EGPT 525/5230 - Settlement and Daily Life in Ancient Egypt (3 cr.)
- EGPT 526/5240 - Death and Burial in Ancient Egypt (3 cr.)
- EGPT 533/5330 - Coptic Art and Architecture (3 cr.)
- EGPT 545/5170 - Selected Topics in Cultural Resource Management and Museology (3 cr.)
** Can be taken more than once if the subject matter changes.
- EGPT 560/5440 - The Iconography of Ancient Egypt (3 cr.)
ANY language class (Egyptian texts-from amongst the offerings for the philologists) If appropriate for people who wish to specialize in conservation.
- EGPT 000/5030 - Independent Study and Guided Readings (3 cr.)
Cannot be taken more than twice.

Egyptology: Language, Literature, and Religion (after fulfilling prerequisites):

4 core courses and 4 optional courses and a thesis (EGPT 5992)

Required:

- EGPT 598/5991 - Research Seminar: Research Design and Writing (3 cr.)
- EGPT 504/5510 - Advanced Hieratic (3 cr.)

Any two from the below, depending on level, and in consultation with advisors:

- EGPT 561/5550 - Advanced Readings in Ancient Egyptian Religion Texts (3 cr.)
- EGPT 500/5151 - Hieroglyphics III (3 cr.)
- EGPT 501/5153 - Hieroglyphics IV (3 cr.)
- EGPT 562/5560 - Advanced Readings in Historical Literature from the Old Kingdom to the Late Period (3 cr.)

Optional:

Four choices from other courses depending on individual interest, including:

- EGPT 502/5520 - Introduction to Demotic (3 cr.)
- EGPT 503/5530 - Ptolemaic Hieroglyphs (3 cr.)
- EGPT 505/5150 - Introduction to Coptic (3 cr.)
- EGPT 521/5140 - Societies and Cultures of Ancient Nubia (3 cr.)
- EGPT 522/5220 - Ancient Egyptian Religion and Ethics (3 cr.)
- EGPT 530/5120 - Graeco-Roman Egypt (3 cr.)
- EGPT 510/5100 - Culture and Society of Ancient Egypt (3 cr.)
- EGPT 512/5130 - Art, Societies, and Cultures of the Ancient Near East (3 cr.)
- EGPT 519/5199 - Selected Topics in Ancient Egyptian Art and Culture (3 cr.)
** Can be taken more than once if the subject matter changes.
- EGPT 591/5191 - Field Work (3 cr.)
- EGPT 545/5170 - Selected Topics in Cultural Resource Management and Museology (3 cr.)
** Can be taken more than once if the subject matter changes.
- EGPT 000/5030 - Independent Study and Guided Readings (3 cr.)
Cannot be taken more than twice.

Coptology:

4 core courses and 4 optional courses and a thesis (EGPT 5992)

Required:

- EGPT 505/5150 - Introduction to Coptic (3 cr.)
- EGPT 506/5540 - Advanced Coptic Texts (3 cr.)
- EGPT 598/5991 - Research Seminar: Research Design and Writing (3 cr.)
- EGPT 533/5330 - Coptic Art and Architecture (3 cr.)
Or
- EGPT 539/5160 - Selected Topics in Coptic Studies (3 cr.)

Choices:

Four choices from other courses depending on individual interest:

- EGPT 530/5120 - Graeco-Roman Egypt (3 cr.)
- EGPT 531/5320 - The Romano-Byzantine World and Egypt (3 cr.)
- EGPT 532/5310 - Classical Art and Archaeology (3 cr.)
- EGPT 533/5330 - Coptic Art and Architecture (3 cr.)
- EGPT 539/5160 - Selected Topics in Coptic Studies (3 cr.)
* The Selected Topics classes will change from semester to semester, depending on staffing options and student interest. Topics might range from: The study of Coptic Literature; Coptic Music; The Monastery of Abu Mena; Art in Monastic Devotional Practice, etc.
- ARIC 575-576/5222-5223 - Special Studies in Islamic Art and Architecture (3 cr.)
- EGPT 000/5030 - Independent Study and Guided Readings (3 cr.)
Cannot be taken more than twice.

Prerequisites

For students who have no background in Egyptology certain prerequisites will be required. Some of their MA coursework can also be taken during the time that they are working on their prerequisites.

The prerequisites are:

Fall

- EGPT 253/2251 - Hieroglyphics I (3 cr.)
- EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)
- EGPT 343/3211 - History of Ancient Egypt I: Pre-Dynastic Through Middle Kingdom Egypt (3 cr.)

Spring

- EGPT 254/2252 - Hieroglyphics II (3 cr.)
- EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)
- EGPT 344/3212 - History of Ancient Egypt II: Middle Kingdom through Ptolemaic Egypt (3 cr.)

MA Thesis

After completing the coursework, each student will prepare a statement of their research intent and methodology for the MA Thesis. The Research Methods and Theory Class will prepare for this. Once this statement is accepted by the committee, the student will be free to research and write, while continuing to meet with his/her committee head on a regular basis. The student's committee must accept the completed thesis, which will be viva voce.

Sociology-Anthropology (M.A.)

The graduate program in sociology and anthropology equips students with a thorough grounding in the theory and research methods of both disciplines. Drawing on the expertise of faculty in sociology, anthropology, and other disciplines, it offers a unique opportunity for students to conduct original fieldwork-based research amidst an intellectually stimulating environment. Its longstanding tradition of combining scholarship with a commitment to social, economic and political justice makes the program a dynamic environment for learning and research. Our students conduct fieldwork in Egypt and throughout the Middle East on topics such as urban transformation, gender, religious and social movements, memory and politics of the past, migration, environment, health, the family, poverty, ethnicity and nationalism, media, activism, art and expressive culture, and youth cultures.

The program emphasizes an interdisciplinary approach to social theory and research and has broad applications. It has prepared many of our students for doctoral programs in the social sciences at universities in North America, Europe and other parts of the Global South, as well as other career paths in social research, NGOs, development agencies, and international and non-profit organizations.

Located at the heart of the Middle East, the faculty and students engage critically with the region and the representation of its people, cultures, and politics. The vibrant and cosmopolitan city of Cairo makes the program's location ideal for students interested in conducting fieldwork in the Middle East, North Africa, and the Arab world, as well as its connections to the Mediterranean region, Sub-Saharan Africa, and the larger 'global south'. The program accepts qualified applicants from a variety of academic and professional backgrounds especially those who are talented and interested in acquiring alternative and critical perspectives on society and politics.

Admission

The applicant for this program should be a graduate of high standing from an undergraduate program in the humanities or social sciences (refers to fields in the Faculties of Arts) with an overall grade of gayyid giddan or a grade point average of 3.0 or above. Those who lack this background but who are exceptionally well qualified in other respects may be admitted provisionally. In such cases the department may prescribe a noncredit program of work in theory or method for one or two semesters to correct gaps in course background. The department reserves the right to assess applicants' English proficiency and/or social science abilities in person as a condition of acceptance into the program. Students can be admitted to the program in the fall or spring.

Language

The candidate for the degree must demonstrate proficiency in a language other than English. The language exam is normally taken in Arabic and, in the case of native speakers, is intended to ensure that the student can work as a professional in that language. In certain cases the student may take the exam in a field and/or scholarly language other than Arabic. Students' language skills will be evaluated upon entry into the program for placement purposes and then re-evaluated for proficiency before completing the program.

Courses

Eight courses (24 credits) are required. All students must take: SOC/ANTH 5201, SOC/ANTH 5202, and SOC/ANTH 5298, and either SOC/ANTH 5203 or SOC/ANTH 5204. The remaining four courses should be chosen from the list of electives, each of which is offered in principle at least once in a two-year period. A maximum of six hours of 400-level courses in sociology and anthropology or of 500-level courses in other disciplines (including SOC/ANTH 5200 and SOC/ANTH 5208 when taught by faculty outside the SOC-ANTH program) may be taken with departmental approval.

Thesis

All students must complete a research thesis in accordance with university regulations. Before commencing work on the thesis, the student must write a thesis proposal following strict departmental guidelines that is approved by three faculty members.

Students should familiarize themselves with procedures and deadlines regarding writing the thesis proposal, committee selection, writing of the thesis and presentation to the supervisor and readers. Complying with the procedural requirements by the appropriate deadlines is the responsibility of the student. After completion of the thesis, it must be defended and approved by the thesis committee.

Community Psychology (Graduate Diploma)

The Graduate Diploma in Community Psychology is administrated by the graduate program in Counseling and Community Psychology. The diploma places its graduates at the forefront of advancing global trends towards multicultural and systemic community psychology practice. Courses prepare students to work with communities, schools, governments, international or multilateral organizations and/or nongovernmental organizations to develop, implement, and evaluate psychological interventions that promote social, psychological, and physical health and well-being. The program exposes students to methods of community psychology practice that are ethically responsible and culturally appropriate to Egypt and the region.

The diploma aims to complete students' existing knowledge by providing training in understanding communities from a psychological and systems perspective while preparing students to intervene in communities on issues of importance.

Admission

At a minimum, applicants must meet at least one of two requirements: a) have at least two years relevant full-time work experience, or b) have completed or be near completion a Master's degree in a related discipline. It is expected that candidates have a minimum GPA of 3.0 out of 4.0 in previous academic studies and current academic studies if currently enrolled in a graduate program. Admission is competitive, and dependent on successful interview.

Language Requirement

The applicant should demonstrate proficiency in the English language in accordance with AUC standards.

Courses (18 credit hours)

Course work for the Graduate Diploma requires the completion of 18 credits as follows:

Required Courses

12 credits Required / 4 courses

- PSYC 502/5210 - Community Psychology and Systems Theory (3 cr.)
- PSYC 525/5253 - Consultation to Non-Profit Organizations (3 cr.)
- PSYC 530/5233 - Community Assessment and Program Evaluation (3 cr.)
- PSYC 535/5243 - Prevention and Intervention in Communities (3 cr.)

Electives

6 credits Required / 2 courses

Students should take two additional electives that best meet their professional goals, with approval from the graduate advisor and the department in which the course is offered. Students will be encouraged to take a course related to research methodology if they have not already completed a graduate-level research course.

Notes

Students will be encouraged to complete the diploma in one year. For students pursuing a dual degree, a maximum of two courses from their Master's degree can double count towards the diploma.

Development Studies Committee

Coordinator: *H. Rizzo (Sociology)*

Coordinating Committee Members: *T. Abdel Malek (Economics), A. Beshai (Economics), J. Bremer (Director of Public Policy and Administration Program), I. El Nur (Political Science), s. El-Musa (Political Science), P. Fargues (Director of Forced Migration and Refugee Studies), P. Glavanis (Associate Director of the Center for Learning and Teaching), B. Ibrahim (Director of the John D. Gerhart Center for Philanthropy and Civic Engagement), H. Rashad (Director of the Social Research Center), M. Rieker (Director of the Cynthia Nelson Institute for Gender & Women's Studies), J. Salevurakis (Economics), H. Sholkamy (Social Research Center), Richard Tutwiler (Director of the Desert Development Center)*

Development Studies at AUC (Graduate)

School of Business

School of Humanities and Social Sciences

Development Studies is a rapidly growing area of study concerned with the long-term social, political and economic changes taking place in the Global South. The field is interdisciplinary and multidisciplinary within the social sciences, drawing on the perspectives of anthropology, economics, gender and women's studies, political science, public policy and administration, and sociology in order to understand the complexities of poverty and inequality, population growth, political economy, globalization, international division of labor, structural adjustment, war and human rights, democratization, civil society and NGOs, social justice, and sustainable and alternative forms of development.

Examining questions of development in the Middle East and Africa, in particular, and the Global South more broadly is an AUC strength. Several departments and research centers at AUC offer students opportunities to pursue advanced degrees and to participate in collaborative applied projects and scholarly research in development studies.

Graduate Programs:

- Economics in International Development (MA and graduate diploma)
- Gender and Women's Studies (MA and graduate diploma)
- Gender and Development in the Middle East/North Africa Track
- Migration and Refugee Studies (MA and graduate diploma)

- Political Science (MA and graduate diploma)
Professional Development Specialization
- Public Policy and Administration (MPPA and graduate diploma)
- Sociology-Anthropology (MA)

Research Centers:

- The Cynthia Nelson Institute for Gender & Women's Studies
- Desert Development Center
- Migration and Refugee Studies Center
- John D. Gerhart Center for Philanthropy and Civic Engagement
- Social Research Center

School of Sciences and Engineering

Department of Biology

Department of Biology School of Sciences and Engineering

Professors: H. El Dorry, S. Zada

Associate Professor: R. Siam (Chair)

Assistant Professors: A. Amleh, A. Bos, W. Fouad, A. Moustafa

Professor Emeritus: A. Main

Biology is the science that deals with the origin, history, characteristics, and habits of life. The approach in biology education is dynamic in an attempt to keep the basic programs current with the advances being made in the field. At AUC, as at many colleges and universities, there is a growing tendency to merge what had diverged into widely segregated fields: botany and zoology, classical and modern molecular approach, field and laboratory studies. Today, with recent advances in the fields of biomedicine, molecular biology, and genetics and the growing political interests in the environment and biodiversity, the discipline is growing with increasing opportunities in the job market (and for research grants) for well-trained biologists.

Biology (B.Sc.) with concentrations in Marine Biology or Molecular and Cell Biology

Bachelor of Science in Biology

The undergraduate program at AUC offers interested students a liberal education in biological sciences, leading to a Bachelor of Science degree. The program provides graduates the broad background necessary in today's job market and prepares them for graduate and professional schools.

Students with a B.Sc. degree in biology are securing positions in the growing fields in industry and in academia. The

recent advances in biology have created important new industries in genetic engineering, biomedicine, biotechnology, and pharmacology. Students with ambitions beyond the bachelor level are entering graduate schools and professional schools (medicine, dentistry, veterinary medicine).

Students wishing to receive a Bachelor of Science degree in biology will be required to take a total of 132 credits. Out of the 132 credits 33 credits are allocated for 'Core Curriculum', 25 credits for 'Collateral Requirements', 9 credits for 'General Electives' and 16 credits for upper level courses. Students can be granted a Concentration in Molecular and Cell Biology or Marine Biology concentration after completion of 16 credits from the required respective courses.

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 cr.) and the capstone projects BIOL 495/4980 - Senior Research Thesis (1 cr.) and BIOL 496/4981 - Seminar in Biology (2 cr.)

Biology Requirements (62 credits)

a. Concentration Requirements (46 credits)

- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)
- BIOL 105/1012 - Introductory Biology II (3 cr. + 1 cr. lab)
- BIOL 211/2230 - Molecular and Cell Biology (3 cr. + 1 cr. lab)
- BIOL 214/2340 - General Botany (3 cr. + 1 cr. lab)
- BIOL 221/2150 - Genetics (3 cr. + 1 cr. lab)
- BIOL 241/2090 - Quantitative Biology (3 cr. + 1 cr. lab)
- BIOL 307/3310 - Microbiology (3 cr. + 1 cr. lab)
- BIOL 310/3130 - Molecular Evolution and Population Genetics (3 cr. + 1 cr. lab)
- BIOL 312/3326 - Vertebrate Anatomy and Physiology (3 cr. + 1 cr. lab)
- BIOL 315/3280 - Biochemistry (3 cr.)
- BIOL 341/3510 - Ecology (3 cr. + 1 cr. lab)
- BIOL 495/4980 - Senior Research Thesis (1 cr.)
- BIOL 496/4981 - Seminar in Biology (2 cr.)

b. Biology Electives (16 credits)

Sixteen additional credits from 3000- and 4000- level from the courses listed below:

- BIOL 302/3040 - Environmental Biology for Engineers (2 cr. + 1 cr. lab)
- BIOL 313/3340 - Invertebrate Zoology (3 cr. + 1 cr. lab)
- BIOL 320/3341 - Animal Behavior (3 cr. + 1 cr. lab)
- BIOL 301/3360 - Animal Physiology (3 cr. + 1 cr. lab)
- BIOL 303/3370 - Developmental Biology (3 cr. + 1 cr. lab)
- BIOL 305/3540 - Environmental Biology (3 cr. + 1 cr. lab)
- BIOL 306/3541 - Environmental Biology of the Red Sea (3 cr. + 1 cr. lab)
- BIOL 345/3542 - GIS For Biologists (4 cr.)
- BIOL 360/3600 - Introduction to Bioinformatics (3 cr.)
- BIOL 399/3910 - Guided Studies in Environmental Sciences (3 cr.)
- BIOL 411/4150 - Molecular Biology of the Gene (3 cr. + 1 cr. lab)
- BIOL 415/4230 - Immunology (3 cr. + 1 cr. lab)

- BIOL 430/4330 - Tumor Biology (3 cr. + 1 cr. lab)
- BIOL 440/4540 - Marine Ecology (3 cr. + 1 cr. lab)
- BIOL 445/4541 - Desert Ecology (3 cr. + 1 cr. lab)
- BIOL 408/4930 - Selected Topics in Biology (1-4 cr.)

Collateral Requirements (25 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 106/1006 - General Chemistry II (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)
- CHEM 203/2003 - Organic Chemistry I (3 cr.)
- CHEM 306/3006 - Organic Chemistry II (3 cr.)
- CHEM 310L/3010 - Organic Chemistry I Laboratory (1 cr.)
- MACT 112/1221 - Statistical Reasoning (3 cr.)
- MACT 131/1121 - Calculus I (3cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)

General electives (9 credits)

Concentration in Marine Biology

The Department of Biology offers a concentration in Marine Biology to provide students the opportunity to thoroughly study the marine resources and habitats of our planet, in particular those of Egypt (Red Sea and Mediterranean).

The Concentration in Marine Biology requires that students complete 16 credits from the following list of courses, as outline below.

Four credits required:

- BIOL 411/4150 - Molecular Biology of the Gene (3 cr. + 1 cr. lab)

Eight credits to be selected from:

- BIOL 306/3541 - Environmental Biology of the Red Sea (3 cr. + 1 cr. lab)
- BIOL 399/3910 - Guided Studies in Environmental Sciences (3 cr.)¹
- BIOL 440/4540 - Marine Ecology (3 cr. + 1 cr. lab)
- BIOL 408/4930 - Selected Topics in Biology (1-4 cr.)¹

¹ Only marine biology selected topics and guided studies courses will be counted towards the concentration. Requires advisor and chairs' approvals.

Four credits to be selected from:

- BIOL 313/3340 - Invertebrate Zoology (3 cr. + 1 cr. lab)
- BIOL 320/3341 - Animal Behavior (3 cr. + 1 cr. lab)

- BIOL 345/3542 - GIS For Biologists (4 cr.)

Concentration in Molecular and Cell Biology

The Concentration in Molecular and Cell Biology require that students complete 16 credits from the following list of courses below. Students can only chose one 500 level course.

- BIOL 303/3370 - Developmental Biology (3 cr. + 1 cr. lab)
- BIOL 411/4150 - Molecular Biology of the Gene (3 cr. + 1 cr. lab)
- BIOL 415/4230 - Immunology (3 cr. + 1 cr. lab)
- BIOL 430/4330 - Tumor Biology (3 cr. + 1 cr. lab)
- BIOL 408/4930 - Selected Topics in Biology (1-4 cr.) ¹
- BIOL 410/4910 - Guided Studies in Biology (1-4 cr.) *
- BIOT 502/5202 - Cell and Molecular Biology (3 cr.)
- BIOT 504/5204 - Experimental Biotechnology (3 cr.)

¹Only Molecular and Cell Biology selected topics and guided studies courses will be counted towards the concentration and requires advisor and chairs approval.

Students completing the requirements of Molecular and Cell Biology or Marine Biology Concentration will receive an official certificate endorsing successful completion of the B.Sc. in Biology- Molecular and Cell Biology or Marine Biology Concentration.

Bioinformatics Minor

The program offers a minor in Bioinformatics for students interested in an academic or industrial career in computational biology for analysis of molecular data in health, diseases, environment and/or food research and industry.

Course Structure

To be awarded a minor in Bioinformatics, a student must successfully complete the following 18 credits depending on the students' major.

Molecular Biology (3 credits)

- BIOL 221/2150 - Genetics (3 cr. + 1 cr. lab)
- BIOL 211/2230 - Molecular and Cell Biology (3 cr. + 1 cr. lab)
- CHEM 315/3015 - Biochemistry (3 cr.)

Introductory Computing (3 credits)

- CSCE 110/1101 - Programming Fundamentals (3 cr.)

Bioinformatics Specialization (9 credits)

- BIOL 360/3600 - Introduction to Bioinformatics (3 cr.)

- BIOL 361/3601 - Bioinformatics Tools and Techniques (3 cr.)
- BIOL 460/4690 - Bioinformatics Capstone Seminar I (1 cr.)
- BIOL 461/4691 - Bioinformatics Capstone Seminar II (2 cr.)

Elective (3 credits)

- BIOL 310/3130 - Molecular Evolution and Population Genetics (3 cr. + 1 cr. lab)
- BIOL 307/3310 - Microbiology (3 cr. + 1 cr. lab)
- BIOL 341/3510 - Ecology (3 cr. + 1 cr lab)
- BIOL 411/4150 - Molecular Biology of the Gene (3 cr. + 1 cr. lab)
- BIOL 408/4930 - Selected Topics in Biology (1-4 cr.)
- CSCE 321/3201 - Analysis and Design of Algorithms (3 cr.)
- CSCE 453/4501 - Database Systems (3 cr.)
- CSCE 465/4601 - Artificial Intelligence (3 cr.)
- CSCE 427/4602 - Introduction to Artificial Neural Networks (3 cr.)
- CSCE 485/4930 - Selected Topics in Computer Science and Engineering (1-3 cr.) 1

Notes

¹Only bioinformatics and computational biology selected topics and guided studies courses will be counted towards the concentration. Requires advisor and chairs approval.

If a course from the list of possible electives for the minor is in the student's major requirement, it does not fulfill the minor elective requirement.

Students are reminded to work out a feasible study plan for the required courses in this minor. In particular, they need to ensure that they have sufficient number of semesters left in the candidature to complete the courses and to note that BIOL 360/3600 and BIOL 361/3601 are only offered once a year.

Biology Minor

The program also offers a minor in Biology to supplement the education of students in related disciplines including but not limited to biometry, bioinformatics, biochemistry, biophysics, psychology, and anthropology.

Twenty credits are required for a minor in Biology: BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab) , BIOL 105/1012 - Introductory Biology II (3 cr. + 1 cr. lab) , and three additional 4-credit 200, 300, or 400 level BIOL courses.

Twenty credits are required for a minor in Biology:

Choose one of the following and three additional 4-credit 200, 300, or 400 level BIOL courses.

- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)
- BIOL 105/1012 - Introductory Biology II (3 cr. + 1 cr. lab)

Biomedical Sciences Minor

The minor in Biomedical Sciences provides students with a useful complement to majors in sciences, engineering, business and humanities at AUC. The program offers directed study in human and animal systems to broaden the background of students wishing to pursue professional careers in biomedical industry, biotechnology, bioinformatics, medicine, and other related areas.

This program fulfills the sciences requirements for the Medical College Admission Test (MCAT®), and the Dental College Admission test (DAT®). Students who wish to apply for medical, dental or other related biomedical graduate programs must complete all other course requirements for admission, as well as other application requirements and extracurricular activities.

Program of Study

The program requires completion of a minimum of 15 credits in biomedical sciences courses. Biology majors are not eligible for this minor.

Admission requirements

A grade of B or better in the following courses:

- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)
- CHEM 106/1006 - General Chemistry II (3 cr.) + CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.) + PHYS 124L/1022 - General Physics Laboratory II (1 cr.)

Required courses

- BIOL 211/2230 - Molecular and Cell Biology (3 cr. + 1 cr. lab)
- BIOL 315/3280 - Biochemistry (3 cr.)

Elective Courses

A minimum of TWO courses from the following:

- BIOL 307/3310 - Microbiology (3 cr. + 1 cr. lab)
- BIOL 312/3326 - Vertebrate Anatomy and Physiology (3 cr. + 1 cr. lab)
- BIOL 301/3360 - Animal Physiology (3 cr. + 1 cr. lab)
- BIOL 303/3370 - Developmental Biology (3 cr. + 1 cr. lab)
- BIOL 411/4150 - Molecular Biology of the Gene (3 cr. + 1 cr. lab)
- BIOL 415/4230 - Immunology (3 cr. + 1 cr. lab)
- BIOL 430/4330 - Tumor Biology (3 cr. + 1 cr. lab)
- BIOL 360/3600 - Introduction to Bioinformatics (3 cr.)

Environmental Science Minor

Coordinated by: A. Bos (Biology), A. Ramadan (Chemistry)

The minor in Environmental Science is an interdisciplinary program coordinated by the departments of Biology and Chemistry. The curriculum is flexible to allow students of all majors to enroll in the minor. The elective courses are designed to satisfy an individual's field of interest. In the course of their studies, students will be subjected to significant environmental issues and challenges at the national, regional and international levels. The minor will enhance the students' career marketability. Students are required to choose an advisor for their minor from either the Department of Biology or the Department of Chemistry.

Requirements (21-23 credits):

Concentration Requirements (9-10 credits)

- BIOL 399/3910 - Guided Studies in Environmental Sciences (3 cr.)

One of the following Biology courses:

- BIOL 102/1040 - Essentials of Environmental Biology (3 cr.)
- BIOL 302/3040 - Environmental Biology for Engineers (2 cr. + 1 cr. lab)
- BIOL 305/3540 - Environmental Biology (3 cr. + 1 cr. lab)

One of the following Chemistry courses:

- CHEM 104/1004 - Man and the Environment (3 cr.)
- CHEM 205/2005 - Environmental Analytical Chemistry (3 cr.)
- CHEM 311/3011 - Analytical Chemistry II (3 cr.)

Electives (9-10 credits)

- ANTH 370/3085 - Environmental Issues in Egypt (3 cr.)
- BIOL 306/3541 - Environmental Biology of the Red Sea (3 cr. + 1 cr. lab)
- CENG 471/4551 - Environmental and Sanitary Engineering (3 cr.)
- POLS 442/4542 - Environmental Politics (3 cr.)
- SCI 260/2006 - Environmental Geology (3 cr.)
- SCI 302/3002 - Science, Technology and the Environment (3 cr.)
- HIST 430/4107 - The Environment in World History (3 cr.)

Additional Requirements (3 credits)

Choose one of the following:

- MACT 112/1221 - Statistical Reasoning (3 cr.)
- MACT 210/2222 - Statistics for Business (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)

Notes:

Students must finish their concentration requirements in biology and chemistry before taking BIOL 3910 /CHEM 3910.

Premedical Track

Coordinator: A. Abdellatif (Biology)

The Biology department is coordinating the premedical track. The Biology degree incorporates all premedical courses while leading to a Bachelor of Science in Biology.

The Premedical track is open to all AUC undergraduate students. The track provides basic biological and physical science courses that prepare students for admission into medical schools abroad. Most US and Canadian medical schools require completion of a Bachelor degree that includes the required courses for admission. The liberal art education at AUC provides the well-rounded education required by medical schools.

Premedical students will have to fulfill all requirements for a degree in their major and those of the premedical track. Premedical students are assigned an advisor from the Department of Biology to guide with course requirements for medical school admissions, Medical College Admission Test (MCAT), medical school applications and extracurricular activities.

Biology

- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)
- BIOL 211/2230 - Molecular and Cell Biology (3 cr. + 1 cr. lab)
- BIOL 315/3280 - Biochemistry (3 cr.)

General/Inorganic Chemistry

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CHEM 106/1006 - General Chemistry II (3 cr.)
- CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)

Organic Chemistry

- CHEM 203/2003 - Organic Chemistry I (3 cr.)
- CHEM 306/3006 - Organic Chemistry II (3 cr.)
- CHEM 310L/3010 - Organic Chemistry I Laboratory (1 cr.)
- CHEM 316L/3016 - Organic Chemistry II Laboratory (1 cr.)

Mathematics

- MACT 131/1121 - Calculus I (3cr.)
- MACT 132/1122 - Calculus II (3 cr.)

Physics

- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)

- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)

English

Any two Rhetoric and Composition core curriculum requirement may be used to satisfy the English requirement.

Social Sciences

- PSYC 201/1000 - Introduction to Psychology (3 cr.)
 - SOC 240/2201 - Introduction to Community Development (3 cr.)
- One of these courses can be counted as a "Humanities and Social Sciences" core requirement.

Notes:

Students applying for admission into certain medical schools may be required to take additional courses.

Department of Chemistry

Department of Chemistry School of Sciences and Engineering

Professor Emeritus: F. Hassan

Professors: P. Askalani, H. Azzazy, D. Fleita, T. Madkour, J. Ragai (Director of Master of Science in Chemistry), A. Ramadan (Dean of Graduate Studies)

Associate Professor: T. Shoeib (Chair)

Assistant Professor: M. El Sayed, W. Mamdouh

Chemistry, with specializations in Petrochemical Industry, Clinical Chemistry, and Food Chemistry (B.S.)

The chemistry program covers the five main branches of chemistry, namely organic, biochemistry, inorganic, physical and analytical. In addition students may specialize in clinical analysis, industrial chemistry, or food chemistry. In all cases theoretical and applied knowledge are both reinforced and supplemented by a diverse selection of experimental work, a necessary facet of chemistry.

Bachelor of Science

The objective of the Bachelor of Science in chemistry is to train students in both theory and practice of the major branches of chemistry. It prepares students for careers in diverse fields such as industries (chemical, food and

beverages, pharmaceuticals, metal and metal finishing, cement, petrochemicals, textiles, paints); environmental monitoring and protection; quality control and quality assurance; clinical analysis; diagnostics; marketing and sales for chemicals and specialty chemicals; education; academic and industrial research. The Bachelor of Science in chemistry also prepares students for medical school.

A student who intends to major in chemistry must complete CHEM 1005 and CHEM 1015 with a minimum of a B average, or if declaring the major before the completion of these two courses, should have obtained a minimum of 80% in Thanawia Amma science or equivalent in other certificates.

The Bachelor of Science in Chemistry degree is accredited by both the Canadian Society for Chemistry (CSC) and the Supreme Council of Egyptian Universities.

A total of 131 credits is required for the bachelor's degree in chemistry:

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the Core are fulfilled by the concentration Science/lab (4 crs) and the capstone project courses CHEM 4980 and CHEM 4981 (total 3 crs).

Concentration Requirements (60 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 106/1006 - General Chemistry II (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)
- CHEM 203/2003 - Organic Chemistry I (3 cr.)
- CHEM 206/2006 - Analytical Chemistry I (2 cr.)
- CHEM 216L/2016 - Volumetric and Gravimetric Analysis (2 cr)
- CHEM 301/3940 - Seminar in Science and Technology (1 cr.)
- CHEM 303/3003 - Thermodynamics (3 cr.)
- CHEM 304/3004 - Physical Chemistry I (3 cr.)
- CHEM 000/3005 - Principles of Chemical Modeling (3 cr.)
- CHEM 306/3006 - Organic Chemistry II (3 cr.)
- CHEM 309/3009 - Inorganic Chemistry I (3 cr.)
- CHEM 310L/3010 - Organic Chemistry I Laboratory (1 cr.)
- CHEM 311/3011 - Analytical Chemistry II (3 cr.)
- CHEM 313L/3013 - Thermodynamics Laboratory (1 cr.)
- CHEM 314L/3014 - Physical Chemistry I Laboratory (1 cr.)
- CHEM 315/3015 - Biochemistry (3 cr.)
- CHEM 316L/3016 - Organic Chemistry II Laboratory (1 cr.)
- CHEM 318L/3018 - Inorganic Chemistry Laboratory (1 cr.)
- CHEM 402/4003 - Physical Chemistry II (3 cr.)
- CHEM 403/4004 - Physical Chemistry III (3 cr.)
- CHEM 406/4006 - Organic Chemistry III (3 cr.)
- CHEM 408/4008 - Inorganic Chemistry II (3 cr.)
- CHEM 412L/4013 - Physical Chemistry II Laboratory (1 cr.)
- CHEM 416L/4016 - Organic Syntheses (2 cr.)
- CHEM 495/4980 - Senior Thesis I (1 cr.)
- CHEM 496/4981 - Senior Thesis II (2 cr.)

Specialization in Petrochemical Industry (12 credits)

- CHEM 307/3522 - Production Basics for Chemical Industries (3 cr.)
- CHEM 000/3523 - Chemistry of Petrochemical Processes
- CHEM 000/4524 - Polymer Chemistry and Technology (3 cr.)
- PENG 422/4525 - Petrochemical Technology (3 cr.)
- CHEM 000/4900 - Industrial Internship (0 credits)

Specialization in Clinical Chemistry (9 credits)

- CHEM 325/3025 - Clinical Chemistry I (3 cr.)
- CHEM 414/4930 - Selected Topics in Chemistry (1-3 cr.)
- CHEM 425/4025 - Clinical Chemistry II (3 cr.)

Specialization in Food Chemistry (9 credits)

- CHEM 220/2020 - Introduction to Food Science and Technology (3 cr.)
- CHEM 320/3020 - Food Chemistry (3 cr.)
- CHEM 407/4007 - Food Processing and Preservation (3 cr.)

Collateral Requirements (26 credits)

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- MACT 131/1121 - Calculus I (3cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)
- PHYS 214/2221 - Waves and Optics (3 cr.)

Electives (12 credits)

Archaeological Chemistry Minor

This minor in archaeological chemistry provides students with the necessary knowledge for the elucidation of some archaeological problems. The minor is of particular value to Arts or Egyptology students.

Requirements

Total credits: 17.

All of the following courses (14 cr.):

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 106/1006 - General Chemistry II (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)
- CHEM 312/3002 - Archaeological Chemistry I (3 cr.)

And one of the following courses (3 cr.):

- CHEM 103/1003 - Chemistry and Society (3 cr.)
- SCI 240/2004 - Chemistry, Art and Archaeology (3 cr.)

Chemistry Minor

The minor in chemistry provides students with a workable knowledge of the basic principles of chemistry and some of their applications. Students may choose to concentrate on one of the main areas in Chemistry.

The minor in chemistry is comprised of (16-18 credits).

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 106/1006 - General Chemistry II (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)

Additional Requirements

- 8-10 credits of higher level courses in chemistry to be chosen in consultation with a faculty advisor.

Chemistry, with concentration in Food Chemistry (M.Sc.)

Master of Science in Chemistry

The Master of Science program in Chemistry provides postgraduate education to prepare students for a career in Chemistry or related fields through the development of a firm foundation in the fundamental science and applications of chemistry.

A total of 33 credit hours is required for the Master of Science degree. This consists of 24 credits hours of courses and 9 credit hours of thesis work.

Admission

A Bachelor's degree in Chemistry or a related discipline with a minimum GPA of 3.0 out of 4.0, is required for admission into the Chemistry master of science program. Admission is also subject to the general university

requirements for the graduate program. For those students whose grade records indicate promising ability, but who otherwise did not have an adequate preparation in chemistry, admission may be granted under the requirement that remedial courses will be taken.

Courses (24 credits)

The program of study is planned with the faculty advisor, and should include 9 credit hours of core courses, 12 credit hours chosen from the specialization courses, and 3 credit hours of electives.

Students not opting for the Food Chemistry Concentration can fulfill the 12 credits of the concentration requirements with any chemistry 500 or 600 level courses. With the consent of the program director, one 500 or 600 level course in another science or engineering discipline can be taken and counted towards the concentration requirements.

Core Courses (9 credit hours)

To be chosen from the following courses:

- CHEM 000/5200 - Environmental Physical Chemistry (3 cr.)
- CHEM 501/5201 - Biochemistry (3 cr.)
- CHEM 502/5202 - Organometallics (3 cr.)
- CHEM 503/5203 - Advanced Organic Chemistry (3 cr.)
- CHEM 504/5204 - Methods of Structure Determination (3 cr.)
- CHEM 000/5206 - Advanced Food Chemistry (3 cr.)
- CHEM 519/5219 - Food Analysis (3 cr.)

Food Chemistry Concentration Courses (12 credit hours)

To be chosen from the following courses:

- CHEM 511/5211 - Applied Food Microbiology (3 cr.)
- CHEM 512/5212 - Food Safety Assurance (3 cr.)
- CHEM 513/5213 - Food Packaging (3 cr.)
- CHEM 514/5214 - Nutritional Evaluation of Food during Processing (3 cr.)
- CHEM 515/5215 - Food Additives, Contaminants and Legislation (3 cr.)
- CHEM 516/5216 - Food Fermentation (3 cr.)
- CHEM 517/5217 - Sensory Evaluation of Food Products (3 cr.)
- CHEM 518/5218 - Functional Foods and Nutraceuticals (3 cr.)
- CHEM 519/5219 - Food Analysis (3 cr.)

Chemistry Electives (3 credit hours)

A minimum of one course is selected as elective. No more than one 400-level or higher in sciences or engineering, or other related areas, not in the student's undergraduate major, may be taken for graduate credit subject to advisor's approval. Students may also select from the following list of courses:

- CHEM 551/5930 - Selected Topics in Chemistry (3 cr.)
- CHEM 552/5910 - Independent Study in Chemistry (3 cr.)

Thesis (9 credit hours)

Each student must submit a thesis topic that has been approved by a faculty supervisor normally after acquiring 12 credit hours of course work. Since various research topics are addressed in a sequence of two seminar courses, the student must register for the first (CHEM 5940) before submitting a thesis topic while the second (CHEM 5941) must be taken during the execution of the thesis research. To ensure adequate faculty consultation, two semesters of the graduate thesis course (CHEM 5980) are required. After that, the course may be taken for one credit hour each semester until completion of the program requirements.

- CHEM 590/5940 - Graduate Seminar I (2 cr.)
- CHEM 591/5941 - Graduate Seminar II (1 cr.)
- CHEM 599/5980 - Research Guidance and Thesis (3 cr. + 3 cr.)

Department of Computer Science and Engineering

Department of Computer Science and Engineering School of Sciences and Engineering

Professor of Practice: K. El-Ayat

Professors: A. Abdelbar, A. El-Kadi, A. Goneid, A. Khalil (Associate Chair), A. Rafea (Chair), M. N. Mikhail, S. Aly (Associate Dean for Graduate Studies and Research), S. El-Kassas

Associate Professors: F. Balasa, M. Moustafa

Assistant Professors: M. Shalan, Y. Alkabbabi

The Department of Computer Science and Engineering offers two undergraduate degrees: The Bachelor of Science in Computer Science and the Bachelor of Science in Computer Engineering.

Vision

The Department of Computer Science and Engineering of The American University in Cairo aspires to be an internationally recognized source of knowledge that produces outstanding graduates in computer science and computer engineering.

Mission

The mission of the Department of Computer Science and Engineering of the American University in Cairo is to:

- Motivate and inspire students by providing high-caliber, fully integrated computing programs
- Provide leadership and innovation in a rapidly evolving global information society
- Advance the state of knowledge in computing
- Pursue scholarly research for publication and dissemination, through a comprehensive learning environment.

Computer Engineering (B.S)

Bachelor of Science in Computer Engineering

Computer engineering is defined as the discipline that embodies the science and technology of design, construction, implementation, and maintenance of software and hardware components of modern computing systems and computer-

controlled equipment. It is solidly grounded in the theories and principles of computing, mathematics, science, and engineering and it applies these theories and principles to solve technical problems through the design of computing hardware, software, networks, and processes. Computer engineers are involved in the design of computer-based systems which includes (in addition to systems for portable, desktop and client/server environments and communications devices) distributed computing environments and embedded systems just to name a few. The convergence of several established technologies (such as television, telecommunications and networking infrastructures) resulted in the creation of massive challenges and opportunities for computer engineers.

The undergraduate program in computer engineering is to produce graduates with a broad perspective in both software and hardware topics relevant to computer systems engineering. It provides the foundation and areas of specialization necessary to analyze, design and evaluate systems software, middleware and software/hardware architectures and interfaces. The specific objectives of the program are to: educate students with breadth of knowledge in computer engineering that would allow them to contribute to computing projects individually or as members of multidisciplinary teams with emphasis on the creative applications of scientific knowledge in the analysis, design, and implementation of economical computer software and hardware systems; introduce students to a broad spectrum of computer engineering topics, with concentration in one or more computing areas of their choice; prepare students to cope with, and improve on, the ever-evolving discipline of computer engineering and state-of-the-art technologies in the industry of software and hardware systems. This is achieved through enabling students to integrate various analysis and design methodologies, models, techniques, and tools to develop software/hardware systems and their interfaces at the edge of technology; train students to communicate effectively, think critically, and recognize and consider the impact of computing solutions in a global and societal context with ability to understand and be sensitive to other cultures; motivate students to engage in life-long learning, develop their ability to pursue graduate studies in computer science, computer engineering, or other related areas, and develop students who are creative, possess qualities of leadership, and committed to professional and ethical conduct.

Program Objectives

The expected accomplishments of graduates of the Bachelor of Science in Computer Engineering program at the American University in Cairo are as follows.

1. Establish a career path in Industry or government to become productive and valued engineers within their institutions.
2. Obtain an advanced degree in engineering through successful admission to a reputable graduate program leading to one or more degrees.
3. Contribute ethically and professionally to humanity by becoming innovators, leaders, and lifelong learners in and through successful careers.

Program Learning Outcomes

The program enables students to achieve the following outcomes, by the time of graduation:

- (a) An ability to apply knowledge of mathematics, science, and engineering
- (b) An ability to design and conduct experiments, as well as to analyze and interpret data.
- (c) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (d) An ability to function on multidisciplinary teams
- (e) An ability to identify, formulate, and solve engineering problems
- (f) An understanding of professional and ethical responsibility
- (g) An ability to communicate effectively
- (h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- (i) A recognition of the need for, and an ability to engage in life-long learning
- (j) A knowledge of contemporary issues
- (k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

A total of 162 credits is required for the bachelor of science degree in computer engineering:

Core Curriculum Requirements (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 crs) and the capstone projects CSCE 4980 CSCE 4981 (3 crs).

Engineering Core Requirements (52 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- ENGR 101/1001 - Introduction to Engineering (1 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)
- ENGR 214/2104 - Engineering Mechanics II (Dynamics) (3 cr.)
- ENGR 313/3202 - Engineering Analysis and Computation I (3 cr.)
- ENGR 345/3222 - Engineering Economy (3 cr.)
- ENGR 364/3322 - Fundamentals of Thermofluids (3 cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 200/2131 - Discrete Mathematics (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 240/2132 - Linear Algebra (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)
- PHYS 215/2211 - Introduction to Electronics (3 cr.)
- PHYS 222L/2213 - Electronics lab for Computer Scientists & Computer Engineers (1 cr.)

Concentration Requirements (59 credits)

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 230/2301 - Digital Design I (3 cr.)
- CSCE 231/2303 - Computer Organization and Assembly Language Programming (3 cr.)
- CSCE 239L/2302 - Digital Design I Lab (1 cr.)
- CSCE 253/2501 - Fundamentals of Database Systems (3 cr.)
- CSCE 321/3201 - Analysis and Design of Algorithms (3 cr.)
- CSCE 330/3301 - Computer Architecture (3 cr.)
- CSCE 332/3303 - Fundamental Microelectronics (3 cr.)
- CSCE 337/3304 - Digital Design II (3 cr.)
- CSCE 339L/3302 - Computer Architecture Lab (1 cr.)
- CSCE 341/3701 - Software Engineering (3 cr.)

- CSCE 345/3401 - Operating Systems (3 cr.)
- CSCE 363/3611 - Digital Signal Processing (3 cr.)
- CSCE 432/4301 - Embedded Systems (3 cr.)
- CSCE 435/4311 - Wide Area Networks (3 cr.)
- CSCE 438L/4302 - Embedded Systems Lab (1 cr.)
- CSCE 439L/4312 - Wide Area Networks Lab (1 cr.)
- CSCE 445/4411 - Fundamentals of Distributed Systems (3 cr.)
- CSCE 490/4950 - Industrial Training (1 cr.)
- CSCE 491/4980 - Senior Project I (1 cr.)
- CSCE 492/4981 - Senior Project II (2 cr.)
- MGMT 307/3201 - Management Fundamentals (3 cr.)

Concentration Electives (15 credits)

- CSCE 316/3102 - Programming in Java (3 cr.)
- CSCE 317/3103 - Object Oriented Programming (3 cr.)
- CSCE 325/3104 - Concepts of Programming Languages (3 cr.)
- CSCE 422/4201 - Theory of Computing (3 cr.)
- CSCE 427/4602 - Introduction to Artificial Neural Networks (3 cr.)
- CSCE 436L/4314 - Local Area Networks Lab (1 cr.)
- CSCE 437/4313 - Local and Metropolitan Area Networks (3 cr.)
- CSCE 441/4701 - Object-Oriented Analysis and Design (3 cr.)
- CSCE 446/4421 - Computer Security (3 cr.)
- CSCE 447/4101 - Compiler Design (3 cr.)
- CSCE 453/4501 - Database Systems (3 cr.)
- CSCE 455/4621 - Computer Graphics (3 cr.)
- CSCE 456/4502 - Design of Web-based Systems (3 cr.)
- CSCE 465/4601 - Artificial Intelligence (3 cr.)
- CSCE 485/4930 - Selected Topics in Computer Science and Engineering (1-3 cr.)
- CSCE 495/4910 - Guided Studies in Computer Science and Engineering (1-3 cr.)
- ECNG 413/4103 - Testing of Digital Circuits (3 cr.)
- ECNG 494/4930 - Selected Topics in Electronics and Communications Engineering (3 cr.)

General Electives (0-6 credits)

Computer Science (B.S)

Bachelor of Science in Computer Science

The undergraduate program in Computer Science at AUC is accredited by both the American Accreditation Board for Engineering and Technology (ABET) and the Supreme Council of Egyptian Universities.

Program Objectives

The expected accomplishments of graduates of the Bachelor of Science in Computer Science program at the American University in Cairo are as follows.

1. Establish a career path in industry or government to become productive and valued computing professionals within their institutions.
2. Obtain an advanced degree in computing or a related field through successful admission to a reputable graduate program leading to one or more degrees.
3. Contribute ethically and professionally to humanity by becoming innovators, leaders, and lifelong learners in and through successful careers.

Program Learning Outcomes

The program enables students to achieve the following outcomes, by the time of graduation:

- (a) An ability to apply knowledge of computing and mathematics appropriate to the discipline;
- (b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution;
- (c) An ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs;
- (d) An ability to function effectively on teams to accomplish a common goal;
- (e) An understanding of professional, ethical, legal, security, and social issues and responsibilities;
- (f) An ability to communicate effectively with a range of audiences;
- (g) An ability to analyze the local and global impact of computing on individuals, organizations, and society;
- (h) Recognition of the need for, and an ability to engage in continuing professional development;
- (i) An ability to use current techniques, skills, and tools necessary for computing practices;
- (j) An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modelling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices;
- (k) An ability to apply design and development principles in the construction of software systems of varying complexity.

The course of study offers a broad-based intellectual engagement with computing both in theory and practice as well as logic and capabilities. The theoretical ground, abstraction, design as well as the professional practice levels (technical competence, team work, problem solving and communication skills), social and ethical contexts of the discipline of computing are well integrated into the curriculum that the department offers.

The study program is designed to prepare students for a wide variety of careers. The most profound positions that our graduates are well prepared to occupy (or have already been engaged in) may be classified into the following professional disciplines: Software Engineering, Systems Design and Programming, Applications design and programming and Information-Systems design and analysis. The program also prepares students for further studies and research in the computing field.

A total of 132 credits is required for a bachelor's degree in computer science:

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 crs) and the capstone projects CSCE 4980 CSCE 4981 (3 crs).

Computer Science Requirements (60 credits):

a.) Concentration Requirements (42 credits)

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 230/2301 - Digital Design I (3 cr.)
- CSCE 231/2303 - Computer Organization and Assembly Language Programming (3 cr.)
- CSCE 239L/2302 - Digital Design I Lab (1 cr.)
- CSCE 321/3201 - Analysis and Design of Algorithms (3 cr.)
- CSCE 325/3104 - Concepts of Programming Languages (3 cr.)
- CSCE 330/3301 - Computer Architecture (3 cr.)
- CSCE 339L/3302 - Computer Architecture Lab (1 cr.)
- CSCE 341/3701 - Software Engineering (3 cr.)
- CSCE 345/3401 - Operating Systems (3 cr.)
- CSCE 422/4201 - Theory of Computing (3 cr.)
- CSCE 447/4101 - Compiler Design (3 cr.)
- CSCE 490/4950 - Industrial Training (1 cr.)
- CSCE 491/4980 - Senior Project I (1 cr.)
- CSCE 492/4981 - Senior Project II (2 cr.)

b.) Computer Science electives (18 credits)

To be chosen in consultation with the student's advisor from the following (no more than 9 credits can be chosen among the MACT courses):

- CSCE 253/2501 - Fundamentals of Database Systems (3 cr.)
- CSCE 315/3101 - Programming Language (1-2 cr.)
- CSCE 316/3102 - Programming in Java (3 cr.)
- CSCE 317/3103 - Object Oriented Programming (3 cr.)
- CSCE 333/3311 - Data and Computer Communications (3 cr.)
- CSCE 427/4602 - Introduction to Artificial Neural Networks (3 cr.)
- CSCE 432/4301 - Embedded Systems (3 cr.)
- CSCE 435/4311 - Wide Area Networks (3 cr.)
- CSCE 436L/4314 - Local Area Networks Lab (1 cr.)
- CSCE 437/4313 - Local and Metropolitan Area Networks (3 cr.)
- CSCE 438L/4302 - Embedded Systems Lab (1 cr.)
- CSCE 439L/4312 - Wide Area Networks Lab (1 cr.)
- CSCE 441/4701 - Object-Oriented Analysis and Design (3 cr.)
- CSCE 445/4411 - Fundamentals of Distributed Systems (3 cr.)
- CSCE 446/4421 - Computer Security (3 cr.)
- CSCE 448/4702 - Secure Systems Engineering (3 cr.)
- CSCE 453/4501 - Database Systems (3 cr.)
- CSCE 455/4621 - Computer Graphics (3 cr.)
- CSCE 456/4502 - Design of Web-based Systems (3 cr.)
- CSCE 465/4601 - Artificial Intelligence (3 cr.)
- CSCE 485/4930 - Selected Topics in Computer Science and Engineering (1-3 cr.)
- CSCE 495/4910 - Guided Studies in Computer Science and Engineering (1-3 cr.)

- MACT 304/3143 - Numerical Methods (3 cr.)
- MACT 310/3145 - Operations Research (3 cr.)
- MACT 362/3133 - Formal and Mathematical Logic (3 cr.)
- MACT 403/4134 - Modern Algebra (3 cr.)
- MACT 406/4212 - Stochastic Processes (3 cr.)
- MACT 440/4135 - Graph Theory (3 cr.)

Collateral Requirements (30 credits)

- MACT 132/1122 - Calculus II (3 cr.)
- MACT 200/2131 - Discrete Mathematics (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 240/2132 - Linear Algebra (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)
- PHYS 215/2211 - Introduction to Electronics (3 cr.)
- PHYS 222L/2213 - Electronics lab for Computer Scientists & Computer Engineers (1 cr.)

And one of the following courses:

- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 304/3143 - Numerical Methods (3 cr.)
- MACT 310/3145 - Operations Research (3 cr.)
- MACT 406/4212 - Stochastic Processes (3 cr.)
- MACT 440/4135 - Graph Theory (3 cr.)

General Electives (3-15 credits)

Computer Science Minor

A minor in Computer Science provides students from other disciplines with basic knowledge and practice in computing that would enable them to develop simple or advanced applications in their field of study.

A minor in Computer Science is comprised of at least 15 credits. Students must follow the study plan of one of the listed options, according to their majors. Students are required to plan their courses such that not more than six Computer Science credits are taken in one semester.

Options for Minor

Theoretical Aspects in Computer Science:

Recommended for Math major students:

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 321/3201 - Analysis and Design of Algorithms (3 cr.)
- CSCE 422/4201 - Theory of Computing (3 cr.)

Data Base Systems:

Recommended for Business, Economics & Engineering majors students:

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 253/2501 - Fundamentals of Database Systems (3 cr.)
- CSCE 453/4501 - Database Systems (3 cr.)

Computer Systems:

Recommended for Physics, Mechanical & Construction majors students but not permitted for Electronics Engineering major:

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 230/2301 - Digital Design I (3 cr.)
- CSCE 231/2303 - Computer Organization and Assembly Language Programming (3 cr.)
- CSCE 239L/2302 - Digital Design I Lab (1 cr.)

Embedded Systems:

Recommended for Electronics Engineering major students only:

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 345/3401 - Operating Systems (3 cr.)
- CSCE 432/4301 - Embedded Systems (3 cr.)
- CSCE 438L/4302 - Embedded Systems Lab (1 cr.)

Computing (M. Comp.)

Master in Computing (Non Thesis Option)

The Master in computing (M.Comp.) at AUC prepares students for higher level professional practice in local and international markets. The objectives of the program are to provide graduates with:

- A broad knowledge of advanced Computer Science topics
- Creative applications of scientific knowledge in the analysis, design, and implementation of computer systems
- Detailed knowledge of modern computational and experimental methods
- Extensive knowledge in an area of student interest from one of the offered fields of research
- Awareness of the local and global context in which Computer Science is practiced, including industrial and business practices, social needs, and considerations of cultures and ethics
- An ability to solve computational problems, think critically, function well in a team, and communicate effectively
- A high standard of written and oral communication on technical matters

Admission

Admission requirements are the same as those for the thesis-option M.S.

Courses (33 credit hours)

Eleven courses (33 credit hours) are required: Two core courses (6 credit hours), and Nine electives (27 credit hours).

Core Courses (6 credit hours)

All candidates must take Two core courses to be chosen from the following four courses:

- CSCE 525/5221 - Algorithms and Complexity Theory (3 cr.)
- CSCE 530/5231 - Advanced Processor Architecture (3 cr.)
- CSCE 545/5241 - Distributed Systems (3 cr.)
- CSCE 565/5261 - Advanced Artificial Intelligence (3 cr.)

Elective Courses (27 credits)

Nine courses to be chosen from the following courses, two additional courses not taken from the above list could be considered.

- CSCE 527/5262 - Neural Networks and Genetic Algorithms (3 cr.)
- CSCE 529/5222 - Design and Analysis of Parallel Algorithms (3 cr.)
- CSCE 532/5242 - Parallel Computer Architecture (3 cr.)
- CSCE 535/5232 - High Speed Networks (3 cr.)
- CSCE 541/5271 - Advanced Software Engineering (3 cr.)
- CSCE 543/5272 - Advanced Software Quality (3 cr.)
- CSCE 555/5268 - Computer Graphics and Animation (3 cr.)
- CSCE 561/5263 - Knowledge Engineering (3 cr.)
- CSCE 563/5267 - Digital Image Processing (3 cr.)

- CSCE 564/5265 - Web Mining (3 cr.)
- CSCE 567/5266 - Computer Vision (3 cr.)
- CSCE 569/5264 - Natural Language Processing and Machine Translation (3 cr.)
- CSCE 585/5930 - Selected Topics in Computer Science (3 cr.)
- CSCE 591/5980 - Capstone Project in Computing (3 cr.)
- CSCE 642/6231 - Mobile and Pervasive Computing (3 cr.)
- CSCE 664/6261 - Advanced Data Mining (3 cr.)
- CSCE 692/6930 - Advanced Selected Topics in Computer Science (3 cr.)

Computer Science (M.Sc.)

Master of Science

The master of science program in computer science offers students the opportunity to engage in course work, research projects, and other activities designed to develop theoretical background and up-to-date practical skills in the rapidly changing area of Computer Science. The program provides a broad spectrum of study in preparation for careers in advanced computer research areas. The program allows students flexibility in planning their program of study after the initial course requirements are met.

Admission

The program is open to Computer Science graduates and also to selected students whose preparation is outside Computer Science. However, students entering graduate study from outside the computer science area may be required to go through additional preparation before beginning their graduate program. Those students who have some deficiency in their undergraduate training but are well qualified in other aspects may be admitted provisionally. The department may prescribe a number of prerequisite courses to make up for the deficiency.

Courses (24 credit hours)

A minimum of eight courses (24 credit hours) is required: four core courses (12 credit hours), and four electives (12 credit hours).

Core Courses (12 credit hours)

All candidates must take the following four core courses:

- CSCE 525/5221 - Algorithms and Complexity Theory (3 cr.)
- CSCE 530/5231 - Advanced Processor Architecture (3 cr.)
- CSCE 545/5241 - Distributed Systems (3 cr.)
- CSCE 565/5261 - Advanced Artificial Intelligence (3 cr.)

Elective Courses (12 Credit hours)

- CSCE 527/5262 - Neural Networks and Genetic Algorithms (3 cr.)
- CSCE 529/5222 - Design and Analysis of Parallel Algorithms (3 cr.)
- CSCE 532/5242 - Parallel Computer Architecture (3 cr.)
- CSCE 535/5232 - High Speed Networks (3 cr.)

- CSCE 541/5271 - Advanced Software Engineering (3 cr.)
- CSCE 543/5272 - Advanced Software Quality (3 cr.)
- CSCE 555/5268 - Computer Graphics and Animation (3 cr.)
- CSCE 561/5263 - Knowledge Engineering (3 cr.)
- CSCE 563/5267 - Digital Image Processing (3 cr.)
- CSCE 564/5265 - Web Mining (3 cr.)
- CSCE 567/5266 - Computer Vision (3 cr.)
- CSCE 569/5264 - Natural Language Processing and Machine Translation (3 cr.)
- CSCE 585/5930 - Selected Topics in Computer Science (3 cr.)
- CSCE 642/6231 - Mobile and Pervasive Computing (3 cr.)
- CSCE 664/6261 - Advanced Data Mining (3 cr.)
- CSCE 692/6930 - Advanced Selected Topics in Computer Science (3 cr.)

Thesis (8 Credit hours)

The graduate thesis work is an important and required part of the master's degree program. Each student must submit a thesis topic that has been approved by a faculty supervisor, normally after 12 credit hours. Various research topics are discussed in the seminar courses. The student must register in the first seminar course before submitting a thesis topic and once during the execution of the thesis research. To ensure adequate faculty consultation on the thesis, the student must register for the graduate thesis for at least two semesters.

The Computer Science seminar is a two-semester course (1 credit hour per semester) designed to prepare students for research in Computer Science. The seminar must be taken by all students. The first seminar will help the student select a topic for his/her thesis and must be taken before submitting a thesis topic. In the second seminar, the student will present a report on his/her thesis progress.

Example of a Program Completion Plan:

Semester 1: 3 graduate courses
Semester 2: 3 graduate courses + seminar P1
Semester 3: 2 graduate courses + Thesis
Semester 4: Thesis + seminar P2

Computer Science (Graduate Diploma)

Admission

Admission requirements are the same as those for the M.Sc.

Courses (18 credit hours)

Course work for the diploma in Computer Science is directed at providing the student with background in subjects relevant to the designated Computer Science discipline.

Total Requirements

A total of six 500-level CSCE courses (18 credit hours) is required for the diploma.

Notes:

The courses which have been successfully completed in the diploma program can be considered as part of the master's degree requirements for students who are admitted to the master's degree studies. The diploma may be completed in one academic year; no thesis is required.

Department of Construction and Architectural Engineering

Department of Construction and Architectural Engineering School of Sciences and Engineering

Professors: M. Abou Zeid (CANG Chair), A. Ezeldin, E. Fahmy, A. Hassanein, E. Imam, S. Khedr, A. Sherif, N. Sherif (Associate Chair), H. Sewilam

Research Associate Professor: O. Hosny

Associate Professors: M. Moustafa, K. Nassar, S. Safar

Assistant Professors: S. El Baradei, A. Waly

The Department of Construction and Architectural Engineering offers two undergraduate degrees: The Bachelor of Science in Construction Engineering and the Bachelor of Science in Architectural Engineering.

Mission

The mission of the Department of Construction and Architectural Engineering is to provide a high quality engineering education within a liberal arts context to students from Egypt as well as from other countries. The aim is to produce generations of construction engineers and architects who will be leaders in their profession. The pursuit of excellence is central to the department's mission, maintaining high standards of academic achievement, professional behavior, and ethical conduct.

Students are educated to acquire an appreciation of their responsibilities to society, and to prepare themselves for successful careers and leadership. The program provides an environment in which students develop their critical thinking capabilities, problem solving skills, creative potential, communication skills in English, and proficiency in the tools of learning.

Architectural Engineering (B.S.)

Bachelor of Science in Architectural Engineering

Architecture is at a "cross roads" between human/cultural values and the technical capabilities of construction. Moreover, digital technology is rapidly growing, changing our ways of communication, expression, perception, thought and interaction.

The goal of the Bachelor of Science in Architectural Engineering Program is to graduate architects who can lead the architectural profession in Egypt and the Middle-East into the digital age with an understanding of context as means of respecting local heritage. The program promotes the implementation of the latest advances in Information and Communication Technology (ICT), stresses the rich local and historical context, and incorporates construction engineering and professional contents which respond to the needs of the industry. It also embraces the liberal arts

approach to education through its multidisciplinary nature. Thus, the program will contribute positively to the well needed human development efforts in Egypt.

It is the aim to form an architect with a comprehensive vision, capable of integrating all the aspects dealing with the built environment and how it is planned, designed, used, furnished, landscaped, maintained, and appreciated by the society. This is emphasized through a curriculum that maintains a reasonable balance between utilization of the emerging digital design methods and pedagogies, meeting the professional demands, and creating contextual-humanistic and sustainable awareness.

The specific objective of the Architectural Engineering Program is to educate students in the fundamentals of the science and design of architecture with particular emphasis on developing skills of innovation, creativity and critical thinking in the design of the built environment. This is accomplished through research-based studio pedagogy, digital aided design, history, arts and the realization of users requirements within the constraints of the society. In the process, students learn to effectively work independently and collaboratively, develop analytical skills, and consider the impact of architectural solutions on both Egyptian society and the evolving global community.

Graduates of the Architectural Engineering Program will be well equipped to work in the international-level segment of the construction industry. They will become excellent candidates for the local and international architectural design firms. They can effectively work for construction contractors in aspects related to architecture and building integration. Graduates of the program will be qualified for professional licensing in architecture in Egypt and the USA. Furthermore, they will be prepared to pursue graduate studies in architecture and related fields in Egypt and abroad.

The architectural engineering program acquired the UNESCO-UIA Validation from the International Union of Architects (UIA). It is the label of excellence in architectural education of the UIA, which encompasses key professional organizations of architects in countries and territories all over the world. Graduates of UNESCO-UIA validated architectural programs are eligible to register as professional architects in many countries around the world, after passing the required licensure process. The degree of Bachelor of Science in Architectural Engineering at AUC is also acknowledged by the Egyptian Supreme Council of Universities as equivalent to Egyptian Architectural Engineering degrees. Accordingly, graduates of the program are entitled to professional licensure by the Egyptian Syndicate of Engineers, the sole authority for licensing the practice of architecture in Egypt.

Students are admitted to the Architectural Engineering Program either upon admission to AUC or after successful completion of criteria courses. High school students with mathematics/science background are accepted depending on their High School grades and the available quota in the program. Undeclared and transfer students are admitted to the program upon completing criteria courses. Those students are accepted based on their GPA and on available quota in the department.

Students who are admitted to the program have to demonstrate their visualization, graphic communication and creative potential. They must achieve a minimum grade of B- in each of the three courses listed below before taking any other courses in the major.

- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)

- AENG 273/1521 - Digital Representation Tools for Architects (2 cr.)
- AENG 250/2512 - Foundations of 3-Dimensional Design (3 cr.)

Students should consult the course listings and their faculty advisor on a regular basis to ensure that prerequisites for engineering core, concentration and elective courses are met. A model course plan for the major is provided in the office of the Department of Construction and Architectural Engineering.

A total of 162 credits is required for the bachelor of science degree in Architectural Engineering. Core Curriculum (33 credits), Engineering core requirements (26 credits), Concentration requirements (94 credits), concentration electives (three credits), and general electives (zero-six credits)

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the capstone Senior Projects I and II (AENG 4980 (2 credits) and AENG 4981) (5 credits).

Engineering Core Requirements (26 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- ENGR 101/1001 - Introduction to Engineering (1 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)
- ENGR 229/2112 - Strength and Testing of Materials (4 cr.)
- ENGR 345/3222 - Engineering Economy (3 cr.)
- MACT 131/1121 - Calculus I (3cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)

Concentration Requirements (94 credits)

Visual Communication and Basic Design:

- AENG 221/1511 - Free-hand Representation for Architects (3 cr.)
- AENG 273/1521 - Digital Representation Tools for Architects (2 cr.)
- AENG 250/2512 - Foundations of 3-Dimensional Design (3 cr.)
- AENG 251/2551 - Introduction to Architectural Design (3 cr.)

Architecture, Urban Planning and Interior Design:

- AENG 268/2411 - Surveying for Architects (1 cr.)
- AENG 351/2552 - Architectural Design Studio I (4 cr.)
- AENG 473/3522 - Digital Design Studio and Workshop (3 cr.)
- AENG 368/3531 - Housing Design and Geographic Information Systems (3 cr.)
- AENG 352/3553 - Architectural Design Studio II (4 cr.)
- AENG 453/3554 - Architectural Design Studio III (4 cr.)
- AENG 468/4532 - Urban Design and Landscape Architecture (3 cr.)
- AENG 420/4541 - Design of Interior Spaces (3 cr.)
- AENG 454/4555 - Architectural Design Studio IV (4 cr.)
- AENG 455/4556 - Architectural Design Studio V (4 cr.)
- AENG 456/4557 - Architectural Design Studio VI (4 cr.)
- AENG 490/4980 - Senior Project I (2 cr.)
- AENG 491/4981 - Senior Project II (5 cr.)

History and Humanities and Allied Design Courses:

- AENG 234/2221 - Human Aspects in Architectural Design (3 cr.)
- ARIC 205/2205 - The World of Islamic Architecture, from the Beginnings to the Present Day (3 cr.)
- EGPT 203/2030 - Introduction to Egyptian Architecture (3 cr.)
- AENG 314/2211 - History and Philosophy of Modern and Contemporary Architecture (3 cr.)
- AENG 326/2231 - Environmental Control Systems and Sustainable Design (3 cr.)
- AENG 428/3311 - Detail Design and Finishes in Buildings (3 cr.)
- AENG 429/4312 - Design Development and Construction Documents (3 cr.)
- AENG 441/4421 - Professional Practice, Design Management and Codes (2 cr.)

Construction Engineering and Management:

- AENG 426/3321 - Building Service Systems and Building Systems Integration (3 cr.)
- AENG 323/3331 - Construction Materials and Quality Control (3 cr.)
- AENG 496/3950 - Internship in Construction Projects (0 cr.)
- AENG 497/4951 - Internship in Technical Drawing and Design (1 cr.)
- CENG 302/3112 - Structural Analysis and Design Principles for Architects (3 cr.)
- CENG 305/3151 - Structural Design for Architects I (3 cr.)
- CENG 306/3152 - Structural Design for Architects II (3 cr.)
- CENG 423/4252 - Methods and Equipment for Construction I (3 cr.)
- CENG 441/4410 - Introduction to Construction Management and Cost Estimating (3 cr.)

Concentration Electives (3 credits)

Students should take one course from the following:

- AENG 494/4930 - Selected Topics in Architectural Engineering (3 cr.)
- ARIC 270-271/2270-2271 - From Andalusia to Indonesia: Introduction to Islamic Art and Architecture (3 cr. per semester)
- ARIC 371-372/3271-3272 - Islamic Architecture in Egypt and Syria (3 cr. per semester)
- ARIC 467/5124 - Islamic Architecture in Spain and North Africa (3 cr.)
- CENG 428/4157 - Tall Buildings and Large Span Structures (3 cr.)
- CENG 442/4420 - Construction Project Specifications, Bids, and Contracts (3 cr.)
- CENG 446/4440 - Techniques of Planning, Scheduling and Control (3 cr.)
- CENG 447/4450 - Design, Modeling and Simulation of Construction Systems (3 cr.)
- CENG 452/4158 - Structural Systems and Advanced Design (3 cr.)
- CENG 494/4911 - Selected Topics in Construction Engineering (3 cr.)
- EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)
- EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)
- PHIL 310/3010 - Philosophy and Art (3 cr.)

General Electives (0-6 credits):

Students may take elective courses of their selection to satisfy total program requirement of 162 credit hours.

Construction Engineering, with concentrations in Construction Materials and Structures, Construction Management and Technology, and Environmental Engineering (B.S.)

Bachelor of Science in Construction Engineering

The construction industry is the largest industry in Egypt and much of the world. Construction engineering is a relatively new field that is designed to foster technological advances in the industry, to utilize modern design techniques, and to develop means to improve production, products, components and subsystems, and distribution and utilization of equipment. Construction engineering covers the basic civil engineering components such as structures, geotechnical, water resources, transportation, and environmental engineering. In addition, it covers, in detail, methods for the modeling of construction projects, numerical simulations, the evaluation of various construction strategies, and construction quality control. It deals with organizational planning, financial and human resources management, productivity measurement, accounting, information systems, strategy and policy formation, contracting, and construction law.

The specific objectives of the Construction Engineering Program are to: educate students in fundamentals of science and engineering with emphasis on construction engineering applications; introduce students to a broad spectrum of construction engineering topics, with concentration in an area of their choice, to plan for construction operations and to fit in construction organizations; prepare students to cope with and improve on the ever evolving technologies in production, products, and components of the construction industry; train students to communicate effectively, work independently and in teams, and fit in a multi-discipline environment; inspire students to recognize and consider the impact of engineering solutions in a global and societal context with the ability to understand and be sensitive to other cultures; motivate students to engage in life-long learning and develop their ability to pursue graduate studies; develop students who are creative, possess qualities of leadership, and are committed to professional and ethical conduct.

Students have the choice of one of three concentration areas within construction engineering. These are: 1) Construction Materials and Structures; 2) Construction Management and Technology; and 3) Environmental Engineering. The Construction Materials and Structures concentration provides students with the ability to integrate advances in construction materials with advanced knowledge in structural design and mechanics. The Construction Management and Technology concentration provides students with the tools that would enable them to become effective construction managers, through gaining a deeper appreciation of the technology and management aspects involved, and a greater exposure to the various facets of the industry. The Environmental Engineering concentration better equips students for involvement in civil infrastructure projects, and enables them to contribute to consulting practice in environmental and water resources engineering. To complete a concentration, students must complete two (2) required courses and one elective course in their chosen concentration area, in addition to an elective within the field of construction engineering, and carry out the graduation thesis in their chosen concentration. The concentration shall be indicated in the students' Diploma.

The Bachelor of Science in Construction Engineering degree is accredited by both the American Accreditation Board for Engineering and Technology (ABET) and the Supreme Council of Egyptian Universities.

Students are admitted to the Construction Engineering Program either upon admission to AUC or after successful completion of criteria courses. High school students with mathematics/science background are accepted depending on their High School grades and the available quota in the Construction Engineering Program. Undeclared and transfer students are admitted to the program upon completing criteria courses in sciences. Students are accepted based on their GPA and on available quota in the department.

Students should consult the course listings and their faculty advisor on a regular basis to ensure that prerequisites for engineering core, concentration and elective courses are met. A model course plan for the major is provided in the

office of the Department of Construction and Architectural Engineering.

A total of 162 credits is required for the Bachelor of Science Degree in Construction Engineering:

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 credits), and the capstone Senior Projects I and II (CENG 4980 and CENG 4981) (3 credits).

Engineering Core Requirements (52 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- ENGR 101/1001 - Introduction to Engineering (1 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)
- ENGR 214/2104 - Engineering Mechanics II (Dynamics) (3 cr.)
- ENGR 229/2112 - Strength and Testing of Materials (4 cr.)
- ENGR 261/2122 - Fundamentals of Fluid Mechanics (3 cr.)
- ENGR 313/3202 - Engineering Analysis and Computation I (3 cr.)
- ENGR 318/3212 - General Electrical Engineering (3 cr.)
- ENGR 345/3222 - Engineering Economy (3 cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)

Concentration Requirements (62 credits)

- AENG 321/3562 - Introduction to Architectural Engineering (3 cr.)
- CENG 215/2251 - Drawing for Construction Engineering and Architecture (1 cr.)
- CENG 280/2311 - Construction Surveying (3 cr.)
- CENG 301/3111 - Structural Analysis (4 cr.)
- CENG 307/3153 - Structural Design (4 cr.)
- CENG 311/3511 - Fundamentals of Hydraulic Engineering (3 cr.)
- CENG 323/3211 - Construction Materials and Quality Control I (4 cr.)
- CENG 325/3010 - Mechanical Engineering in Construction (2 cr.)
- CENG 331/3312 - Geology for Engineers (2 cr.)
- CENG 411/4313 - Soil Mechanics (3 cr.)
- CENG 423/4252 - Methods and Equipment for Construction I (3 cr.)
- CENG 424/4253 - Methods and Equipment for Construction II (2 cr.)
- CENG 431/4351 - Transportation Engineering (3 cr.)

- CENG 441/4410 - Introduction to Construction Management and Cost Estimating (3 cr.)
- CENG 442/4420 - Construction Project Specifications, Bids, and Contracts (3 cr.)
- CENG 446/4440 - Techniques of Planning, Scheduling and Control (3 cr.)
- CENG 448/4460 - Financial Management and Accounting for Construction (3 cr.)
- CENG 452/4158 - Structural Systems and Advanced Design (3 cr.)
- CENG 461/4314 - Design and Construction of Foundations and Retaining Structures (3 cr.)
- CENG 471/4551 - Environmental and Sanitary Engineering (3 cr.)
- CENG 490/4980 - Senior Project I (1 cr.)
- CENG 491/4981 - Senior Project II (2 cr.)
- CENG 497/4951 - Practical Training (1 cr.)

Concentration Electives (12 credits):

To complete the requirements of any of the three concentrations, students must complete a set of four courses comprise the following:

- Two concentration core course from the intended area of concentration (Group A) (6 cr.)
- One elective course from a set of courses relevant to the concentration (Group B) (3 cr.)
- One elective course from the elective courses offered by the Department (3cr.)

Student should also carry out the Senior Graduation Project in their selected concentration subfield.

Construction Materials and Structural Concentrations

Group A:

- CENG 453/4212 - Construction Materials and Quality Control II (3 cr.)
- CENG 454/4113 - Structural Mechanics (3 cr.)

Group B:

- CENG 426/4155 - Steel and Concrete Bridges (3 cr.)
- CENG 427/4156 - Prefabricated, Water and Prestressed Concrete Structures (3 cr.)
- CENG 428/4157 - Tall Buildings and Large Span Structures (3 cr.)
- CENG 462/4315 - Applications in Geotechnical Engineering (3 cr.)
- CENG 494/4911 - Selected Topics in Construction Engineering (3 cr.)

Any Materials and Structural related graduate course open for undergraduate.

Construction Management and Technology

Group A:

- CENG 444/4430 - Risk Management and Bidding Strategies (3 cr.)
- CENG 447/4450 - Design, Modeling and Simulation of Construction Systems (3 cr.)

Group B:

- AENG 428/3311 - Detail Design and Finishes in Buildings (3 cr.)
- CENG 449/4470 - Contract Administration (3 cr.)
- CENG 474/4554 - Computer-aided design and construction of environmental and sanitary systems (3 cr.)
- CENG 494/4911 - Selected Topics in Construction Engineering (3 cr.)

Environmental Engineering:

Group A:

- CENG 472/4552 - Design of Water Resources Systems (3 cr.)
- CENG 473/4553 - Unit Operations in Environmental Engineering (3 cr.)

Group B:

- CENG 474/4554 - Computer-aided design and construction of environmental and sanitary systems (3 cr.)
- CENG 475/4555 - Solid and Hazardous Wastes Engineering (3 cr.)
- CENG 494/4911 - Selected Topics in Construction Engineering (3 cr.)

Science Elective (3 credits)

Students should take a science elective course of total 3 credits selected from a set of courses accepted by the department

General Electives (0-6 credits):

Students may take courses of their selection to satisfy program requirement of 162 credit hours.

Dual Degree Option BSc/CENG-MPA

Students enrolled in the School of Science and Engineering may apply to complete the MPA on an accelerated basis in conjunction with completion of the BSc. in engineering. At present, this option is open only to students completing the BSc. in Construction Engineering. Students interested in this option should consult with their advisors during the Fall of their fourth year for potential admission to the program in their fifth year. Those interested in this option are required to complete a summer work assignment for Fall practicum in their fifth year. The program is jointly administered by the Department of Public Policy and Administration in the School of Public Affairs and the School of Sciences and Engineering. Admission is based on the recommendation of the student's SSE advisor and review by the PPAD department. The program prepares students for careers in public service with the highest ethical standards, strong competencies in environmental analysis and management as well as public governance, excellent leadership and communication skills, a sound understanding of the use of evidence and analysis in public service settings, and a commitment to building a better future for the people of Egypt and the region. Students pursue careers in government, nonprofit organizations, international development agencies, academia, and the private sector.

Students electing the dual degree option begin taking graduate courses in their ninth semester and receive both the BSc. and the MPA upon the completion of their coursework and master's thesis, normally at the end of their 6th year. The following course sequence has been developed for this option, but students should consult their advisor in CENG to ensure that all SSE requirements are met:

SEMESTER IX

- CENG 424/4253 - Methods and Equipment for Construction II (2 cr.)
- Eng. Concentration 1 elective
- CENG 448/4460 - Financial Management and Accounting for Construction (3 cr.) (MPA credit)
- CENG Elective (1)
- CENG 431/4351 - Transportation Engineering (3 cr.)
- CENG 490/4980 - Senior Project I (1 cr.) (Capstone Core Level I)
- CENG 497/4951 - Practical Training (1 cr.) (Practicum)

SEMESTER X

- Engineering Concentration 2
- CENG 567/5243 - Construction Leadership and Management Skills (3 cr.)
- CENG 491/4981 - Senior Project II (2 cr.) (Capstone Core Level II)
- PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.) (MPA credit)
- PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.) (MPA credit)
- Science elective (from MDP list)
- Summer internship – public/NGO management focus preferred (MPA credit through 5198)

SEMESTER XI

- PPAD 591/5198 - Practicum (3 cr.) (Capstone Level II) (MPA Credit)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.) (MPA Credit)
- PPAD Elective selected with MPA advisor (MPA Credit)
- Science elective (selected with PPAD advisor)
- PPAD 598/5298 - Research Seminar (0 cr.) (MPA Credit)

SEMESTER XII

- PPAD 514/5224 - Human Resource Management for Government and Nonprofit Organizations (3 cr.) (MPA Credit)
- PPAD 516/5132 - Social and Environmental Policy (3 cr.) (MPA Credit)
- PPAD 517/5126 - Non-profit Management (3 cr.) (MPA Credit)
- PPAD 599/5299 - Research Guidance (0 cr.) (MPA Credit)

Summer thesis work, if needed.

Lists of MDP-relevant courses will be provided to students in the program prior to registration for each semester, based on offerings available in the appropriate departments

Architectural Design Minor

The minor in Architectural Design provides students with an understanding of the underlying principles of architectural design. It serves students in all majors. It is especially useful for students interested in pursuing careers in the development, finance, construction and/or promotion of building related activities. It is also important for other students with social, cultural, and art backgrounds, who are interested in the respective aspects of the built environment. Construction engineering students will also benefit from the minor by becoming better qualified in the challenging activities of the construction industry.

Students from any discipline may apply for the Minor. A limited number will be accepted every semester. Students are accepted based on their GPA and on available quota in the department. The following requirements must be satisfied for joining and continuing in the minor:

- Students with a minimum GPA of 3.0 are accepted based on available quota in the department.

- A minimum grade of "B" in the basic architectural design courses (ENGR 1005 , AENG 2551 and AENG 1521) to continue in the minor.

The Minor requires completion of 17 credit hours. These are:

Basic Architectural Design Requirement (7 cr. hours):

All of the following courses:

- AENG 251/2551 - Introduction to Architectural Design (3 cr.)
- AENG 273/1521 - Digital Representation Tools for Architects (2 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)

Background Humanities and Fine Arts Elective Requirement (3 cr. hours):

One of the following courses:

- AENG 222/1561 - Architecture: Art or Engineering (3 cr.)
- ARIC 270-271/2270-2271 - From Andalusia to Indonesia: Introduction to Islamic Art and Architecture (3 cr. per semester)
- EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)
- EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)

Main Architectural Design Requirement (7 cr. hours)

All of the following courses:

- AENG 351/2552 - Architectural Design Studio I (4 cr.)
- AENG 420/4541 - Design of Interior Spaces (3 cr.)

Notes:

Construction Engineering students may not count the main architectural design courses (AENG 2552 & AENG 4541) for both the Construction Engineering Major and the Architectural Design Minor.

Construction Engineering (M.Eng.)

The Master of Engineering Degree in Construction Engineering prepares graduate students for higher-level professional practice in local and international markets, whether in consulting practice, industry, or government. It is intended for construction engineers who wish to master the practice in their field of specialty

Program Objectives

- Detailed knowledge in management, systems, design and materials in construction engineering.
- Extensive knowledge in an area of student interest from one of the fields involved in construction engineering.
- Awareness of the local and global context in which construction engineering is practiced, including economic and business practices, societal needs, and considerations of public health, safety, environment, culture and ethics.
- An ability to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively.
- A high standard of written and oral communication on technical matters.

Admission

Admission requirements are the same as those for the Master of Science Program.

Courses (33 credit hours)

Course work for the Master of Engineering degree requires the completion of a minimum of 33 credit hours as follows:

I- Construction Engineering Core (21 credit hours)

Students must complete 21 credits in graduate construction engineering courses.

II- Elective Courses (12 credit hours)

Students may elect to take four courses (12 credits). A minimum of two courses must be taken from offerings in engineering disciplines (including ENGR). No more than one 400-level course, not in the student's undergraduate major may be taken for graduate credit, subject to approval of the advisor.

Construction Engineering (M.Sc.)

The Master of Science program in Construction Engineering is administered by the Construction and Architectural Engineering Department. The Program offers high quality education that prepares students for advanced academic, research and professional careers in construction management & systems and structural engineering & construction materials.

Program Objectives

The objectives of the Master of Science in Construction Engineering are to provide the graduates of the program with:

- A broad knowledge of modern computational and experimental methods in engineering.
- Extensive knowledge in construction management & systems and in structural engineering & construction materials
- In-depth understanding of the research techniques and data analysis in construction engineering

- An ability to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively
- A high standard of written and oral communication on technical matters

Admission

A candidate for the master's program in Construction Engineering must have a B.Sc. degree in civil, construction or architectural engineering. Students who have some deficiency in their undergraduate training but are well-qualified in other respects may be admitted provisionally. The Department of Construction and Architectural Engineering may prescribe a program of noncredit work to make up for the deficiency.

Courses (24 credit hours)

A minimum of eight courses (24 credit hours) is required. The courses are selected from the following categories:

I- Core Courses (6 credit hours)

All students select two out of the following four **ENGR core** courses:

- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)

II- Concentration Courses (12 credit hours)

Students should select a minimum of four courses from any of the courses of the following subfields in Construction Engineering:

Construction Management and Systems

- CENG 570/5244 - Advanced Construction Management (3 cr.)
- CENG 571/5225 - Advanced Systems Analysis for Construction Engineering (3 cr.)
- CENG 572/5245 - Claims and Disputes in the Construction Industry (3 cr.)
- CENG 574/5226 - Methods and Equipment for Construction (3 cr.)
- CENG 575/5246 - Techniques of Planning, Scheduling and Control (3 cr.)
- CENG 576/5227 - Advanced Systems for Construction (3 cr.)
- CENG 578/5247 - Resource Management for Construction Projects (3 cr.)
- CENG 565/5241 - Infrastructure Asset Management (3 cr.)
- CENG 566/5242 - Simulation Applications in Construction (3 cr.)

Structural Engineering and Construction Materials

- CENG 573/5220 - Advanced Construction and Building Materials (3 cr.)
- CENG 577/5210 - The Finite Element Method in Structural Engineering (3 cr.)
- CENG 579/5121 - Assessment, Protection and Repair of Structures (3 cr.)

III- Elective Courses (6 credit hours)

A minimum of two courses are selected as electives. The courses are selected from a set of graduate courses in engineering, physical sciences, social sciences, management and other related graduate level courses subject to advisor and chair's approval. No more than one 400-level course in engineering, computer science and other related areas, not in the student's undergraduate major, may be taken for graduate credit subject to advisor and chair's approval.

A minimum of one course must be selected from the concentration courses in Construction Engineering

- CENG 592/5292 - Advanced Topics in Construction Engineering (3 cr.)

May include:

- Geotechnical Engineering
- Construction Technology Analysis and Development
- Advanced Structural Design and Construction

Thesis

Graduate thesis work is an important and required part of the Construction Engineering Master of Science degree program. Each student must submit a thesis topic that has been approved by a faculty advisor by the end of the first academic year. Various research topics are discussed in ENGR 5940 and ENGR 5941, Graduate Thesis Seminar I and II. Students must register in ENGR 5940 before submitting a thesis topic and in ENGR 5941 during execution of the thesis research to present their thesis plan. To ensure adequate faculty consultation on the thesis, the student must register for CENG 5290, Graduate Thesis, by the completion of 18 credit hours. Students must register in CENG 5290 for at least two semesters. The first two registrations in CENG 5290 must be for three credit hours, after that CENG 5290 is taken for one credit hour each semester until completion of the program requirements.

Department of Electronics and Communications Engineering

The name of the Electronics Engineering department has been changed to be the Electronics and Communications Engineering department. This change is effective starting Spring 2014. All degrees offered by the department will reflect the new name starting Spring 2014, and all transcripts issued for students graduating Spring 2014 onwards will bear the new name.

Professors: H. Amer, Y. Ismail

Associate Professors: S. Abdel Azeem, A. Abou-Auf, M. Anis, A. Darwish, A. Elezabi (Chair), Y. Gadallah

Assistant Professor: K. Seddik

Since the discovery of the electron in 1897, and the invention of the transistor in 1947, Electronics and Communications Engineering has continued to experience tremendous growth that has greatly impacted our lives. The present "information age," which features electronic data storage, retrieval, manipulation, and high-speed computing and communications, is based on high-density microelectronic (and soon nanoelectronic) solid-state integrated circuits.

Revolution in wireless and optical communications technologies also necessitates fundamental understanding of the generation, propagation, and detection of the electromagnetic waves.

Mission

The goal of the Electronics and Communications Engineering program at AUC is to provide students with the highest quality education. The Electronics and Communications Engineering curriculum is designed to strike a balance between theoretical and laboratory experience and to impart fundamental and practical understanding of the principles required for a successful career in electronics and communications engineering. ECNG graduates will be prepared for a career in Egypt or abroad.

Electronics and Communications Engineering (B.S)

Bachelor of Science

To achieve the mission of Electronics and Communications Engineering requires a solid core of foundation courses in physics, mathematics, computer science and general engineering, which is also essential for life-long learning. Concentration courses in Electronics and Communications Engineering (that integrate theory and laboratory wherever possible) cover electromagnetics, circuits, electronics, digital design and communications. Courses in electric machinery, classical control, computer systems, the capstone senior thesis and industrial internship are also required. State-of-the-art electronics engineering elective courses provide seniors and advanced undergraduates the opportunity to develop a thrust in advanced electronics, communication systems and computers.

Electronics and Communications Engineering accepts high school students with science/mathematics background. Undeclared students may also be accepted to the program when they finish criteria courses set by the department. Admission to the program is supervised by the department and depends on available places and student's performance record.

A total of 162 credits are required for the bachelor's degree in Electronics and Communications Engineering:

Core Curriculum Requirements (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 crs) and the capstone projects ECNG 4980 and ECNG 4981 (3 crs)

Engineering Core Requirements (57 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- ENGR 101/1001 - Introduction to Engineering (1 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)
- ENGR 214/2104 - Engineering Mechanics II (Dynamics) (3 cr.)
- ENGR 313/3202 - Engineering Analysis and Computation I (3 cr.)
- ENGR 345/3222 - Engineering Economy (3 cr.)
- ENGR 364/3322 - Fundamentals of Thermofluids (3 cr.)

- MACT 132/1122 - Calculus II (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 232/2124 - Calculus IV (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)
- MGMT 307/3201 - Management Fundamentals (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)
- PHYS 214/2221 - Waves and Optics (3 cr.)

Concentration Requirements (54 credits)

(ECNG 4980 and ECNG 4981 are counted within the university core)

- ECNG 210/2101 - Digital Logic Design (3 cr.)
- ECNG 215/2105 - Circuit Analysis I (3 cr.)
- ECNG 216/2106 - Circuit Analysis II (3 cr.)
- ECNG 218L/2108L - Digital Logic Design Lab (1 cr.)
- ECNG 219L/2109L - Circuit Analysis Lab (1 cr.)
- ECNG 315/3105 - Electronics I: Basic Electronic Devices & Circuits (3 cr.)
- ECNG 316/3106 - Electronics II: Analog Circuits (3 cr.)
- ECNG 318/3108 - VLSI Design (3 cr.)
- ECNG 319L/3109L - Electronics Lab (1 cr.)
- ECNG 320/3201 - Signals and Systems (3 cr.)
- ECNG 321/3202 - Automatic Control Systems (3 cr.)
- ECNG 341/3401 - Electromagnetic Theory (3 cr.)
- ECNG 352/3502 - Computer Organization and Assembly Language Programming (3 cr.)
- ECNG 360/3601 - Power and Machines (3 cr.)
- ECNG 420/4301 - Fundamentals of Communications I (3 cr.)
- ECNG 421/4302 - Fundamentals of Communications II (3 cr.)
- ECNG 432/4306 - Computer Communication Networks (3 cr.)
- ECNG 439L/4314L - Communications Lab (1 cr.)
- ECNG 442/4402 - Electromagnetic Waves (3 cr.)
- ECNG 453/4503 - Microcontroller System Design (3 cr.)
- ECNG 459L/4509L - Microcontroller System Design Lab (1 cr.)
- ECNG 490/4980 - Senior Project I (1 cr.)
- ECNG 491/4981 - Senior Project II (2 cr.)
The credit hours in ECNG 490/491 are not counted among the concentration credit hour requirements as they are counted in the core curriculum credit hour requirements
- ECNG 497/4950 - Industrial Internship (1 cr.)

Concentration Electives (12 credits)

- ECNG 404L/4304L - Photonics and Optical Communication Laboratory (1 cr.)
- ECNG 410/4101 - Solid-State Devices (3 cr.)

- ECNG 413/4103 - Testing of Digital Circuits (3 cr.)
- ECNG 414/4104 - High Level Digital ASIC Design Using CAD (3 cr.)
- ECNG 415/4105 - Integrated Circuit Fabrication: Materials and Processes (3 cr.)
- ECNG 416/4106 - Advanced ASIC Design (3 cr.)
- ECNG 433/4308 - Telecommunications Systems (3 cr.)
- ECNG 434/4310 - Optical Communication Systems (3 cr.)
- ECNG 436/4312 - Mobile Communication Systems (3 cr.)
- ECNG 447/4407 - Microwave Systems (3 cr.)
- ECNG 455/4505 - Computer Architecture (3 cr.)
- ECNG 456/4506 - Industrial control systems (3 cr.)
- ECNG 458L/4508L - Computer Architecture Lab (1 cr.)
- ECNG 480/4920 - Special Problems in Electronics and Communications Engineering (1-3 cr.)
- ECNG 494/4930 - Selected Topics in Electronics and Communications Engineering (3 cr.)

General Electives (0-9 credits)

Electronics Minor

The Electronics Minor is coordinated by the Electronics and Communications Engineering department (ECNG).

The aim of the minor in electronics is to provide students typically majoring in physics, chemistry, computer science, mathematics, and engineering with a working knowledge of electronics. The hands-on laboratory instruction emphasized in the minor enables scientists and engineers to optimize their use of electronic equipment. The Electronics Minor cannot be taken by students majoring in ECNG.

Requirements 17 credit hours of electronics minor should cover:

- PHYS 215/2211 - Introduction to Electronics (3 cr.)
- PHYS 221L/2212 - Electronics Laboratory (2 cr.)
- ECNG 218L/2108L - Digital Logic Design Lab (1 cr.)
- ECNG 210/2101 - Digital Logic Design (3 cr.)

A minimum of 8 credits selected from the following:

- CSCE 330/3301 - Computer Architecture (3 cr.)
- CSCE 339L/3302 - Computer Architecture Lab (1 cr.)
- ECNG 321/3202 - Automatic Control Systems (3 cr.)
- ECNG 413/4103 - Testing of Digital Circuits (3 cr.)
- PHYS 323L/4234 - Semiconductor Technology Lab (2 cr.)
- PHYS 404L/4225 - Photonics and Optical Communication Laboratory (1 cr.)
- PHYS 414/4224 - Photonics (3 cr.)
- PHYS 415/4930 - Selected Topics in Physics (3 cr.)

Electronics and Communications Engineering (M. Eng.)

The name of the Electronics Engineering department has been changed to be the Electronics and Communications Engineering department. This change is effective starting Spring 2014. All degrees offered by the department will reflect the new name starting Spring 2014, and all transcripts issued for students graduating Spring 2014 onwards will bear the new name.

The Master of Engineering Degree in Electronics and Communications Engineering prepares students for higher level professional practice in local and international markets, whether in private consulting practice, industry, or government activities. It is intended for electronics engineers who wish to master the practice in their field of specialty.

1. Program Objectives

The objectives of the Master of Engineering Degree in Electronics and Communications Engineering are to provide the graduates of the program with:

- Detailed knowledge in product, systems, design and materials in electronics engineering.
- Extensive knowledge in an area of student interest from one of the fields involved in electronics engineering.
- Awareness of the local and global context in which electronics engineering is practiced, including economic and business practices, societal needs, and considerations of public health, safety, environment, culture and ethics.
- An ability to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively.
- A high standard of written and oral communication on technical matters.

2. Admission

Admission requirements are the same as those for the Master of Science Program.

3. Courses (33 Credit hours)

A minimum of 11 courses is required. The courses are selected from the following categories.

Core Courses (3 credit hours)

All students select one out of the following four ENGR core courses:

- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)

Concentration Courses (30 credit hours)**

Candidates must select at least eight courses out of the following ECNG course list:

- ECNG 510/5210 - Advanced Solid-State Devices (3 cr.)
- ECNG 516/5216 - Analog Integrated Circuit Design (3 cr.)
- ECNG 517/5217 - Digital Integrated Circuit Design (3 cr.)
- ECNG 518/5218 - Advanced Integrated Circuit Design (3 cr.)
- ECNG 000/5219 - High-Performance Integrated Circuit Modeling (3 cr.)
- ECNG 520/5231 - Advanced Digital Communications (3 cr.)
- ECNG 521/5233 - Wireless Communication Systems (3 cr.)
- ECNG 522/5230 - Stochastic Processes for Engineers (3 cr.)
- ECNG 524/5234 - Enabling Technologies for High Data Rate Communications (3 cr.)
- ECNG 525/5225 - Digital Signal Processing (3 cr.)
- ECNG 526/5236 - Information Theory and Coding (3 cr.)
- ECNG 530/5238 - Advanced Computer Networks (3 cr.)
- ECNG 541/5241 - Microwave Circuit Analysis and Design (3 cr.)
- ECNG 547/5247 - RF and Microwave Systems (3 cr.)
- ECNG 548/5248 - RF Integrated Circuit Design (3 cr.)
- ECNG 549/5249 - Antennas Design and Applications (3 cr.)
- ECNG 553/5223 - Fault-Tolerant Computing and Reliability Modeling (3 cr.)
- ECNG 556/5226 - Networked Control Systems Design & Applications (3 cr.)
- ECNG 594/5930 - Advanced Topics in Electronics and Communications Engineering (3 cr.)

****Note:**

- Up to two PHD ECNG courses (600-level) to be taken for credit towards the above MS/ME degree are allowed

- Subject to the approval of the advisor and the graduate director the candidate is permitted to take six credit hours from the following two options

1. one 400-level or graduate-level course (3 credit hours) from outside the department and within the School of Sciences and Engineering;
2. Graduate Independent Study course (ECNG 5910) (1 to 3 credit hours).

However, the student may take a maximum of 3 hours of independent study, and a maximum of one course (3 credit hours) from outside the ECNG department.

Electronics and Communications Engineering with Concentration in Management of Technology (M. Eng.)

The name of the Electronics Engineering department has been changed to be the Electronics and Communications Engineering department. This change is effective starting Spring 2014. All degrees offered by the department will reflect the new name starting Spring 2014, and all transcripts issued for students graduating Spring 2014 onwards will bear the new name.

The Master of Engineering Degree in Electronics and Communications Engineering with Concentration in Management of Technology prepares students for higher level professional practice in local and international markets. It is intended for electronics engineers who wish to master the practice in their field of specialty, as well as understanding the notion of technology and innovation as key to wealth creation, competitiveness and sustainable economic and social development. Potential students can come from academia, multinational corporations, government sectors, and owners, managers and employees of private/public sector companies.

1. Program Objectives

The objectives of the program are:

- To provide students with solid knowledge in product and systems design in electronics engineering.
- To train students to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively.
- To educate students on high standard of written and oral communication on technical matters.
- To enable students to manage and guide technology-based organization in a changing environment
- To expose students to methods of integrating technology and business strategies
- To educate student on methods to develop an organizational structure and necessary functions that permit sustainable success.

2. Admission

Admission requirements are the same as those for the Master of Science in Electronics and Communications Engineering program.

3. Courses (33 credit hours)

A minimum of eleven courses (33 credit hours) are required.

The ECNG courses are selected from the following categories:

Concentration Courses* (24 credit hours)

Candidates must select at least 7 courses out of the following list of 15 courses:

- ECNG 510/5210 - Advanced Solid-State Devices (3 cr.)
- ECNG 516/5216 - Analog Integrated Circuit Design (3 cr.)
- ECNG 517/5217 - Digital Integrated Circuit Design (3 cr.)
- ECNG 518/5218 - Advanced Integrated Circuit Design (3 cr.)
- ECNG 000/5219 - High-Performance Integrated Circuit Modeling (3 cr.)
- ECNG 520/5231 - Advanced Digital Communications (3 cr.)
- ECNG 521/5233 - Wireless Communication Systems (3 cr.)
- ECNG 522/5230 - Stochastic Processes for Engineers (3 cr.)
- ECNG 524/5234 - Enabling Technologies for High Data Rate Communications (3 cr.)
- ECNG 525/5225 - Digital Signal Processing (3 cr.)
- ECNG 526/5236 - Information Theory and Coding (3 cr.)
- ECNG 530/5238 - Advanced Computer Networks (3 cr.)
- ECNG 541/5241 - Microwave Circuit Analysis and Design (3 cr.)
- ECNG 547/5247 - RF and Microwave Systems (3 cr.)
- ECNG 548/5248 - RF Integrated Circuit Design (3 cr.)

- ECNG 549/5249 - Antennas Design and Applications (3 cr.)
- ECNG 553/5223 - Fault-Tolerant Computing and Reliability Modeling (3 cr.)
- ECNG 556/5226 - Networked Control Systems Design & Applications (3 cr.)
- ECNG 594/5930 - Advanced Topics in Electronics and Communications Engineering (3 cr.)

***Note:**

Subject to the approval of the advisor and graduate director the candidate is permitted to take three credit hours from one of the following two options:

1. one 400-level or graduate-level course (3 credit hours) from outside the department and within the School of Sciences and Engineering;
2. Graduate Independent Study (ECNG 5910) course (1 to 3 credit hours).

MoT Courses (9 credit hours)

Candidates must select 3 courses out of the following list:

- ECNG 570/5271 - New Product Design and Development (3 cr.)
- ECNG 571/5272 - Technology and Innovation Management (3 cr.)
- ECNG 572/5273 - Strategic Management of Innovation (3 cr.)
- ECNG 573/5274 - Entrepreneurship and Innovation (3 cr.)

Electronics and Communications Engineering (M. Sc.)

The name of the Electronics Engineering department has been changed to be the Electronics and Communications Engineering department. This change is effective starting Spring 2014. All degrees offered by the department will reflect the new name starting Spring 2014, and all transcripts issued for students graduating Spring 2014 onwards will bear the new name.

A candidate for the master's program in Electronics and Communications Engineering must have a degree in electrical or computer engineering or related discipline. Students who have some deficiency in their undergraduate training but are well-qualified in other respects may be admitted provisionally. The Electronics and Communications Engineering Department may prescribe a program of noncredit work to make up for the deficiency.

1. Program Objectives

The objectives of the Master of Science Degree in Electronics and Communications Engineering are to provide the graduates of the program with:

- A broad knowledge of modern computational and experimental methods in engineering.
- Extensive knowledge in one of the following specializations: VLSI and nanosystems, communication systems, microwave and RF systems, digital and network systems.
- Deep understanding of the research techniques and data analysis in the area of specialization.
- An ability to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively.
- A high standard of written and oral communication on technical matters.

2. Admission

A candidate for the master's program in Electronics and Communications Engineering must have a degree in engineering. Students who have some deficiency in their undergraduate training but are well-qualified in other respects may be admitted provisionally. The Electronics and Communications Engineering Department may prescribe a program of noncredit work to make up for the deficiency.

3. Courses (24 Credit hours)

A minimum of eight courses (24 credit hours) is required.

The courses are selected from the following categories:

Core Courses (3 credit hours)

All students select one out of the following four ENGR core courses:

- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)

Concentration Courses** (21 credit hours)

Candidates must select at least five courses out of the following ECNG course list:

- ECNG 510/5210 - Advanced Solid-State Devices (3 cr.)
- ECNG 516/5216 - Analog Integrated Circuit Design (3 cr.)
- ECNG 517/5217 - Digital Integrated Circuit Design (3 cr.)
- ECNG 518/5218 - Advanced Integrated Circuit Design (3 cr.)
- ECNG 000/5219 - High-Performance Integrated Circuit Modeling (3 cr.)
- ECNG 520/5231 - Advanced Digital Communications (3 cr.)
- ECNG 521/5233 - Wireless Communication Systems (3 cr.)
- ECNG 522/5230 - Stochastic Processes for Engineers (3 cr.)
- ECNG 524/5234 - Enabling Technologies for High Data Rate Communications (3 cr.)
- ECNG 525/5225 - Digital Signal Processing (3 cr.)
- ECNG 526/5236 - Information Theory and Coding (3 cr.)
- ECNG 530/5238 - Advanced Computer Networks (3 cr.)
- ECNG 541/5241 - Microwave Circuit Analysis and Design (3 cr.)
- ECNG 547/5247 - RF and Microwave Systems (3 cr.)
- ECNG 548/5248 - RF Integrated Circuit Design (3 cr.)
- ECNG 549/5249 - Antennas Design and Applications (3 cr.)
- ECNG 553/5223 - Fault-Tolerant Computing and Reliability Modeling (3 cr.)

- ECNG 556/5226 - Networked Control Systems Design & Applications (3 cr.)
- ECNG 594/5930 - Advanced Topics in Electronics and Communications Engineering (3 cr.)

****Note:**

- Up to two PHD ECNG courses (600-level) to be taken for credit towards the above MS/ME degree are allowed

- Subject to the approval of the advisor and the graduate director the candidate is permitted to take six credit hours from the following two options

1. one 400-level or graduate-level course (3 credit hours) from outside the department and within the School of Sciences and Engineering;
2. Graduate Independent Study course (ECNG 5910) (1 to 3 credit hours).

However, the student may take a maximum of 3 hours of Graduate Independent Study, and a maximum of one course (3 credit hours) from outside the ECNG department.

4. Thesis (9 credit hours)

Graduate thesis work is an important and required part of the Electronics Engineering Master of Science degree program. Each student must submit a thesis topic that has been approved by a faculty advisor by the end of the first academic year. Various research topics are discussed in ENGR 5940 (2 credits) and ENGR 5941 (1 credit), Graduate Thesis Seminar I and II. Students must register in ENGR 5940 before submitting a thesis topic and in ENGR 5941 during execution of the thesis research to present their thesis plan. To ensure adequate faculty consultation on the thesis, the student must register for ECNG 5980, Graduate Thesis, by the completion of 18 credit hours. Students must register in ECNG 5980 for at least two semesters. The first two registrations in ECNG 5980 must be for three credit hours, after that ECNG 5980 is taken for one credit hour each semester until completion of the program requirements.

Department of Mathematics and Actuarial Science

Department of Mathematics and Actuarial Science School of Sciences and Engineering

Distinguished University Professor: A. Hadi (Chair)

Professors: M. Abdel-Malek, M. Hebert (Emeritus), W. Lotfallah

Associate Professors: Z. Amin (Director of Actuarial Science Program), G. DeYoung

Assistant Professors: N. El-Sissi, J. Johnson, K. Moutanabbir, M. Sadek, N. Youssef, Z. Ben Salah

Mathematics is the study of relationships among quantities, magnitudes and properties. It uses logical operations to find order within the appearance of chaos and to identify intrinsic relations and patterns among seemingly disparate questions and problems. The techniques of mathematics may be applied to a wide array of problems, such as the design and analysis of experiments, statistics and data analysis, mathematical modeling and operations research. As the "language" of science, it constitutes the theoretical background for computer science, engineering, and the natural sciences. The Department of Mathematics and Actuarial Science, recognizing the central position of mathematics in traditional liberal studies, provides a rigorous foundation in pure as well as applied mathematics, equipping students for further study and preparing them to use their mathematical skills in many different employment arenas.

The Actuarial Science program is designed to produce graduates who have analytic, statistical, and computational skills, which allow them to solve industrial problems, predict the financial effects of uncertain future events, and carry out decision-making analyses. This program is appropriate for students who have a strong mathematical ability with an interest in applying their mathematical knowledge to insurance, finance, risk management, investment, and other areas of business.

The Department of Mathematics and Actuarial Science offers:

1. A Bachelor of Science degree in Mathematics
2. A Bachelor of Science degree in Actuarial Science
3. A Minor in Mathematics
4. A Minor in Applied Probability and Statistics
5. A Statistics and Data Analysis Option

Actuarial Science (B.S.)

Bachelor of Science in Actuarial Science

The life of nearly every one is impacted by the work of actuarial experts. Actuarial experts apply mathematical models to improve financial decision-making by evaluating the financial implications of uncertain future events. See the Actuarial Science's web

site: <http://www.aucegypt.edu/sse/math/majmin/Pages/BachelorofScienceinActuarialScience.aspx> for a more detailed description of the work of actuarial experts. The number of certified actuarial experts in Egypt is notoriously low, whereas the demand for actuarial experts is very high. One objective of the program leading to the Bachelor of Science degree is to reduce the huge gap between supply and demand for actuarial experts in Egypt.

To be able to solve the problems of evaluating and measuring risk, an actuarial expert has to be trained in the disciplines of mathematics, probability, statistics, economics, finance, business law, accounting, and marketing. Consequently, the Actuarial Science Program cuts across the School of Science and Engineering and the School of Business.

What a major in Actuarial Science offers:

To summarize, there are many reasons why a student might choose to pursue the B.Sc. program in Actuarial Science. The program prepares students for:

- many positions within Egypt, where the demand for actuarial experts in insurance companies, actuarial consulting firms, banks and other financial institutions, as well as government agencies like the Egyptian Financial Supervisory Authority (EFSA), greatly exceed their supply.
- a wide variety of jobs in Egypt, in multi-national companies, and international institutions abroad, where training in mathematics, probability, statistics, economics, finance, business law, accounting, and marketing are essential.
- completing the first five certification examinations jointly offered by the Society of Actuaries and Casualty Actuarial Society, an important step toward actuarial certification and toward obtaining the actuarial license from the Egyptian Financial Supervisory Authority (EFSA).

A total of 130 credits is required for the bachelor's degree in actuarial science. Students may be exempted from the MACT 131/1121 - Calculus I (3cr.) requirement based on high school certificate and score in mathematics or by passing a placement examination. See the Actuarial Science's website <http://www.aucegypt.edu/sse/math/majmin/Pages/BachelorofScienceinActuarialScience.aspx> for a sample schedule for completing the requirements for the B.Sc. degree in Actuarial Science.

Core Curriculum (37 credits)

Actuarial Science students must take 1 credit hour of Natural Science lab.

Concentration Requirements (60 credits)

- MACT 131/1121 - Calculus I (3cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 210/2222 - Statistics for Business (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 240/2132 - Linear Algebra (3 cr.)
- MACT 306/3211 - Applied Probability (3 cr.)
- MACT 307/3223 - Statistical Inference (3 cr.)
- MACT 321/3311 - Mathematics of Investment (3 cr.)
- MACT 406/4212 - Stochastic Processes (3 cr.)
- MACT 407/4331 - Insurance Loss Models I (3cr.)
- MACT 408/4332 - Insurance Loss Models II (3 cr.)
- MACT 412/4213 - Mathematical Modeling (3 cr.)
- MACT 421/4312 - Mathematics of Derivatives Pricing I (3 cr.)
- MACT 422/4313 - Mathematics of Derivatives Pricing II (3 cr.)
- MACT 423/4321 - Life Contingencies I (3 cr.)
- MACT 424/4322 - Life Contingencies II (3 cr.)
- MACT 427/4231 - Applied Regression Methods (3 cr.)
- MACT 428/4232 - Analysis of Time Series Data (3 cr.)
- MACT 429/4233 - Applied Multivariate Analysis (3 cr.)

Collateral Requirements (27 credits)

- ACCT 201/2001 - Financial Accounting (3 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)
- ECON 301/3021 - Intermediate Macroeconomic Theory (3 cr.)
- ECON 302/3011 - Intermediate Microeconomic Theory (3 cr.)
- FINC 303/2101 - Business Finance I (3 cr.)
- FINC 404/3201 - Investment Analysis (3 cr.)
- FINC 415/4204 - Portfolio Theory and its Applications (3 cr.)

Electives (6 credits)

Two courses to be chosen in consultation with the advisor. The following courses are recommended as electives:

- ACCT 202/2002 - Managerial Accounting (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)

- CSCE 253/2501 - Fundamentals of Database Systems (3 cr.)
- CSCE 453/4501 - Database Systems (3 cr.)
- ECON 303/3041 - Money and Banking (3 cr.)
- ECON 318/3081 - Introduction to Econometrics (3 cr.)
- ECON 403/4031 - International Trade (3 cr.)
- FINC 408/3501 - International Finance (3 cr.)
- MACT 304/3143 - Numerical Methods (3 cr.)
- MACT 410/4910 - Guided Studies in Mathematics (1-3 cr.)
- MACT 409/4930 - Selected Topics in Mathematics (3 cr.)
- MACT 411/4931 - Selected Topics in Actuarial Science (3 cr.)
- MACT 497/4950 - Practical Internship (3 cr.)
- MACT 495/4980 - Senior Thesis (3 cr.)
- MACT 000/4990 - Enterprise Risk Management (3 cr.)
- MGMT 307/3201 - Management Fundamentals (3 cr.)
- MGMT 404/4202 - Managing the Human Capital (3 cr.)
- MKTG 302/2101 - Principles of Marketing (3 cr.)
- MKTG 405/3201 - Marketing Research (3 cr.)
- MOIS 305/2101 - Introduction to Information Systems/Technology (3 cr.)
- MOIS 406/3201 - Management Information Systems and Database Management (3 cr.)
- MOIS 432/3601 - Decision Support Systems and Business Intelligence (3 cr.)

Mathematics, with an option in Statistics & Data Analysis (B.S.)

Bachelor of Science in Mathematics

The Bachelor of Science degree in Mathematics develops a level of skill that will enable the student to apply his/her knowledge in industry or teaching and prepares the student for advanced study of mathematics and other fields.

More information on Mathematics as a professional activity and on career opportunities is available on the department webpage:

<http://www.aucegypt.edu/sse/math/alumni/Pages/default.aspx>

A total of 130 credits is required for the bachelor's degree in mathematics. Students may be exempted from the MACT 1121 requirement based on high school certificate and score in mathematics or by passing a placement examination.

Appropriate substitutions allow students from most other majors in the School of Science and Engineering to complete the Mathematics major requirements with 15 to 25 additional credits. See the page http://www.aucegypt.edu/sse/math/Pages/Double_Major.aspx for more details.

Core Curriculum (36 credits)

The science requirements of the core curriculum electives are satisfied by the collateral requirements of the major.

Concentration Requirements (42 credits)

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- MACT 131/1121 - Calculus I (3cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 232/2124 - Calculus IV (3 cr.)
- MACT 200/2131 - Discrete Mathematics (3 cr.)
- MACT 240/2132 - Linear Algebra (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 304/3143 - Numerical Methods (3 cr.)
- MACT 306/3211 - Applied Probability (3 cr.)
- MACT 307/3223 - Statistical Inference (3 cr.)
- MACT 401/4125 - Complex-Function Theory (3 cr.)
- MACT 431/4126 - Real Analysis I (3 cr.)
- MACT 403/4134 - Modern Algebra (3 cr.)

Concentration Electives (21 credits)

To be chosen from the upper level MACT courses in consultation with the advisor. Students majoring in another Science or Engineering program may transfer up to 12 approved credits from their program toward the completion of these 21 credits if double majoring in Mathematics. For more details, see the department's page at: www.aucegypt.edu/sse/math/Pages/Double_Major.aspx

Collateral Requirements (14 to 16 Credits)

To be chosen among the following:

- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)
- BIOL 105/1012 - Introductory Biology II (3 cr. + 1 cr. lab)
- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 106/1006 - General Chemistry II (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)

Electives (15-17 credits)

Courses to be chosen in consultation with the adviser, excluding MACT 1111, MACT 1112 .

Statistics and Data Analysis Option

Within the bachelor degree in Mathematics, students may choose the Statistics and Data Analysis Option by taking the following courses:

The 21 credits of concentration electives must include:

- MACT 427/4231 - Applied Regression Methods (3 cr.)
 - MACT 429/4233 - Applied Multivariate Analysis (3 cr.)
- and a minimum of 9 credits selected from the following:**
- MACT 308/3144 - Linear Programming (3 cr.)
 - MACT 310/3145 - Operations Research (3 cr.)
 - MACT 406/4212 - Stochastic Processes (3 cr.)
 - MACT 409/4930 - Selected Topics in Mathematics (3 cr.)
 - MACT 410/4910 - Guided Studies in Mathematics (1-3 cr.)
 - MACT 412/4213 - Mathematical Modeling (3 cr.)

Applied Probability and Statistics Minor

Applied Probability and Statistics are essential tools for analyzing data in various fields. A minor in Applied Probability and Statistics will prepare students and enhance their abilities to understand and solve problems in their own major fields. The minor in Applied Probability and Statistics is also designed to meet a demand by industry and governmental agencies for personnel who are able to utilize appropriate statistical and other quantitative methods to solve problems as diverse as quality control and population dynamics and to facilitate wise decision making in the face of uncertainty.

Requirements (15 credits):

- MACT 112/1221 - Statistical Reasoning (3 cr.)
Or MACT 210/2222 - Statistics for Business (3 cr.)
- MACT 427/4231 - Applied Regression Methods (3 cr.)

and either

- MACT 306/3211 - Applied Probability (3 cr.)
and
- MACT 307/3223 - Statistical Inference (3 cr.)

or

- MACT 317/3224 - Probability and Statistics (3 cr.)

In addition to 3-6 credits from:

- MACT 406/4212 - Stochastic Processes (3 cr.)
- MACT 429/4233 - Applied Multivariate Analysis (3 cr.)

Financial Mathematics Minor

This interdisciplinary Minor in Financial Mathematics program allows non-mathematics majors to obtain a basic understanding of how modern mathematics is being applied across a wide spectrum of the financial service industry - investment banks, hedge funds, consulting firms, investment firms, insurance companies, commercial banks, brokerage houses and other corporations.

Course Structure

To be awarded a minor in Financial Mathematics, a student must successfully complete the following 15 credits:

1. MACT 132/1122 - Calculus II (3 cr.) (*Students may be exempted from the MACT 131 requirement based on high school certificate and score in mathematics or by passing a placement examination.*)
2. MACT 231/2123 - Calculus III (3 cr.)
3. MACT 321/3311 - Mathematics of Investment (3 cr.)
4. MACT 421/4312 - Mathematics of Derivatives Pricing I (3 cr.)
5. MACT 422/4313 - Mathematics of Derivatives Pricing II (3 cr.)

Students are reminded to work out a feasible study plan for the 5 courses in this minor requirement. In particular, they need to ensure that they have sufficient number of semesters left in the candidature to complete the courses and to note that MACT3311, MACT4312 and MACT4313 are only offered once a year.

This minor is not awarded with the majors in Mathematics or Actuarial Science.

Mathematics Minor

The minor in Mathematics will acquaint non-mathematics majors with the diversity of the field and enhance the student's ability to formulate and solve problems in other disciplines.

Requirements (15 credits):

For students majoring in the Science & Engineering School:

- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 240/2132 - Linear Algebra (3 cr.)
and 3 courses among:
- MACT 232/2124 - Calculus IV (3 cr.)
and the 300-level and 400-level MACT courses

For students majoring in Economics:

- MACT 112/1221 - Statistical Reasoning (3 cr.)
- MACT 240/2132 - Linear Algebra (3 cr.)
- ECON 316/3061 - Mathematics for Economists II (3 cr.)
and 2 courses among: 300-400 level MACT courses and
- ECON 416/4061 - Mathematical Economics (3 cr.)

For all the other students:

- MACT 112/1221 - Statistical Reasoning (3 cr.)
Or MACT 210/2222 - Statistics for Business (3 cr.)
- MACT 131/1121 - Calculus I (3cr.)
and any 3 MACT courses (excluding MACT 1111 , MACT 1112 and MACT 1930)

Department of Mechanical Engineering

Department of Mechanical Engineering School of Sciences and Engineering

Professors: H. Elayat, A. Elimam, M. Fouad, M. Farag (Director of Engineering Services), S. El-Haggar (Chair), M. Habib, L. Gaafar, A. Nassef, H. Salem, A. Serag-Eldin, M. Younan, A. Esawi

Associate Professor: M. Arafa

Assistant Professors: L. El-Gabry, M. Fawzy, M. Kamel, M. El-Morsi

Mechanical Engineering involves the application of scientific knowledge for the design and manufacturing of devices and mechanical systems that use or transfer mechanical and thermal energies. The mechanical engineer should strive both to serve the needs of the society without unduly damaging the environment, and to produce devices and systems that use energy and material resources efficiently.

For additional information, go to: www.aucegypt.edu/sse/meng/Pages/default.aspx

Mechanical Engineering, with concentrations in Design, Industrial, Materials and Manufacturing, Mechatronics, and Power (B.S.)

Bachelor of Science

The educational objectives of the mechanical engineering program are to graduate mechanical engineers who can: practice professionally as team members or leaders in both local and global, multidisciplinary environments; advance their careers in mechanical engineering or other fields through promotions, positions of increasing responsibilities or professional certification; contribute to the welfare of the society, and respond to its needs with consideration of ethical and environmental issues; engage in advanced academic and research careers; and pursue entrepreneurial endeavors.

Students are offered mechanical engineering electives concentrated in five areas: The Design concentration integrates elements of the mechanical engineering program and utilizes modern computer methods to enable the engineer to model, analyze and design mechanical components and systems. The power concentration provides the engineering background for optimum use of energy resources; calculation of energy loads; design, selection and integration of conventional and non-conventional energy systems and components. The Industrial concentration enables the engineer to analyze, design, integrate, automate and manage industrial systems. The Materials and Manufacturing concentration focuses on ways of controlling material composition, treatment, and manufacturing in order to meet design requirements, and achieve desired levels of performance. The Mechatronics concentration focuses on computer programming, automatic control, sensor technology and microprocessor as well as manufacturing techniques.

The program is accredited by both the Accreditation Board for Engineering and Technology (ABET) and the Supreme Council of Egyptian Universities.

Students should consult the course listings and their faculty advisor on a regular basis to ensure that prerequisites for engineering core, concentration and elective courses are met. A model course plan for the Major is provided by the Department.

A student who intends to major in Mechanical Engineering must submit a Major declaration form upon completion of 45 credit hours. A student should declare his/her concentration (s) after completing 80 credit hours and before completing 120 credit hours.

A total of 162 credits is required for the bachelor's degree in mechanical engineering:

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 cr.) and the capstone projects MENG 4980 and MENG 4981 (3 cr.)

Engineering Core Requirements (52 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- ENGR 101/1001 - Introduction to Engineering (1 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)
- ENGR 214/2104 - Engineering Mechanics II (Dynamics) (3 cr.)
- ENGR 229/2112 - Strength and Testing of Materials (4 cr.)
- ENGR 261/2122 - Fundamentals of Fluid Mechanics (3 cr.)
- ENGR 313/3202 - Engineering Analysis and Computation I (3 cr.)
- ENGR 318/3212 - General Electrical Engineering (3 cr.)
- ENGR 345/3222 - Engineering Economy (3 cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)

Concentration Requirements (53 credits)

- MENG 215/2505 - Mechanical Engineering Drawing (1 cr.)
- MENG 327/3207 - Engineering Materials (3 cr.)
- MENG 339/3209 - Fundamentals of Manufacturing Processes (3 cr.)
- MENG 342/3402 - Quality and Process Control (3 cr.)
- MENG 346/3446 - Engineering and Project Management (3 cr.)
- MENG 355/3505 - Mechanics of Materials (3 cr.)
- MENG 356/3506 - Mechanical Design I (3 cr.)
- MENG 361/3601 - Fundamentals of Thermodynamics (3 cr.)

- MENG 362/3602 - Applied Fluid Mechanics (3 cr.)
- MENG 365/3605 - Applied Thermodynamics (3 cr.)
- MENG 372/3502 - Mechanical Systems (3 cr.)
- MENG 375/3705 - System Dynamics (3 cr.)
- MENG 428/4208 - Selection of Materials and Processes for Design (3 cr.)
- MENG 457/4507 - Mechanical Design II (3 cr.)
- MENG 466/4606 - Heat Transfer (4 cr.)
- MENG 490/4980 - Senior Project I (1 cr.)
- MENG 491/4981 - Senior Project II (2 cr.)
- MENG 497/4950 - Industrial Training (1 cr.)
- PHYS 215/2211 - Introduction to Electronics (3 cr.)
- PHYS 221L/2212 - Electronics Laboratory (2 cr.)

Concentration Electives (21 credit hours)

Courses must be selected from at least two of the five available concentrations of courses. A minimum of twelve credits must be taken from one concentration as follows:

Design Concentration:

A minimum of nine credits from courses in group A of the Design concentration and the remaining three credits from courses in either group of the concentration.

Group A:

- MENG 451/4551 - Computer-Aided Design and Prototyping (3 cr.)
- MENG 453/4553 - Finite Element Method and Applications in Design (3 cr.)
- MENG 455/4565 - Design of Engineering Systems (3 cr.)
- MENG 475/4555 - Applied Vibration Measurements, Analysis and Control (3 cr.)
- MENG 476/4756 - Automatic Control Systems (3 cr.)

Group B:

- MENG 413/4663 - Design of Renewable Energy Systems (3 cr.)
- MENG 427/4227 - Failure of Mechanical Components (3 cr.)
- MENG 477/4757 - Robotics: Design, Analysis and Control (3 cr.)
- MENG 458/4558 - Integrated Design (3 cr.)
- MENG 494/4931 - Selected Topics in Design (3 cr.)

Industrial Concentration:

Students are required to complete the six credits from group A courses of the Industrial concentration and six credits from its group B courses.

Group A:

- MENG 341/3441 - Engineering Operations Research (3 cr.)
- MENG 445/4445 - Production and Inventory Control (3 cr.)

Group B:

- MENG 344/3444 - Work Analysis and Design (3 cr.)
- MENG 441/4441 - Decision Support in Engineering Systems (3 cr.)
- MENG 442/4442 - Reliability Engineering and Risk Analysis (3 cr.)
- MENG 443/4443 - Systems Simulation (3 cr.)
- MENG 447/4477 - Manufacturing System Automation (3 cr.)
- MENG 448/4448 - Facilities Planning (3 cr.)
- MENG 449/4449 - Maintenance Management Systems (3 cr.)

Materials and Manufacturing Concentration:

A minimum of six credits from group A courses of the Material and Manufacturing concentration and six from its group B courses.

Group A:

- MENG 421/4221 - Ceramics and Composites (3 cr.)
- MENG 425/4225 - Polymers and Composites (3 cr.)
- MENG 426/4226 - Metals, Alloys and Composites (3 cr.)
- MENG 429/4229 - Nanostructured Materials (3 cr.)

Group B:

- MENG 427/4227 - Failure of Mechanical Components (3 cr.)
- MENG 432/4232 - Materials, Processing, and Design (3 cr.)
- MENG 436/4932 - Selected Topics in Materials and Manufacturing (3 cr.)
- MENG 439/4239 - Advanced Manufacturing Processes (3 cr.)

Mechatronics Concentration:

Students are required to complete the nine credits from the courses in group A of the Mechatronics concentration and the remaining three credits from courses in group B.

Group A:

- MENG 476/4756 - Automatic Control Systems (3 cr.)
- MENG 478/4778 - Microcontrollers and Mechatronics systems (3 cr.)
- MENG 479/4779 - Integrated Design of Electromechanical Systems (3 cr.)

Group B:

- ECNG 456/4506 - Industrial control systems (3 cr.)

- MENG 439/4239 - Advanced Manufacturing Processes (3 cr.)
- MENG 447/4477 - Manufacturing System Automation (3 cr.)
- MENG 455/4565 - Design of Engineering Systems (3 cr.)
- MENG 477/4757 - Robotics: Design, Analysis and Control (3 cr.)

Power Concentration

Students are required to complete the six credits from the courses in group A of the Power concentration and the remaining six credits from courses in group B.

Group A:

- MENG 412/4662 - Power Plant Technology (3 cr.)
- MENG 413/4663 - Design of Renewable Energy Systems (3 cr.)

Group B:

- MENG 411/4661 - Turbo-Machinery (3 cr.)
- MENG 415/4665 - Internal Combustion Engines (3 cr.)
- MENG 416/4666 - Design of Heating, Ventilation, and Air Conditioning Systems (3 cr.)
- MENG 417/4667 - Refrigeration and Air-conditioning (3 cr.)
- MENG 455/4565 - Design of Engineering Systems (3 cr.)

Notes:

In addition, a minimum of six credits must be taken from another area of concentration.

Pending approval of department and relevance of topic, only one of the concentration electives may be substituted for by a MENG 4930 course.

Students opting for more than one concentration will take a minimum of twenty four credits, such that the minimum requirements of each area of concentration are satisfied. Common courses may be double-counted.

General Electives (3 credits)

Mechatronics

Coordinator and Minor Advisor: M. Habib

The minor in Mechatronics provides students with broad understanding of the latest developments of synergized interdisciplinary knowledge, design principles, technologies, and practical skills within the growing field of Mechatronics. It serves students in all majors. The Minor in Mechatronics as a unifying interdisciplinary field enables students with such knowledge and practical experience to develop new and innovative solutions across disciplines for highly emerging technical challenges. It is envisaged that the Minor would attract students to be part of the new era of industrialization, widen their views and understanding, develop creative thinking, and to enable students to look forward to a high quality job satisfaction with enhanced career prospects.

The minor in Mechatronics requires to complete (15) credit-hour courses. Students can select their (15) credit-hour from two pools of courses as follow:

I. The first pool of courses is under MENG courses.

It is required to select a minimum of (9) credit-hour from the following list:

Minor core: students must complete the following two courses

- MENG 477/4757 - Robotics: Design, Analysis and Control (3 cr.)
- MENG 479/4779 - Integrated Design of Electromechanical Systems (3 cr.)

Minor electives: a minimum of 3 credit-hour must be selected from the minor electives

- MENG 375/3705 - System Dynamics (3 cr.)
- MENG 476/4756 - Automatic Control Systems (3 cr.)
- MENG 478/4778 - Microcontrollers and Mechatronics systems (3 cr.)

II. The second pool of courses is under other SSE departments.

A maximum of (6) credit-hour to be selected from the following list:

For students from ECNG

- ECNG 321/3202 - Automatic Control Systems (3 cr.)
- ECNG 453/4503 - Microcontroller System Design (3 cr.)

For Students from CSCE

- CSCE 427/4602 - Introduction to Artificial Neural Networks (3 cr.)

For students from PHYS

For students from PENG

- PENG 471/4223 - Reservoir Simulation and Modeling (2 cr. + 1 cr.)

Mechanical Engineering (M.Eng.)

The Master of Engineering in Mechanical Engineering at AUC prepares students for higher level professional practice in local and international markets.

Program Objectives

The objectives of the Master of Engineering Degree are to provide the graduates of the program with:

- A broad knowledge of modern computational and experimental methods in engineering.
- Detailed knowledge in engineering design, materials and manufacturing, industrial engineering, power and mechatronics.
- Awareness of the local and global context in which mechanical engineering is practiced, locally and globally, including economic and business practices, societal needs, and considerations of public health, safety, environment, culture and ethics.
- An ability to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively.
- A high standard of written and oral communication on technical matters.

Admission

Admission requirements are the same as those for the Master of Science Program.

Courses (33 credit hours)

Course work for the Master of Engineering degree requires the completion of a minimum of 33 credit hours as follows:

I- Engineering and Mechanical Engineering core (21 credits)

Students must complete 21 credits in graduate mechanical engineering courses.

II- Elective Courses (9 credit hours)

Students may elect to take three courses (9 credits). A minimum of two courses must be taken from offerings in mechanical engineering/ engineering disciplines (including ENGR). No more than one 400- level course, not in the student's undergraduate major may be taken for graduate credit, subject to approval of the advisor and department chair.

III- Capstone project (3 credits)

Students are required to attend the library and writing modules of ENGR 5940 and to undertake an engineering project approved by the chair of the supervisory committee, which consists of the student advisor and two additional faculty members. A final report is submitted and orally defended in the presence of the supervisory committee.

Mechanical Engineering (M.Sc.)

The Master of Science program in Mechanical Engineering is administered by the Mechanical Engineering Department. The program offers high quality education that prepares students for advanced academic, research and professional careers in one of the following specializations: Design, Industrial Engineering, Materials and Manufacturing Engineering, Mechatronics and Power.

Program Objectives

The objectives of the Master of Science Degree in Mechanical Engineering are to provide the graduates of the program with:

- A broad knowledge of modern computational and experimental methods in engineering.
- Extensive knowledge in one of the following specializations: design, industrial engineering, materials and manufacturing or power and mechatronics.
- Deep understanding of the research techniques and data analysis in the area of specialization.
- An ability to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively.
- A high standard of written and oral communication on technical matters.

Admission

A candidate for the master's program in Mechanical Engineering must have a degree in engineering. Students who have some deficiency in their undergraduate training but are well-qualified in other respects may be admitted provisionally. The Mechanical Engineering Department may prescribe a program of noncredit work to make up for the deficiency.

Courses (24 credit hours)

A minimum of eight courses (24 credit hours) is required. The courses are selected with the help of the advisor and approval of the chair from the following categories:

I- Engineering Core Courses (Minimum 3 credit hours)

All students select at least one out of the following four ENGR core courses:

- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)

II- Mechanical Engineering Core Courses (Minimum 6 credit hours)

Students should select a minimum of two courses from one of the following mechanical engineering courses:

- MENG 517/5251 - Engineering Systems Analysis and Design (3 cr.)
- MENG 522/5222 - Materials in Design and Manufacturing (3 cr.)
- MENG 529/5229 - Failure Analysis and Prevention (3 cr.)
- MENG 542/5242 - Total Quality Management (3 cr.)
- MENG 560/5270 - Applied Control, Vibration and Instrumentations (3 cr.)
- MENG 660/6261 - Sustainability of Thermal Systems (3 cr.)

III- Technical Elective Core Courses (Minimum 9 credit hours in a given area)

Students should select a minimum of three courses from the following elective courses:

- MENG 521/5221 - Advanced Topics in Mechanical Behavior of Engineering Materials (3 cr.)
- MENG 523/5223 - Physical Metallurgy (3 cr.)
- MENG 524/5224 - Electronic Phenomena in Solids (3 cr.)
- MENG 525/5225 - Deformation and Fracture of Materials (3 cr.)
- MENG 526/5226 - Computer Methods in Materials Engineering (3 cr.)
- MENG 527/5227 - Composite Materials: Mechanics, Manufacturing, and Design (3 cr.)
- MENG 528/5228 - Advanced Testing and Characterization Techniques (3 cr.)
- MENG 530/5230 - Nanostructured Materials (3 cr.)
- MENG 531/5231 - Fabrication of Nanomaterials For Films And Devices (3 cr.)
- MENG 532/5232 - Simulation and Modeling for Nanoscale Materials and Systems (3 cr.)
- MENG 534/5234 - Materials for Energy Conversion and Storage (3 cr.)
- MENG 535/5235 - Biomaterials (3 cr.)
- MENG 541/5241 - Integrated Manufacturing Systems (3 cr.)
- MENG 543/5243 - Systems Modeling and Optimization (3 cr.)
- MENG 545/5245 - Production Systems Design (3 cr.)
- MENG 548/5248 - Facilities Planning and Design (3 cr.)
- MENG 553/5253 - Advanced Computer Aided Design (3 cr.)
- MENG 554/5254 - Advanced Stress Analysis in Design and Manufacturing (3 cr.)
- MENG 555/5255 - Analysis and Design of Dynamic Systems (3 cr.)
- MENG 557/5257 - Engineering Design Methodologies (3 cr.)
- MENG 558/5258 - Applied Finite Element Analysis for Engineers (3 cr.)
- MENG 561/5271 - Robotics: Kinematics, Dynamics and Control (3 cr.)
- MENG 562/5272 - Embedded Real Time Systems (3 cr.)
- MENG 563/5273 - Modern Control Design (3 cr.)
- MENG 564/5274 - Autonomous Robotics: Modeling, Navigation and Control (3 cr.)
- MENG 573/5263 - Cogeneration and Energy Storage (3 cr.)
- MENG 575/5265 - CFD and Turbulence Modeling (3 cr.)

IV- General Elective Courses (Maximum 6 credit hours)

The courses are selected from a set of graduate courses in all engineering disciplines, physical sciences, social sciences, management and other related graduate or 400-level courses subject to advisor and chair's approval.

Thesis

Graduate thesis work is an important and required part of the Mechanical Engineering Master of Science degree program. Each student must submit a thesis topic that has been approved by a faculty advisor by the end of the first academic year. Various research topics are discussed in ENGR 5940 and ENGR 5941, Graduate Thesis Seminar I and II. Students must register in ENGR 5940 before submitting a thesis topic and in ENGR 5941 during execution of the thesis research to present their thesis plan. To ensure adequate faculty consultation on the thesis, the student must register for MENG 5981, Graduate Thesis, by the completion of 18 credit hours. Students must register in MENG 5981 continuously and for at least two semesters. The first two registrations in MENG 5981 must be for three credit hours, after that MENG 5981 is taken for one credit hour each semester until completion of the program requirements.

Department of Petroleum and Energy Engineering

Department of Petroleum & Energy Engineering School of Sciences and Engineering

Professor: K. Beshay, M. Nasrallah

Professor of Practice: A. Adris (Chair), T. El Kewidy, S. El Sayed

Associate Professor: A. Noah

Assistant Professors: A. Salem

Petroleum and Energy Engineering department offers a B.Sc. in Petroleum Engineering and a concentration in Energy Resources. The Department provides an extremely challenging and exciting career involving the discovery and exploration of the earth's energy resources through knowledge of basic sciences, geosciences and petro-sciences. The discovery and production of the primary energy resources, namely fossil fuel and natural gas, will be the focus of this program; related topics include recent advances in exploration, drilling, production, reservoir development, and management. Although the main focus is Petroleum Engineering and Gas Technology, alternative energy resources such as solar, wind, fuel cell, and nuclear technologies will be adequately covered. Knowledge of related environmental issues and resource management along with excellent communication, language and IT skills will give graduates a competitive edge in this fast growing profession. Our primary goal is to produce highly qualified Engineers with the best possible preparation to compete in local, regional, and global energy related job markets, or to continue their education towards higher degrees.

The curriculum has been approved by the Ministry of Higher Education, it is designed to meet the accreditation requirements for both the Supreme Council of Egyptian Universities, and the US Accreditation Board for Engineering and Technology (ABET).

Petroleum Engineering (B.S.)

Bachelor of Science

The petroleum engineer is concerned mainly with the exploration, drilling, reservoir and production operations. Economic and environmentally safe petroleum production and processing require the application of engineering principles in addition to a wide spectrum of knowledge including chemistry, geology, physics, and mathematics.

The petroleum engineering program at AUC graduates a petroleum engineer who, within a few years of graduation, fulfills societal needs, with consideration to ethical and environmental issues, in one or more of the following roles:

1. A professional team member in a multidisciplinary environment, local or global.
2. A leader in petroleum engineering through promotion, or professional development.
3. A successful member of an advanced academic or research organization.
4. A successful entrepreneur.

To provide more depth above that provided by the fundamental petroleum engineering core courses, students are required to select 9 credit hours from among a list of more specialized elective courses.

Students will be admitted to the program either through the AUC admissions office (gate admissions), after satisfying the general admission requirements and grade requirements in mathematics and sciences as declared by the department, or as undeclared and transfer students based on their performance record after successful completion of the criteria courses. Students are advised to consult with the department to ensure that admission criteria have been successfully met.

A total of 162 credits must be successfully completed to be awarded a Bachelor of Science in Petroleum Engineering.

Core curriculum requirements (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 crs) and the capstone projects PENG 4980 and PENG 4981 (3 crs).

Engineering and Science core requirements (52 credits)

- ENGR 101/1001 - Introduction to Engineering (1 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CHEM 105/1005 - General Chemistry I (3 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)
- ENGR 214/2104 - Engineering Mechanics II (Dynamics) (3 cr.)
- ENGR 229/2112 - Strength and Testing of Materials (4 cr.)
- ENGR 261/2122 - Fundamentals of Fluid Mechanics (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- ENGR 313/3202 - Engineering Analysis and Computation I (3 cr.)
- ENGR 318/3212 - General Electrical Engineering (3 cr.)
- ENGR 345/3222 - Engineering Economy (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)

Petroleum core requirements (68 credits)

- SCI 250/2005 - Introduction to Geology (3 cr.)
- PENG 000/2013 - Petroleum Industry Overview (1 cr.)
- PENG 219/2413 - Fundamentals of Surveying (1 cr.)
- PENG 301/3011 - Petroleum Geology and Exploration (3cr.)
- PENG 302/3021 - Reservoir Rock Properties (3 cr.)
- PENG 303/3022 - Petrophysics and Fluids Lab (1 cr.)
- PENG 311/3111 - Drilling Engineering I (3 cr.)
- PENG 313/3112 - Drilling Engineering I Lab (1 cr.)
- PENG 305/3211 - Reservoir Fluids (2 cr. + 1 cr.)

- PENG 331/3215 - Reservoir Engineering Fundamentals (3 cr.)
- PENG 333/3221 - Well Testing (3 cr.)
- PENG 334/3222 - Well Testing Lab (1 cr.)
- PENG 351/3225 - Natural Gas Engineering (3 cr.)
- PENG 320/3227 - Formation Evaluation (3cr. + 1cr.)
- PENG 321/3310 - Well Completion and Workover (3 cr.)
- PENG 322/3311 - Production Engineering Fundamentals (2 + 1 Lab)
- PENG 323/3321 - Surface Facilities (3 cr.)
- PENG 361/3411 - Thermodynamics (3cr.)
- PENG 411/4121 - Drilling Engineering II (3 cr.)
- PENG 471/4223 - Reservoir Simulation and Modeling (2 cr. + 1 cr.)
- PENG 412/4225 - Secondary and Tertiary Recovery (4 cr.)
- PENG 461/4226 - Petroleum Economics (3 cr.)
- PENG 000/4227 - Reservoir Description and Characterization (3 cr.)
- PENG 000/4320 - Well Production Enhancement (3 cr.)
- PENG 497/4950 - Industrial Training (1cr.)
- PENG 490/4980 - Senior Project I (1cr.)
- PENG 491/4981 - Senior Project II (2cr.)

Electives (9 credits)

Students must select three courses (9 credits) out of the following electives.

- PENG 000/4015 - Exploration Methods (3 cr.)
- PENG 000/4125 - Advanced Well Construction (3 cr.)
- PENG 000/4229 - Unconventional Reservoirs (3 cr.)
- PENG 451/4313 - Petroleum and Gas Transmission and Storage (3 cr.)
- PENG 000/4325 - Well Stimulation (3 cr.)

Department of Physics

Department of Physics School of Sciences and Engineering

Professors: S. Arafa, H. Omar(Chair), S. El-Sheikh (Chair), A. Shaarawi, S. Sedky (Founding Provost, Zuweil Academy)

Associate Professors: A. El Fiqi, E. Abdel-Rahman (Associate Provost and Acting Director of Science & Technology Research Center), E. Soliman (Graduate Director)

Assistant Professors: K.Addas, M.AlFiky, M. Swillam, N. Allam, A. Galal, J- El Rifai.

Physics is the most fundamental of the Physical Sciences. Physics lead to a deepened understanding of the phenomena in the world around us. The discipline of Physics is a training of the mind, and a methodology for approaching and solving problems. The significance of Physics is manifested in its accomplishments in the development of the Scientific Method as well as providing and important component of all physical sciences and engineering disciplines.

Physics has always attracted special students, challenged by modern theories that shaped and are still shaping our understanding of the universe like the theory of relativity, quantum mechanics, superconductivity and particle physics;

just to name a few. A degree in Physics leaves one poised to enter many professions that include but are not limited to traditional physics. The discipline of Physics teaches skills that are transferable to many other professions, including electronics, computer and oil industries. These transferable skills include: mathematical modeling, problem solving, designing experiments, interpretation of experimental data, reflecting on answers before trusting them, research experience, laboratory techniques and communication skills.

Physics, with a specialization in Solar Energy (B.S.)

Bachelor of Science

The undergraduate program in Physics is designed to provide students with a thorough and flexible training in the fundamental aspects of classical and modern physics. Lecture material is reinforced and complemented by closely integrated laboratory work, and the varied course offerings provide several options from which students may choose according to their interests and abilities.

Physics students can either obtain a bachelor's degree in Physics or a bachelor's degree in Physics with a specialization in Solar Energy.

The Solar Energy specialization is in alignment with both national and international trends that emphasize the importance of renewable energy in general and solar energy in particular. While retaining the fundamentals of the conventional degree in Physics, this specialization provides students with basic and applied knowledge in the solar energy field.

A student who intends to major in Physics or to change from any other major must successfully complete the following courses with a minimum average GPA of 2.5: PHYS 1011; PHYS 1012; PHYS 1021; PHYS 1022; MACT 1122.

A total of 132 credit hours are required for the bachelor's degree in Physics distributed as follows:

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 crs) and the capstone projects PHYS 4980 (3 crs).

Concentration Requirements (44 credits)

- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)
- PHYS 204L/2222 - Optics Laboratory (1 cr.)
- PHYS 211/2041 - Foundations of Modern Physics (3 cr.)
- PHYS 000/2042 - Modern Physics Laboratory (1 cr.)
- PHYS 214/2221 - Waves and Optics (3 cr.)
- PHYS 215/2211 - Introduction to Electronics (3 cr.)
- PHYS 221L/2212 - Electronics Laboratory (2 cr.)
- PHYS 279/2241 - Computational Methods in Physics (2 cr. + 1 cr.)
- PHYS 311/3031 - Thermodynamics and Statistical Mechanics (3 cr.)

- PHYS 312/3013 - Theoretical Mechanics (3 cr.)
- PHYS 316/3023 - Electromagnetic Theory (3 cr.)
- PHYS 321L/3052 - Nuclear Physics Lab (1 cr.)
- PHYS 322L/3232 - Solid-State Physics Lab (2 cr.)
- PHYS 323L/4234 - Semiconductor Technology Lab (2 cr.)
- PHYS 325/3231 - Introduction to Solid-State Physics (3 cr.)
- PHYS 421/4042 - Quantum Mechanics I (3 cr.)

Collateral Requirements (22 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 232/2124 - Calculus IV (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 305/3142 - Introduction to PDE and Boundary-Value Problems (3 cr.)

Thesis Requirement (3 credits)

- PHYS 401/4980 - Senior Thesis and Seminar (3 cr.)

Note:

In special cases, and with advisor's approval, another 400-level course may be substituted for the Senior Thesis and Seminar.

General Electives (9 credits)

Concentration Electives (21 credits):

Students have to fulfill 21 credits from the elective courses listed below. Up to 9 credits of the physics concentration electives can be taken from upper division (300 and 400 level) courses in mathematics

For the Solar Energy specialization, the student has to complete at least 12 credits from group **B** and at least 6 credits from group **C**

Group A

- PHYS 000/3071 - General Relativity and Cosmology (3 cr.)
- PHYS 000/4043 - Quantum Mechanics II (3 cr.)
- PHYS 413/4051 - Nuclear and Particle Physics (3 cr.)
- PHYS 415/4930 - Selected Topics in Physics (3 cr.)

Group B

- PHYS 412/4233 - Semiconductor Physics (3 cr.)
- PHYS 000/4241 - Introduction to Solar Energy (3 cr.)
- PHYS 000/4242 - Introduction to Nanophysics (3 cr.)
- PHYS 000/4243 - Physics of Solar Energy Conversion Nanosystems (3 cr.)
- PHYS 000/4244 - Introduction to Nanotechnology (3 cr.)

Group C

- PHYS 414/4224 - Photonics (3 cr.)
- PHYS 404L/4225 - Photonics and Optical Communication Laboratory (1 cr.)
- PHYS 314/3223 - Advanced Optics (3 cr.)
- PHYS 416/4281 - Experimental Methods in Physics (3 cr.)
- PHYS 402/4910 - Independent Study (1-3 cr.)

Physics Minor

The minor in physics is designed to provide students majoring in science, computer science or engineering with the opportunity of complementing their major disciplines with a series of courses designed to provide in-depth appreciation of physics.

Requirements (17 credits)

Students have to complete the following courses (8cr.)

- PHYS 204L/2222 - Optics Laboratory (1 cr.)
- PHYS 211/2041 - Foundations of Modern Physics (3 cr.)
- PHYS 214/2221 - Waves and Optics (3 cr.)
- PHYS 000/2042 - Modern Physics Laboratory (1 cr.)

And a minimum of 9 credits from the following:

- PHYS 311/3031 - Thermodynamics and Statistical Mechanics (3 cr.)
- PHYS 312/3013 - Theoretical Mechanics (3 cr.)
- PHYS 316/3023 - Electromagnetic Theory (3 cr.)
- PHYS 321L/3052 - Nuclear Physics Lab (1 cr.)
- PHYS 322L/3232 - Solid-State Physics Lab (2 cr.)
- PHYS 325/3231 - Introduction to Solid-State Physics (3 cr.)
- PHYS 413/4051 - Nuclear and Particle Physics (3 cr.)
- PHYS 421/4042 - Quantum Mechanics I (3 cr.)

Physics (M.Sc.)

The Master of Science program in physics provides, along with a deep and solid foundation in basic physics, theoretical and experimental skills that are transferable to many professions besides the traditional physics research careers. These skills, acquired within the main stream of study in theoretical and condensed matter physics, include mathematical modeling, instrumentation and experiment design, and general laboratory and research techniques.

A total of 32 credit hours is required for the Master of Science degree. This consists of 24 credit hours of courses and 8 credit hours of thesis work.

Admission

A Bachelor's degree in physics or a related field, with a minimum GPA of 3.0 out of 4.0, is required for admission into the physics master's program. Admission is also subject to the general university requirements for the graduate program. For those students whose grade records indicate promising ability, but who otherwise did not have an adequate preparation in physics, admission may be granted under the requirement that remedial courses will be taken.

Courses (24 credit hours)

The program of study is planned with the faculty advisor; and should include 12 credit hours of core courses, 3-6 credit hours of core elective courses, and 6-9 credit hours of Physics electives.

Core Courses (12 credit hours)

- PHYS 501/5061 - Mathematical Physics (3 cr.)
- PHYS 502/5023 - Classical Electrodynamics (3 cr.)
- PHYS 504/5013 - Classical Mechanics (3 cr.)
- PHYS 506/5043 - Advanced Quantum Mechanics (3 cr.)

Core Elective Courses (3-6 credit hours)

Choice of courses with consultation of advisor.

- PHYS 507/5242 - Computational Physics (3 cr.)
- PHYS 508/5282 - Advanced Experimental Techniques (3 cr.)
- PHYS 509/5032 - Advanced Thermodynamics and Statistical Mechanics (3 cr.)

Physics Electives (6-9 credit hours)

A maximum of 3 credit hours of the physics electives can be taken from graduate level courses in other related areas subject to the advisors' approval.

- PHYS 510/5235 - Introduction To Solids (3 cr.)
- PHYS 512/5236 - Electronic Transport in Semiconductor (3 cr.)
- PHYS 513/5237 - Theory of Solids (3 cr.)
- PHYS 549/5024 - Passive Microwave Circuits (3 cr.)
- PHYS 556/5277 - MEMS/NEMS Technology and Devices (3 cr.)
- PHYS 561/5910 - Independent Studies (1-3 cr.)
- PHYS 562/5930 - Selected topics in Physics (3 cr.)

Thesis (8 credit hours)

Each student must submit a thesis topic that has been approved by a faculty supervisor, normally after acquiring 12 credit hours of course work. Since various research topics are addressed in a sequence of two seminar courses, the student must register for the first before submitting a thesis topic while the second must be taken during the execution of the thesis research. To ensure adequate faculty consultation, two semesters of the graduate thesis course are required.

- PHYS 590/5940 - Graduate Seminar I (1 cr.)
- PHYS 591/5941 - Graduate Seminar II (1 cr.)
- PHYS 599/5980 - Research Guidance and Thesis (3 cr. + 3 cr.)

Physics (Graduate Diploma)

The graduate diploma in physics is directed at providing the student with advanced background in areas such as computational physics, mathematical modeling, laboratory techniques, instrumentation, experiment design, and research techniques. A total of 18 credit hours (6 courses) is required for the diploma.

Admission

Admission requirements are the same as those for the M. Sc. program.

Courses (18 credits)

The courses may be selected from the 500-level physics courses. No more than two 400-level courses, not previously taken, may be considered for credit. Successfully completed 500-level courses in the diploma program will fulfill master's degree requirements should the student subsequently be admitted into the master's degree program. The diploma program may be completed in one academic year, and no thesis or qualifying examination is required.

Biotechnology Program

Professors: H. Azzazy (CHEM), H. El-Dorry (BIOL), A. Shaarawi (PHYS), S. Zada (BIOL)

Associate professors: H. Salem (MENG), R. Siam (BIOL and Program Director)

Assistant professors: A. Amleh (BIOL), W. Fouad (BIOL), J. Grubich (BIOL), A. Moustafa (BIOL), A. Rafea (CSCE), E. Cruz-Rivera (BIOL)

Biotechnology (M.Sc.)

The Master of Science program in biotechnology provides postgraduate education to prepare students for a career in biotechnology through the construction of a firm foundation in the science and engineering of biotechnology and to provide an introduction to bioentrepreneurship.

A total of 33 credit hours is required for the Master of Science degree. This consists of 24 credits hours of courses, 6 credit hours of thesis work, and 3 credit hours of seminar.

Program Objectives

The objectives of the Master of Science in Biotechnology are:

1. To introduce students to a combination of fundamentals and frontline applications in the field of biotechnology.

2. To introduce students to regulatory affairs, intellectual property issues, and ethics related to different aspects of biotechnology.
3. To introduce students to principles and requirements of bio-entrepreneurship.
4. To provide the students with a deep understanding of the research techniques and data analysis in the area of specialization.
5. To train students to solve biotechnology-related problems, think critically, function well in a team, and communicate effectively.
6. To train students at a high standard of written and oral communication skills on technical matters

Admission

A Bachelor's degree in sciences or engineering, with a minimum GPA of 3.0 out of 4.0, is required for admission into the biotechnology master's program. Admission is also subject to the general university requirements for the graduate program. For those students whose grade records indicate promising ability, but who otherwise did not have an adequate preparation in sciences or engineering, admission may be granted under the requirement that remedial courses will be taken.

Courses (24 credits)

The program of study is planned with the faculty advisor, and should include 12 credit hours of core courses and 12 credit hours of elective courses.

Biotechnology Core Courses (12 credit hours)

To be chosen from the following courses:

- BIOT 501/5201 - Biochemistry (3 cr.)
- BIOT 502/5202 - Cell and Molecular Biology (3 cr.)
- BIOT 503/5203 - Biotechnology (3 cr.)
- BIOT 504/5204 - Experimental Biotechnology (3 cr.)
- BIOT 505/5205 - Basics of Bioentrepreneurship (3 cr.)
- BIOT 521/5206 - Fundamentals of Bioinformatics (3 cr.)

Biotechnology Electives Courses (12 credit hours)

To be chosen from the following list of courses:

- BIOT 531/5207 - Molecular Diagnosis (3 cr.)
- BIOT 541/5208 - Molecular Genetics (3 cr.)
- BIOT 511/5211 - Bioengineering (3 cr.)
- BIOT 543/5210 - Microbial Biotechnology (3 cr.)
- BIOT 551/5930 - Selected Topics in Biotechnology (3 cr.)
- BIOT 604/6204 - Model Systems in Cancer Research (2 cr. + 1 cr. lab)
- BIOT 620/6206 - Computational Genomics and Transcriptomics (3 cr.)
- BIOT 621/6207 - Systems and Computational Biology (3 cr.)
- BIOT 601/6930 - Current Topics in Biotechnology (3 cr.)

Notes:

Students may also take a maximum of one 400-level course in sciences or engineering, or other related areas subject to their advisor's approval.

Thesis (9 credit hours)

Each student must submit a thesis topic that has been approved by a faculty supervisor normally after acquiring 12 credit hours of course work. Since various research topics are addressed in a sequence of two seminar courses, the student must register for the first (BIOT 5940) before submitting a thesis topic while the second (BIOT 5941) must be taken during the execution of the thesis research. To ensure adequate faculty consultation, two semesters of the graduate thesis course (BIOT 5980) are required. After that, the course may be taken for one credit hour each semester until completion of the program requirements.

- BIOT 590/5940 - Graduate Seminar I (2 cr.)
- BIOT 591/5941 - Graduate Seminar II (1 cr.)
- BIOT 599/5980 - Research Guidance and Thesis (3 cr. + 3 cr.)

Doctorate of Philosophy (Ph.D.) Program

Applied Sciences, with specializations in Biotechnology, Chemistry, Computer Science and Nanotechnology (Ph.D.)

Doctor of Philosophy in Applied Sciences

The Ph.D. in Applied Sciences is an interdisciplinary program that applies modern approaches from the experimental, natural and life sciences in conjunction with theoretical and computational methods from the disciplines of engineering, mathematics and computer science to the solution of advanced problems of fundamental importance. The Ph.D. program in Applied Sciences emphasizes the application of research methods and procedures to advanced areas of importance in the sciences and technology. The program builds on the premise that advancing the applied sciences and technology must be based on fundamental comprehension of the various disciplines, while continually being responsive to the needs of new technologies, and the interdisciplinary nature of the modern scientific enterprise. This program will be administered by a committee which has a representation of faculty from various graduate programs in the School of Sciences and Engineering.

This program offers a Ph.D. degree in Applied Sciences with specializations in:

- Nanotechnology,
- Biotechnology,
- Chemistry,
- or Computer Science.

Admission Requirements

- M.Sc. in Engineering or Sciences discipline
- Demonstrated proficiency in English language as determined by AUC graduate admissions
- Obtain an acceptable score in the Graduate Record Exam (GRE)

Program Objectives

The mission of the Ph.D. program in Applied Sciences and Engineering is to provide in-depth training to students in the natural sciences, modern engineering, and computer science and in the conduct of original research leading to a doctoral dissertation.

The primary goal of the program is to provide students with an opportunity to contribute to the advancement of knowledge in the field of applied sciences and engineering. The program is aimed at providing students with the opportunity to develop their professional knowledge and expertise to a high caliber and to qualify for leadership positions in teaching, in research, in administration and management and in policy analysis and program development. The program caters to demands of industry and research institutes and places a strong emphasis on original thinking, professional behavior and ethical conduct. The objectives of the program are for students to acquire

1. A broad analytic understanding of advanced experimental, theoretical and computational methods in the applied sciences and engineering
2. Substantive knowledge of some field or area of practice (e.g., nanotechnology, biotechnology, computer science, environmental engineering, etc.).
3. Competence to conduct independent, empirical research that extends the knowledge base of the field of interest.
4. Ability to generate new ideas, convince others that their ideas are worth pursuing, do the necessary research to demonstrate that their ideas are viable, and communicate the results of their research in the public domain.

Program Outcomes

Upon completing the degree requirements for the Ph.D. Program in Applied Sciences and Engineering graduating students should have the ability to:

1. Pursue a career in academia in teaching and/or research.
2. Pursue a career in industrial research and development (R&D).
3. Identify well-defined science and/or engineering problems of importance to the profession or the community, as well as generate new ideas and approaches to resolve such problems.
4. Apply advanced experimental, analytical and computational techniques to solve complex science problems.
5. Convince others that their ideas are worth pursuing and explore funding opportunities for their research.
6. Initiate scientific collaborations schemes that advance their research endeavors.
7. Successfully communicate their results to constituencies of various technical backgrounds and fields of specialty.
8. Make significant contributions to their field of specialization and profession through their own continued research, writing, teaching, and practice.
9. Implement the code of ethics within the study and work environments.

Doctoral of Philosophy Degree Requirements:

Students going through this program are expected to successfully complete the following requirements:

1. **Pass the required course work with a GPA 3.0 or higher:** This ensures the breadth of knowledge of the Ph.D. student.
2. **Pass a Qualifying Examination:** This signifies that course work is completed and that the student has sufficient background knowledge in her/his field of specialization.
3. **Present and defend a proposal of the intended research work:** This demonstrates that the candidate has defined her/his research problem and is capable of identifying the research methodology that she/he will adopt.
4. **Submit a written Dissertation and defend it in a final Oral Defense:** This marks the completion of the requirements for the Ph.D. degree.

Doctoral Coursework:

As part of the process of achieving candidacy, a doctoral student must complete a set of courses known as the doctoral candidacy coursework. It includes at least thirty-six (36) credit hours of relevant graduate coursework beyond the bachelor's degree, of which at least eighteen (18) credit hours must be earned at AUC. Students who change their major specialization from that used for their master's degree to a new specialization for their Ph.D. degree may have to take more than thirty-six (36) hours to fulfill the course requirements. Because of the interdisciplinary nature of the program and in order to ensure sufficient breadth of study, the program is designed to include required core coursework in areas outside one's main specialization. In addition, the student must complete 3 credit hours of Seminar courses and register for thirty-three (33) credit hours of Dissertation research work. Courses for each specialization will be listed at the 5000 and 6000 levels in addition to remedial courses to be taken at the 4000 level whenever deemed necessary.

The Academic Advisor and the Research Advising Committee:

The academic advisor is determined by the specialization of the student, and is particularly important for assistance in the preliminary course planning of a student's Ph.D. program. Each specialization has at least one faculty member advisor (usually the Graduate Program Director of the discipline). The academic advisor will be available to the student to help in her/his preliminary choice of the courses. As the student progresses in the program she/he chooses the members of the Research Advisory Committee, which consists of the Chair of the Committee (Dissertation Advisor) and two other members. This committee will play a greater role in finalizing the courses for the student's Plan of Study and in advising her/his research work. It is the responsibility of the student to find a faculty member willing to serve as the Chair of the Research Advisory Committee and to choose in consultation with her/him the other members.

Ph.D. Plan of Study for Qualification and Candidacy:

The Ph.D. Plan of Study is intended to help the student select courses and will ensure that she/he has an academic program that meets the Ph.D. coursework requirements. The Plan of Study will also allow the students to identify a sequence of courses that meets her/his professional objectives. A preliminary Plan of Study will be drafted in consultation with the student's academic advisor and should be submitted before the student signs up to take the Ph.D. Qualifying Examination.

As the student advances in the program, she/he should choose the members of her/his Research Advisory Committee. The final plan of Study will be drafted in consultation with the Research Advisory Committee. A final up-to-date copy must be submitted before the student applies to take the qualifying exam.

The Plan of Study must contain a listing of the courses the student has taken or intends to take to satisfy the qualification coursework requirements and must constitute a coherent program within the scope of the chosen specialization. It is the student's responsibility to make sure that all requirements are met. Any departure from the requirements must be requested by written petition, which should normally flow starting from the supervisor, to the director of the specialization area, then the Associate Dean for Graduate Studies and Research for final approval.

Doctoral Qualifying Examination:

The purpose of the Ph.D. Qualifying Examination is to evaluate the student's ability to analyze problems and to synthesize solutions. It should demonstrate the ability of the student to interrelate basic concepts and ideas in her/his field of study. At least twelve (12) weeks prior to the examination, the student must submit a request indicating her/his intention to take the examination. The Ph.D. Qualifying Examination will be administered by an Examining Committee in each specialization. Following the examination, the Examining Committee will submit an evaluation of the student's performance to Office of the Associate Dean for Graduate Studies and Research. The qualifying examination is typically taken in the semester immediately following the completion of the coursework credit hours, but no later than during the fourth semester since admission into the program. Any deviation from this schedule must be made by written petition and subsequent approval as indicated earlier.

The Proposal Defense:

Typically in the semester immediately after the successful completion of the qualifying examination, the student has to write a research proposal under the guidance of the Dissertation Advisor and will give a Proposal Presentation in front of the Research Advisory Committee. Upon the acceptance of the proposal by the Research Advisory Committee, the student makes an oral presentation of the research proposal, including relevant background material. During and after the presentation, the committee will explore the research project with the student in order to provide guidance and make an evaluation of its suitability. They will report their recommendation to the Office of the Associate Dean for Graduate Studies and Research. In case the student does not present an acceptable proposal, the student must take immediate steps to refine the proposal in consultation with the dissertation advisor. The Proposal Presentation requirement is completed when the Research Advisory Committee chair reports a successful proposal presentation to the Office of the Registrar.

Following acceptance of the proposal, the Dissertation Defense Committee is finalized. This consists of the three members of the Research Advisory Committee in addition to two external examiners. The selection of the committee is made in consultation with the supervisor and the director of the specialization area. The membership of this Committee is communicated to the Associate Dean for Graduate Studies and Research and the Dean of Graduate Studies for approval.

The Dissertation and Its Defense --- Final Oral Defense:

Upon completion, the dissertation must receive a written evaluation from each other member of the Dissertation Defense Committee and must be defended orally in an open examination before the committee. Following the successful Final Oral Defense, the student must consult with the dissertation advisor(s) about any changes required by the committee, and must take these changes before final submission of the dissertation to the Dean of Graduate Studies.

Course and Research Requirements

Minimum number of credit hours beyond the B.Sc. degree: 72

Dissertation hours 33 (BIOT 6980, CHEM 6980, CSCE 6980, NANO 6980)

Seminar hours 3

Course hours 36 (See below)

The required number of semester credit hours of coursework to be taken for the Ph.D. degree is dependent upon the M.Sc. degree and is determined by the academic advisor of the student at the time of admission. At least eighteen (18) credit hours of course work must be earned at AUC.

Case 1: M.Sc. in the same Applied Sciences discipline from AUC.

A candidate may receive up to 24 hours of credit to be counted towards the Ph.D. degree

Case 2: M.Sc. in a different Applied discipline, or achieved outside of AUC.

A candidate may receive up to 12 hours of credit to be counted towards the Ph.D. degree

A plan of study will be developed under guidance of the academic advisor of the student at the time of admission and may be modified later on by her/his Research Advisory Committee. Courses are to be selected from the following, noting that at least eighteen credit hours of course work must be earned at AUC as earlier indicated:

I. Core Courses

Core courses are selected from an area outside of the specialization of the student.

Admission Case 1: at least 3 credit hours.

Admission Case 2: at least 6 credit hours.

- BIOT 501/5201 - Biochemistry (3 cr.)
- BIOT 521/5206 - Fundamentals of Bioinformatics (3 cr.)
- CHEM 502/5202 - Organometallics (3 cr.)
- CHEM 503/5203 - Advanced Organic Chemistry (3 cr.)
- CHEM 504/5204 - Methods of Structure Determination (3 cr.)
- CSCE 565/5261 - Advanced Artificial Intelligence (3 cr.)
- CSCE 527/5262 - Neural Networks and Genetic Algorithms (3 cr.)
- CSCE 561/5263 - Knowledge Engineering (3 cr.)
- CSCE 664/6261 - Advanced Data Mining (3 cr.)
- ECNG 510/5210 - Advanced Solid-State Devices (3 cr.)
- ECNG 520/5231 - Advanced Digital Communications (3 cr.)
- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENVE 562/5251 - Unit Operations in Environmental Engineering (3 cr.)
- NANO 502/5202 - Simulation and Modeling for Nanoscale Materials and Systems (3 cr.)
- NANO 503/5203 - Advanced Testing and Characterization Techniques (3 cr.)
- NANO 504/5204 - Fabrication of Nanomaterials For Films And Devices (3 cr.)
- MACT 604/6111 - Advanced Numerical Methods (3 cr.)
- MACT 605/6121 - Advanced Probability with Engineering Applications (3 cr.)
- MENG 543/5243 - Systems Modeling and Optimization (3 cr.)
- MENG 681/6241 - Stochastic Simulation (3 cr.)
- PHYS 502/5023 - Classical Electrodynamics (3 cr.)
- RCSS 504/5204 - Applied Estimation (3 cr.)
- RCSS 541/5241 - Smart Systems and Computational Intelligence (3 cr.)
- BIOT 621/6207 - Systems and Computational Biology (3 cr.)
- PHDS/PHDE 612/6216 - Design and analysis of Experiments (3 cr.)

II- Specialization Courses

Dependent on the admission status, the student will take the following number of credit hours in their relevant area of specialization:

- Admission Case 1: at least 6 credit hours.
- Admission Case 2: at least 12 credit hours.

5000-level masters courses offered by the graduate programs of Biotechnology (BIOT), Chemistry (CHEM), Computer Science (CSCE), Nanotechnology (NANO) and Physics (PHYS) are considered specialization courses. At least one of the courses taken in the specialization must be a 6000-level course relevant to the student's specialization from the following list:

- BIOT 601/6930 - Current Topics in Biotechnology (3 cr.)
- BIOT 602/6931 - Reading and Conference Course (3 cr.)
- BIOT 604/6204 - Model Systems in Cancer Research (2 cr. + 1 cr. lab)

- BIOT 620/6206 - Computational Genomics and Transcriptomics (3 cr.)
- CHEM 603/6103 - Bioseparation Processes for Food and Pharmaceutical Industries (3 cr.)
- CHEM 615/6105 - Principles and Applications of Mass Spectrometry (3 cr.)
- CHEM 000/6107 - Chemistry of Natural and Synthetic Polymers (3 cr.)
- CHEM 000/6910 - Independent Study in Chemistry (3 cr. max.)
- CHEM 000/6930 - Advanced Selected Topics in Chemistry (3 cr.)
- CSCE 642/6231 - Mobile and Pervasive Computing (3 cr.)
- CSCE 692/6930 - Advanced Selected Topics in Computer Science (3 cr.)
- ECNG 661/6211 - Nanoscale CMOS (3 cr.)
- NANO 621/6121 - Nanophotonics (3 cr.)
- NANO 630/6230 - Biomaterials (3 cr.)
- NANO 642/6242 - Nanocatalysis (3 cr.)
- NANO 505/5205 - Nanochemistry (3 cr.)
- NANO 640/6240 - Nanoporous Materials (3 cr.)
- PHYS 602/6025 - Classical Electrodynamics II (3 cr.)
- PHYS 641/6225 - Integrated Photonics (3 cr.)
- PHYS 642/6243 - Computational Electromagnetics (3 cr.)
- PHYS 662/6930 - Advanced Selected Topics in Physics (3 cr.)

III - Dissertation and Seminars (Minimum of 36 credit hours)

Dissertation work includes completion of:

- Graduate Thesis Seminar I, 2 cr. (According to discipline student)
- Graduate Advanced Research Seminar (PHDS 6291), 1 cr.

Research Dissertation Guidance, a minimum of 33 cr. (BIOT 6980, CHEM 6980, CSCE 6980, or NANO 6980)

After completing 33 credit hours of dissertation, the course may be taken for one credit hour each semester until completion of the program requirements.

A PhD guidelines manual will detail advising, the qualifying examination, the proposal defense, and the dissertation defense.

Engineering, with specializations in Construction Engineering, Electronics and Communications Engineering, Environmental Engineering, Mechanical Engineering and Robotics, Control & Smart Systems (Ph.D.)

Doctor of Philosophy in Engineering

The Ph.D. in Engineering is an interdisciplinary program that applies modern approaches from the experimental, natural and life sciences in conjunction with theoretical and computational methods from the disciplines of engineering, mathematics and computer science to the solution of advanced problems of fundamental importance. The Ph.D.

program in Engineering emphasizes the application of research methods and procedures to advanced areas of importance in the sciences and technology. The program builds on the premise that advancing the applied sciences and technology must be based on fundamental comprehension of the various disciplines, while continually being responsive to the needs of new technologies, and the interdisciplinary nature of the modern scientific enterprise. This program will be administered by a committee which has a representation of faculty from various graduate programs in the School of Sciences and Engineering.

This program offers a Ph.D. degree Engineering with specializations in:

- Mechanical Engineering,
- Construction Engineering,
- Electronics and Communications Engineering, (The name of the Electronics Engineering department has been changed to be the Electronics and Communications Engineering department. This change is effective starting Spring 2014. All degrees offered by the department will reflect the new name starting Spring 2014, and all transcripts issued for students graduating Spring 2014 onwards will bear the new name.)
- Robotics, Control and Smart Systems,
- or Environmental Engineering.

Admission Requirements

- M.Sc. IN AN Engineering discipline.
- Demonstrated proficiency in English language as determined by AUC graduate admissions
- Obtain an acceptable score in the Graduate Record Exam (GRE)

Program Objectives

The mission of the Ph.D. program in Applied Sciences and Engineering is to provide in-depth training to students in the natural sciences, modern engineering, and computer science and in the conduct of original research leading to a doctoral dissertation.

The primary goal of the program is to provide students with an opportunity to contribute to the advancement of knowledge in the field of applied sciences and engineering. The program aims at providing students with the opportunity to develop their professional knowledge and expertise to a high caliber and to qualify for leadership positions in teaching, in research, in administration and management and in policy analysis and program development. The program caters to demands of industry and research institutes and places a strong emphasis on original thinking, professional behavior and ethical conduct. The objectives of the program are for students to acquire

1. A broad analytic understanding of advanced experimental, theoretical and computational methods in the applied sciences and engineering
2. Substantive knowledge of some field or area of practice (e.g., electronics engineering, environmental engineering, etc.).
3. Competence to conduct independent, empirical research that extends the knowledge base of the field of interest.
4. Ability to generate new ideas, convince others that their ideas are worth pursuing, do the necessary research to demonstrate that their ideas are viable, and communicate the results of their research in the public domain.

Program Outcomes

Upon completing the degree requirements for the Ph.D. Program in Engineering, graduating students should have the ability to:

1. Pursue a career in academia in teaching and/or research.
2. Pursue a career in industrial research and development (R&D).
3. Identify well-defined science and/or engineering problems of importance to the profession or the community, as well as generate new ideas and approaches to resolve such problems.
4. Apply advanced experimental, analytical and computational techniques to solve complex science and/or engineering problems.
5. Convince others that their ideas are worth pursuing and explore funding opportunities for their research.
6. Initiate scientific collaborations schemes that advance their research endeavors.
7. Successfully communicate their results to constituencies of various technical backgrounds and fields of specialty.
8. Make significant contributions to their field of specialization and profession through their own continued research, writing, teaching, and practice.
9. Implement the code of ethics within the study and work environments.

Doctoral of Philosophy Degree Requirements:

Students going through this program are expected to successfully complete the following requirements:

1. **Pass the required course work with a GPA 3.0 or higher:** This insures the breadth of knowledge of the Ph.D. student.
2. **Pass a Qualifying Examination:** This signifies that course work is completed and that the student has sufficient background knowledge in her/his field of specialization.
3. **Present and defend a proposal of the intended research work:** This demonstrates that the candidate has defined her/his research problem and is capable of identifying the research methodology that she/he will adopt.
4. **Submit a written Dissertation and defend it in a final Oral Defense:** This marks the completion of the requirements for the Ph.D. degree.

Doctoral Coursework:

As part of the process of achieving candidacy, a doctoral student must complete a set of course known as the doctoral candidacy coursework. It includes at least thirty-six (36) credit hours of relevant graduate coursework beyond the bachelor's degree, of which at least eighteen (18) credit hours must be earned at AUC. Students who change their major specialization of their master's degree to a new specialization for their Ph.D. degree may have to take more than thirty-six (36) hours to fulfill the course requirements.

Because of the interdisciplinary nature of the program and in order to ensure sufficient breadth of study, the program is designed to include required course work in areas outside one's main specialization. In addition the student must complete 3 credit hours of Seminar courses and register for thirty-three (33) credit hours of Dissertation research work. Courses for each specialization will be listed at the 500 and 600 levels in addition to remedial courses to be taken at the 400 level whenever deemed necessary.

The Academic Advisor and the Research Advising Committee:

The academic advisor is determined by the specialization of the student, and is particularly important for assistance in the preliminary course planning of a student's Ph.D. program. Each specialization has at least one faculty member advisor (usually the Graduate Program Director of the discipline). The academic advisor will be available to the student to help in her/his preliminary choice of the courses. As the student progresses in the program she/he chooses the members of the Research Advisory Committee, which consists of the Chair of the Committee (Dissertation Advisor) and two other members. This committee will play a greater role in finalizing the courses for the student's Plan of Study and in advising her/his research work. It is the responsibility of the student to find a faculty member willing to serve as the Chair of the Research Advisory Committee and to choose in consultation with her/him the other members.

Ph.D. Plan of Study for Qualification and Candidacy:

The Ph.D. Plan of Study is intended to help the student select courses and will ensure that she/he has an academic program that meets the Ph.D. coursework requirements. The Plan of Study will also allow the student to identify a sequence of courses that meets her/his professional objectives. A preliminary Plan of Study will be drafted in consultation with the student's academic advisor and should be submitted before the student signs up to take the Ph.D. Qualifying Examination.

As the student advances in the program, she/he should choose the members of her/his Research Advisory Committee. The final Plan of Study will be drafted in consultation with the Research Advisory Committee. A final up-to-date copy must be submitted before the student applies to take the qualifying exam.

The Plan of Study must contain a listing of the courses the student has taken or intends to take to satisfy the qualification coursework requirements and must constitute a coherent program within the scope of the chosen specialization. It is the student's responsibility to make sure that all requirements are met. Any departure from the requirements must be requested by written petition, which should normally flow starting from the supervisor, to the director of the specialization area, then the Associate Dean for Graduate Studies and Research for final approval.

Doctoral Qualifying Examination:

The purpose of the Ph.D. Qualifying Examination is to evaluate the student's ability to analyze problems and to synthesize solutions. It should demonstrate the ability of the student to interrelate basic concepts and ideas in her/his field of study. At least twelve (12) weeks prior to the examination, the student must submit a request indicating her/his intention to take the examination. The Ph.D. Qualifying Examination will be administered by an Examining Committee in each specialization. Following the examination, the Examining Committee will submit an evaluation of the student's performance to the Office of the Associate Dean for Graduate Studies and Research. The qualifying examination is typically taken in the semester immediately following the completion of the coursework credit hours, but no later than during the fourth semester since admission into the program. Any deviation from this schedule must be made by written petition and subsequent approval as indicated earlier.

The Proposal Defense:

Typically in the semester immediately after the successful completion of the qualifying examination, the student has to write a research proposal under the guidance of the Dissertation Advisor and will give a Proposal Presentation in front of the Research Advisory Committee. Upon the acceptance of the proposal by the Research Advisory Committee, the student makes an oral presentation of the research proposal, including relevant background material. During and after the presentation, the committee will explore the research project with the student in order to provide guidance and make an evaluation of its suitability. They will report their recommendation to the Office of the Associate Dean for Graduate Studies and Research. In case the student does not present an acceptable proposal, the student must take immediate steps to refine the proposal in consultation with the dissertation advisor. The Proposal Presentation requirements is completed when the Research Advisory Committee chair reports a successful proposal presentation to the Office of the Registrar.

Following acceptance of the proposal, the Dissertation Defense Committee is finalized. This consists of the three members of the Research Advisory Committee in addition to two external examiners. The selection of the committee is made in consultation with the supervisor and the director of the specialization area. The membership of this Committee is communicated to the Associate Dean for Graduate Studies and Research and the Dean of Graduate Studies for approval.

The Dissertation and Its Defense - Final Oral Defense:

Upon completion, the dissertation must receive a written evaluation from each member of the Dissertation Defense Committee and must be defended orally in an open examination before the committee. Following the successful Final Oral Defense, the student must consult with the dissertation advisor(s) about any changes required by the committee, and must make these changes before final submission of the dissertation to the Dean of Graduate Studies.

Course and Research Requirements

Minimum number of credit hours beyond the B.Sc. degree: 72

Dissertation hours 33 (CENG 6290 , ECNG 6980 , ENVE 6980 , MENG 6980)

Seminar hours 3

Course hours 36 (See below)

The required number of semester credit hours of coursework to be taken for the PhD degree is dependent upon the M.Sc. degree and is determined by the academic advisor of the student at the time of admission. At least eighteen (18) credit hours of course work must be earned at AUC.

Case 1: M.Sc. in the same Engineering discipline from AUC.

A candidate may receive up to 24 hours of credit to be counted towards the Ph.D. degree

Case 2: M.Sc. in a different Engineering discipline, or achieved outside of AUC.

A candidate may receive up to 12 hours of credit to be counted towards the Ph.D. degree

A plan of study will be developed under guidance of the academic advisor of the student at the time of admission and may be modified later on by her/his Research Advisory Committee. Courses are to be selected from the following, noting that at least eighteen credit hours of course work must be earned at AUC as earlier indicated:

I - Core Courses

Core courses are selected from an area outside of the specialization of the student.

Admission Case 1: at least 3 credit hours.

Admission Case 2: at least 6 credit hours.

- BIOT 521/5206 - Fundamentals of Bioinformatics (3 cr.)
- CSCE 565/5261 - Advanced Artificial Intelligence (3 cr.)
- CSCE 527/5262 - Neural Networks and Genetic Algorithms (3 cr.)
- CSCE 561/5263 - Knowledge Engineering (3 cr.)
- CSCE 664/6261 - Advanced Data Mining (3 cr.)
- ECNG 510/5210 - Advanced Solid-State Devices (3 cr.)
- ECNG 520/5231 - Advanced Digital Communications (3 cr.)
- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENVE 562/5251 - Unit Operations in Environmental Engineering (3 cr.)

- NANO 502/5202 - Simulation and Modeling for Nanoscale Materials and Systems (3 cr.)
- NANO 503/5203 - Advanced Testing and Characterization Techniques (3 cr.)
- NANO 504/5204 - Fabrication of Nanomaterials For Films And Devices (3 cr.)
- MACT 604/6111 - Advanced Numerical Methods (3 cr.)
- MACT 605/6121 - Advanced Probability with Engineering Applications (3 cr.)
- MENG 543/5243 - Systems Modeling and Optimization (3 cr.)
- MENG 681/6241 - Stochastic Simulation (3 cr.)
- PHYS 502/5023 - Classical Electrodynamics (3 cr.)
- RCSS 504/5204 - Applied Estimation (3 cr.)
- RCSS 541/5241 - Smart Systems and Computational Intelligence (3 cr.)
- BIOT 621/6207 - Systems and Computational Biology (3 cr.)
- PHDS/PHDE 612/6216 - Design and analysis of Experiments (3 cr.)

II- Specialization Courses

Dependent on the admission status, the student will take the following number of credit hours in their relevant area of specialization:

Admission Case 1: at least 6 credit hours.

Admission Case 2: at least 12 credit hours.

5000-level masters courses offered by the graduate programs of Construction Engineering (CENG), Environmental Engineering (ENVE), Electronics and Communications Engineering (ECNG), Mechanical Engineering (MENG) and Nanotechnology (NANO) are considered specialization courses. At least one of the courses taken in the specialization must be a 6000-level course relevant to the student's specialization from the following list:

- ECNG 619/6219 - Design and Analysis of High-Performance Integrated Circuits (3 cr.)
- ECNG 694/6930 - Advanced Selected Topics in Electronics and Communications Engineering (3 cr.)
- ECNG 625/6235 - Detection, Classification, and Estimation Theory (3 cr.)
- ECNG 661/6211 - Nanoscale CMOS (3 cr.)
- ECNG 694/6930 - Advanced Selected Topics in Electronics and Communications Engineering (3 cr.)
- ENVE 662/6250 - Advanced Treatment Processes (3 cr.)
- ENVE 680/6910 - Independent Study in Environmental Engineering (3 cr. Max.)
- ENVE 692/6930 - Advanced Selected Topics in Environmental Engineering (3 cr.)
- CENG 611/6211 - Structural Stability (3 cr.)
- CENG 612/6212 - Structural Dynamics (3 cr.)
- CENG 613/6213 - Earthquake Engineering and Seismic Design (3 cr.)
- CENG 631/6222 - Specialty Materials for Construction (3 cr.)
- CENG 632/6231 - Highways Pavement Systems and Design (3 cr.)
- CENG 679/6223 - Preserving, Repair and Sustainability of Structures (3 cr.)
- CENG 680/6291 - Independent Study in Structural and Material Engineering (3 cr. max.)
- CENG 692/6292 - Advanced Selected Topics in Structural and Material Engineering (3 cr.)
- MENG 615/6255 - Continuum Mechanics (3 cr.)
- MENG 620/6270 - Nonlinear and Adaptive Control (3 cr.)
- MENG 660/6261 - Sustainability of Thermal Systems (3 cr.)
- MENG 670/6262 - Advanced Transport Phenomena (3 cr.)
- NANO 621/6121 - Nanophotonics (3 cr.)
- NANO 642/6242 - Nanocatalysis (3 cr.)
- RCSS 692/6930 - Advanced Selected Topics in Robotics, Control and Smart Systems (RCSS) (3 cr.)

Environmental Engineering students can also register for online graduate course offerings through a cooperative program between AUC's Department of Construction and Architectural Engineering and Iowa State University's Department of Civil, Construction and Environmental Engineering. A maximum of six credit hours can be earned as such. Sample courses are as follows:

- CE 521: Environmental Biotechnology
- CE 522: Water Pollution Control Processes
- CE 569: Environmental Geotechnology
- CE 571: Surface Water Hydrology

III - Dissertation and Seminars (Minimum of 36 credit hours)

Dissertation work includes completion of:

- Graduate Thesis Seminar I, 2cr. (According to discipline student)
- Graduate Advanced Research Seminar (PHDE 6291), 1 cr.

Research Dissertation Guidance, a minimum of 33 cr. (CENG 6290, ECNG 6980, ENVE 6980, MENG 6980 or RCSS 6980)

After completing 33 credit hours of dissertation, the course may be taken for one credit hour each semester until completion of the program requirements.

A PhD guidelines manual will detail advising, the qualifying examination, the proposal defense, and dissertation defense.

Environmental Engineering Program

Director: E. Imam

Steering Committee: S. El-Baradei, S. El-Hagggar, E. Imam, A. Shaarawi

Environmental Systems Design (M.Eng.)

The Master of Engineering Degree in Environmental Systems Design prepares students for higher level professional practice in local and international markets, whether in private consulting practice, industry, or government and regulatory activities.

Program Objectives

The objectives of the Master of Engineering Degree in Environmental Systems Design are to provide the graduates of the program with:

- Extensive knowledge in fundamental environmental engineering science, the interactions of pollutants in water, air, and subsurface environments, and the design of treatment / pollutant remediation systems.

- In-depth knowledge in an area of student interest deriving from one of the areas of environmental engineering noted above, including applications in environmental hydraulics, solid and hazardous waste engineering, and management of environmental control systems.
- Awareness of the local and global context in which environmental engineering is practiced, including economic and business practices, societal needs, and considerations of public health, safety, culture and ethics.
- An ability to solve unstructured engineering problems of social significance, think critically, and function well in a team.
- A high and ethical standard of written and oral communication on technical matters.

Admission

Admission requirements are the same as those for the Master of Science Program.

Courses (33 credit hours)

Course work for the Master of Engineering degree requires the completion of 33 credit hours as follows:

I- Engineering core (6 credits)

- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)

One course (3 cr.) is selected out of

- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)

II- Environmental Engineering core (15 credits)

- ENVE 561/5250 - Water Quality Control (3 cr.)
- ENVE 562/5251 - Unit Operations in Environmental Engineering (3 cr.)
- ENVE 564/5252 - Air Pollution Control Engineering (3 cr.)
- ENVE 566/5254 - Solid and Hazardous Wastes Engineering (3 cr.)
- ENVE 567/5255 - Environmental Chemistry (3 cr.)
- ENVE 569/5258 - Groundwater Hydrology and Contamination (3 cr.)

III- Elective Courses (12 credit hours)

Four courses (12 cr.) are to be selected from a set of graduate courses in engineering, physical sciences, social sciences, management and other related graduate level courses subject to advisor and director's approval. No more than one 400-level course in engineering, computer science and other related areas, not in the student's undergraduate major, may be taken for graduate credit subject to advisor and director's approval.

Environmental Engineering (M.Sc.)

The Master of Science program in Environmental Engineering is an interdisciplinary engineering degree program that is administered by a director and a steering committee from the engineering departments. Other faculty members from the School of Sciences and Engineering participate in the program. It provides a broad program of study in preparation for careers in advanced engineering areas in addition to in depth knowledge in Environmental Engineering with a strong research component. Graduates will be prepared for Ph.D. studies or for research and leadership in government, industry and international consulting companies.

Program Objectives

The objectives of the Master of Science in Environmental Engineering graduate program are to provide the graduates of the program with:

- A broad knowledge of modern computational and experimental methods in engineering.
- Extensive knowledge in fundamental environmental engineering science, the interactions of pollutants in water, air, and subsurface environments, and the design of treatment/pollutant remediation systems.
- In-depth understanding of the research methods and data analysis in one of the areas of environmental engineering noted above.
- An ability to solve unstructured engineering problems of social significance, think critically, and function well in a team.
- A high and ethical standard of written and oral communication on technical matters.

Admission

A candidate for the master's program in environmental engineering must have a Bachelor's degree in engineering. Admission is also subject to the general university requirements for graduate study, including English language proficiency. A minimum GPA of 3.0 out of 4.0 is required for full admission into the master's program. Students who have some deficiency in their undergraduate training but are will-qualified in other aspects may be admitted provisionally. The program director may prescribe a program of noncredit work to make up for the deficiency.

Courses (24 credit hours)

A minimum of eight courses (24 credit hours) is required. The courses are selected from the following categories:

I- Core Courses (6 credit hours)

All students select two out of the following four ENGR core courses:

- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)

II- Concentration Courses (12 credit hours)

Students should select a minimum of four courses from the following environmental engineering courses:

- ENVE 561/5250 - Water Quality Control (3 cr.)
- ENVE 562/5251 - Unit Operations in Environmental Engineering (3 cr.)
- ENVE 564/5252 - Air Pollution Control Engineering (3 cr.)
- ENVE 566/5254 - Solid and Hazardous Wastes Engineering (3 cr.)
- ENVE 567/5255 - Environmental Chemistry (3 cr.)
- ENVE 569/5258 - Groundwater Hydrology and Contamination (3 cr.)

III- Elective Courses (6 credit hours)

A minimum of two courses are selected as electives. The courses are selected from a set of graduate courses in engineering, physical sciences, social sciences, management and other related graduate level courses subject to advisor and director's approval. No more than one 400-level course in engineering, computer science and other related areas, not in the student's undergraduate major, may be taken for graduate credit subject to advisor and director's approval

Thesis

Graduate thesis work is an important and required part of the environmental engineering master's degree program. Each student must submit a thesis topic that has been approved by a faculty advisor by the end of the first academic year. Various research topics are discussed in the following Graduate Thesis Seminar courses. Students must register in ENGR 5940 before submitting a thesis topic and in ENGR 5941 during execution of the thesis research to present their thesis plan. To ensure adequate faculty consultation on the thesis, the student must register for ENVE 5980, Research Guidance Thesis, by the completion of 18 credit hours. Students must register in ENVE 5980 continuously and for at least two semesters. Each of the first two registrations in ENVE 5980 must be for three credit hours, after that ENVE 5980 is taken for one credit hour each semester until completion of the program requirements.

Nanotechnology Program

Director: Hanadi Salem (MENG)

Steering Committee: Adham Ramadan (CHEM and Dean of Graduate Studies), Amr Shaarawi (PHYS), Hassan Azzazy (CHEM), Rania Siam (BIO Chair and BIOT program director), Magdi Nasrallah (PENG), Mohab Anis (ECNG), Osman Hosny (CENG), Wael Mamdough (NANO/CHEM), Sherif Sedky (PHYS)

Nanotechnology (M.Sc.)

Masters of Science in Nanotechnology

The Masters of Science in Nanotechnology provides academic excellence in advanced sciences and technologies through an interdisciplinary education in the fields of materials science, physics, chemistry and engineering preparing students for careers in industry, education and research, with the capacity necessary to compete and excel in the ever expanding world of nanotechnology.

This program is facilitated by the available state of the art equipment at the Yousef Jamil Science and Technology Research Center (YJSTRC).

A total of 33 credit hours are required for the Masters of Science degree. This consists of 24 credit hours of courses, 6 credit hours of thesis work, and 3 credit hours of seminar.

Program Objectives:

The Masters of Science in Nanotechnology graduates scientists and engineers who:

1. Have the knowledge of the enabling technologies and the key aspects relevant to application in nanotechnology
2. Foster a strong culture of interdisciplinary research and development at AUC, Egypt and the region
3. Engage in advanced academic and research careers
4. Excel in an interdisciplinary environment both as individuals and within a team
5. Seize and develop commercial opportunities in the fast-advancing nanotechnology field locally and globally.

Admissions

A bachelor's degree in sciences or engineering, with minimum GPA of 3.0 out of 4.0 is required for admissions into the nanotechnology master's program. Admission is also subject to the general university requirements for graduate program. For those students whose grade records indicate promising ability, but who otherwise are not have adequate preparation in sciences or engineering, admission may be granted under the requirement that remedial courses will be taken.

Courses (24 credit hours):

The program of study is planned with the faculty advisor, and should include a minimum of 9 hours of core courses and a minimum of 12 credit hours of electives:

I. Core Courses (at least 9 credit hours)

- NANO 500/5200 - Nanomaterials, Synthesis, Processing and Applications (3 cr.)
- NANO 502/5202 - Simulation and Modeling for Nanoscale Materials and Systems (3 cr.)
- NANO 503/5203 - Advanced Testing and Characterization Techniques (3 cr.)
- NANO 504/5204 - Fabrication of Nanomaterials For Films And Devices (3 cr.)
- NANO 505/5205 - Nanochemistry (3 cr.)
- NANO 506/5206 - Management and Economics of Nanotechnology (3 cr.)

II. Nanotechnology Elective courses (at least 12 credit hours)

A minimum of 12 credit hours are required from this list of courses.

Students may also take a maximum of one 400-level courses in Sciences and Engineering, or other related areas subject to their advisor's approval.

- NANO 520/5210 - Advanced Quantum Mechanics (3 cr.)
- NANO 521/5221 - MEMS/NEMS Technology and Devices (3 cr.)
- NANO 522/5222 - Electronic Transport in Semiconductors (3 cr.)
- NANO 532/5232 - Nanocomposite Science and Technology (3 cr.)
- NANO 533/5233 - Materials for Energy Conversion and Storage (3 cr.)
- NANO 541/5241 - The Chemistry of Nanostructures (3 cr.)
- NANO 542/5242 - Nanoelectrochemistry (3 cr.)
- NANO 551/5251 - Nanotechnology Applications in Construction Materials (3 cr.)
- NANO 552/5252 - Nanotechnology in Studying Damage and Failure in Structures (3 cr.)
- NANO 561/5261 - Advanced Solid-State Devices (3 cr.)
- NANO 562/5262 - Advanced Integrated Circuit Design (3 cr.)
- NANO 571/5271 - Bionanotechnology (3 cr.)
- NANO 592/5930 - Selected Topics in Nanotechnology (3 cr.)

III. Elective Courses (6 credit hours)

A minimum of two courses are selected as electives. The courses are selected from the NT Core (I) or Elective courses (II) or from other 5000 or 6000 level courses from graduate programs in the Sciences and Engineering, subject to the advisor's approval.

No more than one 4000-level course (3 cr.) may be taken from graduate credit in Sciences and Engineering, or other related areas, subject to the advisor's approval.

Thesis (9 credit hours)

Each student must submit a thesis topic that has been approved by a faculty supervisor by the end of the first academic year. Various research topics are discussed in NANO 5940 and NANO 5941, Graduate Thesis Seminar I and II, respectively. Students must register for Graduate Thesis Seminar I (NANO 5940) before submitting a thesis topic while Graduate Thesis Seminar II (NANO 5941) should be taken during the execution of the thesis research work. To insure adequate faculty consultation on the thesis, the student must register for the Research Thesis Guidance course (NANO 5980) by the completion of 18 credit hours. The NANO 5980 course must be registered over two consecutive semesters after which the course may be registered for one credit hour each semester until completion of the program requirement.

- NANO 590/5940 - Graduate Thesis Seminars I (2 cr.)
- NANO 591/5941 - Graduate Thesis Seminar II (1 cr.)
- NANO 599/5980 - Research Guidance Thesis (3 cr.)

Robotics, Control and Smart Systems Program

Director: M. Habib (MENG)

Robotics, Control and Smart Systems (M.Eng.)

Master of Engineering in Robotics, Control and Smart Systems (RCSS)

The Master of Engineering in Robotics, Control and Smart Systems provides academic excellence through an interdisciplinary education in the fields with aim to prepare graduate students for careers in industry, education and research (local, regional and global).

Program Objectives:

The Master of Engineering in Robotics, Control and Smart Systems graduates engineers who :

1. Have broad foundation in both the theoretical and the practical skills of RCSS interdisciplinary knowledge space,
2. Integrate fundamental and advanced knowledge to solve complex interdisciplinary problems in the field of RCSS,
3. Work independently as well as collaboratively within interdisciplinary teams and prepared to be team leaders,
4. Demonstrate competitive professional advancement, and engage in advanced academic and research in areas of their interest within industry, research centers, and academia both in local and global environment.

Admissions

A bachelor's degree in engineering, with minimum GPA of 3.0 out of 4.0 in major area is required as a basic requirement or admissions into the RCSS master's program. Admission is also subject to the general university requirements for graduate programs. For those students whose grade records indicate promising ability, but who otherwise are not have adequate preparation in sciences or engineering, admission may be granted under the requirement that remedial courses will be taken.

Program Structure

A total of 33 credit hours are required for the Master of Engineering in RCSS. The program of study should include 33 credit hours of courses.

Courses (33 credit hours):

I. Group I (6 credit hours)

A minimum of 6 credit hours are required from this list of courses:

- RCSS 501/5201 - Robotics: Kinematics, Dynamics and Control (3 cr.)
- RCSS 502/5202 - Embedded Real Time Systems (3 cr.)
- RCSS 503/5203 - Modern Control Design (3 cr.)
- RCSS 504/5204 - Applied Estimation (3 cr.)

II. Group II (18 credit hours)

A minimum of 18 credit hours are required from this list of courses:

- RCSS 521/5221 - Intelligent and Autonomous Robotic Systems (3 cr.)
- RCSS 522/5222 - Mechatronics Innovations and Experimental Robotics (3 cr.)
- RCSS 523/5223 - Bioinspired Robotics and Multi Robotic Systems (3 cr.)
- RCSS 524/5224 - Robotics and Intelligent Automated Manufacturing (3 cr.)
- RCSS 531/5231 - Teleoperation, Haptic Systems and Collaborative Control (3 cr.)
- RCSS 532/5232 - Robust and Optimal Control (3 cr.)
- RCSS 533/5233 - Nonlinear and Adaptive Control (3 cr.)
- RCSS 534/5234 - Networked Control Systems: Design and Applications (3 cr.)
- RCSS 541/5241 - Smart Systems and Computational Intelligence (3 cr.)
- RCSS 542/5242 - MEMS/NEMS Technology and Devices (3 cr.)
- RCSS 543/5243 - Image Analysis and Computer Vision (3 cr.)
- RCSS 544/5244 - Sensors, Perception and Smart Systems (3 cr.)
- RCSS 545/5245 - Advanced Artificial Intelligence (3 cr.)
- RCSS 592/5930 - Selected Topics in RCSS (3 cr.)

III. Group III (3 credit hours)

- RCSS 593/5980 - Capstone Project (3 cr.)

IV. Group IV (6 credit hours)

Select (6 credits) from the above two groups or from other graduate courses in engineering, physical sciences, or management subject to advisor and director's approval. No more than one 400-level course in engineering or other related areas, not in the student's undergraduate major, may be taken for graduate credit subject to advisor and director's approval.

Robotics, Control and Smart Systems (M.Sc.)

Master of Science in Robotics, Control and Smart Systems (RCSS)

The specialized master program in Robotics, Control and Smart Systems (RCSS) provides interdisciplinary academic and educational excellence in advanced sciences and technologies with unique educational, learning and research environment that advances scientific understanding enabling students to develop innovative and intelligent ideas for autonomous and smart products and systems to meet today's most pressing challenges and prepare them for careers in industry, academia and research.

The Master of Science in Robotics, Control and Smart Systems provides academic excellence through an interdisciplinary education in the fields with the aim to prepare graduate students for careers in industry, academia and

research (local, regional and global).

This program is facilitated by the available state of the art equipment at two Mechatronics Laboratories (Mechatronics Design Lab., Mechatronics and Intelligent Systems Lab.) in Mechanical Engineering department and MEM/NEM facilities at Yousef Jameel Science and Technology Research Center (YJSTRC).

Program Objectives:

The Master of Science in Robotics, Control and Smart Systems graduates scientists and engineers who:

1. Have broad knowledge in both the theoretical and the practical skills of RCSS interdisciplinary field.
2. Integrate fundamental and advanced knowledge to solve complex interdisciplinary problems in RCSS field,
3. Undertake interdisciplinary research, find new knowledge, analyze and document results, apply and communicate the results reflecting knowledge depth of the research in RCSS field,
4. Work independently as well as collaboratively within interdisciplinary teams and be prepared to be team leaders,
5. Demonstrate competitive professional advancement, pursue higher graduate degrees and engage in advanced academic and research in areas of their interest within industry, research centers, and academia both in local and global environment.

Admissions

A bachelor's degree in engineering, with minimum GPA of 3.0 out of 4.0 in major area is required as a basic requirement or admissions into the RCSS master's program. Admission is also subject to the general university requirements for graduate programs. For those students whose grade records indicate promising ability, but who otherwise do not have adequate preparation in sciences or engineering, admission may be granted under the requirement that remedial courses will be taken.

Program Structure

A total of 33 credit hours are required for the Master of Science in RCSS. The program of study should include 24 credit hours of courses, 9 credit hours of thesis work.

Courses (24 credit hours):

I. Group I (6 credit hours)

A minimum of 6 credit hours are required from this list of courses:

- RCSS 501/5201 - Robotics: Kinematics, Dynamics and Control (3 cr.)
- RCSS 502/5202 - Embedded Real Time Systems (3 cr.)
- RCSS 503/5203 - Modern Control Design (3 cr.)
- RCSS 504/5204 - Applied Estimation (3 cr.)

II. Group II (12 credit hours)

A minimum of 12 credit hours are required from this list of courses:

- RCSS 521/5221 - Intelligent and Autonomous Robotic Systems (3 cr.)
- RCSS 522/5222 - Mechatronics Innovations and Experimental Robotics (3 cr.)
- RCSS 523/5223 - Bioinspired Robotics and Multi Robotic Systems (3 cr.)
- RCSS 524/5224 - Robotics and Intelligent Automated Manufacturing (3 cr.)
- RCSS 531/5231 - Teleoperation, Haptic Systems and Collaborative Control (3 cr.)
- RCSS 532/5232 - Robust and Optimal Control (3 cr.)
- RCSS 533/5233 - Nonlinear and Adaptive Control (3 cr.)
- RCSS 534/5234 - Networked Control Systems: Design and Applications (3 cr.)
- RCSS 541/5241 - Smart Systems and Computational Intelligence (3 cr.)
- RCSS 542/5242 - MEMS/NEMS Technology and Devices (3 cr.)
- RCSS 543/5243 - Image Analysis and Computer Vision (3 cr.)
- RCSS 544/5244 - Sensors, Perception and Smart Systems (3 cr.)
- RCSS 545/5245 - Advanced Artificial Intelligence (3 cr.)
- RCSS 592/5930 - Selected Topics in RCSS (3 cr.)

III. Group III (6 credit hours)

Select (6 credits) from the above two groups or from other graduate courses in engineering, physical sciences, or management subject to advisor and director's approval. No more than one 400-level course in engineering or other related areas, not in the student's undergraduate major, may be taken for graduate credit subject to advisor and director's approval.

Thesis (9 credit hours)

Graduate thesis work is an important part of the requirements for the Master of Science degree program in RCSS. Each student must submit a thesis topic that has been approved by a faculty advisor by the end of the first academic year. Various research topics are discussed in RCSS 5940 and RCSS 5941, Graduate Thesis Seminar I and II. Students must register in RCSS 5940 before submitting a thesis topic and in RCSS 5941 during execution of the thesis research to present their thesis plan. To ensure adequate faculty consultation on the thesis, the student must register for RCSS 5989, Graduate Thesis, by the completion of 18 credit hours. Students must register in RCSS 5989 continuously and for at least two semesters. The first two registrations in RCSS 5989 must be for three credit hours, after that RCSS 5989 is taken for one credit hour each semester until completion of the thesis requirements.

- RCSS 590/5940 - Graduate Thesis Seminar I (2 cr.)
- RCSS 591/5941 - Graduate Thesis Seminar II (1 cr.)
- RCSS 599/5989 - Research Guidance Thesis (3 cr.)

Engineering Steering Committee for ENGR Graduate Courses

Professors: M. Abou-Zeid (CENG Chair), H. Amer, H. Elayat, A. Elimam, A. Esawi, A. Ezzeldin, E. Fahmy, M. Farag (Director of Engineering Services), M. Fouad, L. Gaafar, M. Habib, S. El-Hagggar (MENG Chair), M. Haroun (Provost), A. Hassanein, E. Imam (Director of Graduate Program), S. Khedr, A. Nassef, M. Nasrallah (PENG Chair), H. Salem (Director of Nanotechnology Graduate Program), A. Serag El-Din, A. Sherif, N. Sherif (Associate Chair), E.

Smith (Director of Environmental Program), M. Younan (Associate Dean for Undergraduate Studies).

Associate Professors: S. Abdel-Azeem, A. Abou Auf, A. Ahmed, M. Anis, M. Arafa, A. Darwish, A. Elezabi (ECNG Chair), T. El-Kweidy, M. Mostafa, K. Nassar, S. Safar, A. Zanon.

Assistant Professors: M. Ali, M. Arafa, S. El-Baradei, H. Fayek, L. El-Gabry, M. Hassan, M. El-Morsi, A.Waly.

Research Professor: O. Hosny

The Engineering core and seminar courses are administered by a steering committee represented by the different Engineering departments. All admitted graduate students pursuing their master degrees in the different Engineering departments (CENG, ECNG, ENVE & MENG) are required to select from those ENGR core courses which provide students with research fundamentals and methodology. The seminar courses (ENGR 5940 ENGR 5941) are also a requirement of the thesis and research component that have to be fulfilled by all graduate students.

Refer to respective departments for information on graduate programs and degrees offered.

Engineering Steering Committee for ENGR Undergraduate Courses

Professors: Ayman El Ezabi (Chair, Electronics and Communications Engineering), Salah El Haggar (Chair, Mechanical Engineering), Samer Ezz El Din (Chair, Construction and Architecture Engineering), Ahmed Rafae (Chair, Computer Science and Engineering), Amr SeragElDin (Chair, Petroleum Engineering), Ahmed Sherif (Chair, Architecture Engineering), Maher Younan (Associate Dean for Undergraduate Studies)

Associate Professors: S. Abdel-Azeem, A. Abou Auf, A. Ahmed, M. Anis, M. Arafa, A. Darwish, A. Elezabi (ECNG Chair), T. El-Kweidy, M. Mostafa, K. Nassar, S. Safar, A. Zanon.

Assistant Professors: M. Ali, M. Arafa, S. El-Baradei, H. Fayek, L. El-Gabry, M. Hassan, M. El-Morsi, A.Waly.

Research Professor: O. Hosny

All engineering students are required to take a set of common engineering courses (ENGR). The objective of these courses is to introduce the fundamentals of engineering science, and prepare the students for the more specialized courses. The common engineering courses are administered by Undergraduate Engineering Steering Committee (UESC) and taught by faculty from the Departments of Construction and Architectural Engineering, Electronics and Communications Engineering, Mechanical Engineering and Petroleum and Energy Engineering.

Refer to the respective department for the required ENGR courses.

Undergraduate Admissions

- Admission Policy and Procedures
- Academic Preparation
- English Language Proficiency
- The Admission Decision
- Admission to an Undergraduate Degree Program
- Transfer Admissions
- Transfer Credit Award
- Transfer Credit After Matriculation
- Readmission
- Study Abroad/Non-Degree Admissions
- Change of Status from Non-Degree to Degree
- Auditors
- The Department of Arabic Language Instruction
- Arabic Language Placement

Admission Policy and Procedures^{^ TOP}

The American University in Cairo admits undergraduate and graduate degree-seeking applicants for the fall and spring semesters. The university welcomes the applications of Arabic Language Institute, Study Abroad and non-degree applicants for the summer session, as well as the fall, spring and winter semesters.

The university, in keeping with the long-standing protocol with the Egyptian government, maintains an enrollment of undergraduate degree-seeking students that is at least seventy-five percent Egyptian. Accordingly, AUC establishes quotas regarding the offer of admission and enrollment of non-Egyptian students.

Applicants may apply for admission up to one year in advance of their anticipated date of first enrollment. The University reviews completed admission applications on a rolling basis. AUC cannot determine the admissibility of candidates with incomplete applications.

The university and the Egyptian Ministry of Education require that all students entering AUC undergraduate program complete a minimum of twelve years of primary and secondary education prior to enrollment in university courses. Applicants must provide proof, in the form of a first-year primary certificate or Idadia Certificate followed by three years of study as proof that they have completed at least twelve years of education.

All undergraduate degree-seeking admission applicants are required to submit official secondary school academic transcripts, mark sheets, and/or certificates. Applicants who have attempted post-secondary studies must also submit official academic transcripts, mark sheets, and/or certificates from each post-secondary school attended regardless of whether they have earned credit or seek transfer credit. All academic records not in English or Arabic must be accompanied by certified English translations.

All undergraduate degree applicants must demonstrate proficiency in English by submitting recent Academic IELTS, TOEFL and/or SAT results, or completed college-level English coursework. Non-Egyptian applicants and/or their sponsors must provide official evidence indicating that a minimum of \$31,000 is available to cover the tuition, fees, travel, and living expenses for the first year of study at the University.

Academic Preparation^{^ TOP}

The University seeks highly qualified applicants who complete the most demanding courses available in secondary school. Excellent grades in honors classes indicate the applicant's ability and willingness to meet the academic challenges of university study. The University's most capable first-year applicants have achieved excellent grades while completing a well-balanced university preparatory program.

In addition, AUC considers the personal qualities of applicants - how well they have taken advantage of available resources, whether they have faced and withstood unusual adversity, and the extent to which they show promise as a contributing member of the AUC community. The University also considers applicants' personal achievements outside the classroom as demonstrated by sustained participation, commitment, and leadership in school and community activities.

English Language Proficiency^{^ TOP}

All new undergraduate students who apply as degree students and non-degree students must provide evidence of academic English proficiency with the admission application. The University does not exempt applicants from this requirement solely on the basis of citizenship or graduation from an English-medium secondary school.

Applicants that satisfy one or more of the following criteria qualify for exemption:

- Satisfactory scores on appropriate standardized tests including the SAT, the ACT and College Board Advanced Placement tests
- Successful completion of one or more non-remedial academic writing course in a post secondary institution whose English language admission requirements are the same as those of AUC
- Successful completion of English-medium secondary school coursework and examinations that qualify for advanced placement including the International Baccalaureate Diploma Program
- Recent Academic IELTS or TOEFL scores are required of an applicant who does not attend an English Language university or who has attended less than three semesters at a university where the language of instruction is English

Students in the following programs are exempt from the English language proficiency requirement:

- Study abroad applicants from English-medium universities
- Center for Arabic Study Abroad (CASA) students
- Arabic Language Institute (ALI) students. While the submission of English proficiency test results are not required, you must be able to read and write in English to study at the Arabic Language Institute.

Applicants not exempted must submit recent official test results from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (Academic IELTS). Tests must be completed no more than two years prior to the first day of the term for which applicants are applying for admission.

The University determines English Language placement using applicants' highest score on the TOEFL or Academic IELTS. AUC may offer applicants that do not qualify for the Rhetoric and Composition the opportunity to enroll in AUC's Intensive English Program (IEP) or Academic English for Freshmen (ENGL 0210). ENGL 0210 is the University's bridge course between the IEP and the Rhetoric and Composition. IEP students must complete the program within one calendar year (two semesters and the summer session).

All students who have been admitted into ENGL 0210 must satisfactorily complete the course work within a time period not to exceed two full semesters and a summer session. Students taking ENGL 0210 in summer may not enroll in any academic courses.

The Admission Decision ^{^ TOP}

The most important criterion for admission to AUC is demonstrated sustained academic achievement. The undergraduate admission application review process at the University requires evidence of successful completion of an accredited secondary school program, as well as success in collegiate studies (if applicants have enrolled in a post-secondary program). The quality of work, appropriateness of program, and academic standing among peers are also important considerations. Applicants who have selected a rigorous academic program and who have achieved distinction in a range of academic courses are the most likely candidates to receive an offer of admission.

The University's most qualified candidates have earned excellent grades in their courses. When determining admission, the University considers a combination of factors including academic program, grades and test scores, as well as diversified background, and participation in extracurricular activities. The vast majority of those applying to AUC are capable of succeeding scholastically at the University. Many more academically qualified students apply for admission than there is room available. The University's task is not simply to select those who are qualified, but to identify those who have distinguished themselves. Applications submitted beyond the deadline dates will be wait listed and may be considered pending space availability only.

Admission to an Undergraduate Degree Program ^{^ TOP}

Admission applicants must submit all required application materials to be considered for admission. The current Undergraduate Admission Application booklet lists the specific documents that applicants must submit to complete the application. The information is also available on the World Wide Web at: www.aucegypt.edu/admissions

Minimum requirements for first-year applicants: AUC's minimum requirements for first-year applicants vary by the type of secondary program. Because of the large number of qualified applicants, those offered admission generally score well above the following minimums:

- Egyptian Thanawiya Amma - Arts, or Science (General Secondary School Certificate). Submit the results of the final sitting of the Thanawiya Amma. Applicants must earn at least 70 percent on the final sitting to be considered for admission.
- Thanawiya Amma from Arab countries - Arts, or Science (General Secondary School Certificate). Submit the results of the final sitting of the Thanawiya Amma. Applicants must earn at least 75 percent on the final sitting to be considered for admission.
- British Certificate: Submit eight GCE/GCSE/IGCSE subjects. Applicants who have completed Advanced/Advanced Supplementary level subjects and have earned excellent grades are given preference. Grades 'A to C' are accepted at the Ordinary and Advanced Supplementary levels. Grade 'D' is accepted at the Advanced level only. Subjects completed at the Advanced and Advanced Supplementary level are not double counted. Applicants must submit all certificates to the University. However, AUC utilizes only the best eight subjects during the admission evaluation process.
- American High School. Complete a college preparatory program of courses and earn a high school diploma with at least a 2.0 (on a four-point scale) grade point average in academic courses. The estimated SAT-I composite cut-off score for Fall 2014 and spring 2015 was 1400 or comparable ACT scores. Students are encouraged to complete a well balanced university preparatory program that includes:

- o Three years of mathematics including algebra, geometry and trigonometry.
- o Two years of a second modern language.
- o Two years of a laboratory science.
- o Three years of social sciences.
- o One year of fine arts course work and training.
- o A program of physical and health education

Applicants who have attended an accredited high school for less than three semesters must also submit official results in SAT-II in two subjects with a total score of 1100 and a minimum score of 500 on each subject.

Applicants who have taken Advanced Placement (AP) courses and exams (results issued by the College Board) may be granted transfer credit.

- International Baccalaureate. Complete the International Baccalaureate Diploma program.
- Zeugnis der Allgemeinen Hochschulreife (German Secondary Certificate). Complete Gymnasium or high school and submit Abitur results. The academic average is a minimum of four.
- Baccalaureate de l'Enseignement Secondaire (French Secondary School series L, S or ES). Complete the French Baccalaureate with an academic average of at least passable.
- Canadian certificates.
- Other Programs and Certificates - complete a rigorous university preparatory secondary education program.

Medical Examination

A recent medical report stating that the student is physically and mentally capable of doing university work should be submitted with the application.

Medical Insurance for Non-Egyptian Applicants

It is recommended that non-Egyptian students have health and accident insurance which will cover them while they are in Egypt. In addition, all non-Egyptian students are required to enroll in the medical insurance service plan offered by

the American University in Cairo which provides for limited care at a specified hospital in Cairo. Exemptions are made only for those non-Egyptian students who reside in Cairo with their families, or who are provided for by their companies, embassies or sponsoring agencies in Cairo. The medical service fee is announced by the Office of Student Financial Affairs every year.

Transfer Admissions^{^ TOP}

Applicants who have attempted post-secondary school studies of an advanced-level subjects or at a university level during or following their secondary school program are transfer applicants. These students are classified as follows:

Lower Division Transfer Student (LDTS)

A lower division transfer student is an applicant with less than 60 transferable units (with a minimum grade of C in each subject). A transfer applicant will be held to the same standards as a "first time freshman." In addition, applicants must be in good academic standing at all previously attended universities and have an overall university grade point average (GPA) of 2.0 or higher. Admission is based on the available places and the student academic performance.

Upper Division Transfer Student (UDTS)

An upper division transfer student is an applicant who is evaluated at the admission stage to have 60 or more eligible credits for transfer consideration (with a minimum grade of C in each subject). However, beyond the admissions stage, the number of transfer credit that will be granted to this applicant will be subject to the academic department's evaluation and decision. Applicants in this category must have a 2.00 average or higher in all transferable college course work in order to be admitted. Although each applicant in this category is required to have earned a secondary school certificate, the grade point average (GPA) of this certificate will not be considered a factor in the admissions process.

A transfer student is not guaranteed acceptance into his/her current major. Admission to the same major is ultimately decided upon by the School Dean.

Transfer Credit Award^{^ TOP}

The University awards transfer credit for coursework completed at post secondary institution and/or advanced level subjects completed within the certificates mentioned below. Transfer credit is granted for coursework that is comparable in nature, scope, content, and depth; in addition to the appropriateness and applicability of the credit earned to the courses at AUC. Studies completed more than five years prior to matriculation into the university are not transferable. The University awards transfer credit to two categories of students:

1. Applicants who are transferring from accredited post-secondary institutions and have taken courses at the university level. The university awards transfer credit to students who complete coursework in fields of study that are comparable to those offered by AUC, with a minimum grade of "C" from institutions operating in the USA, a minimum grade of "Good" from the National Universities of Egypt, and equivalent grade to a "C" (at AUC) from other institutions. The determination of transfer credit award occurs following the submission of an official academic transcript, the university catalog, as well as required course-related materials. Internships, Occupational, vocational, remedial coursework, and studies classified as less than first-year (Freshman) level by the sending institution or AUC are not transferable. Credits earned to satisfy the requirements of a previous degree are not considered for transfer credit.

The transferable coursework must have been completed at post-secondary institutions that are recognized by the Ministry of Higher Education, and/or the Supreme Council of Universities, depending on the country in which the

institution is operation. Post-secondary institutions in the United States must be accredited by one of the following six "Regional Accrediting Organizations":

- Middle States Association of Colleges and Schools, Commission on Higher Education
- New England Association of Schools and Colleges, Commission on Institutions of Higher Education
- North Central Association of Colleges and Schools, the Higher Learning Commission
- Northwest Commission on Colleges and Universities
- Southern Association of Colleges and Schools, Commission on Colleges
- Western Association of Schools and Colleges, Commission for Senior Colleges and Universities

2. Applicants who have completed collegiate-level studies, prior to matriculation into the university, with a grade that is comparable to at least a "B" at AUC.

The following is the policy applied in relation to the different certificates:

o International Baccalaureate Diploma/Certificate

The University grants up to 30 transfer credit for the IB Diploma as follows:

- Transfer credits for higher level academic subjects with grade of five, six or seven (out of seven).
- Up to 15 credits of lower-division general elective transfer credit for the completion of the IB Diploma with a minimum total point of 30.

The AUC does not grant transfer credit for subsidiary level subjects.

o The College Board Advanced Placement (AP) Examinations.

The University grants transfer credits for academic subjects with scores of four or five (out of five).

o German Secondary School Certificate-Abitur

The University grants up to 30 transfer credits for academic subjects with scores of ten or more (out of 15).

o French Baccalaureat II

The University grants up to 30 transfer credits for academic subjects with advanced level scores of 14 or more (out of 20).

o British Certificates (GCE Advanced Level)

The University grants transfer credits for A-level subjects with grades of "A" or "B". The University does not grant transfer credit for subjects completed at the AS, AO, or O' levels.

Transfer Credit After Matriculation ^{^ TOP}

The University transfers a maximum of 36 hours of semester credit from other post-secondary institutions after students enroll at AUC. The University awards a maximum of 12 credit hours for coursework completed in any one summer. (Students may not enroll in more than 12 credits in any one summer, AUC summer courses included.) The University transfers a maximum of nine credits for courses completed through correspondence and/or distance learning following matriculation. Students may not enroll in correspondence courses offered by other institutions during academic terms in which they are registered for courses at AUC.

Readmission ^{^ TOP}

AUC students who withdraw from the University in good standing and subsequently wish to return after an absence of one or more semesters may apply for readmission. Readmission is offered on a space-available basis and is not guaranteed. Selected applicants must submit recent TOEFL or Academic IELTS results with their readmission application.

English Level at Time of Withdrawal	Lapse of Time	TOEFL/IELTS Required
Successfully completed RHET 201, RHET 2010, RHET 1020	Less than 24 months	No
	More than 24 months	Yes
Enrolled in ENGL 0210 , or RHET 101 or RHET 1000, RHET 1010 & CORE 1010 (Tandem Sections)	Less than 6 months	No
RHET 102, RHET 1100 (RHET 1010 Stand alone section) or RHET 201, RHET 2010 , RHET 1020	Between 6-12 months	Optional
Enrolled in IEP	Less than 6 months	No
Enrolled in IEP, ENGL 0210 , or RHET 101, RHET 1000 , RHET 1010), RHET102, RHET 1100 (RHET 1010 Stand alone section) or RHET 201, RHET 2010, RHET 1020)	More than 12 months	Yes

Study Abroad/Non-Degree Admissions ^{^ TOP}

Degree-seeking students at other recognized institutions who wish to augment their education by enrolling for a period of time at the American University in Cairo are invited to apply for admission as visiting Study Abroad/Non-Degree students. Such students pay regular AUC fees in U.S. dollars.

Since AUC is both a US-accredited institution, and one recognized by the Ministry of Higher Education in Egypt, students from most universities around the world are able to transfer credits earned at AUC to their home institutions.

Study Abroad/Non-Degree applicants must submit application materials that include post-secondary school transcripts, letters of reference, and a study plan approved by their home university to AUC's New York office. The current Study Abroad/ Non-Degree Application Booklet lists application deadlines and the specific documents that applicants must submit to complete their application. The information is also available on the AUC website at: www.aucegypt.edu/admissions

Change of Status from Non-Degree to Degree ^{^ TOP}

Upon request, the university may approve a change of status from Non-Degree to degree seeking. The student should file an undergraduate application in the Admission office and submit all the relevant documents. Courses taken in

undergraduate non-degree status are then transferred to the degree record and all grades are considered when calculating the grade point average.

Auditors ^{^ TOP}

Individuals who wish to attend individual classes without credit may apply as auditors. Auditors are not eligible to sit for final examinations, receive academic credit, or enrollment certification from the University. Permission to audit is granted on a space-available basis. Auditors generally enroll during the late registration period after other students have had an opportunity to register. Auditors are not allowed to enroll in language courses.

The Department of Arabic Language Institute ^{^ TOP}

The Department of Arabic Language Instruction is one of the most respected Arabic language study programs in the world. The department offers intensive programs beginning three times each year that range in length from eight weeks to one or more years. It also offers courses to fulfill the Arabic Language requirements of undergraduates at AUC. The department's world-class faculty teaches classes in Modern Standard Arabic, Classical Arabic, and Egyptian Colloquial Arabic at the elementary, intermediate, and advanced levels. The department's programs culminate in certificates of achievement recognized around the world.

The Department of Arabic Language Instruction applicants submit completed application forms, as well as other materials specified in the current Undergraduate Admission Application booklet. The information is also available on the internet at: www.aucegypt.edu/huss/ali/Pages/default.aspx

Students registered to the ALIN wishing to change their program to AUC undergraduate, graduate and non-degree programs have to satisfy the admission requirements listed in the catalog for these programs.

Arabic Language Placement ^{^ TOP}

All non-Thanawiya Amma students should sit for an Arabic placement exam, administered by the ALNG Unit, to determine the Arabic language course level they must register for. According to the exam results, students may be exempted or required to take one or two Arabic language courses (3 or 6 credits).

Non-degree and study abroad students sit for an Arabic placement exam if they are registering for an Arabic course higher than ALNG 1101 or ALNG 1501.

^{^ TOP}

First-Year Experience Program

First-Year Experience Program (FYE)

^{^ TOP}

A mandatory program providing a common vision for all entrants and engaging them in guided activities and experiences, the significance of which they can reflect upon and learn to appreciate. Students will also read and sign the code of academic integrity during the program.

Goals

This program aims to familiarize students with *knowledge* of the purposes and expectations of higher education, AUC culture and services, student rights and responsibilities, academic, personal and social competencies necessary for college success; equip them with the *skills* to become self-reliant in the use of university information resources, and in identifying relevant service offices when needed; and promote the *values* of respect and appreciation for the institution, other members of the AUC community, and the learning experience.

Participants

Undergraduate Egyptian and international degree-seeking students, including ELI students, who have been admitted to AUC will take part in the FYE program.

Transfer students, international non-degree seeking students and graduate students do not form part of this program.

Facilitators and Student Leaders

Classes are administered by a faculty member who is assisted by a student leader. Student leaders organize social events to help freshmen integrate and make new friends.

Structure

The FYE is designed as a thematic-based experiential learning program that includes seminars, interactive sessions, and an evening Convocation. Each of the program days covers a theme that highlights a key value or area of knowledge prioritized in the university mission statement.

Attendance

First year students are required to attend all days of this program. Students who miss FYE will not be permitted to register for their courses.

Undergraduate Studies

Undergraduate Studies

- The Office of the Dean of Undergraduate Studies
- Academic Advising Center
- The Core Curriculum
- Dialogue Program
- Community Based Learning
- Undergraduate Research Program

The Office of the Dean of Undergraduate Studies

The Office of the Dean of Undergraduate Studies acts to support and enhance undergraduate education at AUC, through administration of the Core Curriculum, the Academic Advising Center, Community Based Learning (CBL) and Undergraduate Research, as well as through facilitating the development of new Freshman Year, Bridge and Honors programs. Focusing on non-declared students and working as well in close collaboration with the deans, faculty and staff of the Schools, the office seeks to further the integration and coordination of teaching and learning across the curriculum, pertinent registration and student petition issues, and related University policies and procedures - and to serve overall as an advocate for undergraduate students and studies at AUC.

Dialogue Program

The courses are based on the principles of cross-cultural dialogue, incorporating various engaging mediums such as videoconferencing technologies. The courses give the students the opportunity to explore the dialogue process with counter-partners from around the globe, discussing topics that range from current local events to a wide variety of global socioeconomic, political and cultural issues.

Undergraduate Research Program (UGR)

The Undergraduate Research Program institutionalizes, supports and expands opportunities for undergraduate student research, entrepreneurship and creative achievement. It nurtures amongst the academic community, across the disciplines, a culture of research and development, and the drive to advance the liberal education outcomes of undergraduate inquiry and critical and creative competence.

Among other programs and services, the Program administers a conference and mini-grant program for undergraduate researchers and hosts the yearly EURECA conference featuring student research and creative work.

Academic Advising Center

Academic Advising Center (AAC)

The mission of the Academic Advising Center (AAC) at AUC is to provide academic advising and assist all undeclared undergraduate students in developing their educational plans, and setting career and life goals while helping them appreciate the values of liberal arts education until they declare their major. This is done through advising and mentoring systems offered to students throughout their year (s) at the center. Once they declare a major, the students should receive the same service in their department of major while the center will continue providing the needed academic support, advice and help regarding the core curriculum and general academic rules and regulations. AAC operates on the basis of shared responsibility where AUC community (faculty, student and staff) interact and coordinate efforts to achieve advising goals and desired student outcomes from admission to graduation.

One of the goals of AAC is to provide developmental advising, a process that involves both teaching and learning as it engages the students actively in their education and helps them to develop a sense of responsibility for their academic choices. Continuity and follow up on the student's academic, mental, intellectual, psychological and post-graduate planning status on a one-on-one basis are fundamental practices and assessment of the center's goals and outcomes is integral.

The Core Curriculum

The Core Curriculum

Graduation Requirements

The Core Curriculum sets out a series of requirements that are a vital part of an AUC education, and that all students must meet to graduate with an undergraduate degree from this university. Although it is not possible to be exempted from these requirements, in some cases students may petition for approval for credit from outside AUC in meeting them, for example through advance standing or transfer credits. All students transferring to AUC from another institution of higher learning should be aware of AUC's residency requirements. In addition to but integrated with the Core Curriculum, AUC has an Arabic Language requirement, described below. Depending on their entrance qualifications or Arabic placement examination results, many students are exempted from these requirements.

The Core Curriculum

"A Liberal Arts education is a celebration of learning that encompasses pretty much everything: the arts and the humanities, the social sciences and the 'hard' sciences, business training and other professional studies. It grounds us in a sound understanding of our own culture and history, but also makes us aware and tolerant of the histories and cultures of others. Liberal learning seeks to emphasize the growth of intellectual self-reliance and independence while encouraging co-operative endeavor. It is the competence to think, analyze and understand independently." - Former AUC President Thomas Bartlett

Goals and Objectives

The Core Curriculum is a body of courses designed to ensure that all students, regardless of major, receive a strong grounding in the traditional liberal arts and sciences. It aims to develop basic academic and intellectual traits while enhancing students' writing skills, as well as their ability to reason and construct a logical argument. It strives to familiarize students with a diverse body of knowledge and intellectual tradition, and helps them understand themselves, in addition to their culture, society and place in the world. It encourages them to address the patterns of rational thought and argumentation that underpin the world's great intellectual traditions, and introduces them to the ways in which science seeks to comprehend the natural world. In sum, the Core Curriculum lies at the heart of AUC's commitment to the liberal arts. It is, first and foremost, an education in the fundamentals of learning itself.

Restrictions

No course that a student employs to meet a requirement of the Core Curriculum in the Freshman or Secondary Levels may be used to also meet any of the requirements - including concentration requirements, specialization requirements, collateral requirements, major core requirements, concentration electives, and general electives - of that student's major. Similarly, a course that a student employs to meet any of the requirements of a major may not be used to meet any of the requirements of the Core Curriculum, except in the Core capstone level. At the Core capstone level (and nowhere else), one course may do double service ("double count") for both Core Curriculum and major credit. In addition, any course that meets Core Curriculum requirements, at any level of the Core, may also count towards meeting requirements of a minor, to the extent consistent with stipulations of the department or program offering the minor.

The Core Curriculum consists of three parts: The Freshman Level, the Secondary Level, and the Capstone Level.

I. The Freshman Level: 22 credit hours

The Freshman Program aims to offer students a coherent, integrated introduction to one of the defining features of AUC: liberal arts education. In addition, the Program equips students with communication skills in English and enables them to transfer these skills to content courses so they are prepared to cope with assignments in their majors, and enhances critical thinking skills and their application in a variety of disciplines. Finally, Freshman Program courses aim to help students think with clarity and insight about themselves, their goals and the decisions they face, and to foster their civic responsibility, personal and academic integrity, and appreciation of diversity.

For students entering AUC in the 2013-14 academic year and later, the Freshman Program consists of the following requirements: In their first semester, students begin as members of a "learning community:" small groups of students taking two closely linked classes together, a Rhetoric class (RHET 1010) and a multidisciplinary seminar (CORE 1010), that work in tandem to develop and enhance the reading, writing, critical thinking and general academic skills needed for success throughout study at AUC. The program also includes six other courses, to be taken over the first three semesters (four semesters for engineering students): a second RHET course in research skills and writing, Scientific Thinking, Philosophical Thinking, Information Literacy, and two "Pathways of Learning" courses.

Timely Completion of Required Freshman Program Classes in Core Curriculum

- In normal circumstances, all AUC students should complete their RHET classes in their first two semesters, and all their other Freshman Program classes, including their Information Literacy class, by the end of their first three or (in the case of engineering students) four semesters.
- Timely completion of Freshman Program courses is of vital importance, insofar as these courses aim at accomplishing basic learning outcomes, in an integrated and sequenced manner, as a foundation for subsequent study in the Core and in the majors.

Policies:

- All students should complete their RHET courses before proceeding to Sophomore-level status.
- If students fail to register for their second RHET course, RHET 1020, in their second semester, or in the semester immediately following successful completion of RHET 1010, a hold will be placed on their subsequent registration until the issue is satisfactorily resolved.
- Students other than those in the School of Science and Engineering must enroll in Scientific Thinking, and the Pathways One (Scientific Encounters) and Pathways Two (Cultural Explorations) required Core courses, within their first four semesters. (All SSE students are deemed to fulfill their Pathways One requirement within the major, so they need to complete six rather than seven courses in their Freshman Program; SSE students majoring or intending to major in engineering, will take slightly longer to complete Freshman Program requirements, in line with the Five Year Plans of their majors.)
- If students fail to register for all of the following: a Pathways One class + the 1 cr. hr. lab (non-science students only), a Pathways Two class, Scientific Thinking*, Philosophical Thinking, and LALT 1010, Information Literacy, by the end of their third semester (end of the fourth semester for engineering students), they will be notified. If the problem persists in the following semester, a hold will be placed on their subsequent registration until the issue is satisfactorily resolved.
- For undeclared students, only those who have completed the RHET 1010/ CORE 1010 tandem classes, RHET 1020, LALT 1010, and Scientific Thinking, will be eligible to declare a major at AUC. During the semester in which they wish to declare, these students must also have completed or be currently enrolled in either ALL or ALL BUT ONE of their required Pathways course(s) and Philosophical Thinking.

Only those students who have completed all Freshman Level courses can proceed to the Junior Level of their major, according to the four- or five-year plan of that major.

Any student who wishes to declare or proceed in his or her major without having completed the Freshman Program requirements according to the terms set out above, will require explicit written approval from the Office of the Dean of Undergraduate Studies. Such approval will be granted only upon acceptance of a signed statement from the student indicating precisely how and when he or she will complete all outstanding Freshman Program requirements. Students who fail to fulfill their stated plans, without sufficient, documented justification, will be placed on probation, leading to dismissal.

These rules shall apply to students who begin the Freshman Program at AUC in fall 2014 and thereafter. Provisions concerning holds on registration will apply to all students, at whatever level, beginning in fall 2014.

After the release of registration holds, students will not be allowed to drop the Freshman Program courses concerned, following the timelines mentioned above, without the consent of their advisors.

*For students wishing to declare engineering, the requirement that Scientific Thinking be completed prior to declaration does not apply.

Specific rules applied to RHET 1010/CORE 1010 or RHET 1020 courses taken in the freshman level of the core curriculum:

Students may retake each of RHET 1010, CORE 1010 and RHET 1020 up to three times in three consecutive semesters. If the second retake is unsuccessful, students will receive a warning, and continued study at AUC will be contingent on successful completion of the course, on a third retake, in the following semester.

- All students, except for those with transfer credits or advanced standing, take the RHET 1010/CORE 1010 tandem classes (6 cr hrs total) in their first semester as freshmen. Students cannot drop one without dropping the other, and dropping both can only happen with permission.
- All students must take RHET 1020 in their second semester, preferably along with the LALT 1010 Information Literacy class.
- Dropping one of the two courses RHET 1010 or CORE 1010 (Freshman Writing or Freshman Seminar) will result in the other course being dropped as well, automatically.
- Students retaking the tandem courses CORE 1010/RHET 1010 must enroll in a different theme.
- Students may pass or fail one or both of the tandem courses RHET 1010 and CORE 1010, depending on their performance in each course.

Freshman Program Requirements:

- RHET 110/1010 - Freshman Writing (3 cr.) and
- CORE 110/1010 - Freshman Seminar (3 cr.) (semester one, 6 credit hours)
- RHET 120/1020 - Research Writing (3 cr.) (3 credit hours)
- SCI 120/1020 - Scientific Thinking (3 cr.) (3 credit hours)
- PHIL 220/2100 - Philosophical Thinking (core curriculum requirement) (3 cr.) (3 credit hours; pre-requisite RHET 1020 or concurrent; normally taken in semester three)
- Information Literacy: LALT 1010 (non-credit)

Pathways of Learning courses:

Pathways One: Scientific Encounters (3 credit hours plus 1 lab credit)

Note: Students majoring in any program in the School of Sciences and Engineering meet these requirements through their program requirements rather than as part of the Core Curriculum. Actuarial science students are required to take a lab as part of the Core Curriculum. (The following list is representative: for an updated list of available courses, please see The Core Curriculum webpage or contact the Core office).

Students must choose one course with lab component from the following list:

- BIOL 102/1040 - Essentials of Environmental Biology (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.)

- BIOL 103/1010 - Introduction to Life Sciences (3 cr. + 1 cr. lab)
- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)
- BIOL 105/1012 - Introductory Biology II (3 cr. + 1 cr. lab)
- BIOL 130/1410 - Current Health Issues (4 cr.)

- BIOL 199/1930 - Selected Topic for Core Curriculum (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.)

- CHEM 103/1003 - Chemistry and Society (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.) (for students with no chemistry background)

- CHEM 104/1004 - Man and the Environment (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.)

- CHEM 105/1005 - General Chemistry I (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.)

- PHYS 100/1001 - Physics for Poets (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.)

- PHYS 199/1930 - Selected Topic for Core Curriculum (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.)

- SCI 105/1005 - Science and Technology of Ancient Egypt (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.)

- SCI 109/1009 - Exploration of the Universe (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.)

- SCI 199/1930 - Selected Topic for Core Curriculum (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.)

- SCI 240/2004 - Chemistry, Art and Archaeology (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.)

- SCI 250/2005 - Introduction to Geology (3 cr.) &
- SCI 251L/2015 - Introduction to Geology Lab (1 cr.)

- MACT 112/1221 - Statistical Reasoning (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.)

- MACT 199/1930 - Selected Topic for Core Curriculum (3 cr.) &
- SCI 150L/1015 - General Science Laboratory (1 cr.)

Pathways Two: Cultural Explorations (3 credit hours)

Courses taken to fulfill the Humanities / Social Science requirement at the Secondary Level must be from a department other than the one offering the course taken to meet the Pathways Two requirement, and should be from a different

discipline. (The following list is representative: for an updated list of available courses, please see The Core Curriculum webpage or contact the Core office). Most students will complete these requirements in their first three semesters.

- AMST 199/1099 - Selected Topics for Core Curriculum (3 cr.)
- ARIC 100/1300 - Arabs and Muslims Encountering the Other (3 cr.)
- ARIC 199/1099 - Selected Topics for Core Curriculum (3cr.)
- ARTV 199/1099 - Selected Topics for Core Curriculum (3 cr.)
- CORE 199/1099 - Selected Topics for Core Curriculum (3 cr.)
- ECLT 123/1023 - Experiencing Creativity: Texts and Images
- ECLT 199/1099 - Selected Topics for Core Curriculum (3 cr.)
- FILM 199/1099 - Selected Topics for Core Curriculum (3 cr.)
- HIST 110/1101 - World Cultures (3 cr.)
- HIST 111/1102 - Big History for Freshmen (3 cr.)
- HIST 122/1103 - Words That Made History: Great Speeches of the 20th Century (3 cr.)
- HIST 199/1099 - Selected Topics for Core Curriculum (3 cr.)
- MUSC 199/1099 - Selected Topics for Core Curriculum (3 cr.)
- PHIL 100/1010 - Reading Philosophy (3 cr.)
- PHIL 199/1099 - Selected Topics for Core Curriculum (3 cr.)
- SEMR 123/1023 - Celebrating Ideas: A Voyage Through Books, film, Art and Theater (3 cr.)
- SEMR 199/1099 - Selected Topics in Core Curriculum (3 cr.)
- THTR 130/1101 - The World of the Theatre (3 cr.)
- THTR 199/1099 - Selected Topics for Core Curriculum (3 cr.)
- ANTH 199/1099 - Selected Topics for Core Curriculum (3 cr.)
- ECON 199/1099 - Selected Topics for Core Curriculum (3 cr.)
- EGPT 199/1099 - Selected Topics for the Core Curriculum (3 cr.)
- POLS 101/1001 - Introduction to Political Science (3 cr.)
- SOC 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Arabic Language (0-6 credit hours)

All newly admitted students, except those who have passed the Thanawiya Amma exam or its equivalent, will take an Arabic placement exam. Based on the exam results, students may be required to take up to two modern standard Arabic courses from the following:

- ALNG 101-102 -103/1101-1102-1103 - Elementary Arabic (3 cr. each per semester)
- ALNG 201-202-203/2101-2102-2103 - Intermediate Arabic (3 cr. each per semester)

II. Secondary Level: 12 credit hours

Category 1: Humanities and Social Sciences (3 credit hours)

Every student must choose and complete one course in this category. It must be from a department other than the one offering the course taken to meet the Pathways Two requirement in the Freshman Level, and should be from a different discipline. (The following list is representative: for an updated list of available courses, please see The Core Curriculum webpage or contact the Core office).The requirement should be completed by the end of the student's sixth semester.

- ARIC 206/2206 - The City of Cairo (3 cr.)

- ARIC 270-271/2270-2271 - From Andalusia to Indonesia: Introduction to Islamic Art and Architecture (3 cr. per semester)
- ARIC 320/3020 - Introduction to Sufism (3 cr.)
- ARIC 335/3435 - Introduction to the Study of Islam (3 cr.)
- ARIC 336/3336 - Studies in Ibn Khaldun (3 cr.)
- ARIC 337/3337 - Shi'i Muslims in History (3 cr.)
- ARTV 213/2113 - Introduction to Visual Cultures (3 cr.)
- ARTV 315/3115 - Art Theory (3 cr.)
- ARTV 370/3270 - Selected Topics in Art (3 cr.)
- CREL 299/2099 - Selected Topics for Core Curriculum (3 cr.)
- ECLT 200/2010 - Introduction to Literature (3 cr.)
- ECLT 201/2011 - Survey of British Literature (3 cr.)
- ECLT 202/2012 - Global Literature in English (3 cr.)
- ECLT 299/2099 - Selected Topics for the Core Curriculum in Humanities (3 cr.)
- ECLT 344/3014 - Literature and Philosophy (3 cr.)
- ECLT 370/3070 - Creative Writing (3 cr.)
- FILM 220/2120 - Introduction to Film (3 cr.)
- FILM 299/2099 - Selected Topics for Core Curriculum (3 cr.)
- HIST 203/2401 - Western Civilization from Antiquity to Medieval Europe (3 cr.)
- HIST 204/2402 - Europe from the Middle Ages to the Enlightenment (1337-1789) (3 cr.)
- HIST 205/2403 - Europe in the Age of Revolution and Reform (1789-1914) (3 cr.)
- HIST 212/2604 - The Quest for the Historical Jesus (3 cr.)
- HIST 299/2099 - Selected Topics for the Core Curriculum in Humanities (3 cr.)
- MUSC 220/2200 - Introduction to Music (3 cr.)
- MUSC 240/2400 - Western Music Theory I (3 cr.)
- MUSC 299/2099 - Selected Topics for Core Curriculum (3 cr.)
- PHIL 221/2010 - Informal Logic (3 cr.)
- PHIL 224/2111 - Self and Society (3 cr.)
- PHIL 230/2113 - Introduction to Ethics (3 cr.)
- PHIL 299/2099 - Selected Topics for Core Curriculum (3 cr.)
- PHIL 344/3014 - Literature and Philosophy (3 cr.)
- RHET 225/2220 - Public Speaking (3 cr.)
- RHET 299/2099 - Selected Topics (3 cr.)
- RHET 310/3310 - Effective Rhetoric: Discourse and Power (3 cr.)
- RHET 323/3330 - Changing Words, Changing Worlds (3 cr.)
- RHET 325/3340 - The Rhetoric of Argument in the Humanities and Social Sciences (3 cr.)
- RHET 340/3120 - Life Narratives: Reading as Writers (3 cr.)
- RHET 345/3110 - The Writer's Workshop (3 cr.)
- RHET 380/3150 - Poetry Writing (3 cr.)
- RHET 399/3099 - Selected Topics (3 cr.)
- THTR 203/1201 - Theatre in the Making (3 cr.)
- THTR 230/2301 - Play Analysis (3 cr.)
- THTR 299/2099 - Selected Topics for Core Curriculum (3 cr.)
- SEMR 200/2010 - Core Seminar (3 cr.)
- SEMR 299/2099 - Selected Topics in the Humanities (3 cr.)
- SEMR 300/3099 - Core Honors Seminar (3 cr.)
- ANTH 202/2101 - Cultural Anthropology (3 cr.)
- ANTH 299/2099 - Selected Topics for Core Curriculum (3 cr.)

- ARIC 299/2099 - Selected Topics for the Core Curriculum in Humanities (3 cr.)
- ARIC 323/3323 - Marriage and the Family in the Medieval and Early Modern Middle East (3 cr.)
- ARIC 325/3325 - Beggars, Madmen, Prostitutes: the Marginalized in Pre-Modern Mideast History. (3 cr.)
- CORE 299/2099 - Selected Topics for Core Curriculum (3 cr.)
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)
- EGPT 202/2020 - Ancient Egypt: An Introduction (3 cr.)
- EGPT 299/2099 - Selected Topics for Core Curriculum (3 cr.)
- LING 252/2200 - Introduction to Linguistics (3 cr.)
- LING 268/2210 - Principles and Practice of Teaching English (3 cr.)
- PPAD 299/2099 - Selected Topics for the Core Curriculum (3 cr.)
- PPAD 308/3198 - Management in Government (3 cr.)
- PHIL 242/2116 - Philosophical Anthropology (3 cr.)
- PSYC 201/1000 - Introduction to Psychology (3 cr.)
- PSYC 299/2099 - Selected Topics in Psychology (3 cr.)
- PSYC 330/3003 - Community Psychology (3 cr.)
- RHET 320/3210 - Business Communication (3 cr.)
- RHET 321/3230 - Technical Communication (3 cr.)
- RHET 322/3320 - Writing in the Social Sciences (3 cr.)
- RHET 330/3350 - Writing and Cognition (3 cr.)
- RHET 332/3240 - Presentation and Persuasion in Business (3 cr.)
- RHET 334/3250 - Digital Rhetoric (3 cr.)
- SOC 201/2101 - Introduction to Sociology (3 cr.)
- SOC 240/2201 - Introduction to Community Development (3 cr.)
- SOC 299/2099 - Selected Topics for Core Curriculum (3 cr.)

Category 2: Arab World Studies (6 credit hours)

Every student must choose and complete two courses in this category. (The following list is representative: for an updated list of available courses, please see The Core Curriculum webpage or contact the Core office). This requirement should be completed by the end of the student's sixth semester.

- ANTH 210/2005 - Arab Society (3 cr.)
- ANTH 312/3301 - Peoples and Cultures of the Middle East and North Africa (3 cr.)
- ARIC 201/2101 - Introduction to Classical Arabic Literature (3 cr.)
- ARIC 202/2102 - Introduction to Modern Arabic Literature (3 cr.)
- ARIC 203/2103 - Classical Arabic Literature in Translation (3 cr.)
- ARIC 204/2104 - Modern Arabic Literature in Translation (3 cr.)
- ARIC 246/2346 - Survey of Arab History (3 cr.)
- ARIC 299/2097 - Selected Topics for the Core Curriculum in Arab World Studies (3 cr.)
- ARIC 305/3104 - Arabic Literature and Gender (3 cr.)
- ARIC 306/3106 - Arabic Literature and Film (3 cr.)
- ARIC 307/3107 - The Writer and the State (3 cr.)
- ARIC 308/3108 - Colloquial and Folk Literature (3 cr.)
- ARIC 309/3097 - Selected Themes and Topics in Arabic Literature (3 cr.)
- ARIC 310/3197 - Selected Themes and Topics in Arabic Literature in Translation (3 cr.)
- ARIC 314/3114 - The Arabic Novel (3 cr.)
- ARIC 315/3115 - Arabic Drama (3 cr.)

- ARIC 316/3116 - The Arabic Short Story (3 cr.)
- ARIC 321/3321 - Zawiyas, Harems, Coffee shops, Everyday Life in the Pre-Modern Mideast (3 cr.)
- ARIC 324/3324 - Non-Muslim Communities in the Muslim World (3 cr.)
- ARIC 343/3343 - Birth of Muslim Community and Rise of the Arab Caliphates (3 cr.)
- ARIC 344/3344 - Caliphs and Sultans in the Age of Crusades and Mongols (3 cr.)
- ARIC 345/3345 - Gunpowder Empires: Ottomans, Safavids and Mughols (3 cr.)
- ARIC 355/3355 - State and Society in the Middle East, 1699-1914 (3 cr.)
- ARIC 357/3397 - Selected topic in Middle East History (3 cr.)
- CREL 299/2099 - Selected Topics for Core Curriculum (3 cr.)
- ECON 215/2051 - Economic History of the Modern Middle East (3 cr.)
- FILM 320/3120 - Cinema in Egypt and the Arab World (3 cr.)
- HIST 247/2204 - The Making of the Modern Arab World (3 cr.)
- HIST 299/2097 - Selected Topics for the Core Curriculum in Arab World Studies (3 cr.)
- HIST 330/3206 - Urban Landscapes in the Modern Middle East/North Africa (3 cr.)
- HIST 331/3207 - History of Palestine/Israel (3 cr.)
- HIST 333/3208 - Zionism and Modern Judaism (3 cr.)
- MUSC 342/3250 - Music in the Arab Tradition (3 cr.)
- SOC 203/2301 - Social Problems of the Middle East (3 cr.)
- SOC 206/2302 - Arab Family Structure and Dynamics (3 cr.)
- SOC 240/2201 - Introduction to Community Development (3 cr.)

Category 3: Global Studies (3 credit hours)

Every student must choose and complete one course in this category. (The following list is representative: for an updated list of available courses, please see The Core Curriculum webpage or contact the Core office). The requirement should be completed by the end of the student's sixth semester.

- AMST 299/2096 - Selected Topics for Core Curriculum (3 cr.)
- ANTH 302/3015 - Global Families: Kinship and Relatedness in Late Modernity (3 cr.)
- ANTH 352/3075 - Language in Culture (3 cr.)
- ANTH 360/3080 - Gender, Sexuality and Social Change (3 cr.)
- ANTH 372/3090 - Public Anthropology (3 cr.)
- ANTH 382/3302 - Peoples and Cultures of Sub-Saharan Africa (3 cr.)
- ARIC 299/2096 - Selected Topics for the Core Curriculum in International/World Studies (3 cr.)
- ARIC 345/3345 - Gunpowder Empires: Ottomans, Safavids and Mughols (3 cr.)
- CREL 210/2603 - Religions of the World (3 cr.)
- CREL 299/2096 - Selected Topics for the Core Curriculum in International/World Studies (3 cr.)
- ECLT 209/2019 - Introduction to American Studies (3 cr.)
- ECLT 299/2096 - Selected Topics for the Core Curriculum in International/World Studies (3 cr.)
- ECLT 301/3001 - Medieval Literature (3 cr.)
- ECLT 332/3032 - World Literature (3 cr.)
- ECLT 333/3033 - African Literature (3 cr.)
- ECLT 346/3046 - Third World Literature (3 cr.)
- ECLT 347/3099 - Selected Topics (3 cr.)
- ECLT 353/3053 - Modern Drama (3 cr.)
- ECON 224/2091 - Economic History (3 cr.)
- FILM 370/3070 - Selected Topics in Film (3 cr.)
- HIST 206/2404 - Europe in International Politics in the Twentieth Century (3 cr.)

- HIST 207/2104 - World History (3 cr.)
- HIST 299/2096 - Selected Topics for the Core Curriculum in International/World Studies (3 cr.)
- HIST 320/3105 - Big History (3 cr.)
- LING 200/2201 - Languages of the World (3 cr.)
- MUSC 225/2000 - World Music (3 cr.)
- MUSC 240/2400 - Western Music Theory I (3 cr.)
- MUSC 255/1010 - The Songs of America (3 cr.)
- MUSC 360/3200 - Music in the Western Tradition (3 cr.)
- PHIL 238/2115 - World Philosophy (3 cr.)
- PHIL 319/3013 - Development and Responsibility (3 cr.)
- PHIL 356/3016 - American Philosophy (3 cr.)
- POLS 299/2096 - Selected Topics for Core Curriculum (3 cr.)
- RHET 341/3130 - Travel Writing (3 cr.)
- SOC 303/3303 - Social Movements (3 cr.)
- SOC 304/3025 - Development Agencies (3 cr.)
- SOC 307/3304 - Social Class and Inequality (3 cr.)
- SOC 321/3045 - The Urban Experience (3 cr.)
- SOC 322/3050 - Rural Sociology (3 cr.)
- SOC 323/3055 - Fundamentals of Population Studies (3 cr.)
- SOC 332/3060 - Social Constructions of Difference: Race, Class and Gender (3 cr.)
- SOC 370/3085 - Environmental Issues in Egypt (3 cr.)

III. Capstone Level: 6 credit hours

The requirements may be met by selecting two courses from a variety of options, including Senior Project or Thesis, Senior Seminar, Senior Internship, Study Abroad, Community Engagement, Honors Seminar, Interdisciplinary Senior Seminar or a 400 level course counting toward a double major. (The following list is representative: for an updated list of available courses, please see The Core Curriculum webpage or contact the Core office). No more than 3 of the 6 credit hour requirements may be taken in the department of major.

This requirement should be completed during the student's senior year.

- ACCT 403/4003 - Contemporary Issues in Accounting (3 cr.) *
- AENG 490/4980 - Senior Project I (2 cr.) *
- AENG 491/4981 - Senior Project II (5 cr.) *
- ANTH 422/4025 - Religion in a Global World (3cr.) *
- ANTH 440/4203 - Practicum in Community Development (3 cr.) *
- ANTH 460/4560 - Development Studies Seminar (3 cr.) *
- ANTH 495/4107 - Senior Seminar (3 cr.) *
- ARTV 470/4270 - Senior Project (B) (3 cr.) *
- BIOL 495/4980 - Senior Research Thesis (1 cr.) *
- BIOL 496/4981 - Seminar in Biology (2 cr.) *
- CENG 490/4980 - Senior Project I (1 cr.) *
- CENG 491/4981 - Senior Project II (2 cr.) *
- CHEM 495/4980 - Senior Thesis I (1 cr.) *
- CHEM 496/4981 - Senior Thesis II (2 cr.) *
- CORE 499/4198 - Selected Topic for Core Curriculum (3 cr.)
- CSCE 491/4980 - Senior Project I (1 cr.) *

- CSCE 492/4981 - Senior Project II (2 cr.) *
- ECLT 409/4009 - Greek Classics in Translation (3 cr.)
- ECLT 410/4010 - Classics of the Ancient World (3 cr.)
- ECLT 411/4011 - History of Literary Criticism (3 cr.)
- ECLT 412/4012 - Modern Literary Criticism (3 cr.)
- ECLT 447/4099 - Capstone Seminar: Selected Topics (3 cr.)
- ECON 308/3071 - Labor Economics (3 cr.) *
- ECON 411/4099 - Seminar: Special Topics in Economics (3 cr.) *
- ECON 415/4051 - Seminar on Economic Development in the Middle East (3 cr.) *
- ECNG 490/4980 - Senior Project I (1 cr.) *
- ECNG 491/4981 - Senior Project II (2 cr.) *
- EGPT 440/4040 - Ancient Egyptian Religion and Ethics (3 cr.) **
- EGPT 499/5199 - Selected Topics in Egyptology (3 cr.) **
- ENGR 494/4990 - Entrepreneurial Development and Innovation (3 cr.)
- ENTR 413/4102 - Entrepreneurship and Innovation (3 cr.) *
- FILM 450/4250 - Senior Film Project (3 cr.) *
- FILM 470/4370 - Advanced Seminar in Film Study and Research (3 cr.)
- HIST 401/4588 - Selected Topics in the History of the United States (3 cr.)
- HIST 412/4290 - Selected Topics in Modern Egyptian History (3 cr.)
- HIST 415/4215 - The Marriage Crisis and the Middle East (3 cr.)
- HIST 435/4216 - Social and Political History of Modern Cairo (3 cr.)
- HIST 454/4219 - Modern Movements in Islam (3 cr.)
- HIST 462/4288 - Selected Topics in the History of the Modern Middle East (3 cr.)
- JRMC 420/4420 - Media Management (3 cr.) *
- JRMC 425/4425 - Integrated Marketing Communication Campaigns Capstone (3 cr.) *
- JRMC 480/4480 - Multimedia Reporting Capstone (3 cr.) *
- JRMC 482/4482 - Media Convergence Capstone (3 cr.) *
- MACT 495/4980 - Senior Thesis (3 cr.) *
- MACT 497/4950 - Practical Internship (3 cr.) *
- MACT 000/4990 - Enterprise Risk Management (3 cr.) *
- MENG 490/4980 - Senior Project I (1 cr.) *
- MENG 491/4981 - Senior Project II (2 cr.) *
- MEST 430/4301 - Special Topics in Middle East Studies (3 cr.)
- BADM 480/4001 - Business Planning and Strategy (3 cr.) *
- MKTG 480/4602 - Marketing Strategy (3 cr.) *
- MUSC 492/4980 - Capstone Final Recital (3 cr.)
- PENG 490/4980 - Senior Project I (1 cr.) *
- PENG 491/4981 - Senior Project II (2 cr.) *
- PHIL 410/5112 - Advanced Seminar in Aesthetics (3 cr.) **
- PHIL 418/5114 - Philosophical Masterpieces (3 cr.) *
- PHIL 420/5115 - Philosophical Figures (3 cr.) *
- PHYS 401/4980 - Senior Thesis and Seminar (3 cr.) *
- POLS 400/4000 - The Discipline and Critical Social Theory (3 cr.) *
- POLS 430/4030 - Seminar: Special Topics in Political Science for Undergraduates (3 cr.) *
- PPAD 491/5198 - Practicum (3 cr.) *
- PSYC 430/4063 - Advanced Community Psychology (3 cr.) *
- PSYC 442/4062 - Clinical Psychology (3 cr.) *

- RHET 342/3140 - Writing Children's Literature (3 cr.) *
 - RHET 400/4360 - Writing and Editing for Publication (3 cr.) *
 - RHET 410/4260 - Writing for Project Funding (3 cr.) *
 - RHET 450/4160 - Imagining the Book (3 cr.) *
 - RHET 480/4270 - Research and Writing Internship (3 cr.) *
 - RHET 490/4280 - Advanced Scientific and Technical Writing (3 cr.) *
 - SEMR 300/3099 - Core Honors Seminar (3 cr.)
 - SEMR 410/4018 - East-West Dialogue: Cross-Cultural Perceptions and Reflections (3 cr.)
 - SEMR 411/4028 - The Arab Spring in Arab Eyes: Perceptions and Reflections from the Arab World (3 cr.)
 - SEMR 412/4038 - South-South Dialogue: Perceptions and Reflections from the Global South (3 cr.)
 - THTR 490/4703 - Senior Thesis (3 cr.) *
 - THTR 495/4705 - Senior Honors Project (3 cr.) **
- All prerequisites apply
** by instructor's permission
To see SEMR course descriptions, please click here.

Undergraduate Academic Requirements & Regulations

Click on any of the following links for information:

[Undergraduate Academic Requirements](#)

[Undergraduate Academic Regulations](#)

Academic requirements and regulations govern the relationship between the university and its students. Students must complete the general academic requirements described below as well as those listed under an individual degree program in order to obtain an academic degree.

The academic regulations described in this section are effective at the time of publication. The university reserves the right to modify them, in which case changes will be announced when necessary. The student is responsible for being aware of all academic requirements and regulations. These can only be waived by action of the university, as appropriate. Current university regulations apply regardless of the regulations in effect at the time a student entered the university, except where current regulations specifically state the contrary.

Non-Discrimination Policy

The American University in Cairo admits students regardless of race, color, religion, gender, disability or national origin with all rights and privileges to programs and activities generally accorded or made available to students at the University. The University does not discriminate on the basis of race, color, religion, gender, disability, or national origin in the administration of its academic policies, admission policies, scholarship and loan programs, and athletic and other school-administered programs. Accordingly the University does not tolerate any forms of discrimination and / or harassment including sexual harassment.

Student Responsibility

Students are responsible for familiarizing themselves with the information presented in this catalog and for observing all policies and procedures related to their participation in the university community. In addition, AUC has adopted a

set of policies and procedures concerning the statutes and regulations on the campus. Copies of these policies and procedures may be obtained at the Office of the University Registrar.

Regulations will not be waived nor exceptions granted based on a student's lack of awareness of the policies and procedures of the American University in Cairo. Although a number of university personnel (e.g. advisors, faculty members, registrar, departmental staff, and student affairs staff members) assist students, the student is personally responsible for following all policies and meeting deadlines and requirements. This responsibility includes, but is not limited to, academic requirements and the rules listed under the appropriate information sections of this catalog.

Privacy Rights of Student Records

Students have the right to access their own official records. The written consent of the student must be received before personally identifiable data is released from the student's records to any party other than the exceptions specified below.

While the university is authorized under the United States Family Educational Rights and Privacy Act of 1974 to release "directory information" about students, AUC does not publish a student directory. Student information is subject to release by the university unless the university has received prior written objection from the student specifying information that the student requests not to be released. Such written objection should be submitted to the Office of the University Registrar.

AUC is authorized to provide access to student records to campus officials and employees who have legitimate educational interests in such access. These persons are those who have responsibilities in connection with the academic, administrative, or service functions of the university and who have reason for using student records connected with their academic or other university responsibilities. Disclosure may also be made to other persons or organizations under certain conditions (e.g. as part of an accreditation or program evaluation; in response to a court order or subpoena; in connection with financial aid; or to US institutions to which the student is transferring).

Undergraduate Academic Requirements

The general academic requirements apply to all students working toward a bachelor of arts or bachelor of science degree. These requirements reflect the university's effort to bridge two cultures. Thus the university requires a high concentration of courses in its undergraduate majors, a characteristic of Egyptian education, while at the same time requiring a core of general education, the approach taken by institutions in the United States. The main components of AUC's undergraduate programs are:

1. A Core Curriculum: foundation of general education in the natural sciences, social sciences, and humanities.
2. Arabic language requirements.
3. Concentrations: subjects in which students concentrate their studies and receive degrees.
4. Collaterals: subjects in supporting disciplines specified by the department of major.
5. Minors: subjects which students may, if they wish, study beyond the introductory level.
6. Electives: courses chosen by students in consultation with their advisers.

Residence

To obtain a bachelor's degree a student must take at least 45 credit hours of courses in residence at the American University in Cairo. At least 30 of the 45 hours must be in courses at the 3000 and 4000 levels; with a stipulation that no more than 15 transfer credits in 3000-4000 level courses, will satisfy concentration requirement of any program. The maximum credit to be considered for each program is as follows:

1. A maximum of 15 transfer credit hours in the 3000-4000 level courses in programs offered by the School of Business.

2. A maximum of 15 transfer credit hours in the 3000-4000 level courses in programs offered by the School of Sciences and Engineering.
3. A maximum of 15 transfer credit hours in the 3000-4000 level courses in programs offered by the School of Global Affairs and Public Policy except for Middle East Studies program; a maximum of 12 transfer credit hours.
4. A maximum of 12 transfer credit hours in the 3000-4000 level courses in programs offered by the School of Humanities and Social Sciences.

AUC students who join a year abroad exchange program administered by the university are exempted from the residence requirement part of maximum transfer credits in 3000-4000 level courses towards concentration requirements.

Graduation

To be awarded the Bachelor of Arts degree, students must complete a minimum of 120 credit hours (127 in Business Administration and in Accounting also 133 in Management of Information and Communication Technology) in courses in which the grades are "D" or better, and must earn a grade-point average of "C" or better, both overall and in the field of concentration. These requirements must be completed within seven years of the date of first registration as a freshman.

To be awarded the Bachelor of Science degree students must complete between 130 and 162 credit hours, depending on the major, in courses with grades of "D" or better and earn a grade-point average of "C" or better, both overall and in the field of concentration. These requirements must be completed within eight years of the date of first registration as a freshman.

Any period of withdrawal from the university is counted as part of the seven- or eight-year limit mentioned above.

Majors

The university offers courses of study leading to bachelor's degrees in various academic fields in the arts and sciences and in professional fields. Undergraduates must select a major and fulfill the requirements of the department offering the degree. The fields of major and the departmental requirements are described in the "Fields of Study" section. Academic regulations concerning the declaration of major and change of major are described in the "Academic Regulations" section.

Double Majors

Students may earn two majors in related or unrelated fields and receive one bachelor's degree. While it is acknowledged that some students will not be able to manage the heavy workload that a double major entails, the American University in Cairo enthusiastically endorses the principle that any undergraduate student should be permitted to pursue a double major, subject to the following rules:

1. Acceptance into a second major must occur before the last semester of the senior year. Acceptance into a second major will be on the same basis as if it were the first major.
2. No student will be accepted into a second major without the formal approval of the chair of the department offering the student's first choice of major as well as the chair of the department offering the student's second choice of major.
3. Any student considering a second major should review carefully the catalog descriptions of both her/his first major and his/her intended second major, paying special attention to any specific rules established by the relevant departments with regard to double majors. For example, departments may restrict the ability of one of their own majors to declare a second major by limiting the range of majors eligible as "second majors."
4. Students who are pursuing a double-major must complete all of the requirements for both majors. In the rare circumstance where one course is eligible to meet both the concentration, collateral or elective requirements

- of one major and also the concentration, collateral or elective requirements of a second major, this course may be counted for both majors - unless the catalog description of either major explicitly states otherwise.
5. Students must have a faculty adviser in each major. The student must meet with each of his/her advisors and plan the student's academic program. Both advisers must sign the student's registration forms.
 6. One degree will be awarded upon successful completion of both majors. If one major qualifies for the bachelor of arts degree and the other for the bachelor of science degree, the student in consultation with his/her advisers will decide which degree to receive.
 7. In considering whether to major in two subjects, students should be aware that it may take more than four years to complete all requirements, that scheduling of prerequisites and required courses in two majors may be difficult, and that some AUC departments, particularly those which limit enrollment, may not allow students to take a second major in their programs.

Minors

In addition to major subjects leading to a degree, students may select one or two minor fields of specialization. The minor program is available to students who would like to study a particular subject beyond the introductory courses but not to the level of expertise required for a major. An undergraduate minor introduces the student to the scope and methodology of the minor field and is often an important auxiliary to his/her major field. The American University in Cairo enthusiastically endorses the principle that undergraduate students should be permitted and even encouraged to pursue a minor discipline that will broaden their experience at AUC and enhance the interdisciplinary character of the undergraduate programs.

Minors may be within a given discipline, or interdisciplinary. Students wishing to minor in a given discipline may do so if they satisfy the requirements of the department or unit offering the minor, as specified in the AUC catalog. Students should be aware that in some cases the minimum credit hours required for graduation may have to be exceeded. At least 15 hours of courses as specified under each field are required for a minor.

In the circumstance where one course is eligible to meet both the concentration, collateral or elective requirements of a major and also any of the requirements of a minor, this course may be counted for both the major and the minor - unless the catalog description of either the major or the minor explicitly states otherwise.

The requirements for individual minors appear under the relevant field of study. Each interdisciplinary minor is administered by a steering committee which is itself interdisciplinary. Steering committee membership is open either to all teachers in the program or to representation from each department in the program in any given year.

Students who are pursuing a minor must have a faculty adviser in for the minor. This adviser will meet with the student to review the academic requirements for the minor and the student's plans to complete these requirements.

Dual Undergraduate/Graduate Programs

A dual undergraduate/graduate degree program is an approved program in which a student pursues a graduate degree with an undergraduate degree in a related field. The total time for the two degrees could be decreased through the acceptance of up to 12 credit hours of required courses in both degrees. A student enrolled in a such a program must complete all requirements for the two degrees and is awarded both degrees at the end of the program. In this regard, this student is admitted to the graduate program before he/she have earned a bachelor's degree. The student is typically able to take both undergraduate and graduate courses for the program during his/her senior year.

A student who decides to withdraw from this dual degree program, will receive his/her appropriate undergraduate degree contingent on having completed all requirements for this undergraduate degree.

Undergraduate Academic Regulations

Registration

Students must register during the official registration period at the times announced in the university calendar. They should plan their courses with their advisers prior to registration and follow the instructions in the Registrar's web page: www.aucegypt.edu/students/registrar/Pages/default.aspx. Students must attend the section of the course for which they are registered. No instructor has the authority to permit a student to shift from one section of the course to another without following official drop/add procedures. Students are responsible for registering on time and for the correct courses. You may not attend classes without being properly registered for them, you cannot receive credit for courses in which you are not registered and students may not register or add courses retroactively.

Change of Courses

With careful attention to the degree requirements and course offerings there should be minimal need for course changes after registration has been completed. Any student who desires a course change must follow the instructions in the Registrar's web page: www.aucegypt.edu/students/registrar/Pages/default.aspx

- Another course may not be substituted for a required course unless university action requires that the change be made.
- Students may not drop 1000-level Rhetoric and Composition (RHET) courses without permission from the Department of Rhetoric and Composition.
- Students may drop and/or add courses without penalty during the formal "Late Registration and Course Changes Period" specified in the instructions in the Registrar's web page: www.aucegypt.edu/students/registrar/Pages/default.aspx
- A course may not be added to the student's schedule after the end of the period of Late Registration and Course Changes.
- Students may drop a course and receive a "W" grade during the seven weeks following the conclusion of any period of Late Registration and Course Changes associated with a fall or spring semester.
- Students are not permitted to drop classes after the seventh week of the closing date of Late Registration and Drop/Add operations.
- Students will receive a grade of "F" if they stop attending classes without officially dropping the course.
- Students may petition their Deans - or, in the case of non-declared students, the Dean for Undergraduate Studies and Director of the Core Curriculum - for permission to drop a class and receive a "W" grade after the seventh week of the closing date of Late Registration and Drop/Add operations. However, such petitions will be approved only in special cases, which in most extraordinary circumstances will mean documented health or family crises. Petitions will be neither accepted nor approved for the purpose of avoiding a low or failing grade.
- Fulltime international transfer students and fulltime non-declared international students may petition for permission to drop a class and receive a "W" grade after the seventh week of the closing date of Late Registration and Drop/Add operations by seeking the approval of the Faculty Advisor in the International Programs Office and then submitting the petition for approval to the responsible department chair and dean. In general, such petitions will be approved only in special cases, which in most circumstances will mean documented health or family crises.

Credit Hours

Coursework is counted in credit hours. In general, a credit hour represents a one-hour class period that requires at least two hours of individual study each week for one semester. Thus a course of three credit hours would meet for three hours a week and the student would be expected to study for six hours outside of class. Laboratory courses involve less outside work, so usually one hour of credit is granted for a three-hour session.

Class Standing

Class standing is determined by the number of credit hours completed. Students become sophomores on completing 30 credit hours, juniors on completing 60 credit hours, and seniors on completing 90 credit hours.

Declaration of Major

Declaring intended Program:

Students are required to indicate their preferred "Intended Program" during admission. Only students intending Engineering majors may be accepted into their "Intended Program" at the same time as they are offered admission into the University. All other students are admitted as "Undeclared students".

Any student in good standing (i.e., who has a cumulative grade point average of 2.0 or above) may seek admission to any major offered by any AUC academic program. AUC is proud of the quality and rigor of all of its undergraduate programs, and the University undertakes to insure that every student admitted to the University will have several major disciplines from which to choose. However, AUC does not undertake to insure that every student will be admitted to the specific major program(s) that the student may prefer. Admission to a student's preferred major is not guaranteed and is subject to the following factors:

1. Departments that offer majors that are in such high demand that the number of students applying for a major exceeds the department's capacity may limit the number of majors whom they admit in accordance with the number of full-time faculty and the availability of appropriate facilities. These departments will announce the number of new places available in the major each semester as well as the criteria and associated rationale according to which the programs determine the number of places of available.
2. A department that has limited capacity relative to the numbers of students seeking to major in that department's discipline(s), must employ a variety of criteria in identifying those students who will be admitted into the major(s). These criteria include, but must not be limited to, a measure of academic performance in all courses taken at AUC joined with a measure of academic performance in specific courses taken at AUC essential to the academic discipline in question. All criteria must be appropriately weighted in admission decisions when employed. These criteria may include (among other things):
 - Secondary school performance. (This criterion is especially important in the case of Engineering, which selects many of the students who will be permitted to pursue Engineering majors during Admission).
 - Interviews.
 - Assigned essays.
 - Aptitude tests.
 - Portfolios.
3. Admission into some majors may also be dependent on meeting standards of aptitude or skill (e.g. musical training, mathematics or linguistics skills).

Students may choose to declare their major at any time between the end of their second semester and the beginning of the fifth semester - that is, after they have completed from 26 to 30 credits, as determined by each department for its major(s), and before they have completed 60 credits. Once a student has achieved junior standing (that is, has completed 60 credit hours), he or she must have declared a major. No student who has achieved junior standing will be permitted to register in courses unless he or she has declared a major, and no student will be considered a "declared major" unless and until the student has received a formal statement, signed by the chair of the department or the person most directly responsible for offering the major in question, confirming that the student has been admitted to this major.

Students follow the degree requirements stated in the catalog of the year in which they make their declaration. However, if a student withdraws from the university and is later readmitted s/he will be required to follow the catalog requirements of the year in which readmission occurs.

Change of Major

A student who has achieved junior standing is expected to complete the requirements of and graduate with the major in which he or she is declared. However, students may change their field of study or be required to change it by university action at any time up to the end of their junior year. A change requires approval from the department of the new major. Students follow the degree requirements stated in the catalog of the year in which they make the change.

Students may not change their major after the start of their senior year. That is, once a student has completed 90 credit hours and achieved senior standing, he or she will only be permitted to complete and graduate with the undergraduate major in which he or she is declared at that time.

Academic Load

Full time undergraduate students normally take an academic load of twelve to sixteen hours, with the exception of science, engineering and computer science students who may take up to eighteen hours. In the summer session, students may take up to seven credit hours. In the Winter session, summer A session and summer B session, students may take up to four credit hours.

Permission to exceed the above maximums, up to twenty one credit hours in fall and spring semesters and nine credit hours in the summer, is based on the student's previous academic record in addition to the recommendation of the department chair and the University Registrar. Freshman and Sophomore students are not permitted to exceed the maximum load, and courses taken for no credit are included within that load.

Students taking less than twelve credit hours are part-time students unless they are seniors who need to complete their degree requirements, or are prevented from taking normal load as a result of university restrictions. Students may not change their status from full time to part time during the semester without the approval of the University Registrar.

The university encourages students to carry a full load and to devote all their effort to university work and activities to obtain full benefit from their undergraduate education. Those who cannot devote full time to their undergraduate program, whether because of needed employment or other obligations, may carry a lighter course load of six to nine hours. The university cannot reschedule classes because they conflict with outside obligations.

Full-time students are entitled to university certification concerning deferment from military service and are eligible for student aid and employment. Part-time students are not entitled to certification concerning military deferment and are not eligible for student aid or employment.

Foreign students carrying a full academic load are entitled to university certification for use in obtaining their student visa. In case of withdrawal, the university reports the Egyptian authorities to cancel the student residence visa that was received through the university. Part-time students are not entitled to university certification for obtaining a student visa.

Grades/Examinations

Student work in each course is evaluated throughout the semester. Examinations, quizzes, reports, discussions or other means of evaluation help students know how they stand in a course.

Final examinations review the entire semester's work but are not heavily emphasized. Each examination lasts no longer than two hours and counts for no more than one-third of the final course grade. Except in 400-level courses and higher where extensive writing assignments and projects pertain, no other element in the final course grade will count for more than one-third. Final examinations are held during the official examination period, which is listed in the academic calendar of the university.

At the close of the semester students receive a final grade in each course. The grade is the professor's official estimate of the student's achievement as reflected in examinations, assignments, and class participation. The final grades are recorded on the student's permanent record at the Office of the University Registrar. The grade may not be changed on the student record.

The following grading system is used at the American University in Cairo:

Grade Points Description

A	4.0	Excellent
A-	3.7	
B+	3.3	Very good
B	3.0	
B-	2.7	Good
C+	2.3	
C	2.0	Passing
C-	1.7	
D+	1.3	Conditionally passing
D	1.0	
F	0.0	Failing

Grades not included in the Grade Point Average:

P	Pass*
F	Fail
I	Incomplete
S	Satisfactory
U	Unsatisfactory
W	Withdrew
AU	Audit
IP	Incremental /In Progress**

*Pass indicates a quality of performance at the minimum level of " C." "Pass/Fail" grades are assigned only to certain courses as defined in their course description.

** For Pass/Fail and first-year RHET Courses, an 'IP' grade may be assigned to students that are attending and progressing but not achieving an acceptable level of proficiency in meeting the course outcomes. It is not to be used as an alternative to an 'I' or 'F'. An 'IP' will appear and remain on the student's transcript with no credits awarded. The course with an 'IP' grade must be retaken at the same level in the following semester.

The grade point average is calculated by multiplying the grade value by the number of credit hours the course represents; the result is the column listed as quality points. The total quality points is then divided by the total credit hours, excluding the credit hours for "P/F" courses, as illustrated below.

An example for calculating the grade point average:

Course ID	Grade	Credit Hrs	QualityPoints		
RHET 1010	C	3	6		
CHEM 1005	D	3	3		
CHEM 1015	C+	1	2.3		
MACT 1121	F	3	0		
PHYS 1011	A-	3	11.1		
PHYS 1012	B+	1	3.3		
Current AHRS	EHRS	QHRS	QPTS	GPA	
14	11	14	25.7	1.83	

AHRS: Attempted Hours are the credit hours that the student is registering for.

EHRS: Earned Hours are hours of courses in which the student achieved a passing grade, including courses with "pass/fail" grades. The earned hours (not attempted) are counted to determine the student's class and graduation.

QHRS: Quality Hours are hours of courses which are graded, excluding pass/fail or satisfactory/unsatisfactory courses.

QPTS: Quality Points are points allotted to each course, which are the result of multiplying the credit hours of the course by the points assigned to each grade mentioned above.

GPA: Grade Point Average is the quotient obtained by dividing the total quality points by the total quality hours i.e. $25.7/14 = 1.83$.

A "C" average (2.00) is required to graduate from the American University in Cairo. Likewise, a minimum grade point average of 2.00 is required in majors and minors.

Grades of "pass/fail", "I", "S", "U", "W", "AU" and "IP" are not assigned grade point values and are not used in the computation of the grade point average. Decimals beyond 2 places are truncated, not rounded up, in computing the grade point average.

Incomplete Work

In very rare cases, undergraduate students who are unable to complete a course may be permitted to continue work in that course beyond the examination period. Any professor submitting an incomplete grade must supplement this

submission with a form to the Office of the University Registrar (copies to the instructor, and the student) giving the following information:

1. Reason for the incomplete.
2. The material which is lacking.
3. Action necessary for removal of the incomplete.

In such a case, a grade of "I", for "incomplete," is assigned. The students must make arrangements with the professor to complete the course within one month after the beginning of the new academic session, whether they are in school or not. Failure to complete the course within one month after the beginning of the new academic session causes the grade in that course to be recorded as "IF", signifying failure.

If students have one incomplete grade, their academic load limit the following semester will not be affected. If they have more than one incomplete grade, the credit hours of the incomplete will be included in their academic load for the following semester.

Students who receive an incomplete grade(s) while on warning due to a deficiency in their overall grade point average will not be allowed to register the following semester. If, however, they complete their incomplete work before the end of the late registration period, and are academically eligible, they will be allowed to proceed with registration.

Class Attendance

Student learning outcomes at AUC are defined in terms of the abilities, skills, knowledge and understanding that students should attain as a result of a particular educational experience. Accordingly, critical thinking, communication skills, interpersonal skills, skills relating to personal and civic responsibility, global awareness, and technological awareness are examples of student learning outcomes. The usual objective measure of the extent to which a student has achieved a particular learning outcome is a numerical or letter grade representing a systematic assessment of the student's increased knowledge, skill, or understanding. Attendance per se is therefore not a student learning outcome and, consequently, should not be graded. However, attendance and participation in class and laboratory sessions are ordinarily essential to achieving learning outcomes in most AUC courses. Students benefit from lectures and discussions with their teachers and fellow students, and if they fail to attend class, they fail to take advantage of an educational opportunity that may be vital to their academic progress. For this reason, students are expected to attend class regularly in accordance with the general university policy described below and the individual course policy detailed in each course syllabus. Some academic programs may establish a common attendance policy for specific courses, for multiple sections of the same course, and for laboratory classes. In such cases, any faculty member who serves as an instructor in such a course is expected to observe the course-wide attendance policy.

1. A student who misses more than the equivalent of three weeks of class meetings during a semester for any reason may be assigned a reduced grade for the course - including the grade of "F" - solely on the basis of inadequate attendance, regardless of excuse. (Three weeks of class meetings will normally be equivalent to a total of 6 class sessions during the course of a semester. In certain cases - for example, language classes such as non-credit Intensive English and all 1000-level ALIN and ALNG courses - more rigorous attendance policies may be required with the authorization of the dean. Any exceptional attendance requirements must be clearly stated in the syllabus.)
2. Students who miss fewer than three weeks of class sessions may not be penalized on the grounds of attendance alone. If an examination or other assignment has been missed due to absence, the instructor may provide students with an opportunity to make up the missed assessment if the instructor is informed of the absence in advance and/if the instructor is provided what he or she deems adequate justification for the absence.
3. Students are personally responsible for making up any academic tasks and assignments missed due to their absence.
4. Students who miss more than three weeks of classes due to documented health or family emergencies will be permitted to drop their courses or withdraw from the University after the formal deadline to drop courses. The Deans of Undergraduate and Graduate Studies will determine the merit of late requests to drop courses or withdraw.

Repeating Courses Under the Course Repeat Policy

All Undergraduate students may repeat a course once for the purpose of improving a grade. The Repeat Policy is subject to the following limitations:

1. Students may repeat a maximum of 5 courses during the entire undergraduate career.
2. The rule applies to courses taken at AUC within two consecutive Academic Years (Four Successive Semesters).
3. All course repeats must be taken in residency at AUC.
4. Students must repeat the same course that was previously taken. In case that the same course is no longer offered within the permissible two years, the department offering the course is authorized to substitute it by another course with the approval of the department of major.
5. Students cannot make use of the Repeat policy if the grade is related to Academic Integrity.
6. After a course is repeated, the credit hours of the first attempt will not be matriculated in the total earned hours of the student record. Also the grade received in the first attempt will not be deleted from the student's record but will no more be calculated in the grade point average; instead the second grade is the one that will be calculated in the grade point average.
7. The Online Course Repeat form is available on the Registrar Web Page: student.aucegypt.edu . The Online form must be submitted by maximum the eighth week of the semester in which the course is being repeated.

Retaking Courses Outside of the Course Repeat Policy

Students who have consumed all privileges of the Course Repeat Policy such as Academic Integrity, Exceeding the Five Repeats, Repeating the same course more than once and earned grades of "D", "D+", or "F" will follow a different calculation path which entails that grades of the first and second attempt are kept on the student record and the average of both are matriculated, but only the credit hours of one attempt will be included in the earned hours of the student record

The Online Course Repeat form is available on the Registrar Web Page: student.aucegypt.edu

The Online form must be submitted by maximum the eighth week of the semester in which the course is being repeated.

Honors

The university awards honors to students who do superior work. Full-time students who earn a grade point average of 3.50 or above for the previous semester are placed on the dean's honor roll. This distinction is noted on the student's academic record.

Graduation honors are awarded to students who have maintained a superior grade point average throughout their college careers:

1. Students who enter the university as freshmen or sophomores earn honors (Cum Laude) if they graduate with a cumulative average of 3.4, high honors (Magna Cum Laude) with 3.6 and highest honors (Summa Cum Laude) with 3.8.
2. Students who graduate from the university with transfer credits of 45 hours or more receive graduation honors if they earn a cumulative average of 3.5, high honors if they earn a grade point average of 3.7 and highest honors if they earn a grade point average of 3.9.

Probation/Warning

Students who fail to meet the academic standards established by the university will be placed on probation. The probation period provides the student with an opportunity to correct the deficiency, but that period may last for no more than two regular semesters. Failure to achieve the required standard by the end of the probation period disqualifies the student from further attendance at the university.

Students who fail to maintain a cumulative grade point average of 2.0 or better at the end of a semester will be placed on probation. Students who fail ENGL 0210 will be placed on warning.

In the above cases, an email is sent to the student, which includes a statement of what is required to avoid dismissal from the university. To be allowed to continue on probation the following semester students in this category must show satisfactory improvement during the first semester of their probation period (i.e. achieve at least a 2.0 semester GPA).

Students placed on probation for a deficiency in their cumulative GPA must limit their academic load during their probation period to four courses with a maximum of 13 credit hours per semester. The permissible load for students taking ENGL 0210 is a maximum of 7 credit hours per semester. It is the responsibility of the adviser to follow up on the student's performance and academic load.

Students who fail to maintain a grade point average of 2.0 in their major at the end of any semester following their declaration of major, will be placed on major probation. An email is sent to the student, with a copy to the department of major.

Students will have two semesters to clear the deficiency in their major. If by the end of the two semesters the deficiency is not corrected, they will be discontinued unless accepted in another major.

Students on probation/warning for any of the above deficiencies are not allowed to participate actively, or represent the university, in co-curricular activities, such as teams, clubs, plays, and university competitions. They may not be nominated for the Student Union.

Dismissal

To avoid dismissal, students on overall probation must achieve a semester grade point average of 2.0 following the first semester of their probation period, and a cumulative grade point average of 2.0 at the end of the second semester of their probation period.

A student who fails ENGL 0210 twice in two regular semesters and a third time in a Summer session will be dismissed from the University and must wait one full semester before applying for readmission. The student must score high enough on the TOEFL for direct admission to the Department of Rhetoric and Composition courses (RHET) since s/he will not be allowed to take ENGL 0210 for a third time during a regular semester.

Planned Educational Leave of Absence

Students at The American University in Cairo may apply for a Planned Educational Leave of Absence. A Planned Educational Leave of Absence is defined as a planned interruption or pause in a student's regular education during which the student temporarily ceases his or her formal studies at AUC while pursuing other activities that may assist in clarifying the student's educational goals. The intent of the policy is to make it possible for a student to suspend his or her academic work, leave the campus without jeopardizing his or her rights and privileges, and later resume his or her studies with a minimum of procedural difficulty. A student who is approved for a planned leave will be considered as maintaining his or her status as a continuing student.

Planned educational leaves may be granted for a variety of reasons or projects, but certain characteristics must be contained in any request for a leave:

1. The leave must have a definite purpose relevant to the student's overall educational objectives and goals.
2. The request must be for a specific period of time which should not exceed 3 regular semesters for students pursuing an undergraduate program.
3. The student must plan to return to AUC at the conclusion of his or her leave.

The following regulations apply to the planned educational leave:

1. An application for a Planned Educational Leave of Absence and additional information can be obtained from the Office of the University Registrar or on the Registrar web page <http://student.aucegypt.edu>
2. The student must obtain the approval of his or her faculty advisor, the department chair of his or her major (or, in the case of an undeclared student, the Freshman Advisor) and the University Registrar.
3. The student should be in academic good standing at the time of the leave request. The leave application must be submitted to the Office of the University Registrar by the start of the final examination period of the semester immediately preceding the requested leave. The Office of the University Registrar will notify the leave applicant of the status of the request after all of his or her final grades have been submitted.
4. The student may cancel a leave of absence as late as the first day of classes of the term for which the leave has been requested.
5. A degree student who discontinues active enrollment in degree studies without being granted a leave of absence, or a student granted a leave who does not return to active study at the close of the period of approved absence, will be considered to have withdrawn from the University and must apply for readmission and be subject to the regulations and requirements then in force.
6. The right to use university facilities is suspended while the leave is in effect, with the exception of library privileges subject of the approval of the department of major.
7. A Planned Educational Leave of Absence is counted as part of the time limitations specified under the heading "Graduation" in this section. A student returning from an approved leave remains under the requirements of the catalog that s/he was following upon the declaration of major.
8. Any academic credit during a Planned Educational Leave of Absence is accredited by AUC only if permission is granted in advance by the University Registrar.

Withdrawal from the University

Students who drop all their courses during a semester are requested to pass by the Office of the University Registrar to activate their registration screens before the advising/registration period for the consecutive semester.

Students who wish to withdraw from the University for one semester or more due to illness or other emergency circumstances are requested to fill in a "Withdrawal Form" and submit it to the Office of the University Registrar - forms are available at the Office of the University Registrar and on the Registrar web page <http://student.aucegypt.edu>

Withdrawal grades "W" will be recorded for each course. No academic credit is given for courses from which students withdraw.

Students who wish to return after an absence of one or more semesters may apply for readmission. Readmission is not granted automatically. (See the "Admissions" section of the catalog.)

Transcripts

Students who have graduated or who withdrew from the University can apply for official or student transcripts of their academic record. There will be a charge for this service. No transcript of academic record will be issued during the examination, registration, or graduation periods. Academic transcripts will not be issued when unsatisfied financial obligations to the university exist.

Non-degree Academic Regulations

Since non-degree students are usually seeking credit for transfer to other institutions, not all of the academic regulations in the previous section are applicable to them. They will be primarily concerned about the academic regulations of their home institutions to ensure that they receive maximum possible credit for their AUC work.

Non-degree students should note the sections pertaining to registration, change of courses, academic load, grades, probation, incomplete work, class attendance, and transcripts in the undergraduate section as appropriate.

Non-degree students who wish to transfer their ALIN (Arabic Language Intensive Program) credits towards a degree in a regular AUC program should get the approval of their department of major. Those wishing to transfer credits to their home universities should check these universities' policies before coming to Cairo.

Academic Integrity Policy

Preamble: Valuing the concepts of academic integrity and independent effort, the American University in Cairo expects from its students the highest standards of scholarly conduct. The University community asserts that the reputation of the institution depends on the integrity of both faculty and students in their academic pursuits and that it is their joint responsibility to promote an atmosphere conducive to such standards.

1. Academic dishonesty is not acceptable in an institution dedicated to learning or in any society. Academic dishonesty includes, but is not limited to:
 1. Cheating: using unauthorized notes, aids, or information on an examination; altering a graded work prior to its return to a faculty member; allowing another person to do one's own work and submitting it for grading.
 2. Plagiarism: submitting material that in part or whole is not one's own work; submitting one's own work without properly attributing the correct sources of its content.
 3. Fabrication: inventing or falsifying information, data, or citation; presenting data gathered outside of acceptable professorial guidelines; failing to provide an accurate account of how information, data or citations were gathered; altering documents affecting academic records; forging signatures or authorizing false information on an official academic document, grade, letter, form, ID card, or any other university document; submitting false excuses for absence, delay or illness.
 4. Multiple Submissions: submitting identical papers or course work for credit in more than one course without prior permission of the instructor.
 5. Obtaining or Attempting to Obtain Unfair Advantage:
 1. gaining or providing access to examination materials prior to the time authorized by an instructor;
 2. stealing, defacing, or destroying library or research materials which can deprive others of their use;
 3. unauthorized collaboration on an academic assignment;
 4. retaining, possessing, or circulating previously used examination materials without the instructor's permission;
 5. obstructing or interfering with another student's academic work;
 6. engaging in any activity designed to obtain an unfair advantage over another student in the same course;
 7. offering bribes to staff or any university employee to effect a grade change, or gain unfair advantage over other students.
 6. Unauthorized Access: viewing or altering in any way computer records, modifying computer programs or systems, releasing or distributing information gathered via unauthorized access, or in any way interfering with the use or availability of computer systems/information.
 7. Aiding and Abetting: providing material, information, or other assistance which violates the above Standards for Academic Integrity; providing false information in connection with any inquiry regarding academic integrity.
 8. Impersonation: impersonating or allowing to be impersonated by another individual during classes, examination or other university activities.

9. Threatening harm: threatening, effecting, or encouraging bodily, professional or financial harm to any faculty, staff, administrator or student who has witnessed or reported a violation of the Code of Ethics.
10. Misconduct: behaving in a manner that violates or adversely affects the rights of other members of the AUC community (disrupting meetings or activities, unruly behavior, etc).
11. Copyright infringement: using copyrighted materials (print, electronic, or multimedia) in a manner that violates international copyright laws.

The University reserves the right to take disciplinary action as severe as dismissal according to procedures delineated in section II.

2. An instructor has full authority to deal with an academic dishonesty incident within the context of his/her course. Disciplinary action may cover the range from reprimand to "F" for the course grade. The instructor may also recommend suspension or dismissal from the University.

The instructor's action on incidents of academic dishonesty must be communicated to the student(s) involved as well as to the Student Affairs Office and the office responsible for monitoring academic integrity by her/him within two weeks of the time the instructor became aware of the incident.

All cases of academic dishonesty are to be immediately reported to the chair of the Academic Integrity Committee and to the Chair of the instructor's department. In the case of a recommendation for suspension or dismissal, the Academic Integrity Committee will meet promptly to investigate and submit a recommendation to the Provost, who is the final authority.

All students involved in academic dishonesty will receive an official letter of warning from the University administration, a copy of which will remain in the students' file in the department as well as in the Student Affairs Office and the office responsible for monitoring academic integrity.

3. Once the Academic Integrity Committee has given a hearing to the student and submitted its recommendation to the Provost, no further appeal may be made unless substantial new evidence is presented to the Chair of the Academic Integrity Committee, who will evaluate the evidence and reopen the case if deemed necessary.

Graduate Admissions

Graduate Admissions
Non-degree Admissions
Other Admissions

Graduate Admissions

Graduate applicants must complete the Graduate Admission application by the set deadlines, including all required documents/credentials. A file for each applicant is prepared, and evaluated by the Office of Graduate Admission to ensure that the applicants have met the minimum requirements as indicated by the university catalog. The file is then evaluated by the relevant program for recommendation. The relevant school dean then reviews the file and the program recommendation, and sends his/her recommendation to the Dean of Graduate Studies for review and final recommendation. The Office of Graduate Admission finalizes the admission evaluation, and an admission letter is then

sent out to the applicant specifying the type of admission, along with details on advising, registration, and tuition payment. The files of those applicants who enroll at AUC are sent to the Office of the Registrar by the second week of the term for which they enroll

The Graduate application form is prepared and finalized by The Office of Graduate Admission, and The Office of Recruitment and Student Services Center.

Criteria for Admission of Graduate Students

The university requires the following minimum standards in admitting graduate students. Actual admissions for a given program may be at a higher level as specified by this program.

Qualifications for graduate programs

Applicants for graduate study must have an accredited Bachelor of Arts or Bachelor of Science degree with an academic record at a level sufficient to qualify for full or provisional admission as described under "Categories of Admission" below. Additional criteria such as the following may also be considered when evaluating a candidate for admission to the graduate program:

1. Evidence of academic English proficiency as required by the relevant graduate program.
2. Test scores (GRE, GMAT, etc.).
3. Maturing time since undergraduate experience.
4. Work experience in a field related to the program applied for.
5. Strong faculty advocacy with written intent to mentor the student.
6. References from instructor and/or employer speaking to motivation and maturity.
7. Personal interview.
8. Departmental Arabic language test for specific programs.
9. Any post high-school academic records showing evidence of being prepared for graduate level courses.

Qualifications for Ph.D. Degree programs

Applicants must have completed both an accredited Bachelor of Science degree and Master's degree with an academic record at a level sufficient to qualify for admissions. In addition to the criteria mentioned above for MA and MS degrees the following may also be considered when evaluating a candidate for admission to the PhD program:

1. Academic performance showing evidence they are prepared for PhD level courses.
2. GRE test scores that suggest potential.
3. Thesis abstract.
4. Research interest and objectives
5. Evidence of academic English proficiency prior to enrollment.

English Language Proficiency

An applicant must demonstrate knowledge of adequate English language for graduate studies. For full admission to the university, a graduate applicant must attain the required score on the Test of English as a Foreign Language (International TOEFL with TWE), (iBT) or the International English Language Testing System (Academic IELTS) examination. An applicant who does not attain the minimum test score required for full admission, but who is otherwise qualified for admission is placed in an English language course for further language study.

Exemptions from English Test

The University does not exempt applicants from the English test solely on the basis of citizenship or graduation from an international university in the region. An applicant may be exempted from these examinations if :

- He/she is currently enrolled in an accredited university where English is the sole language of instruction.
- He/she holds degrees from an accredited university where English is the sole language of instruction.

- He/she has recently completed at least one continuous year of full time academic studies at an accredited university where English is the sole language of instruction

Computer and Library Skills

Graduate students may be asked to demonstrate a minimum competency in use of computers and academic libraries as they relate to graduate study and research.

Entrance Examination

The program of major may require applicants to sit for a graduate entrance examination. The Graduate Record Examination (GRE) is required for admission to the PhD program, the master programs in Economics and Economics in International Development. The Graduate Management Admission Test (GMAT) is required for the Master of Business Administration (MBA). Either the GRE or the GMAT is required for the master of Science in Finance.

GRE and GMAT exams must be valid past the first day of classes of the first semester of registration in the relevant graduate program.

Medical Examination

Recent medical report indicating that the student is physically and mentally fit for conducting university studies work is required from admitted students. This is to be submitted prior to registering for classes. Non-Egyptian students are required to submit a recent HIV test results for of student visa student visa purposes, as mandated by the Egyptian authorities.

Medical Insurance for Non-Egyptian Applicants

It is recommended that non-Egyptian students have health and accident insurance which will cover them while they are in Egypt. In addition, all non-Egyptian students are required to enroll in the medical insurance service plan offered by the American University in Cairo which provides for limited care at a specified hospitals in Cairo. Exemptions are made only for those non-Egyptian students who reside in Cairo with their families, or who are provided for by their companies, embassies or sponsoring agencies in Cairo. The medical service fee will be announced by the Office of Student Financial Affairs and Scholarships every year.

Admission Deferral

An applicant who is granted full admission may defer his/her admission to a subsequent semester. This privilege may be exercised only once, and the deferral can be for a maximum of one academic year. Full admission that is conditioned by the submission of original documents or satisfactory test results will not be considered for deferral if these requirements are not submitted within the deadlines set by the Office of Graduate Admission.

In cases where test results expire before the start of the semester to which admission is to be deferred, applicants must submit new satisfactory test results.

Applicants granted provisional admission cannot defer their admission, but may re-apply in a subsequent semester. The request for admission deferral must reach the Office of Graduate Admission at least one week before the first day of classes.

Categories of Admission

There are two categories of graduate admission, depending on the qualifications of the applicant.

1. Full Admission: Full admission may be granted to entering students who have met any of the following requirements:

- a. A bachelor's degree with an overall grade-point average (GPA) of at least 2.75 or its equivalent, and 3.0 or its equivalent in the major.
- b. An overall average of gayyid giddan on a bachelor's degree from an Egyptian national university.
- c. A graduate degree with a minimum overall average of gayyid giddan or 'B' if the degree is closely related to the intended major.

Additionally, the program of the major may require satisfactory performance on an examination.

Full admission is also attained when fulfilling the conditions specified under the provisional admission category below.

2. Provisional Admission: Provisional admission is granted to those entering students not qualifying for full admission but who have additional attributes that give them a high potential for success in a given graduate program.

Under provisional admission a student may be required to take English courses or a number of specified prerequisite courses. Students are required to achieve a minimum of 'B' average in these prerequisite courses or else their admission at AUC will be discontinued. Students may repeat one of the prerequisite courses to maintain a 'B' average, to fulfill admission conditions.

In some instances, students may not be required to fulfill any prerequisite courses while on provisional status. However, in this case, they are considered on probation and must achieve a minimum 'B' average in the first three graduate courses, or more, or they will be dropped from the relevant program.

Graduate Diploma Programs

The university offers several graduate diploma programs for which the Bachelor of Arts or Bachelor of Science degree and a high grade-point average are normally required.

When recommended by program faculty, students may be accepted for diploma programs without commitment or expectation of future admission for a master's degree.

Diploma applicants follow the same requirements and procedures for admission as master degree-seeking students.

Non-degree Admissions

An applicant not seeking an AUC degree but who wishes to register for AUC courses for academic credit may be admitted as a non-degree student if he/she meets the minimum criteria for graduate admission. A number of places are set aside each year for this category of such students, most of whom take a year away from their home institution for study and living experience in Egypt. Since AUC is a U.S. accredited institution following an American system, students from U.S. universities are usually able to transfer their AUC credits to their home institutions, but they are advised to check in advance. Non-degree applicants follow the same procedures for admission as degree-seeking applicants. Non-Degree applicants are not admitted if they do not meet the minimum requirements of the English language test that correspond to full admission: Students assigned ELNG or ELIN courses will not be admitted as graduate non-degree students.

If a graduate non-degree student should apply for and become a degree candidate, the program of major will consider accepting credit for courses taken under the non-degree status. All Any academic regulations that are normally applicable to degree students will apply with such change of status.

Other Admissions

Transfer Credit

Upon the recommendation of the student's program to the school dean in consultation with the Office of the Dean of Graduate Studies and the Office of the University Registrar, a graduate student may receive a number of transfer credits equivalent to up to one-third of the credit hours of graduate course work required for his/her graduate degree. Transfer course work is applied as credit (TR) toward the degree and is not included in the calculation of the grade point average.

Graduate transfer credits will not be granted for credits earned by examination or for completing required thesis or dissertation credit hours.

A graduate degree program may establish lower limits on the number of transfer credits than those of the university. Degree programs establishing lower limits may waive their own policy, but within the university specified limit, by approval of the concerned school dean. Course work credits to be transferred, and taken prior to matriculation to a current AUC degree program, must have been completed within five years of admission to this degree program.

Types of credit allowed to transfer encompass graduate-level course work taken at another institution and meeting the following conditions:

- It has not been previously used to earn another degree or transcripted certificate.
- It is graded graduate level course work from an accredited institution, for which the student has achieved a grade of "B" or better.
- It is of relevance to the student's program of study.

Any request for the acceptance of transfer credit towards an AUC degree shall be carefully considered by the program concerned before submitting a recommendation to the school dean for approval.

Summer and Winter Admissions

The University does not admit degree students during the summer and winter sessions.

Readmission

AUC students who withdraw from the University in good standing and subsequently wish to return after an absence of one or more semesters may apply for readmission. Application must be made before the appropriate application deadline, and the applicant must meet all the admission requirements prevailing at the time of readmission. Readmission is offered on a space-available basis and is not guaranteed.

Disqualified or suspended students must petition for readmission in addition to the required readmission application and must meet all the admission requirements prevailing at the time of readmission.

Students who are suspended because they have not passed Intensive English courses (ELIN 0301 or ELIN 0302) in two semesters and a summer (or three semesters if a summer course is not offered) are required to submit a recent International TOEFL with TWE, (iBT) or Academic IELTS and they must demonstrate a level of proficiency for direct admission Academic English for Graduates (English modules) or higher. Students who are disqualified because they have failed any other Academic English module (ENGL 0310, ENGL 0311 or ENGL 0312) three times are required to demonstrate a level of English language proficiency for direct admission without any English requirement.

English Level at Time of Withdrawal	Lapse of Time	TOEFL /Academic IELTS Required
Completed required	Less than 24 months	No

Academic English modules successfully or satisfied English requirement	More than 24 months	Yes
Enrolled in Intensive English or Academic English	Less than 6 months	No
	Between 6-12 months	Optional
Enrolled in Intensive English or Academic English	More than 12 months	Yes

Auditing

Those who wish to attend individual classes may apply as auditors; however, they may not sit for final examinations, nor receive academic credit or any university certificate of enrollment. Auditors do not have to meet all requirements for regular admission but must apply to the Office of the University Registrar by the announced deadlines. Since permission to audit is on a space-available basis, applicants are not permitted to register until after the registration of regular students has been completed.

^ TOP

Graduate Academic Requirements & Regulations

Graduate Academic Requirements
 Graduate Academic Regulations
 Non-degree Academic Regulations

Academic requirements and regulations govern the relationship between the university and its students. Students must complete the general academic requirements described below as well as those listed under individual degree programs (described in the next section) in order to obtain an academic degree.

The academic regulations described in this section are effective at the time of publication. The university reserves the right to modify them, in which case changes will be announced when necessary. The student is responsible for being aware of all academic regulations. Current university regulations apply regardless of the regulations in effect at the time a student entered the university, except where current regulations specifically state the contrary.

Student Responsibility and Privacy Rights of Student Records

Please see "Undergraduate Academic Requirements and Regulations" section.

Graduate Academic Requirements

The university has established the following general requirements which apply to all students working toward a graduate diploma, master's degree or a Ph.D. Specific requirements for each degree program are described under the relevant "Fields of Study."

The degree programs described represent the core of the university's wide range of academic and service activities. The university also conducts significant programs in research, training, and adult education, which are briefly listed in a separate section of this catalog and in more detail in other publications. Nondegree, intensive language programs in English and Arabic are described in the "English and Arabic Language Programs" section.

Adviser

Upon starting the program of major, the student will be assigned an academic adviser who will provide counsel concerning degree requirements, course offerings, preparation for the comprehensive examination, and selection of a thesis topic and thesis supervisor. When a thesis topic and supervisor are selected and approved, the thesis supervisor then also becomes the academic adviser.

Residence

Residence is the period of study completed at AUC. For the master of arts or master of science degree, and for the PhD degree, two-thirds of the required credit hours, excluding research seminars and thesis credit hours, must be completed in residence. An acceptable thesis is also required. Additional courses are assigned in lieu of the thesis if it is optional.

Enrollment Status and Time Limit for a Degree Completion

The normal load for a full time student is 9 credit hours per semester. Upon the recommendation of the program concerned, students may register for up to 15 credit hours per semester. In this respect, overload forms are available at the Office of University Registrar's webpage: <http://student.aucegypt.edu>.

A student taking a load of less than 9 credit hours per semester is considered a part-time student. A foreign student taking a course load of 9 credit hours per semester is entitled to university certification for obtaining a student visa. Foreign students carrying less than a full load are not entitled to such certification unless they are fellows or sponsored students. In case of withdrawal, the university reports to the Egyptian authorities to cancel the student residence visa that was received through the university.

Typically, the completion of these requirements take two years of full time academic work for the master's degree, and five years for the PhD degree. Students unable to carry a full course load may be permitted to take more time to complete their degree. However, they must complete all requirements, including the thesis, where applicable, within five years of the date of first registration as a provisional or fully admitted graduate student in a master's degree program. Students enrolling in the M.B.A. program must complete all requirements within six years of their provisional

or full admission to the program. Students enrolling in the PhD program must complete all requirements within seven years of their provisional or full admission to the program. The time limit does not include the period of enrollment in English language instruction. Any period of interrupted studies, such as an approved Planned Educational Leave of Absence, or a period of temporary withdrawal, is counted as part of the time period required for degree completion.

An academic program may grant an extension for completing the degree beyond the set limit by one semester, up to a maximum of one academic year. This requires the approvals of the dean of the degree program and the dean of Graduate Studies.

Comprehensive and Qualifying Examinations

A student may sit for a required comprehensive examination after completing 24 credit hours or while taking the final 6 credit hours. Comprehensive examinations are offered usually in mid-December and mid-April. Students not registered for courses or thesis credit hours and planning to sit for the comprehensive examination in any semester must register for comprehensives in that semester and pay tuition equivalent to one graduate credit hour.

A PhD student should sit for the PhD qualifying examination the semester immediately following the completion of the required course credit hours, but no later than the fourth semester since full or provisional admission. The exam is offered twice a year: once in each of the fall and spring semesters. Dates are announced at the beginning of each academic year. A PhD student can only sit for the PhD qualifying examination while enrolled at AUC.

Comprehensive and qualifying examinations may be repeated once. A student who fails the comprehensive or qualifying examination a second time would be dismissed from not continue the degree program after the end of the semester in which the examination was retaken.

Thesis Requirements

Additional to required courses, most master's degree programs and the PhD program require a thesis. Exceptions to this requirement are noted in the descriptions of the individual programs, which may specify supplementary requirements instead of a thesis.

The student is responsible for selecting and developing a thesis topic which has program approval and for which a qualified supervisor is available. In consultation with the supervisor, the student must submit a thesis proposal, as per the specifications of the degree program, for consideration by the program. Once the proposal is approved, the student may proceed with thesis research and writing. A Copy of the proposal approval must be kept in the program of major and a copy must be forwarded to the Office of the University Registrar.

At the program's discretion, and in order for a master's student to embark on his/her thesis work, the student may register for 599 Research Guidance and Thesis credits, and pay tuition equivalent to 3 credit hours each semester until completion of the thesis. For a PhD student, he/she may register for up to 9 credit hours of Research Guidance and Thesis credits each semester. A student who does not complete the thesis requirement within the period of two semesters for master's degrees, and within the assigned total number of thesis credits for a PhD degree, will be charged a fee equivalent to one graduate credit hour for each additional semester of thesis registration.

The thesis must be written in English. It will be judged on content, organization, documentation, and presentation. Guidelines on thesis writing and format are available at the graduate studies website.

Approvals from the Institutional Review Board and CAPMAS

All research involving human subjects requires in-advance approval from AUC's Institutional Review Board (IRB). Each student's thesis supervisor is responsible for ensuring that the student has obtained IRB approval, where

applicable, before embarking on thesis work. Thesis work involving human subjects and conducted without obtaining prior IRB approval cannot be used. Without proper IRB approval, the thesis cannot be accepted nor be posted on DAR, and the student is not eligible to graduate. For more information, please refer to the IRB webpage www.aucegypt.edu/research/ReviewBoard/Pages/Home.aspx

For some research, approval from the Egyptian Central Agency for Public Mobilization and Statistics (CAPMAS) is required for data collection. Where applicable, a student must secure this approval prior to his/her data collection.

Submission of Thesis

If the degree is expected at the end of the fall semester, an acceptable (supervisor -approved) thesis must be presented by November 15. If graduation is expected at the end of the spring semester, the deadline for submitting the thesis is April 15. Each student is advised to submit the thesis early to allow time for the revisions which may be required. Otherwise, awarding of the degree may be delayed.

Within three weeks of submission of the thesis, the candidate will meet with the committee appointed by the program for an examination of the thesis. The committee may include members from outside the department or outside the university.

All revisions required by the committee must be incorporated in the final copy. The committee members may consider the revised thesis individually or schedule another meeting with the candidate.

The top copy of the accepted and signed thesis is submitted to the office of the dean of the degree program at least two weeks before commencement. The Office of the University Registrar will announce the deadline for thesis submission for every semester. If the thesis is submitted late, the degree will not be conferred that semester. In addition to submitting a hard copy of the thesis, students are required to submit an electronic version of the thesis directly to the AUC Digital Archive and Research Repository (AUC DAR) dar@aucegypt.edu

Graduate Academic Regulations

Registration

Students must register during the official registration period at the times announced in the university calendar. They should plan their courses with their advisers prior to registration and follow the instructions contained in bulletins issued by the Office of the University Registrar or on the Registrar's web site. Planning forms are available on the Registrar's webpage <http://student.aucegypt.edu>. For foreign students, registration must be completed before a student visa can be issued.

Change of Courses

With careful attention to the degree requirements and course offerings, there should be minimal need for course changes after registration has been completed. Any student who desires a change must follow the instructions contained in the bulletin issued by the Office of the University Registrar. Change of courses can only take place during the start of a semester during the drop/add period determined by the Office of the University Registrar.

- No other course may be substituted for a required course unless university action requires that the change be made.
- A course may not be added to the student's schedule after the registration deadline.

- Students may drop and/or add courses without penalty during the formal "Late Registration and Course Changes Period" specified in the bulletin issued by the Office of the University Registrar.
- A course may not be added to the student's schedule after the end of the period of Late Registration and Course Changes.
- Students may drop a course and receive a "W" grade during the seven weeks following the conclusion of any period of Late Registration and Course Changes associated with a fall or spring semester (that is, up to eight weeks after the beginning of a semester).
- Students are not permitted to drop classes after the seventh week of the closing date of Late Registration and Drop/Add operations.
- Students will receive a grade of "F" if they stop attending classes without officially dropping the course.
- Students may petition their dean for permission to drop a class and receive a "W" grade after the seventh week of the closing date of Late Registration and Drop/Add operations. However, such petitions will be approved only in special cases, which in most extraordinary circumstances will mean documented health or family crises. Petitions will be neither accepted nor approved for the purpose of avoiding a low or failing grade.
- Fulltime international transfer students may petition for permission to drop a class and receive a "W" grade after the seventh week of the closing date of Late Registration and Drop/Add operations by seeking the approval of the concerned program director and dean. In general, such petitions will be approved only in special cases, which in most circumstances will mean documented health or family crises. Petitions will be neither accepted nor approved for the purpose of avoiding a low or failing grade.

Credit Hours

Coursework is counted in credit hours. In general, a credit hour represents a one-hour class period and at least two hours of individual study each week for one semester.

Academic Load

The normal load for a full-time graduate student is 9 credit hours per semester. Upon the recommendation of the program concerned, students may register for up to 15 credit hours per semester, at an extra tuition charge. In this respect, overload forms are available at the Office of University Registrar's webpage <http://student.aucegypt.edu>.

A student taking a load of less than 9 credit hours per semester is considered a part-time student. A foreign student taking a course load of 9 credit hours per semester is entitled to university certification for obtaining a student visa. Foreign students carrying less than a full load are not entitled to such certification unless they are fellows or sponsored students. In case of withdrawal, the university reports to the Egyptian authorities to cancel the student residence visa that was received through the university.

Grades

At the close of the semester students receive a final grade in each course. The grade is the course instructor's official evaluation of the student's achievement as reflected in course work. This final grade is recorded by the course instructor on Banner, and becomes part of the permanent academic record maintained by the Office of the University Registrar. The grade may not be changed or removed from the record.

The following grading system is used at the American University in Cairo:

Grade	Points	Description
-------	--------	-------------

A	4.0	Excellent
---	-----	-----------

A-	3.7	
B+	3.3	Very good
B	3.0	Good
B-	2.7	
C+	2.3	Conditionally passing
C	2.0	
F	0.0	Failing

Grades not included in the Grade Point Average:

I	Incomplete
S	Satisfactory
U	Unsatisfactory
W	Withdrew
AU	Audit
IP	In progress
NR	Deferred Grade
P	Pass

The grade point average is calculated by multiplying the grade point value by the number of credit hours the course represents. The result is listed as quality points. The total quality points are then divided by the total credit hours. The results in courses for no credit are not included in the computation of a grade point average. Grades of "I", "S", "U", "W", "AU", "IP", "NR" and "P" are not assigned grade point values and are not used in the computation of the grade point average. Decimals beyond two places are truncated, not rounded up, in computing the grade point average.

Dual Graduate Degrees

Graduate students may pursue two distinct graduate degrees (diploma and MA/MS or Two MA's/MS's) in different majors, either simultaneously or consecutively. In either case, the student must apply to and be accepted by each program involved. "Dual Graduate Degree" forms are available on at the Office of the University Registrar's webpage <http://student.aucegypt.edu>.

The student may have up to a maximum of 12 credit hours accepted for credit in both degree programs contingent on the approvals of the concerned programs and school deans. A maximum of 9 credit hours may be accepted for the case of dual diploma degrees or the case of a dual master's and diploma degrees.

In the case of simultaneous programs, the student must obtain prior approval of the courses to be counted towards both degrees from the concerned programs and deans. In the case of sequential degrees, a period of up to five years is allowed between the dates of finishing one degree and starting the second degree for possibly having credit hours from the first degree accepted for credit in the second degree. This is contingent on the approval of the second degree program and the concerned school dean.

In the case of simultaneous programs, students who have completed all the requirements for one of the degrees and who decide to withdraw from the second degree, will receive the appropriate single degree. Students who have withdrawn from the second degree and later decide to complete this second degree, must apply for readmission, be readmitted and then fulfill the requirements for this second degree. This must be carried out within the period of the time limit for completing a degree (please refer to section of "Enrollment Status and Time Limit for a Degree Completion").

Dual Undergraduate/Graduate Programs

A dual undergraduate/graduate degree program is an approved program in which a student pursues a graduate degree with an undergraduate degree in a related field. The total time for the two degrees could be decreased through the acceptance of up to 12 credit hours of required courses in both degrees. A student enrolled in a such a program must complete all requirements for the two degrees and is awarded both degrees at the end of the program. In this regard, this student is admitted to the graduate program before he/she have earned a bachelor's degree. The student is typically able to take both undergraduate and graduate courses for the program during his/her senior year.

A student who decides to withdraw from this dual degree program, will receive his/her appropriate undergraduate degree contingent on having completed all requirements for this undergraduate degree.

Incomplete Work

In very rare cases, graduate students who are unable to complete a course may be permitted to continue and complete it in the following semester. In the meantime, a grade of "I" is assigned to the course. Any course instructor submitting an incomplete grade must supplement this submission with an incomplete form to the Office of the University Registrar (with copies to the program director, and the student) giving the following information:

1. Reason for the incomplete.
2. The material which is lacking.
3. Action necessary for removal of the incomplete.

Incomplete forms are available at the Office of the University Registrar webpage <http://student.aucegypt.edu>.

The student must make the necessary arrangements with the course instructor to complete the outstanding course work before the start of the examination period of the following semester, whether the student is enrolled at university or not. In completing the outstanding work, the student need not register again for the incomplete course. Failure to complete the course work within this time period will result in the grade to change to "F", signifying failure for the course. No extension of this time period is allowed.

Students, in good academic standing, with an incomplete grade are not allowed to register for more than 9 credit hours during the semester in which they need to complete the required course work for the incomplete grade. Students with an incomplete grade and who are on probation will not be allowed to register for any credits during the semester in which they need to complete the course work for the incomplete grade. No overload is permitted as long as a student has not completed the outstanding course work for an incomplete grade.

Only the final grade, received upon completion of the outstanding work, is kept on the student's record.

Probation, Dismissal Course Repeat and Retake

If the student's grade point average falls below "B" either in graduate work or in prerequisite course requirements, he/she will be placed on probation for one semester, during which time he/she must regain a "B" average.

A graduate student who receives an "F" in any course will normally be dismissed and not be allowed to continue in the university (please refer to the course repeat policy in the following paragraph); a student may also be dismissed from the university if he/she does not complete all program requirements within the period specified under 'Residence'.

With the recommendation of the program and the approval of the school dean, a graduate student may be allowed to repeat one course, except if the grade is received for breaching academic integrity (please refer to the following paragraph for "F" grades due to a breach of academic integrity). With the recommendation of the program and approval of the school dean, substitution is allowed for an elective or an infrequently offered course. Both the original grade and the new grade will appear on the transcript but only the new grade will be used in calculating the GPA. Repeat forms are available at the Office of the University Registrar's webpage <http://student.aucegypt.edu>. A student dismissed because of an "F", and allowed to repeat the course, will need to petition for a readmission to the program.

A graduate student receiving an "F" grade in any course because of a breach of academic integrity will be dismissed from the university. Upon the recommendation of the program and the approvals of the school dean and the dean of graduate studies a student may be allowed to retake the course when it is next offered, unless otherwise stipulated by the academic integrity sanctions. Both the original grade and the new grade will appear in the transcript and both will be used in calculating the GPA. Until the student retakes the course, he/she is not allowed to register in any other courses. A student dismissed because of an "F" due to a breach of academic integrity and allowed to retake the course, will need to petition for a readmission to the program.

This privilege of repeating and/or retaking a course may be exercised only once.

Planned Educational Leave of Absence

A degree-seeking student may apply for a Planned Educational Leave of Absence. A Planned Educational Leave of Absence is defined as a planned interruption of a student's regular education during which the student temporarily ceases his or her formal studies at AUC, and after which he/she resumes his/her studies without the need to apply for readmission. A student who is approved for a Planned Educational Leave will be considered as maintaining his or her status as a continuing student.

1. A student requesting a Planned Educational Leave of Absence must be in good academic standing at the time of request. The leave is conditional on the approval of the concerned program, and school dean. The leave application must be submitted to the Office of the University Registrar no later than two week before the start of the semester by when the leave is requested. The Office of the University Registrar will notify the leave applicant of the status of the request before the start of the semester when the leave is requested.

Planned Educational Leave requests should:

- Specify the purpose of the leave, which must be relevant to the student's overall educational objectives.
 - Not exceed a maximum of 2 regular semesters.
 - Include the student's confirmation of returning to AUC at the conclusion of the leave.
1. The Planned Educational Leave of Absence form is available at the Office of the University Registrar's webpage <http://student.aucegypt.edu>
 2. The student may cancel a leave of absence as late as the first day of classes of the term for which the leave has been requested and approved.

A degree-seeking student shall be considered as having withdrawn from the university if he/she discontinues active enrollment in his/her program without being granted an approved leave of absence, if he/she does not return to active

study at the close of the period of approved leave absence. This student must apply for readmission and be subject to the regulations and requirements then in force.

The right to use university facilities is suspended while the approved leave of absence is in effect, with the exception of library privileges subject to the approval of the program of major and the concerned school dean.

A Planned Educational Leave of Absence is counted as part of the time period for the completion of the degree. A student returning from an approved leave remains under the requirements of the catalog that he or she was following upon his/her first registration into the program.

Any academic credits accrued during a Planned Educational Leave of Absence is accepted by AUC only if prior permission is granted by the Office of the University Registrar and the department program of major.

Withdrawal from the University

Degree-seeking students who wish to withdraw from the university for one semester or more due to illness or other emergency circumstances are requested to fill in a withdrawal form available at the Office of the University Registrar webpage <http://student.aucegypt.edu>

A "W" grade will be recorded for each course from which the student withdrew, unless the withdrawal has taken place during the drop and add period in a semester and no academic credit is given for these courses.

Withdrawn students who wish to return after an absence of one or more semesters must apply for readmission. Readmission is not granted automatically. (See the "Admissions" section of the catalog.)

Transcripts

Students who have graduated or who withdrew from the University can apply for official or student transcripts of their academic record. There will be a charge for this service. No transcript of academic record will be issued during the examination, registration, or graduation periods. Academic transcripts will not be issued when unsatisfied financial obligations to the university exist.

Non-degree Academic Regulations

Since non-degree students are usually seeking credit for transfer to other institutions, not all of the academic regulations in this section are applicable to them. They will be primarily concerned about the academic regulations of their home institutions to ensure that they receive maximum possible credit for their work at AUC. Non-degree students who wish to transfer credits to their home universities should check these universities policies before coming to Cairo.

Non-degree students should note the regulations pertaining to registration, change of courses, academic load, grades, probation, incomplete work, class attendance, and transcripts in the graduate section, as appropriate.

Programs

Accounting (B.A.C.)

Accounting is both a primary communication channel between business entities and its stakeholders and a comprehensive information system which supports effective decision making. The role of the accounting profession is becoming more pronounced in today's business environment which is characterized by scarce resources, fierce rivalry, complex transactions and increased public scrutiny. Furthermore, auditors are considered the key deterrent to managerial malfeasance, a phenomenon which adversely affects markets and investors' confidence. Students pursuing the Bachelor of Accounting will be exposed to a comprehensive set of technical knowledge of financial accounting, cost/managerial accounting, taxation, and auditing. Ethical considerations, corporate governance and financial transparency issues are covered throughout the course offerings.

Accounting graduates are qualified to work within different professional capacities at corporate multinationals, Big 4 auditing firms, banks, consulting firms, and other types of organizations. In addition, recent graduates of the program have attained, or are currently pursuing, professional certifications such as the Certified Public Accountant (CPA), the Chartered Financial Analyst (CFA), the Certified Management Accountant (CMA), and the Association of Chartered Certified Accountants (ACCA) qualification, in addition to other postgraduate studies.

The objective of the Bachelor of Accounting degree is to provide conceptual and practical knowledge to graduates who will prepare, report and analyze economic and financial information used for making sound managerial decisions.

Students who seek to be admitted to the Bachelor of Accounting (BAC) program through the declaration process must have completed no less than 27 credit hours of study including the courses listed in (1) below. Students who have successfully completed these courses, with the minimum required grades where applicable, and who meet the minimum major weighted grade point average as determined by the department, will be accepted in the major.

1. Required Courses to be completed to declare Accounting as a major

- ACCT 201/2001 - Financial Accounting (3 cr.) with a minimum grade of B
- ACCT 202/2002 - Managerial Accounting (3 cr.) with a minimum grade of B
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.) OR ECON 2011-Introduction to Microeconomics
- MACT 210/2222 - Statistics for Business (3 cr.)

2. Calculation of the Major Weighted Grade Point Average

The major weighted Grade Point Average = Overall GPA at time of declaration x 60% + (Average GPA in ACCT 2001 and ACCT 2002) x 40%.

3. The minimum major Weighted Grade Point Average

Admission to the Accounting major is competitive. Eligible students will be ranked and selected based on their major weighted grade point average.

Students must complete a minimum of 127 credit hours for the Bachelor of Accounting degree.

Students who seek the Bachelor of Accounting degree are not permitted to minor in Business Administration.

Core Curriculum (40 credits)

Collateral Requirements (15 credits)

All students seeking a Bachelor of Accounting degree are required to complete the following collateral requirements (15 credits):

- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)

- ECON 216/2061 - Mathematics for Economists I (3 cr.)
- ECON 303/3041 - Money and Banking (3 cr.)
- MACT 210/2222 - Statistics for Business (3 cr.)

Management Requirements (12 credits)

- BADM 300/3003 - Business Environment and Ethics (3 cr.)
- MGMT 307/3201 - Management Fundamentals (3 cr.)
- MGMT 311/3301 - Business Law (Commercial & Fiscal) (3 cr.)
- BADM 000/4999 - Internship and Career Development (3 cr.)

Finance Requirements (12 credits)

The following 3 courses are mandatory (9 cr.):

- FINC 303/2101 - Business Finance I (3 cr.)
- FINC 404/3201 - Investment Analysis (3 cr.)
- FINC 405/3401 - Applied Banking (3 cr.)
- **One course to be selected from the following (3 cr.):**
- FINC 408/3501 - International Finance (3 cr.)
- FINC 410/4202 - Capital Markets (3 cr.)
- FINC 414/4301 - Corporate Finance (3 cr.)

Management of Information Systems Requirements (9 credits)

- MOIS 305/2101 - Introduction to Information Systems/Technology (3 cr.)
- MOIS 406/3201 - Management Information Systems and Database Management (3 cr.)
- MOIS 444/3703 - Accounting Information Systems (3 cr.)

Accounting Requirements (33 credits)

- ACCT 201/2001 - Financial Accounting (3 cr.)
- ACCT 202/2002 - Managerial Accounting (3 cr.)
- ACCT 301/3001 - Intermediate Accounting I (3 cr.)
- ACCT 302/3002 - Intermediate Accounting II (3 cr.)
- ACCT 303/3003 - Advanced Accounting (3 cr.)
- ACCT 304/3004 - Cost Accounting (3 cr.)
- ACCT 305/3005 - Auditing (3 cr.)
- ACCT 306/3006 - Principles of Taxation (3 cr.)
- ACCT 401/4001 - Contemporary Issues in Auditing (3 cr.)
- ACCT 402/4002 - Special Topics in Tax Accounting (3 cr.)
- ACCT 403/4003 - Contemporary Issues in Accounting (3 cr.)

Electives (9 credits)

Anthropology (B.A.)

Anthropology spans the social and natural sciences as well as the humanities, offering interpretations of all aspects of human life. Socio-cultural anthropology, one of the four traditional subfields of the discipline, seeks to understand human life-worlds in all their variation across time and space using people's lived experiences, practices, ideas and explanations as a principle source of knowledge about the world.

AUC Anthropologists specialize in ethnographic field research and are involved in innovative theoretical engagement with emergent issues of both local and global concern. Our faculty who come from across the region maintain diverse research interests in areas like: religion and ritual, gender and feminism, youth cultures and activism, post-colonial theory, rural studies, cities and globalization, history, memory, and identity, health and the body, war and violence, art, film and aesthetics.

Our research is enhanced by our commitment to training students in the history and foundations of social and cultural theory. The Anthropology program at the American University in Cairo was founded in 1956, making it one of the first in the Arab region, and situated in the region's largest city. We offer a BA program for undergraduate Anthropology majors, as well as minors in Anthropology and in Community Development. We also run a joint MA program in Sociology-Anthropology, as well as a wide offering of courses that provide students majoring in Middle East studies, economics, psychology and architecture, with new perspectives on their disciplines. Our approach to teaching anthropology is enhanced through fieldtrips, film screenings and seminars where we showcase the research of both faculty and students.

Bachelor of Arts

The undergraduate program aims to present the main themes and trends in cultural and social anthropological thought and practice and thereby to nurture critical, intercultural, and reflexive perspectives as part of liberal education. In doing so, it seeks to foster understanding of the transformation of society and culture in Egypt and the region. The program also engages with other parts of the world, such as Africa, South Asia and Latin America. Our aim is to prepare students for graduate studies and for living and working in an increasingly complex and changing world. Upon graduation our students are well-positioned to pursue careers in teaching, research and applied anthropology, such as in international development agencies, non-governmental organizations, private sector, social service, media, and heritage preservation.

To declare a major in Anthropology:

- 1) A student must earn a B in "Introduction to Cultural Anthropology" ANTH 2101 .
- 2) A student must have an overall GPA at the time of the declaration of C+ (2.3 GPA)
- 3) Successful interview by unit head at the time of declaring the major

Upper-division (300-400 level) courses are normally taken during the junior and senior years. Students must take ANTH 3102 and ANTH 3104 during the junior year. Students must take ANTH 4107 in their last full academic year. Most of the other courses are offered in alternate years and so may be taken in any order. Courses at the 500-level are also open to selected advanced undergraduates.

A total of 120 credits is required for the bachelor's degree in anthropology:

Core Curriculum (40 credits)

Students with Thanawiya'Amma art or equivalent background should take BIOL 100 (Introductory Biology); those with Thanawiya 'Amma science or equivalent must take BIOL 104 (Unity of Life).

Concentration Requirements (42 credits)

- ANTH 202/2101 - Cultural Anthropology (3 cr.)
- ANTH 309/3102 - History of Social Theory (3 cr.)
cross listed with SOC 3102
- ANTH 311/3104 - Contemporary Anthropological Theory (3 cr.)
- ANTH 380/3105 - Fieldwork Methods (3 cr.)
- ANTH 495/4107 - Senior Seminar (3 cr.)
See footnote one.

One of the following people-and-culture courses:

- ANTH 312/3301 - Peoples and Cultures of the Middle East and North Africa (3 cr.)
- ANTH 382/3302 - Peoples and Cultures of Sub-Saharan Africa (3 cr.)
- ANTH 384/3303 - Peoples and Cultures of Latin America (3 cr.)
- ANTH 386/3304 - Peoples and Cultures of Asia (3 cr.)
- ANTH 390/3305 - Selected People and Culture Areas (3 cr.)

Additional Requirements

- **Eight** additional anthropology courses, of which three must be at the 400 level.

Collateral Requirements (21 credits)

- Two 300 or 400 level courses in the social sciences
- A minor (five courses) in any field to be selected in consultation with the advisor.

Electives (11-23 credits)

Total 120 Credits

Notes:

Footnote one: Cross listed with Sociology

Arabic Studies, with specializations in Arabic Literature, Middle Eastern History and Islamic Art and Architecture (B.A.)

The department of Arab and Islamic Civilizations provides a multi-disciplinary framework for the study of the history and culture of the Middle East since the rise of Islam. It seeks to explain the thought, movements, processes, institutions and identities of Arab-Islamic civilization. These include but are not limited to aesthetic and intellectual production, political and religious thought, cross-cultural interaction, commerce and economic relations, government, and social, political and religious loyalties. The study and appreciation of these fields forms an important part of the university's mission to give students greater awareness and appreciation of the heritage of the Middle East.

Bachelor of Arts

The objective of the Bachelor of Arts is to develop a broad awareness of Arab-Islamic civilization and to develop in students the ability to examine critically the different aesthetic, intellectual and cultural components of this civilization. Each student is required to fulfill Arabic language requirements and take a common core of courses from Arabic Literature, Islamic Studies, Middle Eastern History and Islamic Art and Architecture. Students should find opportunities in any line of work where knowledge of Middle Eastern culture or analytical and communication skills are important.

A total of 120 credits is required for the degree in Arabic Studies.

Language Requirements

Students must demonstrate their proficiency in Arabic at the advanced level, either by completing ALNG 312/3502 or its equivalent, or by taking a proficiency test, or by holding the Thanawiya 'Amma. Students must reach this level of proficiency before their senior year. The department may give permission for deferral until the senior year in exceptional cases. However, students should note that advanced-level proficiency is a prerequisite for enrollment in certain Arabic literature courses, as described below. Students who are required to take Arabic language proficiency courses may use a maximum of 15 hours of their elective credits to take language courses in Intermediate or Advanced Arabic. Elementary Arabic courses may not be taken for credit.

Students should have the Thanawiya 'Amma certificate, evidence of advanced-level proficiency or consent of instructor before enrolling in any Arabic literature course which is taught in Arabic, or in ARIC 5114 for which the readings are in Arabic.

Core Curriculum (40 credits)

ARIC majors must fulfill their Core Curriculum Arab History and Arabic Literature requirements by taking any 300-level Arabic literature course and any Middle Eastern history course from the core curriculum list other than ARIC 3343. They should take the introductory 200-level courses required by their major before fulfilling their Core Curriculum requirements.

Concentration requirements (48 credits)

All students must take 24 credit hours as follows:

Arabic literature (6 credits)

EITHER

- ARIC 201/2101 - Introduction to Classical Arabic Literature (3 cr.)
- ARIC 202/2102 - Introduction to Modern Arabic Literature (3 cr.)

OR

- ARIC 203/2103 - Classical Arabic Literature in Translation (3 cr.)
- ARIC 204/2104 - Modern Arabic Literature in Translation (3 cr.)

Middle Eastern history (6 credits)

- ARIC 246/2346 - Survey of Arab History (3 cr.)
- ARIC 343/3343 - Birth of Muslim Community and Rise of the Arab Caliphates (3 cr.)

Islamic Studies (6 credits)

- ARIC 335/3435 - Introduction to the Study of Islam (3 cr.)
- ARIC 435/5141 - Studies in the Qur'an (3 cr.)

Islamic Art and Architecture (6 credits)

- ARIC 206/2206 - The City of Cairo (3 cr.)
- ARIC 270-271/2270-2271 - From Andalusia to Indonesia: Introduction to Islamic Art and Architecture (3 cr. per semester)

Additional Requirements

Each student must take another 24 credits of ARIC courses, chosen with the help of the advisor. These must include two additional 400-level courses.

Specializations

Students may, if they wish, take a specialization in Middle Eastern History or in Arabic Literature.

Specialization in Middle Eastern History

Students who wish to specialize in this field must take a minimum of 18 of these 24 credits in Middle Eastern history, medieval and modern. These must include two 400-level courses, and at least one course on modern Middle Eastern history. Students may choose from among the following courses offered by the Department of Arab and Islamic Civilizations (ARIC) and by the Department of History (HIST):

- ARIC 320/3020 - Introduction to Sufism (3 cr.)
- ARIC 321/3321 - Zawiyas, Harems, Coffee shops, Everyday Life in the Pre-Modern Mideast (3 cr.)
- ARIC 322/3322 - Land, Trade and Power: a History of Economic Relations in the Middle East, 600-1800 A.D. (3 cr.)
- ARIC 323/3323 - Marriage and the Family in the Medieval and Early Modern Middle East (3 cr.)
- ARIC 324/3324 - Non-Muslim Communities in the Muslim World (3 cr.)
- ARIC 336/3336 - Studies in Ibn Khaldun (3 cr.)
- ARIC 344/3344 - Caliphs and Sultans in the Age of Crusades and Mongols (3 cr.)
- ARIC 345/3345 - Gunpowder Empires: Ottomans, Safavids and Mughols (3 cr.)
- ARIC 353/3353 - Muslim Political Thought (3 cr.)
- ARIC 404/5113 - Sira and Hadith (3 cr.)
- ARIC 439/5142 - Islamic Law (3 cr.)
- ARIC 440/5131 - Arabic Historical Literature (3 cr.)
- ARIC 451/5133 - Islamic Institutions (3 cr.)
- ARIC 460/5135 - Selected Topics in Middle Eastern History, 600-1800 AD (3 cr.)

- ARIC 463/5101 - Selected Topics in the History of Islamic Thought and Institutions (3cr.)
- HIST 355/3213 - State and Society in the Middle East, 1699-1914 (3 cr.)
- HIST 356/3214 - State and Society in the Middle East, 1906-present (3 cr.)
- HIST 454/4219 - Modern Movements in Islam (3 cr.)
- HIST 462/4288 - Selected Topics in the History of the Modern Middle East (3 cr.)

Specialization in Arabic Literature

Students who wish to specialize in this field must take a minimum of 18 of these 24 credits in Arabic literature, chosen from the list below. It is expected that these courses will be taken in Arabic. However, a student may take up to two Arabic literature courses taught in English, on condition that he/she reads the assigned texts in Arabic. In such cases, the course will be registered for that student under the rubric ARIC 5114 , Special Studies in Arabic Texts, as appropriate.

- ARIC 305/3104 - Arabic Literature and Gender (3 cr.)
- ARIC 306/3106 - Arabic Literature and Film (3 cr.)
- ARIC 307/3107 - The Writer and the State (3 cr.)
- ARIC 308/3108 - Colloquial and Folk Literature (3 cr.)
- ARIC 309/3097 - Selected Themes and Topics in Arabic Literature (3 cr.)
- ARIC 310/3197 - Selected Themes and Topics in Arabic Literature in Translation (3 cr.)
- ARIC 314/3114 - The Arabic Novel (3 cr.)
- ARIC 315/3115 - Arabic Drama (3 cr.)
- ARIC 316/3116 - The Arabic Short Story (3 cr.)
- ARIC 401/5110 - Senior Seminar in Arabic Texts (3 cr.)
- ARIC 402/5111 - Senior Seminar in Arabic Literature in Translation (3 cr.)
- ARIC 403/5112 - Arabic Literary Criticism (3 cr.)

Electives (32 credits)

Depending on the number of credits needed to complete the 20 credits, the student is strongly advised to use some of their electives to take a suitable minor or minors. As stated above, he/she may use up to 15 credit hours to satisfy Arabic language requirements for the ARIC degree.

Specialization in Islamic Art and Architecture

In addition to the Islamic Art and Architecture courses (ARIC 2206 and ARIC 270/2270) stipulated in the Arabic Studies core requirements, the students must take an additional 8 courses (24 credit hours), of which two must be of the 400-level, from among the following:

- ARIC 270-271/2270-2271 - From Andalusia to Indonesia: Introduction to Islamic Art and Architecture (3 cr. per semester)

7 courses (21 credit hours) from among the following courses:

- ARIC 368/3268 - The Art of the Book in the Islamic World (3 cr.)
- ARIC 369/3269 - Ceramic Arts of the Islamic World (3 cr.)
- ARIC 370/3270 - The Age of Transition: Early Islamic Art and the Pre-Islamic Past (3 cr.)
- ARIC 371-372/3271-3272 - Islamic Architecture in Egypt and Syria (3 cr. per semester)

- ARIC 464/5121 - Islamic Art and Architecture in India and Pakistan (3 cr.)
- ARIC 465-466/5122-5123 - Islamic Architecture in Turkey, Persia and Central Asia (3 cr.)
- ARIC 467/5124 - Islamic Architecture in Spain and North Africa (3 cr.)
- EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)
- EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)

Notes:

In addition to the core and specialization requirements an additional 26-38 credit hours can be devoted to electives.

Communication and Media Arts (B.A.)

Today's communication and media professionals need to have a broad background in both traditional and new media and to understand the impact of the convergence of these media on society. By combining media practice with communication theory, this degree covers a broad spectrum of critical perspectives on the media and introduces a range of contemporary media practices. Consistent with the mission of the School of Global Affairs and Public Policy, our program/s encompass a number of interdisciplinary courses.

The goal of this major is to produce well-rounded students who are knowledgeable about contemporary media theories and research issues, have developed excellent writing skills, have gained production and presentation skills, and are critical thinkers and writers.

Before declaring a CMA major, students must complete 24 credits of university coursework, complete RHET 2010 with a grade B or better, and pass an English Proficiency Test.

CMA majors are not permitted to have a major in MMJ or IMC. Students must complete a minimum of 120 credits for the Bachelor of Arts degree in CMA, of which no more than 40 credits can be in CMA and another 65 of their total credits must be Humanities and Social Sciences.

Core Curriculum (40 credits)

JRMC Core (12 credits)

- JRMC 200/2200 - Introduction to Mass Communication (3 cr.)
- JRMC 201/2201 - Mass Media Writing (3 cr.)
- JRMC 202/2202 - Multimedia Writing (3 cr.)
- JRMC 203/2203 - Mass Media Ethics and Responsibility (3 cr.)

Communication and Media Arts Major (21 credits)

- JRMC 250/2250 - Global Media Systems (3 cr.)
- JRMC 270/2270 - Online Communication (3 cr.)
- JRMC 320/3320 - Mass Communication Research (3 cr.)
- JRMC 406/4406 - Internship (3 cr.)
- JRMC 420/4420 - Media Management (3 cr.)

- JRMC 444/4444 - Media Law and Policy (3 cr.)
- JRMC 482/4482 - Media Convergence Capstone (3 cr.)

Choose two of the following courses : (6 credits)

- JRMC 230/2230 - Photography Foundations 1 (3 cr.)
- JRMC 305/3305 - Introduction to Visual Communication (3 cr.)
- JRMC 330/3330 - Photojournalism and Documentary Practices (3 cr.)
- JRMC 339/3339 - Studio Production: AUC TV (3 cr.)
- JRMC 403/4403 - Feature and Magazine Writing (3 cr.)
- JRMC 405/4405 - Advanced Visual Communication (3 cr.)
- JRMC 415/4415 - Public Relations Theory and Techniques (3 cr.)
- JRMC 460/4460 - Audio Production (3 cr.)
- JRMC 471/4471 - Online Journalism (3 cr.)

General Electives/Minor

Depending on the number of credit hours needed to complete 120 credits required for a bachelor's degree from AUC, CMA majors are required to select elective courses leading to a minor in an area that will complement their major, including Rhetoric and Writing, Middle East Studies, Arabic Studies, History, Political Science, Sociology or the Arts. Double majors are exempt. Selections should be made in consultation with your major advisor.

Economics (B.A.)

Bachelor of Arts

The content of the curriculum for the B.A. degree in Economics offers a comprehensive coverage of subjects. The program is designed to prepare students as i) citizens with future influence by virtue of a university degree; ii) future holders of jobs which require training in economics; and iii) future postgraduate students of economics. For the first group, the curriculum offers training in rational thought and the connections between theory and main features of policy. For the second group, the curriculum offers the standard tools of economic analysis and an appreciation of the interdependence of world economies. For the third group, the curriculum, by virtue of its content of research methods and statistics, and econometrics offers entry into M.A. and Ph.D. programs. A holder of the B.A. in Economics from AUC can participate in advanced training on equal basis with undergraduates from major American and British Universities.

A student who seeks a major in Economics must satisfy the following requirements:

1. Complete a minimum of 27 credit hours including ECON 2011, ECON 2021 and ECON 2061.
2. Earn an average of B or higher in ECON 2011 and ECON 2021 with a minimum of B minus in each course, as the student's performance in these courses can provide a good indicator of his/her aptitude in these basic courses and thus how well that student will perform once he/she is admitted in the major.
3. Earn a minimum B in ECON 2061. Equivalently, earn an average of B or higher in MACT 1121 and MACT 1122 with a minimum of B minus in each course.
4. Earn a minimum *Weighted Score of 3.0* based on the following:
(Grade Point of ECON 2011*15%) + (Grade point of ECON 2021*15%)+

(Grade Point of ECON 2061 or its equivalent*20%)+(Overall GPA*50%)

The required minimum overall score to declare a major in economics will vary across semesters, depending on demand by student applicants on one hand, and the number of seats that the department can accommodate, based on available resources in terms of full-time and part-time faculty members as well as facilities, while adhering to minimum accreditation requirements.

Students cannot declare a major in Economics if they have earned 90 credit hours or more.

A total of 120 credits is required for the bachelor's degree in economics:

Core Curriculum (40 credits)

Concentration Requirements (54 credits)

- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)
- ECON 216/2061 - Mathematics for Economists I (3 cr.)
- ECON 218/2081 - Statistics for Economists (3 cr.)
- ECON 301/3021 - Intermediate Macroeconomic Theory (3 cr.)
- ECON 302/3011 - Intermediate Microeconomic Theory (3 cr.)
- ECON 316/3061 - Mathematics for Economists II (3 cr.)
- ECON 318/3081 - Introduction to Econometrics (3 cr.)
- ECON 403/4031 - International Trade (3 cr.)
- MACT 210/2222 - Statistics for Business (3 cr.)

Economics Additional I (Choose four out of the following eight courses)

- ECON 215/2051 - Economic History of the Modern Middle East (3 cr.)
- ECON 224/2091 - Economic History (3 cr.)
- ECON 348/3052 - Agricultural Economics (3 cr.)
- ECON 312/3053 - Economic Development (3 cr.)
- ECON 320/3055 - The Digital Economy: Information Technology, Knowledge and Intellectual Property (3 cr.)
- ECON 415/4051 - Seminar on Economic Development in the Middle East (3 cr.)
- ECON 405/4091 - History of Economic Thought (3 cr.)
- ECON 414/4094 - Economics of Egypt (3 cr.)

Economics Additional II (Choose four out of the following eight courses)

- ECON 303/3041 - Money and Banking (3 cr.)
- ECON 308/3071 - Labor Economics (3 cr.)
- ECON 310/3013 - Public Finance (3 cr.)
- ECON 413/4012 - Cost-Benefit Analysis (3 cr.)
- ECON 404/4041 - Financial Economics (3 cr.)
- ECON 416/4061 - Mathematical Economics (3 cr.)

- ECON 418/4081 - Econometric Methods (3 cr.) and ECON 418P/4082 - Practicum (1 cr.)
- ECON 411/4099 - Seminar: Special Topics in Economics (3 cr.)

Notes:

Students who plan to pursue the Master of Arts in Economics are strongly advised to take ECON 4061 and ECON 4081, since these are prerequisites for the program.

Collateral Requirements (9 credits)

- ACCT 201/2001 - Financial Accounting (3 cr.)
- FINC 303/2101 - Business Finance I (3 cr.)
- BADM 000/4999 - Internship and Career Development (3 cr.)

Electives (17 credits)

Egyptology (B.A.)

Egyptology is the scientific study of the history and culture of Ancient Egypt, from the earliest times to the Arab conquest, a time span covering some 4,600 years. Egyptology covers all aspects of Ancient Egyptian civilization, from language and religion to art, architecture and social structure.

Bachelor of Arts in Egyptology

The Program aims at preparing students for careers in Egyptology and the preservation and management of Egypt's material heritage. Research, writing, critical thinking and presentation skills are also stressed. Students will:

1. Acquire knowledge, appreciation and understanding of Ancient Egypt's cultural heritage and its legacy in the world.
2. Master the research tools upon which a career in Egyptology must depend, including Ancient Egyptian language and scripts as well as skill in excavation and site analysis.
3. Prepare properly to assume the responsibility of caring for, maintaining and preserving Ancient Egypt's unique cultural heritage.

A student in good standing with the university who wishes to declare a major in Egyptology should have passed an Egyptology course (e.g. EGPT 2020 or EGPT 2551) with a grade of B- or higher. Additionally, a writing sample showing the student's writing ability should be submitted to the Egyptology faculty, who will then arrange for a personal interview with the student prior to declaration. The writing sample should demonstrate linguistic ability commensurate with the demands of Egyptology.

A total of 120 credits is required for the bachelor's degree in Egyptology:

Core Curriculum (40 credits)

Concentration Requirements (48 credits)

All Twelve of the following (36 credits):

- EGPT 343/3211 - History of Ancient Egypt I: Pre-Dynastic Through Middle Kingdom Egypt (3 cr.)
- EGPT 344/3212 - History of Ancient Egypt II: Middle Kingdom through Ptolemaic Egypt (3 cr.)
- EGPT 250/2250 - Ancient Egyptian Literature in Translation (3 cr.)
- EGPT 253/2251 - Hieroglyphics I (3 cr.)
- EGPT 254/2252 - Hieroglyphics II (3 cr.)
- EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)
- EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)
- EGPT 304/5100 - Culture and Society of Ancient Egypt (3 cr.)
- EGPT 346/5130 - Societies and Culture of the Ancient Near East (3 cr.)
- EGPT 353/5151 - Hieroglyphics III (3 cr.)
- EGPT 402/5153 - Hieroglyphics IV (3 cr.)
- EGPT 440/4040 - Ancient Egyptian Religion and Ethics (3 cr.)

From among the following (12 credits):

- EGPT 202/2020 - Ancient Egypt: An Introduction (3 cr.)
- EGPT 204/2210 - Introduction to Archaeology (3 cr.)
- EGPT 301/3010 - Temples, Tombs and Hieroglyphs (3 cr.)
- EGPT 341/5110 - Egypt in the First Millennium BC (3 cr.)
- EGPT 342/5120 - History of Egypt in the Graeco-Roman Era (3 cr.)
- EGPT 348/5140 - Societies and Cultures of Ancient Nubia (3 cr.)
- EGPT 400/5150 - Introduction to Coptic (3 cr.)
- EGPT 401/5152 - Introduction to Hieratic (3 cr.)
- EGPT 403/4030 - Independent Study in Egyptology (1-3 cr.)
- EGPT 445/5160 - Selected Topics in Coptic Studies (3 cr.)
- EGPT 459/5170 - Selected Topics in Cultural Resource Management and Museology (3 cr.)
- EGPT 491/5191 - Field Work in Egyptological Method and Theory (3 cr.)
- EGPT 499/5199 - Selected Topics in Egyptology (3 cr.)

Notes:

Students intending to pursue graduate studies in Egyptology at an Egyptian national university must take EGPT 5152 Introduction to Hieratic and EGPT 5150 Introduction to Coptic.

Collateral Requirements (11-12 credits)

Courses in related disciplines, such as anthropology (e.g. Cultural Anthropology), history and art, Islamic art and archaeology, linguistics, or science (Archaeological Science), possibly to constitute a minor.

Electives (20-21 credits)

English and Comparative Literature (B.A.)

Bachelor of Arts

The program in English and Comparative Literature provides the undergraduate student with an understanding of the role which literature plays in presenting men and women with images of themselves, their society, and their culture and introduces them to the different questions and answers which literature has given to the central problems of human experience.

To major in English and Comparative Literature students must have taken at least one ECLT course with not less than a C grade and be registering for the required program of the major.

A total of 120 credits is required for the bachelor's degree in English and comparative literature:

Core Curriculum (40 credits)

Concentration Requirements (42 credits)

- ECLT 200/2010 - Introduction to Literature (3 cr.)
OR
- ECLT 202/2012 - Global Literature in English (3 cr.)
-
- ECLT 201/2011 - Survey of British Literature (3 cr.)
-
- ECLT 301/3001 - Medieval Literature (3 cr.)
Or
- ECLT 409/4009 - Greek Classics in Translation (3 cr.)
Or
- ECLT 410/4010 - Classics of the Ancient World (3 cr.)
-
- ECLT 302/3002 - Literature of the Renaissance (3 cr.)
Or
- ECLT 303/3003 - Seventeenth-Century Literature (3 cr.)
Or
- ECLT 360/3060 - Shakespeare (3 cr.)
-
- ECLT 304/3004 - Eighteenth-Century Literature (3 cr.)
Or

- ECLT 305/3005 - Romanticism (3 cr.)
Or
- ECLT 306/3006 - Nineteenth-Century European Literature (3 cr.)
-
- ECLT 308/3008 - Modern European and American Literature (3 cr.)
Or
- ECLT 348/3048 - Contemporary Literature (3 cr.)
-
- ECLT 310/3010 - American Literature to 1900 (3 cr.)
Or
- ECLT 311/3011 - Modern American Literature (3 cr.)
-
- ECLT 411/4011 - History of Literary Criticism (3 cr.)
- ECLT 412/4012 - Modern Literary Criticism (3 cr.)

Three additional courses to be chosen from the following courses (9 credits):

- ECLT 209/2019 - Introduction to American Studies (3 cr.)
/HIST 209
- ECLT 330/3030 - Literature and Cinema (3 cr.)
- ECLT 332/3032 - World Literature (3 cr.)
- ECLT 333/3033 - African Literature (3 cr.)
- ECLT 344/3014 - Literature and Philosophy (3 cr.)
- ECLT 345/3045 - Literature and Gender (3 cr.)
- ECLT 346/3046 - Third World Literature (3 cr.)
- ECLT 347/3099 - Selected Topics (3 cr.)
- ECLT 352/3052 - Recurrent Themes in Literature (3 cr.)
- ECLT 353/3053 - Modern Drama (3 cr.)
- ECLT 370/3070 - Creative Writing (3 cr.)
- ECLT 447/4099 - Capstone Seminar: Selected Topics (3 cr.)

Any two Additional ECLT courses (6 cr.)

Collateral Requirements (3 credits)

One course in 300- or 400-level Arabic Literature (in Arabic or in translation).

Electives (29-41 credits)

Film (B.A.)

Bachelor of Arts in Film

Since its early days, cinema has been one of the most influential art forms of the twentieth century. Uniquely situated in the "film" city of Cairo, the major in film, integrates professional film production training with the study of the historical and theoretical nature of the medium. Another critical component of the degree of the degree is studying the dynamics of cinema as a complex cultural, economic, and industrial practice. In conjunction with this academic and professional framework, the degree also provides a balance consideration of international, regional and local facets of the subject. The curriculum covers the following areas: the development of cinema as an art form; the impact of cinema on culture and society; the historical, thematic and stylistic trends within Egyptian and Arab cinema; the development of the theoretical and practical background and appreciation of the art of film making; aesthetic techniques used in production; and the relationship between cinema and the increasingly mediated visual cultures of the world.

Declaration of the Film Major

Students interested in declaring a Film Major are required to take FILM 2120 (introduction to Film), and FILM 2200 (Analogue and Digital Practices). Students with a minimum of B grade average in these FILM courses can apply to declare their Film major. Final recommendation regarding the declaration is made following an interview with the applicant.

The Visual Cultures Programs

The Film major participates in the Visual Cultures Program at AUC, which provides the home for interdisciplinary study in theory and practice across the three individual majors of Visual Art, Graphic Design, and Film. Established within the Department of the Arts in 2011 in response to the increasingly interdisciplinary character of visual creative practice in the 21st century, the Program offers courses that facilitate research-driven creative practice and the critical study and conscious use of diverse visual media in cultural context.

As a contemporary "visual culture" is a necessarily open-ended field in continual transformation, the Visual Cultures Program is a work in progress. It currently supports two introductory courses: the studio course Analogue and Digital Practices, which is cross-listed as ARTV 2200, DSGN 2200, and FILM 2200 and offers foundational study in visual research in a cross-disciplinary environment; and the lecture course Introduction to Visual Cultures, which is cross-listed as ARTV 2113, DSGN 2113, and FILM 2113 and provides students with a primer in the key terms and concepts for the analysis of visual texts past and present.

Major Requirements

A total of 120 credits are required for the bachelor's degree in Film, two courses of which must be FILM courses in the 4000 level.

Core Curriculum (40 credits)

Concentration Requirements (54 credits)

- FILM 200/2200 - Analogue and Digital Practices (3 cr.)
- FILM 220/2120 - Introduction to Film (3 cr.)

1. Film Theory and Aesthetics (21 credits)

- FILM 213/2113 - Introduction to Visual Cultures (3 cr.)
 - FILM 330/3130 - Film Theory and Criticism (3 cr.)
- Choose **FIVE** from among the following:
- FILM 000/2122 - Introduction to Film Criticism (3 cr.)
 - FILM 341/3041 - Anthropology and Film (3 cr.)
 - FILM 370/3070 - Selected Topics in Film (3 cr.)
 - FILM 310/3110 - History of World Cinema (3 cr.)
 - FILM 000/3115 - History of American Cinema 1895 - 1945 (3 cr.)
 - FILM 000/3117 - History of American Cinema 1945 - Present (3 cr.)
 - FILM 320/3120 - Cinema in Egypt and the Arab World (3 cr.)
 - FILM 000/3125 - Topics in National Cinemas (3 cr.)
 - FILM 340/3140 - Documentary Film (3 cr.)
 - FILM 000/3150 - Women and Film (3 cr.)
 - FILM 360/3160 - The Filmmaker (3 cr.)
 - FILM 390/3190 - Film Genres (3 cr.)
 - FILM 470/4370 - Advanced Seminar in Film Study and Research (3 cr.)
 - FILM 402/4402 - Independent Study (1-3 cr.)

2. Film Production (15 credits)

- FILM 351/3251 - Digital Editing (3 cr.)
 - FILM 353/3253 - Digital Cinematography (3 cr.)
- Choose **THREE** from among the following:
- FILM 000/2201 - Acting I (3 cr.)
 - FILM 000/2211 - Acting in Arabic I (3 cr.)
 - FILM 357/3257 - Screenwriting (3 cr.)
 - FILM 336/3306 - Sound for Picture Production (3 cr.)
 - FILM 450/4250 - Senior Film Project (3 cr.)
 - ARTV 204/2204 - Introduction to Time-Based Media (3 cr.)
 - ARTV 230/2230 - Introduction to Digital Photography (3 cr.)
 - DSGN 335/3235 - Animation (3 cr.)
 - MUSC 334/3304 - Music Production for Visual Media (3 cr.)
 - MUSC 337/3307 - Music for Film (3 cr.)
 - THTR 204/2401 - Introduction to Technical Theatre (3 cr.)
 - THTR 324/3401 - Design for the Theatre (3 cr.)

3. Film as Cultural Industry (12 credits)

Choose **FOUR** from among the following:

- FILM 352/3352 - The Film Industry (3 cr.)
- FILM 354/3354 - Film Audience and Reception (3 cr.)

- FILM 370/3070 - Selected Topics in Film (3 cr.)
- FILM 452/4352 - The Arab and Egyptian Film Industries: National and Global Perspectives (3 cr.)
- FILM 456/4356 - Experiential Learning in Film (3 cr.)
- FILM 470/4370 - Advanced Seminar in Film Study and Research (3 cr.)

Collateral Requirements (9 credits)

Choose **THREE** from among the following:

Any of the remaining FILM courses:

- ANTH 202/2101 - Cultural Anthropology (3 cr.)
- ARIC 306/3106 - Arabic Literature and Film (3 cr.)
- ECLT 411/4011 - History of Literary Criticism (3 cr.)
- JRMC 420/4420 - Media Management (3 cr.)
- MUSC 331/2301 - Music Production Using Protocols I (3 cr.)
- PHIL 310/3010 - Philosophy and Art (3 cr.)
- SOC 306/3030 - Sociology of Literature (3 cr.)
- THTR 203/1201 - Theatre in the Making (3 cr.)

Electives (17 credits)

Graphic Design (B.A.)

Bachelor of Arts in Graphic Design

The Graphic Design major prepares students for a wide range of professional options. Branding, advertising, publication, web, digital and broadcast design, exhibition and type design are all possible career paths. The major offers both theory and studio courses that will enable design students to integrate a good command of visual language with conceptual work, theory, and technology.

Classes are mostly critique based, encouraging debate, discussion and lateral thinking, utilizing formal and practical knowledge. Most course work is conducted in studios. Classes are taught by a group of accomplished faculty supported by visiting faculty, guest lecturers, field trips, camps and workshops. Students create work that is uniquely theirs helping them build a portfolio from which they can build their careers.

Declaration of the Graphic Design Major

To be eligible to declare a Graphic Design major, students must have completed four courses in the program: DSGN 2200 (Analogue and Digital Practices), DSGN 2113 (Introduction to Visual Cultures), DSGN 2201 (Design I) and DSGN 2115 (History of Graphic Design). After the completion of these four courses, students are requested to sit for a portfolio interview where their work is evaluated by a committee. Based on the availability of space, a limited number of students who have successfully completed their courses and who present a promising portfolio as determined by the department will be accepted in the major.

The Visual Cultures Program

The Graphic Design major participates in the Visual Cultures Program at AUC, which provides the home for interdisciplinary study in theory and practice across the three individual majors of Visual Arts, Graphic Design, and Film. Established within the Department of the Arts in 2011 in response to the increasingly interdisciplinary character of visual creative practice in the 21st century, the Program offers courses that facilitate research-driven creative practice and the critical study and conscious use of diverse visual media in cultural context.

As contemporary "visual culture" is a necessary open-ended field in continual transformation, the Visual Cultures Program is a work in progress. It currently supports two introductory courses: the studio course Analogue and Digital Practices, which is cross-listed as ARTV 2200, DSGN 2200, and FILM 2200 and offers foundational study in visual research in a cross-disciplinary environment; and the lecture course Introduction to Visual Cultures, which is cross-listed as ARTV 2113, DSGN 2113, and FILM 2113 and provides students with primer in the key terms and concepts for the analysis of visual texts past and present

Major Requirements

A total of 120 credits are required for the bachelor's degree in Graphic Design.

Core Curriculum (40 credits)

Concentration Requirements (27 Credits)

- DSGN 200/2200 - Analogue and Digital Practices (3 cr.)
- DSGN 201/2201 - Design I (3 cr.)
- DSGN 210/2210 - Typography I (3 cr.)
- DSGN 213/2113 - Introduction to Visual Cultures (3 cr.)
- DSGN 215/2115 - History of Graphic Design (3 cr.)
- DSGN 250/2250 - Digital Practice I (3 cr.)
- DSGN 420/4220 - Production for Designers (3 cr.)
- DSGN 469/4269 - Senior Project Thesis (3 cr.)
- DSGN 470/4270 - Senior Project Practice (3 cr.)

Additional requirements (27 credits)

1. Professional Practice, Choose FOUR:

- DSGN 202/2202 - Design II: Logo and Corporate Identity (3 cr.)
- DSGN 303/3203 - Design III: Publication (3 cr.)
- DSGN 304/3204 - Design IV: Packaging (3 cr.)
- DSGN 305/3205 - Design V: Retail Design (3 cr.)
- DSGN 320/3220 - Typography II (3 cr.)
- DSGN 330/3230 - Typography III (3 cr.)
- DSGN 365/3265 - Advertising and Branding (3 cr.)

2) Technical Practice, Choose THREE:

- DSGN 240/2240 - Color (3 cr.)

- DSGN 245/2245 - Illustration (3 cr.)
- DSGN 313/3213 - Web Design (3 cr.)
- DSGN 335/3235 - Animation (3 cr.)
- DSGN 350/3250 - Digital Practices II (3 cr.)
- DSGN 360/3260 - Photography for Designers (3 cr.)
- DSGN 400/4200 - Professional Practice (3 cr.)
- DSGN 410/4210 - Portfolio (3 cr.)
- ARTV 201/2201 - Introduction to Drawing (3 cr.)
- ARTV 230/2230 - Introduction to Digital Photography (3 cr.)

3. History and Theory, choose TWO:

- DSGN 315/3115 - History of Graphic Design in the Arab world (3 cr.)
- DSGN 317/3117 - History of Advertising in the Arab World (3 cr.)
- DSGN 318/3118 - History of Arabic Calligraphy (3 cr.)
- ARIC 368/3268 - The Art of the Book in the Islamic World (3 cr.)

Collateral Requirements (6 credits):

Choose **two**:

- ARTV 202/2202 - Introduction to Painting (3 cr.)
- ARTV 203/2203 - Introduction to sculpture/Installation (3 cr.)
- ARTV 204/2204 - Introduction to Time-Based Media (3 cr.)
- ARTV 410/4110 - Contemporary issues in Arab Art (3 cr.)
- FILM 220/2120 - Introduction to Film (3 cr.)
- FILM 310/3110 - History of World Cinema (3 cr.)
- FILM 320/3120 - Cinema in Egypt and the Arab World (3 cr.)
- FILM 354/3354 - Film Audience and Reception (3 cr.)
- FILM 452/4352 - The Arab and Egyptian Film Industries: National and Global Perspectives (3 cr.)
- THTR 324/3401 - Design for the Theatre (3 cr.)

Electives (20 credits)

History (B.A.)

Bachelor of Arts

AUC's history major covers a range of European, American and Middle Eastern topics, and allows students the flexibility to develop and pursue their own interests. All courses develop in students an appreciation of the richness, complexity, and diversity of past civilizations, allowing them to examine the human experience in its fullest dimensions. The program as a whole gives students appropriate historical, academic and personal competencies, develops their intellectual sophistication, and provides a solid foundation for their future lives, preparing them for a wide variety of subsequent careers, from law or diplomacy to journalism or business.

Students interested in declaring History as their major must take at least two courses in History the year they join the major and pass an interview to be conducted by the Department Academic Adviser.

A total of 120 credits is required for a bachelor's degree in History.

Core Curriculum (40 credits)

Concentration Requirements (36 credits)

- HIST 420/4801 - Historical Theory and Methodology (3 cr.)
"Major Capstone"

Eleven additional history courses,

1. of which at least eight must be above the 2000 level
2. and four in subjects other than the history of the Middle East

Students must consult with their advisors to ensure that their courses provide an appropriate coverage of different historical periods.

Electives:

38-50 credits, to be selected in consultation with a history faculty advisor.

Honors Program in History (B.A.)

A total of 120 credits is required for a bachelor's degree in Honors Program in History.

Core Curriculum (40 credits)

Concentration Requirements (39 credits)

- HIST 000/4000 - Honors Thesis (3 cr.)
To be taken in the senior year.
- HIST 420/4801 - Historical Theory and Methodology (3 cr.)
To be taken in the senior year in a section limited to Honors students.

Eleven additional history courses

1. Of which at least eight must be above the 200 level
2. Including at least two courses in three of the four following areas:

- a. The history of the Middle East
- b. The history of Europe
- c. The history of the United States
- d. Comparative Religion courses that are cross-listed as history courses

3. Including one course at the 5000 level (3 credits)

Electives (41 credits)

Honors Program in Political Science (B.A.)

Students may apply for admission to the Honors program following completion of 24 credit hours in Political Science or more with a minimum major GPA of 3.4 and must maintain this GPA to continue in the honors program.

Requirements: 45 credits in Political Science as follows:

- A. Concentration requirements: 27 cr. or 30 cr.
- B. Political Science Specialization: 9 cr.
- C. Honors Requirements: 9 cr.

A. Concentration Requirements: (27 or 30 credits)

- POLS 203/2003 - Introduction to Political Science II (3 cr.)
This course must be taken if, and only if, POLS 1001 was not taken during the Freshman year.
- POLS 204/2104 - Introduction to Research Methods in Political Science (3 cr.)
- POLS 205/2403 - Europe in the Age of Revolution and Reform (1789-1914) (3 cr.)
Or
- POLS 206/2404 - Europe in International Politics in the Twentieth Century (3 cr.)
/HIST 206
- POLS 301-302/3201-3202 - History of Political Theory (3 cr. per semester)
(POLS 3201 or 3202)
- POLS 308/3408 - Comparative Politics of the Middle East (3 cr.)
- POLS 310/3510 - Introduction to Development (3 cr.)
- POLS 313/3401 - Introduction to Comparative Politics (3 cr.)
- POLS 320/3620 - International Relations (3 cr.)
- POLS 350/3550 - Introduction to Political Economy (3 cr.)
- POLS 471/4371 - Introduction to Public International Law (3 cr.)

B. Political Science Specialization: 9 crs.

If the student does not opt for a specific specialization the (9) credits will be taken as electives toward an honors general degree. Courses for each specialization is stated in the Catalog.

C. Honors Requirements: 9 crs.

- Honor Seminar POLS 4000: (3 credits)
- Methodology course POLS 4104 : (3 credits)
- Senior Year Thesis POLS 4099 : (3 credits)

Other Requirements:

Students must complete the general electives and the collateral courses required of all Political Science majors, depending on the number of core curriculum credits taken to make up 120 credits total. Before registering in the 400 and 500 level course students will normally have taken the concentration requirements, or its equivalent.

Integrated Marketing Communication (B.A.)

Integrated Marketing Communication (IMC) is the integration of all marketing communication tools under one strategic communication focus. It takes all communication tools from working in isolation to complementing each other, with the objective of communicating one unified message from the organization (or the brand) to its target consumers. The objective of IMC is to manage all organizational communication in an integrated fashion and to build positive relationships between the organization on one hand and its customers and other stakeholders, such as employees, board members, the media, and society at large. Consistent with the mission of the School of Global Affairs and Public Policy our program/s encompass a number of interdisciplinary courses.

Students majoring in IMC gain skills and experience in all aspects of the marketing communication process through both theoretical learning and hands-on-experience. Components of the program include exposure to the fundamentals of strategic planning, media research, budgeting, creative strategy, creative development, media planning, production, modern corporate image, branding, social responsibility, event marketing, sales promotions, direct marketing, and public relations.

Before declaring an IMC major, students must complete 24 units of university coursework, complete RHET 2010 with a grade of B or better, and an English Proficiency Test.

IMC majors are not permitted to have a major in CMA or MMJ. Students must complete a minimum of 120 credits for the Bachelor of Arts degree in IMC of which no more than 40 credits can be in IMC and another 65 of their total credits must be in Humanities and Social Sciences.

Core Curriculum (40 credits)

JRMC Core (12 credits)

- JRMC 200/2200 - Introduction to Mass Communication (3 cr.)
- JRMC 201/2201 - Mass Media Writing (3 cr.)
- JRMC 202/2202 - Multimedia Writing (3 cr.)
- JRMC 203/2203 - Mass Media Ethics and Responsibility (3 cr.)

Integrated Marketing Communication Major (24 credits)

- JRMC 305/3305 - Introduction to Visual Communication (3 cr.)
- JRMC 315/3315 - Introduction to Advertising (3 cr.)
- JRMC 320/3320 - Mass Communication Research (3 cr.)
- JRMC 355/3355 - Creative Strategy and Advertising Copywriting (3 cr.)
- JRMC 415/4415 - Public Relations Theory and Techniques (3 cr.)
- JRMC 425/4425 - Integrated Marketing Communication Campaigns Capstone (3 cr.)
- MKTG 302/2101 - Principles of Marketing (3 cr.)
- MKTG 410/3202 - Consumer-Buyer Behavior (3 cr.)

Choose one of the following courses: (3 credits)

- JRMC 230/2230 - Photography Foundations 1 (3 cr.)
- JRMC 270/2270 - Online Communication (3 cr.)
- JRMC 406/4406 - Internship (3 cr.)
- JRMC 420/4420 - Media Management (3 cr.)
- JRMC 441/4441 - Camera and Editing Workshop (3 cr.)
- JRMC 444/4444 - Media Law and Policy (3 cr.)
- MKTG 408/3301 - Marketing Communications Management (3 cr.)
- MKTG 416/4302 - E-Marketing (3 cr.)

General Electives/Minor

Depending on the number of credit hour needed to complete 120 credits required for bachelor's degree from AUC, IMC majors are required to select elective courses leading to a minor in an area that will complement their major, including Rhetoric and Writing, Middle East Studies, Arabic Studies, History, Political Science, Sociology or the Arts. Double majors are exempt. Selections should be made in consultation with your major advisor.

Middle East Studies (B.A.)

Middle East Studies is an interdisciplinary program. Middle East Studies courses are taught by faculty members from Anthropology, Arabic Studies, Economics, History, Management, Political Science, and Sociology. Through intensive study of the region's history, culture, and current issues, students gain a comprehensive understanding of the modern Middle East. See faculty listings under departmental descriptions.

Bachelor of Arts

A minimum GPA of 2.7 is required in order to declare and maintain a major in the Middle East Studies program.

A total of 120 credits is required for the bachelor's degree in Middle East Studies:

Core Curriculum (40 credits)

Non-Arabic speaking students must take six hours of colloquial or literary Arabic.

Concentration Requirements (45 credits)

Apart from the Core requirements, students must take two courses from the 200 and 300-level courses in each of the following six field fields: Anthropology, Arab Studies, Economics, History, Political Science and Sociology. In addition, the student must take a total of three, 400-level courses selected from the above fields. The rest of the courses beyond the Core and Middle East Studies major must be advanced level courses, unless they are part of the requirements of a Minor.

In the case of ARIC and HIST courses, if the student takes one of the courses listed below as part of the Core requirements, the student must take another course from the Core courses listed under these fields.

200 and 300-level course requirements (36 credits)

- ANTH 202/2101 - Cultural Anthropology (3 cr.)

- ANTH 312/3301 - Peoples and Cultures of the Middle East and North Africa (3 cr.)
- ARIC 246/2346 - Survey of Arab History (3 cr.)
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 215/2051 - Economic History of the Modern Middle East (3 cr.)
- HIST 355/3213 - State and Society in the Middle East, 1699-1914 (3 cr.)
- HIST 356/3214 - State and Society in the Middle East, 1906-present (3 cr.)
- POLS 203/2003 - Introduction to Political Science II (3 cr.)
- POLS 308/3408 - Comparative Politics of the Middle East (3 cr.)
- SOC 303/3303 - Social Movements (3 cr.)
- SOC 370/3085 - Environmental Issues in Egypt (3 cr.)

Choose one of the following

- ARIC 343/3343 - Birth of Muslim Community and Rise of the Arab Caliphates (3 cr.)
- ARIC 336/3336 - Studies in Ibn Khaldun (3 cr.)

400-level course requirements (9 credits)

In addition to the above courses, students are required to take three 400-level courses from the following list:

- ANTH 425/4030 - Women, Islam and the State (3 cr.)
- ANTH 450/4050 - Critical Approaches to Development (3 cr.)
OR ANTH 460/4560 - Development Studies Seminar (3 cr.)
- ARIC 439/5142 - Islamic Law (3 cr.)
- ARIC 451/5133 - Islamic Institutions (3 cr.)
- ARIC 454/5134 - Modern Movements in Islam (3 cr.)
- ECON 415/4051 - Seminar on Economic Development in the Middle East (3 cr.)
- HIST 412/4290 - Selected Topics in Modern Egyptian History (3 cr.)
OR HIST 462/4288 - Selected Topics in the History of the Modern Middle East (3 cr.)
- POLS 420/4420 - Issues in Middle East Politics (3 cr.)
- POLS 423/4523 - The Political Economy of Poverty and Inequality (3 cr.)
- POLS 442/4542 - Environmental Politics (3 cr.)
- SOC 450/4106 - Critical Approaches to Development (3 cr.)
OR SOC 460/4560 - Development Studies Seminar (3 cr.)

Electives (29 -41 credits)

Depending on the number of credit hours needed to complete the 120 stated above.

Multimedia Journalism (B.A.)

The Multimedia Journalism major converges the disciplines of traditional and new media into a single stream which exposes students to and trains them to print, broadcast, digital and citizen journalism.

The major stresses basic news gathering, reporting and writing skills for multi-platform delivery, with a particular emphasis on the instantaneous dissemination advantages of social media.

The major is structured as a building process that moves students from the initial broad exposure to mass

communication. The focus is on the essentials of media ethics and responsibilities and creating media professionals who will compete in any terrain around the world.

Before declaring a MMJ major, students must complete 24 credits of university coursework, complete RHET 2010 with a grade B or better, and an English Proficiency Test.

MMJ majors are not permitted to have a major in CMA or IMC. Students must complete a minimum of 120 credits for the Bachelor of Arts degree in MMJ, of which no more than 40 credits can be in MMJ and another 65 of their total credit hours must be in Humanities and Social Sciences.

Core Curriculum (40 credits)

JRMC Core (12 credits)

- JRMC 200/2200 - Introduction to Mass Communication (3 cr.)
- JRMC 201/2201 - Mass Media Writing (3 cr.)
- JRMC 202/2202 - Multimedia Writing (3 cr.)
- JRMC 203/2203 - Mass Media Ethics and Responsibility (3 cr.)

Multimedia Journalism Major (24 credits)

- JRMC 230/2230 - Photography Foundations 1 (3 cr.)
- JRMC 301/3301 - Journalism Editing and Design (3 cr.)
- JRMC 312/3312 - Multimedia Journalism Lab: The Caravan (3 cr.)
- JRMC 333/3333 - Research for Journalists (3 cr.)
- JRMC 337/3337 - TV Scriptwriting and Production (3 cr.)
- JRMC 339/3339 - Studio Production: AUC TV (3 cr.)
- JRMC 460/4460 - Audio Production (3 cr.)
- JRMC 480/4480 - Multimedia Reporting Capstone (3 cr.)

Choose One of the following Electives in the Major (3 credits)

- JRMC 305/3305 - Introduction to Visual Communication (3 cr.)
- JRMC 310/3310 - Public Opinion, Persuasion and Propaganda (3 cr.)
- JRMC 330/3330 - Photojournalism and Documentary Practices (3 cr.)
- JRMC 402/4402 - Reporting and Writing in Arabic (3 cr.)
- JRMC 403/4403 - Feature and Magazine Writing (3 cr.)
- JRMC 412/4412 - Newsroom Editing and Management (3 cr.)
- JRMC 441/4441 - Camera and Editing Workshop (3 cr.)
- JRMC 444/4444 - Media Law and Policy (3 cr.)
- JRMC 471/4471 - Online Journalism (3 cr.)

General Electives/Minor

Depending on the number of credit hours needed to complete 120 credits required for bachelor's degree from AUC, MMJ majors are required to select elective courses leading to a minor in an area that will complement their major, including Rhetoric and Writing, Middle, Middle East Studies, Arabic Studies, History, Political Science, Sociology or the Arts. Double Majors are exempt. Selections should be made in consultation with your major advisor.

Music Technology (B.A.)

The mission of the Music Program is to teach the theory, literature, and performance of music, and the theory and practice of music technology, to the highest attainable standard in the context of a liberal arts environment, with an orientation towards performance and study in both Western and Arab music.

The program lays a special emphasis on two aspects of what musicians do which are of particular value to students, whether they aspire to a career in music, or only seek to broaden their understanding of the world by enrolling in one or two courses. First, all students who take private instruction in voice or an instrument will learn to sight-read musical notation fluently, and to comprehend what they hear. Second, in the classroom and studio, lessons, rehearsals, and performances, all students in the program are expected to conform to professional standards: to be punctual and prepared, and to treat their colleagues, and the material to be studied or performed, with the respect that is their due.

Students who major in music may pursue either a Bachelor of Arts degree in music technology, or a Bachelor of Musical Arts (B.M.A) degree in performance. The Bachelor of Arts in music technology is a liberal arts degree which prepares students for a career in sound engineering, ie. Music recording, editing, production, and broadcasting, or for graduate study in the field.

The Institute for Music Technology offers a sequence of courses in music recording, editing, and production, music for video and film, and electronic music. Such training is crucial not only for students interested in a career in these professions, but also to performers and teachers who need to create and edit demos and audition tracks, to use music files in web sites and other internet applications, or to prepare and market recordings of their own performances and compositions. The Institute for Music Technology is responsible for the recording studio, which is used both as a teaching space and for professional recording.

The Cairo Choral Society is a community chorus dedicated to the study, promotion, and performance of the great choral works in the Western musical tradition. It presents performances with a professional orchestra (the Cairo Festival Orchestra) and soloists at various venues in Cairo. The membership is voluntary, multinational, and cross-generational. The Cairo Choral Society was founded in 1983; in the fall choral ensembles in Egypt, it is both a community-based organization and a for-credit course at AUC. Students may also participate in the chorus on a not-for-credit basis.

Bachelor of Arts

Requirements for the Concentration in Music Technology

In order to complete the Bachelor of Art in music with a concentration in music technology, a student will:

- Learn to read music, and acquire intermediate listening and sight-reading skills.
- Learn fundamental principles of music theory, both Western and Arab.
- Demonstrate the ability to play the piano at an intermediate level or better, and to use the key board as a tool for music data entry; more advanced students may also present part of a solo recital, in piano, some other instrument, or voice, with the permission of their teacher.

- Acquire a basic ability to compose and arrange using MIDI ("musical instrument digital interface," the protocol for the transmission of music data between electronic musical instruments).
- Learn advanced techniques of recording, editing, mixing, and mastering with Protocol and other editing software (Protocols software is the industry standard for recording, composing, arranging, editing, and mixing digital music).
- Acquire an advanced understanding of the use of music events (i.e. MIDI and related technologies) using synthesizers and samplers.

Declaration of the Major in Music Technology

To be eligible to declare a major in Music Technology, students must take three courses:

- MUSC 220/2200 - Introduction to Music (3 cr.)
- MUSC 330/2300 - Introduction to Music Technology (3 cr.)
- MUSC 331/2301 - Music Production Using Protocols I (3 cr.)

Final recommendation is made by the Director of the Institute for Music Technology after an interview with members of the music technology faculty.

A total of 120 credits are required for the bachelor's degree in music with a concentration in music technology.

Core Curriculum (40 credits)

Concentration Requirements (56 credits):

Theory, Literature and Performance (26 credits):

- MUSC 220/2200 - Introduction to Music (3 cr.)
- MUSC 240/2400 - Western Music Theory I (3 cr.)
- MUSC 241/2401 - Sight-Singing and Aural Skills I (1 cr.)
- MUSC 245/2450 - Arab Music Theory I (3 cr.)
- MUSC 246/2451 - Maqam I (Arab Music Sight-Singing and Aural Skills) (1 cr.)
- MUSC 340/3400 - Western Music Theory II (3 cr.)
- MUSC 341/3401 - Sight-Singing and Aural Skills II (1 cr.)
- MUSC 345/3450 - Arab Music Theory II (3 cr.)
- MUSC 346/3451 - Maqam II (Arab Music Sight-Singing and Aural Skills) (1 cr.)
- And MUSC 2850, 2851 Private Instruction for Piano Proficiency (1 cr. each = 2 cr.)

One of the following:

- MUSC 342/3250 - Music in the Arab Tradition (3 cr.)
- MUSC 360/3200 - Music in the Western Tradition (3 cr.)

Two semesters of ensemble, chosen from among the following:

- MUSC 2620/2621 Arab Music Ensemble (1 cr.)

- MUSC 2630/2631 Guitar Ensemble (1 cr.)
- MUSC 2640/2641 Chamber Music Ensembles (1 cr.)
- MUSC 2650/2651 Rehearsal/Performance Practicum (1 cr.)
- MUSC 2660/2661 Chamber Singers (1 cr.)
- MUSC 2670/2671 Cairo Choral Society (1 cr.)

Music Technology (30 credits):

- MUSC 232-332-432/2302-3302-4302 - Digital Audio / MIDI Lab (1 cr. each)
- MUSC 330/2300 - Introduction to Music Technology (3 cr.)
- MUSC 331/2301 - Music Production Using Protocols I (3 cr.)
- MUSC 333/2303 - Microphone Techniques (3 cr.)
- MUSC 334/3304 - Music Production for Visual Media (3 cr.)
- MUSC 336/3306 - Sound for Picture Production (3 cr.)
- MUSC 439/4309 - Digital Mixing Techniques (3 cr.)
- MUSC 490/4900 - Advanced Seminar (3 cr.)

Two additional courses, to be chosen from among the following:

- MUSC 371/3150 - Western and Arab Musical Instruments (3 cr.)
- MUSC 335/3305 - Electronic Music (3 cr.)
- MUSC 337/3307 - Music for Film (3 cr.)
- MUSC 000/3308 - Live Sound Reinforcement (3 cr.)
- MUSC 438/4308 - Music Production Using Protocols II (3 cr.)

Electives (24 credits)

Philosophy (B.A.)

Bachelor of Arts

The philosophy major stresses a firm grounding in both the history and the disciplines of philosophy. It is strongly recommended that students majoring in Philosophy minor in another discipline and to explore other areas of study offered by the university. Forty-two credit hours of philosophy course-work are required for the major in philosophy. A total of 120 credit hours are required for the bachelor's degree in philosophy. Declared majors must enroll in a minimum of 6 credit hours of philosophy every semester. Exception to the 6 credit per semester minimum requires written permission from the department.

To major in Philosophy, students must have taken PHIL 2100 course with not less than a "B" grade. In addition, they must take a philosophy major aptitude exam.

PHIL 2100 is prerequisite for all philosophy courses except PHIL 1010, PHIL 1099 and PHIL 2010.

Core Curriculum (40 credits)

Required Courses (12 credits)

- PHIL 312/3001 - Ancient Philosophy (3 cr.)
- PHIL 313/3002 - Medieval Philosophy (3 cr.)
- PHIL 314/3003 - Modern Philosophy (3 cr.)
- PHIL 316/3004 - Twentieth Century Philosophy (3 cr.)

Area Electives (9 credits)

Two of the following:

- PHIL 230/2113 - Introduction to Ethics (3 cr.)
- PHIL 258/2117 - Political Philosophy (3 cr.)
- PHIL 310/3010 - Philosophy and Art (3 cr.)
- PHIL 318/3012 - Theory of Knowledge (3 cr.)
- PHIL 402/5111 - Metaphysics (3 cr.)

One of the following:

- PHIL 418/5114 - Philosophical Masterpieces (3 cr.)
- PHIL 420/5115 - Philosophical Figures (3 cr.)

Electives in Philosophy (21 credits)

Any seven courses in philosophy excluding 1000-level courses, PHIL 220/2100 - Philosophical Thinking (core curriculum requirement) (3 cr.), and PHIL 299/2099 - Selected Topics for Core Curriculum (3 cr.) .

General Electives (38 credits)

Political Science, with specializations in General Political Science, International Relations, Middle East Politics, and Political Economy (B.A.)

Bachelor of Arts

Political Science at AUC is taught as a humanistic discipline with the overall objectives of fostering understanding of the contemporary world and developing knowledge about, and an appreciation of, the complex mechanisms, authoritative structures, and the allocation of values, which characterize contemporary human communities. Political Science at AUC requires students to develop abilities of comprehension and analysis, and skills for oral and written presentations. The graduate of Political Science is thus well equipped for life in the modern world, and to follow those professions and lines of work that require independence of thought, initiative, creativity in solving problems, and continuing self development. AUC graduates of Political Science are presently found in business, journalism, research, analytic writing, and public contact work. They occupy positions in public, private, development agencies, the diplomatic service, governmental ministries and agencies, and university teaching. A significant number of past graduates have subsequently completed M.A. and Ph.D. degrees.

For students to declare a major in Political Science, they must take either POLS 1001 or POLS 2003. POLS 1001 may only be taken in the Freshman Year by students who have a minimum of 2.5 GPA and will fulfill the Social Science requirement at the primary level of the Core Curriculum and will not be counted as part of the 45 credits required for the Political Science major. POLS 2003 must be taken after the Freshman Year and for those who have not taken POLS 1001. Students wishing to transfer from another major after their sophomore year will be considered on a case by case basis. Junior-year (300-level) courses are required in four subfields and are prerequisite to the more advanced courses and seminars (400-level). Each semester a selection of 300 and 400 level courses and seminars is offered from which students may choose courses to complete the requirements of the major.

A total of 120 credits is required for the bachelor's degree in Political Science:

Core Curriculum (40 credits)

Political Science Requirements (45 credits) to be taken as follows:

1. if POLS 1001 has already been taken in the Freshman Year:
27 credits (9 courses) in the concentration plus 18 credits (6 courses) as electives.
2. if POLS 1001 has not been taken in the Freshman Year:
30 credits (10 courses) in the concentration plus 15 credits (5 courses) as electives.

Collateral requirements: (6 or 9 credits)

General Electives: (26-29 credits)

All Political Science major and minor students must abide with the following regulations:

- ENGL 0210 is a prerequisite to POLS 1001 or POLS 2003
- RHET 1000 is a prerequisite to POLS 2104 and all 300 level POLS courses
- RHET 1100 May be taken concurrently with POLS 2104 and 300 level POLS courses
- RHET 2010 is prerequisite to all 400 level POLS courses

For all Political Science students:

Political Science concentration requirements (27 or 30 credits)

- POLS 203/2003 - Introduction to Political Science II (3 cr.)
This course must be taken if, and only if, POLS 101 was not taken during the Freshman year.
- POLS 204/2104 - Introduction to Research Methods in Political Science (3 cr.)
- POLS 205/2403 - Europe in the Age of Revolution and Reform (1789-1914) (3 cr.)
or POLS 2404 Europe in International Politics in the Twentieth Century Students specializing in International Relations are strongly encouraged to take POLS/HIST 206)
- POLS 301-302/3201-3202 - History of Political Theory (3 cr. per semester)
- POLS 308/3408 - Comparative Politics of the Middle East (3 cr.)
- POLS 310/3510 - Introduction to Development (3 cr.)
- POLS 313/3401 - Introduction to Comparative Politics (3 cr.)
- POLS 320/3620 - International Relations (3 cr.)
- POLS 350/3550 - Introduction to Political Economy (3 cr.)
- POLS 471/4371 - Introduction to Public International Law (3 cr.)

Collateral requirements

- HIST - One Modern History course (3 cr.)
(not to be taken as an independent study) in addition to:
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

General Electives

Students may use 15 hours of elective credit to minor in a discipline of their choice. Minorng is optional. Courses taken as collateral requirements may count towards the minor.

Students have the choice to use the 18 elective credits in Political Science (or 15 elective credits if they had to take POLS 2003 to fulfill their concentration requirements) to obtain BA in Political Science in:

1. General field in Political Science
2. Specialization in International Relations
3. Specialization in Middle East Politics
4. Specialization in Political Economy

Three courses are required for each specialization as specified below.

Students opting for a double specialization need to be encouraged to take a combination of courses from the two specializations rather than having to stick to the History courses required for one of the specializations.

1. Requirements for the General Political Science field:

Students must take five or six Political Science courses, one of which must be a seminar.

Collateral Requirements (6 credits)

General Electives (29 credits)

Depending on the number core curriculum credits taken to make up 120 credits total.

2. Requirements for the Specialization in International Relations

To specialize in International Relations, Political Science majors must, as a minimum, take the following three courses:

Requirements:

- POLS 405/4605 - International Politics in the Middle East (3 cr.)
- POLS 409/4609 - Seminar: International Organization (3 cr.)
- POLS 410/4610 - International Security (3 cr.)
or
- POLS 411/4611 - Contemporary Foreign Policies (3 cr.)

Options:

To further their understanding in this specialization, students have the option to take a number of recommended courses including:

- POLS 414/4614 - Egyptian Foreign Policy (3 cr.)
- POLS 415/4615 - U.S. Foreign Policy (3 cr.)
- POLS 440/4640 - Seminar: Special Topics in International Relations for Undergraduates (3 cr.)

Collateral Requirements (9 credits)

- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

Two additional history courses chosen from among the following:

- HIST 202/2502 - History of Modern American Civilization (3 cr.)
- HIST 308/3406 - Europe in the Age of Reason (3 cr.)
- HIST 356/3214 - State and Society in the Middle East, 1906-present (3 cr.)
- HIST 401/4588 - Selected Topics in the History of the United States (3 cr.)
(when approved by POLS department)
- HIST 402/4488 - Selected Topics in European History (3 cr.)
(when approved by POLS department)
- HIST 462/4288 - Selected Topics in the History of the Modern Middle East (3 cr.)

Electives (26 credits)

Depending upon the number of core curriculum credits taken.

3. Requirements for the Specialization in Middle East Politics

To specialize in Middle East Politics, Political Science majors must, as a minimum, take the following three courses:

Requirements:

- POLS 354/3454 - Political and Social Thought in the Modern Arab World (3 cr.)
- POLS 420/4420 - Issues in Middle East Politics (3 cr.)
- POLS 422/4422 - Contemporary Egypt (3 cr.)

Options:

To further their understanding in this specialization, students have the option to take a number of *recommended* courses including:

- ARIC 439/5142 - Islamic Law (3 cr.)
- POLS 325/3425 - Government and Politics of Egypt (3 cr.)
- POLS 405/4605 - International Politics in the Middle East (3 cr.)
- POLS 414/4614 - Egyptian Foreign Policy (3 cr.)
- POLS 424/4524 - Political Economy of the Middle East and North Africa (3 cr.)
- POLS 430/4030 - Seminar: Special Topics in Political Science for Undergraduates (3 cr.)
(If topic is applicable to the ME)
- POLS 472/4372 - International Law in the Middle East (3 cr.)
- POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.)
- POLS 477/4377 - Law and Development (3 cr.)

Collateral Requirements (6 credits)

- Modern Middle East History at 300 or 400 level Credits: (3 cr.)
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

General Electives (29 credits)

Depending on the number of core curriculum credits taken.

4. Requirements for the Specialization in Political Economy

To specialize in Political Economy, Political Science majors must, as a minimum, take the following three courses:

Requirements:

- POLS 351/3551 - Theory and History of Political Economy (3 cr.)
- POLS 424/4524 - Political Economy of the Middle East and North Africa (3 cr.)
- POLS 425/4525 - Global Political Economy (3 cr.)

Options:

To further their understanding in this specialization, students have the option to take a number of recommended courses including:

- POLS 413/4513 - International Financial Institutions (3 cr.)
- POLS 442/4542 - Environmental Politics (3 cr.)

Collateral Requirements (6 credits)

- One Modern History course (not to be taken as an independent study) in addition to:
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

General Electives (29 credits)

Depending on the number of core curriculum credits taken.

Dual Degree Option in Political Science (B.A.) and International Human Rights Law (M.A.)

The Dual Degree option combines a BA in Political Science and an MA in International Human Rights Law. It is a dual degree, creating a synergy between the existing BA in Political Science and the existing MA in International Human Rights Law.

The dual degree option enables good students to prepare for a postgraduate degree while completing the requirements for the BA in Political Science. Non-law students who achieve a MA Degree under the auspices of the Law Department at AUC qualify for better jobs in Egypt or abroad, or pursue a legal education at prestigious law schools in the United States and elsewhere. The MA degree also provides students with the necessary expertise in international human rights

law and with the intellectual, analytical and communication tools needed to intervene critically and effectively in the global policy debates confronting their societies as policy makers, academics, activists and international civil servants.

Interested students have the option of starting the Dual Degree in the sixth semester of the political science BA at AUC. During the fifth semester (i.e., before the semester in which s/he enrolls in POLS 4371) the student has to declare her/his intention to pursue the Dual Degree by submitting a graduate admission application. The student should follow the application procedures for graduate studies. Admission decisions will be made by the Law Department's Admission Committee. Successful applicants will be admitted pending the fulfillment of two conditions: i) finishing the requirements of their undergraduate degrees with at least B (GPA 3); and ii) obtaining an average of at least a B+ (GPA of at least 3.3) across the three cross-listed 'Dual Degree' Law courses. Places are limited.

Under this structure, dual-degree students will be required to take three 400-level courses that are cross-listed under LAW and POLS. These three "Dual Degree" cross-listed courses (see below) will count for credit towards both the BA in Political Science and under the MA in International Human Rights Law.

The three 'Dual Degree' Law courses to be offered to undergraduates in the Political Science Department are the following: (a) POLS 471/4371 - Introduction to Public International Law (3 cr.) (b) POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.) and (c) POLS 478/4378 - Introduction to International Human Rights Law (3 cr.) The curriculum for the MA IHRL requires the completion of nine courses and a thesis, as indicated in the tentative plan below: 3 POLS/LAW undergraduate courses, 2 graduate regional human rights courses, 3 graduate elective courses, LAW 5227 , and the thesis.

Tentative Plan for Full-time Students

SEMESTER VI (POLS undergraduate program)

LAW/POLS 471/4371 - Introduction to Public International Law (3 cr.) (counts towards both concentrations in POLS for all students) (and MA IHRL credits)

[4 POLS courses or other courses as required to complete POLS BA degree]

SEMESTER VII (POLS undergraduate program)

LAW/POLS 478/4378 - Introduction to International Human Rights Law (3 cr.) (counts towards both BA POLS and MA IHRL credits)

[4 POLS courses or other core courses as required to complete POLS BA degree]

SEMESTER VIII (POLS undergraduate program)

LAW/POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.) (counts towards both BA POLS and MA IHRL credits)

[4 POLS courses or other core courses as required to complete POLS BA degree]

SEMESTER IX (MA IHRL program)

LAW 514/5214 - Human Rights in the Middle East (3 cr.) * (2 out of 3 starred courses required)

LAW 519/5219 - Human Rights in Africa (3 cr.) * (2 out of 3 starred courses required)

LAW 513/5213 - The European System of Human Rights Protection (3 cr.) * (2 out of 3 starred courses required)

LAW Electives**

SEMESTER X (MA IHRL program)

LAW Electives**

LAW Electives**

LAW 527/5227 - Graduate Law Seminar (3 cr.)

SEMESTER XI (MA IHRL program)

LAW 599/5299 - Research Guidance/Thesis (no cr., graded)

*** Lists of LAW elective courses will be provided to students in the program prior to registration for each semester.*

Psychology (B.A.)

Psychology is the multifaceted scientific study of human behavior and mental processes. The program at AUC emphasizes physical, cognitive, emotional, personal, and social development from conception to death. Biopsychosocial development is studied against a background of major theoretical and applied domains of psychology, concentrating on important influences of individual, group, and multicultural dynamics.

Bachelor of Arts

The aim of psychology at AUC is to provide students with a solid background in the current major areas of the discipline. It will give them insights which can be of personal as well as of practical value in many other occupations. In addition, the program will prepare students wishing to continue further studies leading to a professional career.

Students who intend to seek the Psychology degree must have taken PSYC 1000 and have obtained a grade of "B" or higher. In addition, students must have successfully taken or be currently enrolled in PSYC 2000. Admission is competitive. A combination of discipline-relevant factors, including performance in PSYC 1000 and PSYC 2000, GPA and involvement in extracurricular activities related to psychology will be used to determine eligibility.

A total of 120 credit hours is required for the bachelor's degree in psychology:

Core Curriculum (40 credits)

Students must take one of the following for the science requirement:

- BIOL 103/1010 - Introduction to Life Sciences (3 cr. + 1 cr. lab)
- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)

Concentration Requirements (49 credits)

- PSYC 201/1000 - Introduction to Psychology (3 cr.)
- PSYC 207/2000 - Introduction to Psychological Statistics (3 cr.)
- PSYC 208/2100 - Research Methods for Psychology (3 cr. + 1 cr. lab)
- PSYC 301/3010 - Social Psychology (3 cr.)
- PSYC 304/3040 - Lifespan Development (3 cr.)
- PSYC 308/3080 - Cognitive Psychology (3 cr.)
- PSYC 313/3130 - Learning and Behavioral Psychology (3 cr.)
- PSYC 315/3150 - Psychological Testing and Assessment (3 cr.)
- PSYC 327/3270 - Theories of Personality (3 cr.)
- PSYC 342/3420 - Abnormal Psychology (3 cr.)

- PSYC 380/3800 - Biopsychology (3 cr.)
- PSYC 403/4030 - History and Systems of Psychology (3 cr.)

Additional Requirements

- **One** additional 300-level psychology course
- **Three** additional 400-level psychology courses (not including PSYC 4001 or PSYC 4002)

Collateral Requirements (24 credits)

Six courses to be approved by the adviser in addition to:

- ANTH 202/2101 - Cultural Anthropology (3 cr.)
- SOC 201/2101 - Introduction to Sociology (3 cr.)

Electives (7 credits)

Sociology (B.A.)

Sociology is the systematic study of society with special attention to social interaction and the social making of humans. It investigates the forces that hold society together and that threaten to pull it apart through the analysis of interaction at every level from micro-group interaction to competition of nation states. Having as its goal a holistic understanding of human society, human beings and their lives, sociology is relevant to a wide range of other disciplines and every day life issues. As a result, sociology has a broad scope that includes culture, family, gender, crime, religion, politics, development, population, and urbanization, among others. Besides their coursework, sociology majors are given the opportunity to carry out supervised field research as a part of their undergraduate program.

Bachelor of Arts

In addition to the possibility of pursuing advanced graduate work in sociology or related fields, majors are trained for employment in international development agencies, government, non-governmental organizations or the private sector in social and community services or research and managerial positions.

In order to declare the major in sociology, students must pass SOC 2101 with at least a "B". Continuation within the major is dependent on maintaining at least 2.5 GPA within their concentration requirements. Students must take SOC 4107 in their last full academic year. Courses at the 500-level are also open to selected advanced undergraduates.

Students need to fill out the application for declaration form. Upon review and approval of the application, students may be asked to sit for a short interview.

A total of 120 credits is required for the bachelor's degree in sociology:

Core Curriculum (40 credits)

Concentration Requirements (42 credits)

- SOC 201/2101 - Introduction to Sociology (3 cr.)

- SOC 204/3103 - Social Statistics (3 cr.)
- SOC 309/3102 - History of Social Theory (3 cr.)
See footnote one.
- SOC 310/3104 - Contemporary Sociological Theory (3 cr.)
See footnote one.
- SOC 381/3105 - Doing Survey Research in the Social Sciences (3 cr.)
- SOC 450/4106 - Critical Approaches to Development (3 cr.)
See footnote one.
- SOC 495/4107 - Senior Seminar (3 cr.)
See footnote one.

One of either

- SOC 203/2301 - Social Problems of the Middle East (3 cr.)
- SOC 206/2302 - Arab Family Structure and Dynamics (3 cr.)

One of either

- SOC 303/3303 - Social Movements (3 cr.)
- SOC 307/3304 - Social Class and Inequality (3 cr.)

Additional Requirements

Two additional 300 level courses in sociology

Three additional 400 level courses in sociology

Collateral Requirements (24 credits)

Three of the following courses:

- ANTH 202/2101 - Cultural Anthropology (3 cr.)
- ANTH 380/3105 - Fieldwork Methods (3 cr.)
- CSCE 102/1002 - Introduction to Computers and their Applications (3 cr.)
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- JRMC 200/2200 - Introduction to Mass Communication (3 cr.)
- POLS 101/1001 - Introduction to Political Science (3 cr.)
- PSYC 201/1000 - Introduction to Psychology (3 cr.)

Additional Requirements

Five additional courses from any social science or humanities discipline, or relevant substitutes, to be approved by the advisor, at least three of which must be at the 300 or 400 level.

Electives (14 credits)

Notes

Footnote 1: Cross listed with Anthropology

Theatre (B.A.)

The Department of the Arts offers both a bachelor's degree and three minors in theatre. The curriculum balances solid fundamental study of the literature, history, and theory of theatre with practical theatre experience in performance, directing, design, and technical theatre. The program offers a liberal arts approach to theatre study, an approach that aims at enriching the students' awareness of the role of theatre arts within society.

Performances

The department produces a season of fully-realized plays, sponsors student-directed plays, and hosts visiting productions in its three theatres, the Malak Gabr Theatre, Gerhart Theatre, and Black Box Theatre. The department offers students the opportunity to interact with international renowned guest artists who are brought to AUC to serve as directors, designers, and performers. Students who participate are eligible to receive course credit depending on the extent of their involvement.

The Theatre Program's productions are an integral component of its curriculum and an essential part of the learning and training process. Auditions are open to all registered AUC students. Casting in a play is dependent upon the ability of the student to comply with the rigorous requirements of a given rehearsal schedule.

Bachelor of Arts

Theatre majors follow a program of courses in dramatic literature, theory, and history; a program of studio courses (acting, directing, and design), and play and active role in the department's productions.

A total of 120 credits is required for the bachelor's degree in theatre.

*The Theatre program will not authorize substitution in the case of courses the student has failed.

Core Curriculum (40 credits)

Concentration Requirements (51 credits)

- THTR 203/1201 - Theatre in the Making (3 cr.)
 - THTR 204/2401 - Introduction to Technical Theatre (3 cr.)
 - THTR 225/2201 - Acting I (3 cr.)
 - THTR 230/2301 - Play Analysis (3 cr.)
 - THTR 324/3401 - Design for the Theatre (3 cr.)
 - THTR 328/3301 - Directing I (3 cr.)
 - THTR 340/3601 - Advanced Theatre Practicum (3 cr.)
 - THTR 461/4103 - Dramatic Theory and Criticism (3 cr.)
 - THTR 490/4703 - Senior Thesis (3 cr.)
- Six credits to be chosen from among the following:
- THTR 000/3103 - Drama in Context I: Greeks to English Renaissance (3 cr.)
 - THTR 000/3104 - Drama in Context II: Italian Renaissance to Modern (3 cr.)

- THTR 000/3105 - Drama in Context III: Modern and Contemporary (3 cr.)

Additional Requirements (15 credits)

Three credits from the following:

- THTR 240/2601 - Production Practicum (1 cr. per production)
- THTR 242/2603 - Rehearsal and Performance Practicum (1 cr. per production)

Five courses in the department to be chosen among the following:

- THTR 226/2211 - Acting in Arabic I (3 cr.)
- THTR 000/3103 - Drama in Context I: Greeks to English Renaissance (3 cr.)
- THTR 000/3104 - Drama in Context II: Italian Renaissance to Modern (3 cr.)
- THTR 000/3105 - Drama in Context III: Modern and Contemporary (3 cr.)
- THTR 227/3201 - Acting II (3 cr.)
- THTR 327/3203 - Special Topics in Acting (3 cr.)
- THTR 000/3207 - Movement for the Stage (3 cr.)
- THTR 326/3211 - Acting in Arabic II (3 cr.)
- THTR 000/3403 - Make Up for the Theatre (3 cr.)
- THTR 360/3501 - Playwriting I (3 cr.)
- THTR 361/3503 - Playwriting II (3 cr.)
- THTR 344/3603 - Design Practicum (3 cr.)
- THTR 428/4301 - Directing II (3 cr.)
- THTR 000/4405 - Stage Lighting (3 cr.)
- THTR 000/4406 - Costume Design for Theatre and Film (3 cr.)
- THTR 495/4705 - Senior Honors Project (3 cr.)

Collateral Requirements (3 credits):

One course chosen from the following:

- ARIC 315/3115 - Arabic Drama (3 cr.)
- ECLT 360/3060 - Shakespeare (3 cr.)
- MUSC 252/1011 - Vocal Methods (3 cr.)

Electives (11 credits):

The program will actively encourage its majors to work towards minors in fields such as anthropology, sociology, literature, music, art, political science, or business administration. Elective credits will be used for the minor.

Visual Arts (B.A.)

Bachelor of Arts in Visual Arts

The Visual Arts major provides students with an opportunity to develop their independent vision and creative practice as artists in an educational environment emphasizing conceptual research and expression across media. The curriculum balances studio-based coursework with historical and theoretical. Students intending to major in Visual Arts begin with foundations classes in visual research and analysis and then progress to intermediate studio courses in specific media and techniques (drawing, painting, sculpture and installation, photography, time-based media, alternative and new media practices, experimental animation, and others). All majors also complete a four-semester sequence of studio courses (Art Studio I, II, III, and IV) designed to foster independent work at an advanced level, followed by a year-long Senior project in the final year, which culminates in a public exhibition at the annual degree show in the Sharjah Art Gallery.

Declaration of the Visual Arts Major

To be eligible to declare a Visual Arts major, students must have completed four courses in the program: ARTV 2200 (Analogue and Digital Practices), ARTV 2113 (Introduction to Visual Cultures), and two more Visual Arts studio courses. Final recommendation is made by the Visual Arts faculty after an interview and portfolio review.

The Visual Cultures Program

The Visual Arts major participates in the Visual Cultures Program at AUC, which provides the home for interdisciplinary study in the theory and practice across the three individual majors of Visual Arts, Graphic Design, and Film. Established within the Department of the Arts in 2011 in response to the increasingly interdisciplinary character of visual creative practice in the 21st century, the program offers courses that facilitate research-driven creative practice and the critical study and conscious use of diverse visual media in cultural context.

As contemporary "visual culture" is a necessarily open-ended field in continual transformation, the Visual Cultures Program is a work in progress. It currently supports two introductory courses: the studio course Analogue and Digital Practices, which is cross-listed as ARTV 2200, DSGN 2200, and FILM 2200 and offers foundational study in visual research in a cross-disciplinary environment; and the lecture course Introduction to Visual Cultures, which is cross listed as ARTV 2113, DSGN 2113, and FILM 2113 and provides students with a primer in the key terms and concepts for the analysis of visual texts past and present.

Major Requirements

A total of 120 credits are required for the bachelor's degree in Visual Arts:

Core Curriculum (40 credits)

Concentration requirements (27 credits)

- ARTV 200/2200 - Analogue and Digital Practices (3 cr.)
- ARTV 213/2113 - Introduction to Visual Cultures (3 cr.)
- ARTV 311/3211 - Art Studio I (3 cr.)
- ARTV 312/3212 - Art Studio II (3 cr.)

- ARTV 315/3115 - Art Theory (3 cr.)
- ARTV 411/4211 - Art Studio III (3 cr.)
- ARTV 412/4212 - Art Studio IV (3 cr.)
- ARTV 469/4269 - Senior Project (A) (3 cr.)
- ARTV 470/4270 - Senior Project (B) (3 cr.)

Additional Requirements (21 credits)

Choose SEVEN:

- ARTV 201/2201 - Introduction to Drawing (3 cr.)
- ARTV 202/2202 - Introduction to Painting (3 cr.)
- ARTV 203/2203 - Introduction to sculpture/Installation (3 cr.)
- ARTV 204/2204 - Introduction to Time-Based Media (3 cr.)
- ARTV 205/2205 - Introduction to Alternative Practices (3 cr.)
- ARTV 000/2206 - Experimental Animation Art (3 cr.)
- ARTV 230/2230 - Introduction to Digital Photography (3 cr.)
- ARTV 370/3270 - Selected Topics in Art (3 cr.)
- ARTV 410/4110 - Contemporary issues in Arab Art (3 cr.)
- DSGN 250/2250 - Digital Practice I (3 cr.)

Collateral Requirements (6 credits)

Choose TWO:

- DSGN 215/2115 - History of Graphic Design (3 cr.)
- DSGN 210/2210 - Typography I (3 cr.)
- DSGN 315/3115 - History of Graphic Design in the Arab world (3 cr.)
- DSGN 318/3118 - History of Arabic Calligraphy (3 cr.)
- FILM 220/2120 - Introduction to Film (3 cr.)
- FILM 330/3130 - Film Theory and Criticism (3 cr.)
- FILM 353/3253 - Digital Cinematography (3 cr.)
- FILM 354/3354 - Film Audience and Reception (3 cr.)
- FILM 470/4370 - Advanced Seminar in Film Study and Research (3 cr.)
- PHIL 310/3010 - Philosophy and Art (3 cr.)

Elective (16 credits)

**Business Administration, with concentrations in Marketing,
Finance, Management of Information Technology,
Entrepreneurship and International Business (B.B.A.)**

Bachelor of Business Administration (B.B.A.)

A successful economic future for Egypt and the Middle East is highly concerned with a basic understanding of the principles and practices of business as they apply to firms in a dynamic environment. The business administration curriculum provides students with a foundation in the liberal arts and sciences while enabling them to develop expertise in business management and practices. Major emphasis is placed on the role of business in Egypt and the Middle East.

Declaration Policy

The number of students accepted in the Bachelor of Business Administration program is limited and is filled through the declaration of major process.

Students who seek to be admitted to the Bachelor of Business Administration program should apply in their third semester. Students seeking to declare the BBA program must have completed not less than 27 credit hours of study including the four courses listed below.

- ACCT 201/2001 - Financial Accounting (3 cr.)

- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

OR ECON 202/2011 - Introduction to Microeconomics (3 cr.)

- MACT 210/2222 - Statistics for Business (3 cr.)

- BADM 203/2001 - Introduction to Business (3 cr.)

Based on the available space, a limited number of students who have successfully completed these courses and who meet the declaration requirements as determined by the department will be accepted in the major. The selection of students into the Business Major is competitive and will depend on the calculation of an equal weighted score between:

I. Overall GPA

The Overall GPA will be calculated using the following criteria:

1. A minimum of 27 credit hours must be completed.
2. All courses a student has completed will be included in the calculation, excluding, in certain cases, the course with the lowest grade*.

* A student could be eligible to have his/her lowest grade excluded from the calculation of the Overall GPA if he/she has completed 30 or more credit hours

II. Major GPA

The Major GPA based will be calculated using the following criteria:

1. A minimum of 12 credit hours of courses related to the Business Major must be completed.
2. All Business Major courses, including collateral courses, that the student has completed will be included in the calculation, excluding, in certain cases, the course with the lowest grade*.

* A student could be eligible to have his/her lowest grade excluded from calculating the Management Related GPA if he/she has completed 15 or more credit hours

Admission to the Business Administration major is competitive. Eligible students will be ranked and selected based on their weighted grade point average.

Degree Requirements

Students must complete a minimum of 127 credit hours for the Bachelor of Business Administration degree in the following areas: I. Core Curriculum (37 credits), II. Collateral Requirements (18 credits), III. Business Core Requirements (48 credits), IV. Concentration (15 credits), V. General Electives (9 credits)

Students who seek the Bachelor of Business Administration degree are not permitted to the minor in accounting or entrepreneurship.

I. Core Curriculum (37 credits)

Core Curriculum (37 credits) (3 credits are out because MGMT 480/4401 is considered as one of the Core Capstone)

II. Collateral Requirements (18 credits)

All students seeking a Bachelor of Business Administration degree must complete the following collateral requirements:

- ACCT 201/2001 - Financial Accounting (3 cr.)
- ACCT 202/2002 - Managerial Accounting (3 cr.)
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)
- ECON 216/2061 - Mathematics for Economists I (3 cr.)
- MACT 210/2222 - Statistics for Business (3 cr.)

III. Business Core Requirements (48 credits)

- BADM 203/2001 - Introduction to Business (3 cr.)
- BADM 301/3002 - Introduction to International Business (3 cr.)
- BADM 300/3003 - Business Environment and Ethics (3 cr.)
- BADM 480/4001 - Business Planning and Strategy (3 cr.)
- BADM 000/4999 - Internship and Career Development (3 cr.)
- ENTR 413/4102 - Entrepreneurship and Innovation (3 cr.)
- FINC 303/2101 - Business Finance I (3 cr.)
- FINC 404/3201 - Investment Analysis (3 cr.)
- MGMT 311/3301 - Business Law (Commercial & Fiscal) (3 cr.)
- MGMT 404/4202 - Managing the Human Capital (3 cr.)
- MKTG 302/2101 - Principles of Marketing (3 cr.)
- MKTG 405/3201 - Marketing Research (3 cr.)
- MOIS 305/2101 - Introduction to Information Systems/Technology (3 cr.)
- MOIS 406/3201 - Management Information Systems and Database Management (3 cr.)
- OPMG 310/3201 - Operations for Competitive Advantage (3 cr.)
- OPMG 401/4301 - Supply Chain Management (3 cr.)

IV. Concentration Requirements (15 credits)

Students seeking a BBA degree must select only one of the following five options:

1. BBA with a marketing concentration
2. BBA with a finance concentration
3. BBA with a management of information technology concentration
4. BBA with an Entrepreneurship concentration
5. BBA with an International Business concentration

1. Marketing Concentration (15 credits)

Students seeking a concentration in marketing are required to take the following courses:

- MKTG 410/3202 - Consumer-Buyer Behavior (3 cr.)
- MKTG 408/3301 - Marketing Communications Management (3 cr.)
- MKTG 480/4602 - Marketing Strategy (3 cr.)

In addition, choose three of the following marketing elective courses:

- MKTG 411/4401 - Professional Selling (3 cr.)
- MKTG 412/4601 - International Marketing (3 cr.)
- MKTG 414/4501 - Services Marketing (3 cr.)
- MKTG 416/4302 - E-Marketing (3 cr.)
- MKTG 418/4303 - Principles of Public Relations (3 cr.)
- MKTG 420/4203 - Advanced Marketing Research (3 cr.)
- MKTG 470/4970 - Special topics in Marketing (3 cr.)

2. Finance Concentration (15 credits)

Students intending to pursue a concentration in finance in their BBA have to achieve:

1. Average B+ in FINC 2101 and FINC 3201 . BBA students who do not score this average should not be allowed to register for other Finance courses in the concentration
2. In the special event, where a student has FINC 2101 or FINC 3201 transferred from another university, then, a minimum of B+ in either FINC 2101 or FINC 3201 has to be obtained to addition to an average of B in any two additional Finance courses.

For avoidance of doubt, to declare the Finance concentration, a student must take at AUC either FINC 2101 or FINC 3201. In the case where both FINC 2101 and FINC 3201 are transferred, the student will have to repeat FINC 3201 at AUC.

Students seeking a concentration in finance are required to take the following courses:

- FINC 405/3401 - Applied Banking (3 cr.)
- FINC 414/4301 - Corporate Finance (3 cr.)
- FINC 415/4204 - Portfolio Theory and its Applications (3 cr.)

In addition, choose two of the following finance elective courses:

- FINC 408/3501 - International Finance (3 cr.)
- FINC 410/4202 - Capital Markets (3 cr.)
- FINC 412/4203 - Options and Derivatives (3 cr.)
- FINC 470/4970 - Special Topics in Financial Management (3 cr.)

3. Management of Information Technology Concentration (15 credits)

Students seeking a concentration in Management of Information Technology (MOIS) are required to take the following courses:

- MOIS 435/3301 - Entrepreneurial IT and Electronic Business (3 cr.)
- MOIS 466/3401 - Human Computer Interaction (HCI) (3 cr.)
- MOIS 499/4999 - Internship and Graduation Project (3 cr.)

One course from:

- MOIS 430/4202 - Business Information Systems Analysis and Development (3 cr.)
- MOIS 477/4704 - Systems Integration (3 cr.)

One course to be selected from the MOIS area:

- MOIS 423/3501 - Geographic Information Systems (GIS) (3 cr.)
- MOIS 432/3601 - Decision Support Systems and Business Intelligence (3 cr.)
- MOIS 433/3701 - Marketing Information Systems (3 cr.)
- MOIS 434/3702 - Financial Information Systems (3 cr.)
- MOIS 444/3703 - Accounting Information Systems (3 cr.)
- MOIS 450/3801 - Strategic Information Systems (3 cr.)
- MOIS 470/4970 - Special Topics in Management of Information Systems (3 cr.)

4. Entrepreneurship (15 credits)

Students seeking a concentration in Entrepreneurship are required to take the following courses:

- ENTR 417/4301 - Entrepreneurship Lab: Developing and Launching a New Venture (3 cr.)
- ENTR 418/4302 - Corporate Entrepreneurship (3 cr.)
- ENTR 419/4303 - Social Entrepreneurship (3 cr.)

In addition, choose two courses from:

- ENTR 420/4501 - Family Business (3 cr.)
- ENTR 421/4502 - Innovation and Technology (3 cr.)
- ENTR 470/4970 - Special Topics in Entrepreneurship (3 cr.)

5. International Business (15 credits)

Students seeking to pursue a concentration in International Business are required to take TWO of the following courses:

- ECON 215/2051 - Economic History of the Modern Middle East (3 cr.)
- ECON 312/3053 - Economic Development (3 cr.)
- ECON 348/3052 - Agricultural Economics (3 cr.)
- ECON 414/4094 - Economics of Egypt (3 cr.)
- ECON 415/4051 - Seminar on Economic Development in the Middle East (3 cr.)

In addition, choose THREE of the following courses:

- MKTG 412/4601 - International Marketing (3 cr.)
- FINC 408/3501 - International Finance (3 cr.)
- ECON 403/4031 - International Trade (3 cr.)
- MOIS 432/3601 - Decision Support Systems and Business Intelligence (3 cr.)
- MGMT 470/4970 - Special Topics in Management (3 cr.)

(*) upon departmental approval of exchange program requirements

Students intending to complete this concentration through the cohort exchange program with University of South Carolina (USA), should follow the cohort requirements upon consultation and approval with the exchange program advisor.

V. General Electives (9 credits)

Management of Information and Communication Technology (B.B.A.)

Bachelor of Business Administration in Management of Information and Communication Technology (MICT)

The study of Management of Information and Communication Technology (MICT) is designed with a particular focus to adapt its content in a local context congruent with the needs of Egyptian organizations and capable of addressing IT challenges that arise in such organizations. The MICT curriculum provides students with a foundation in the liberal arts and sciences while enabling them to develop expertise in business management and information technology. This program is a joint degree between the School of Business (BUS) and the School of Sciences and Engineering (SSE).

Students who select a major in MICT should be able to function as a user advocate and select, create, apply, integrate and administer computing technologies to meet the needs of users within a societal and organizational context. Equipped with this knowledge, the students enrolled in the major will be able to analyze, design and manage information and communication technology infrastructure.

All MICT declaration-of-major applicants need to satisfy the cumulative GPA requirement (weight of 75%) as well as the Portfolio and Interview requirement (weight of 25%). All MICT applicants have to submit a Portfolio, after which they will be interviewed. The Portfolio and the Interview are worth 25% of the student score.

Students who seek the MICT degree are not permitted to have a major or a minor in accounting.

Students must complete a minimum of 127 credit hours for the MICT degree with no more than 63 hours of courses in the business area.

Course Requirements

(Total Credit = 127 with no more than 63 hours of courses in the business area)

Course No.	Cr.
RHET 101/1000 - Approaches to Critical Writing (3 cr.) * (P)	3
RHET 102/1100 - Effective Argument (3 cr.) * (P)	3
RHET 201/2010 - Research Writing (3 cr.) * (P)	3
SCI 120/1020 - Scientific Thinking (3 cr.) (P)	3
PHIL 220/2100 - Philosophical Thinking (core curriculum requirement) (3 cr.) (P)	3
LALT 101 (P)	0
Natural Sc + Lab (P)	4
Humanity (P/S)	3
Social Sc. (P/S)	3
Arab World Studies (S) ⊖	3
Arab World Studies (S) ⊖	3
International World Studies (S)	3
Core Capstone Course (C)	3
Core Capstone Course (C)	3
Total	40

General Electives / Minor

Course No.Cr.

ALING √ 3

ALING √ 3

Total 9

(P) Primary level courses taken during first 3 Semesters.

(S) Secondary level courses taken by students' 6th Semester.

(C) Capstone level courses taken during students' last 2 Semesters.

* Students exempted from RHET 1000 or RHET 1100 or RHET 2010 must take any RHET 300 or 400 course.

√ Non-Thanaweya Amma arabic language holders may be required to take 0-6 credits depending on Arabic placement test score.

⊖ Thanaweya Amma arabic language students may not take Arabic Literature in Translation

Before declaration:

- Students must have completed 27 cr. hrs.
- the following courses must be taken: ACCT 2001, CSCE 1001 and MACT 1221 or MACT 1121

Business Core Requirements

Course No.	Cr.
FINC 303/2101 - Business Finance I (3 cr.)	3
BADM 300/3003 - Business Environment and Ethics (3 cr.)	3
MGMT 307/3201 - Management Fundamentals (3 cr.)	3
MGMT 311/3301 - Business Law (Commercial & Fiscal) (3 cr.)	3
MKTG 302/2101 - Principles of Marketing (3 cr.)	3
MOIS 305/2101 - Introduction to Information Systems/Technology (3 cr.)	3
OPMG 310/3201 - Operations for Competitive Advantage (3 cr.)	3
Total	21

Collateral Requirements

Course No.	Cr.
ACCT 201/2001 - Financial Accounting (3 cr.)	3
ACCT 202/2002 - Managerial Accounting (3 cr.)	3
ECON 201/2021 - Introduction to Macroeconomics (3 cr.)	3

ECON 202/2011 - Introduction to Microeconomics (3 cr.)	3
ECON 2061 Ψ	3
MACT 1221 ΨΨ	3
Total	18

Ψ ECON 2061 can be replaced by MACT 1121 / MACT 1122 (for BADM & ACCT majors only)

ΨΨ MACT 1111 is a pre-requisite for MACT 1221 and ECON 2061.

It can be taken with MACT 112 (same semester) but must be taken before ECON 216. It is considered as an elective course.

MOIT Requirements

Course No.	Cr.
MOIS 406/3201 - Management Information Systems and Database Management (3 cr.)	3
MOIS 435/3301 - Entrepreneurial IT and Electronic Business (3 cr.)	3
MOIS 466/3401 - Human Computer Interaction (HCI) (3 cr.)	3
MOIS 499/4999 - Internship and Graduation Project (3 cr.) (double counted with Core Capstone)	3
One course to be selected from the MOIT area:	
MOIS 430/4202 - Business Information Systems Analysis and Development (3 cr.)	
MOIS 477/4704 - Systems Integration (3 cr.)	
Two courses to be selected from the MOIT area:	
MOIS 423/3501 - Geographic Information Systems (GIS) (3 cr.)	3
MOIS 432/3601 - Decision Support Systems and Business Intelligence (3 cr.)	3
MOIS 433/3701 - Marketing Information Systems (3 cr.)	3
MOIS 434/3702 - Financial Information Systems (3 cr.)	3
MOIS 444/3703 - Accounting Information Systems (3 cr.)	3
MOIS 450/3801 - Strategic Information Systems (3 cr.)	3
MOIS 470/4970 - Special Topics in Management of Information Systems (3 cr.)	3
Total	21

Computer Science Requirements

Course No.	Cr.
CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)	3
CSCE 110/1101 - Programming Fundamentals (3 cr.)	3
CSCE 210/2201 - Data Structures and Algorithms (3 cr.)	3
CSCE 346/3422 - Introduction to Information Security (3 cr.)	3
CSCE 342/3421 - Computer Systems (3 cr.)	3
Two courses to be selected from the CSCE area:	
CSCE 315/3101 - Programming Language (1-2 cr.)	3
CSCE 316/3102 - Programming in Java (3 cr.)	3
CSCE 456/4502 - Design of Web-based Systems (3 cr.)	3
CSCE 485/4930 - Selected Topics in Computer Science and Engineering (1-3 cr.)	3
Total	21

Performance (B.M.A.)

The mission of the Music Program is to teach the theory, literature, and performance of music, and the theory and practice of music technology, to the highest attainable standard in the context of a liberal arts environment, with an orientation towards performance and study in both Western and Arab music.

The program lays a special emphasis on two aspects of what musicians do which are of particular value to students, whether they aspire to a career in music, or only seek to broaden their understanding of the world by enrolling in one or two courses. First, all students who take private instruction in voice or an instrument will learn to sight-read musical notation fluently, and to comprehend what they hear. Second, in the classroom and studio, lessons, rehearsals, and performances, all students in the program are expected to conform to a professional standard: to be punctual and prepared, and to treat their colleagues, and the material to be studied or performed, with the respect that is their due.

Students who major in music may pursue either a Bachelor of Arts degree in music technology, or a Bachelor of Musical Arts (B.M.A.) degree in Performance. The Bachelor of Musical Arts in Performance is a professional degree built on a liberal arts core which prepares students for a career in teaching or performance in voice or an instrument, or for graduate study in performance.

The Institute for Music Technology offers a sequence of courses in music recording, editing, and production, music for video and film, and electronic music. Such training is crucial not only to students interested in a career in these professions, but also to performers and teachers who need to create and edit demos and audition tracks, to use music files in web sites and other internet applications, or to prepare and market recordings of their own performances and compositions. The Institute for Music Technology is responsible for the recording studio, which is used both as a teaching space and for professional recording.

The Cairo Choral Society is a community chorus dedicated to the study, promotion, and performance of the great choral works in the Western musical tradition. It presents performances with a professional orchestra (the Cairo Festival Orchestra) and soloists at various venues in Cairo. The membership is voluntary, multinational, and cross-generational. The Cairo Choral Society was founded in 1983; in the fall of 2009 it became an ensemble-in-residence within the Department of the Arts. One of the leading large choral ensembles in Egypt, it is both a community-based organization and a for-credit course at AUC. Students may also participate in the chorus on a not-for-credit basis.

Bachelor of Musical Arts (B.M.A.)

Requirements for the Concentration in Performance

In order to complete the Bachelor of Musical Arts with a concentration in performance, a student will:

- Learn to read music fluently, and demonstrate advanced listening and sight-reading skills.
- Demonstrate the ability to play the piano at an intermediate level or better.
- Develop a significant understanding of Western and Arab music theory.
- Study representative great works of Western and Arab music literature and the composers who produced them.
- Demonstrate the ability to sing or play an instrument at or near a professional level; as a final project the student would present a solo recital.
- Sing in choir, and/or play in an instrumental ensemble.

Students who enter the concentration in performance must choose a primary instrument or voice, in which they must complete at least five semesters of private applied instruction, plus MUSC 4980, the Capstone Solo Recital. In order to be accepted into the major, all students will be required to audition before the faculty in their primary instrument or voice, normally by the end of the freshman year.

All students entering the Bachelor of Musical Arts program must either pass the music literacy placement exam or take MUSC 1805, How to Read Music, concurrently with MUSC 1800-1801, the first semester of Private Applied Instruction. Students who choose a primary instrument other than piano will also be required to pass a piano proficiency exam by the end of the sophomore year in order to graduate; those who fail to pass this exam are required to take MUSC 2850-2851-2852, Private Applied Instruction for Piano Proficiency.

A total of 120 credits are required for the Bachelor of Musical Arts degree. Students who wish to add a second major in another subject can do so by completing 140-145 credits.

Core Curriculum (40 credits)

Concentration Requirements (55 - 63 credits)

Literature (9 credits)

- MUSC 220/2200 - Introduction to Music (3 cr.)
- MUSC 342/3250 - Music in the Arab Tradition (3 cr.)
- MUSC 360/3200 - Music in the Western Tradition (3 cr.)

Theory (20 credits)

- MUSC 240/2400 - Western Music Theory I (3 cr.)
- MUSC 241/2401 - Sight-Singing and Aural Skills I (1 cr.)
- MUSC 245/2450 - Arab Music Theory I (3 cr.)
- MUSC 246/2451 - Maqam I (Arab Music Sight-Singing and Aural Skills) (1 cr.)
- MUSC 340/3400 - Western Music Theory II (3 cr.)
- MUSC 341/3401 - Sight-Singing and Aural Skills II (1 cr.)
- MUSC 345/3450 - Arab Music Theory II (3 cr.)
- MUSC 346/3451 - Maqam II (Arab Music Sight-Singing and Aural Skills) (1 cr.)
- MUSC 440/4400 - Western Music Theory III (3 cr.)
- MUSC 441/4401 - Sight-Singing and Aural Skills III (1 cr.)

Performance (26 - 31 cr.)

- MUSC 280-281/1800-1801 - Applied Private Instruction (1 cr.)
- MUSC 282-283/2800-2801 - Applied Private Instruction (1 cr.)
- MUSC 480-481-482-483/4800-4801-4802-4803 - Advanced Applied Private Instruction (3 cr.)
- MUSC 492/4980 - Capstone Final Recital (3 cr.)

Eight semesters of ensemble, chosen from among the following:

- MUSC 262-362-462/2620-2621-2622 - Arab Music Ensemble (1 cr.)
- MUSC 263-363-463/2630-2631-2632 - Guitar Ensemble (1 cr.)
- MUSC 264-364-464/2640-2641-2642 - Chamber Music Ensembles (1 cr.)
- MUSC 265-365-465/2650-2651-2652 - Rehearsal/Performance Practicum (1 cr.)
- MUSC 266-366-466/2660-2661-2662 - Chamber Singers (1 cr.)
- MUSC 267-367-467/2670-2671-2672 - Cairo Choral Society (1 cr.)

*

All students entering the B.M.A. are required to take the music literacy placement exam. Those who do not achieve a passing grade are required to take the following:

MUSC 180/1805 - How to Read Music (3 cr.)

All students with primary instrument other than piano must take the piano proficiency exam. Those who do not achieve a passing grade are required to take the following:

MUSC 284-285-286/2850-2851-2852 - Private Instruction for Piano Proficiency (1 cr. each)

Specialization Requirements (0 - 3 credits)

Students specialized in Voice will take the following course:

- MUSC 372/3110 - Diction for Singers in the Western Tradition (3 cr.)

Students specialized in Guitar will take the following course:

- MUSC 311/3520 - Guitar Pedagogy (3 cr.)

Electives (9 - 29 credits)

Students who choose to add a second major will in most cases need to complete an additional fifteen to twenty credits.

Students with interest in opera are encouraged to add a minor in Theater.

Actuarial Science (B.S.)

Bachelor of Science in Actuarial Science

The life of nearly every one is impacted by the work of actuarial experts. Actuarial experts apply mathematical models to improve financial decision-making by evaluating the financial implications of uncertain future events. See the Actuarial Science's web

site: <http://www.aucegypt.edu/sse/math/majmin/Pages/BachelorofScienceinActuarialScience.aspx> for a more detailed description of the work of actuarial experts. The number of certified actuarial experts in Egypt is notoriously low, whereas the demand for actuarial experts is very high. One objective of the program leading to the Bachelor of Science degree is to reduce the huge gap between supply and demand for actuarial experts in Egypt.

To be able to solve the problems of evaluating and measuring risk, an actuarial expert has to be trained in the disciplines of mathematics, probability, statistics, economics, finance, business law, accounting, and marketing. Consequently, the Actuarial Science Program cuts across the School of Science and Engineering and the School of Business.

What a major in Actuarial Science offers:

To summarize, there are many reasons why a student might choose to pursue the B.Sc. program in Actuarial Science. The program prepares students for:

- many positions within Egypt, where the demand for actuarial experts in insurance companies, actuarial consulting firms, banks and other financial institutions, as well as government agencies like the Egyptian Financial Supervisory Authority (EFSA), greatly exceed their supply.
- a wide variety of jobs in Egypt, in multi-national companies, and international institutions abroad, where training in mathematics, probability, statistics, economics, finance, business law, accounting, and marketing are essential.
- completing the first five certification examinations jointly offered by the Society of Actuaries and Casualty Actuarial Society, an important step toward actuarial certification and toward obtaining the actuarial license from the Egyptian Financial Supervisory Authority (EFSA).

A total of 130 credits is required for the bachelor's degree in actuarial science. Students may be exempted from the MACT 131/1121 - Calculus I (3cr.) requirement based on high school certificate and score in mathematics or by passing a placement examination. See the Actuarial

Science's website <http://www.aucegypt.edu/sse/math/majmin/Pages/BachelorofScienceinActuarialScience.aspx> for a sample schedule for completing the requirements for the B.Sc. degree in Actuarial Science.

Core Curriculum (37 credits)

Actuarial Science students must take 1 credit hour of Natural Science lab.

Concentration Requirements (60 credits)

- MACT 131/1121 - Calculus I (3cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 210/2222 - Statistics for Business (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 240/2132 - Linear Algebra (3 cr.)
- MACT 306/3211 - Applied Probability (3 cr.)
- MACT 307/3223 - Statistical Inference (3 cr.)
- MACT 321/3311 - Mathematics of Investment (3 cr.)
- MACT 406/4212 - Stochastic Processes (3 cr.)
- MACT 407/4331 - Insurance Loss Models I (3cr.)
- MACT 408/4332 - Insurance Loss Models II (3 cr.)
- MACT 412/4213 - Mathematical Modeling (3 cr.)
- MACT 421/4312 - Mathematics of Derivatives Pricing I (3 cr.)
- MACT 422/4313 - Mathematics of Derivatives Pricing II (3 cr.)
- MACT 423/4321 - Life Contingencies I (3 cr.)
- MACT 424/4322 - Life Contingencies II (3 cr.)
- MACT 427/4231 - Applied Regression Methods (3 cr.)
- MACT 428/4232 - Analysis of Time Series Data (3 cr.)
- MACT 429/4233 - Applied Multivariate Analysis (3 cr.)

Collateral Requirements (27 credits)

- ACCT 201/2001 - Financial Accounting (3 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)
- ECON 301/3021 - Intermediate Macroeconomic Theory (3 cr.)
- ECON 302/3011 - Intermediate Microeconomic Theory (3 cr.)
- FINC 303/2101 - Business Finance I (3 cr.)
- FINC 404/3201 - Investment Analysis (3 cr.)
- FINC 415/4204 - Portfolio Theory and its Applications (3 cr.)

Electives (6 credits)

Two courses to be chosen in consultation with the advisor. The following courses are recommended as electives:

- ACCT 202/2002 - Managerial Accounting (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 253/2501 - Fundamentals of Database Systems (3 cr.)
- CSCE 453/4501 - Database Systems (3 cr.)
- ECON 303/3041 - Money and Banking (3 cr.)
- ECON 318/3081 - Introduction to Econometrics (3 cr.)
- ECON 403/4031 - International Trade (3 cr.)

- FINC 408/3501 - International Finance (3 cr.)
- MACT 304/3143 - Numerical Methods (3 cr.)
- MACT 410/4910 - Guided Studies in Mathematics (1-3 cr.)
- MACT 409/4930 - Selected Topics in Mathematics (3 cr.)
- MACT 411/4931 - Selected Topics in Actuarial Science (3 cr.)
- MACT 497/4950 - Practical Internship (3 cr.)
- MACT 495/4980 - Senior Thesis (3 cr.)
- MACT 000/4990 - Enterprise Risk Management (3 cr.)
- MGMT 307/3201 - Management Fundamentals (3 cr.)
- MGMT 404/4202 - Managing the Human Capital (3 cr.)
- MKTG 302/2101 - Principles of Marketing (3 cr.)
- MKTG 405/3201 - Marketing Research (3 cr.)
- MOIS 305/2101 - Introduction to Information Systems/Technology (3 cr.)
- MOIS 406/3201 - Management Information Systems and Database Management (3 cr.)
- MOIS 432/3601 - Decision Support Systems and Business Intelligence (3 cr.)

Architectural Engineering (B.S.)

Bachelor of Science in Architectural Engineering

Architecture is at a "cross roads" between human/cultural values and the technical capabilities of construction. Moreover, digital technology is rapidly growing, changing our ways of communication, expression, perception, thought and interaction.

The goal of the Bachelor of Science in Architectural Engineering Program is to graduate architects who can lead the architectural profession in Egypt and the Middle-East into the digital age with an understanding of context as means of respecting local heritage. The program promotes the implementation of the latest advances in Information and Communication Technology (ICT), stresses the rich local and historical context, and incorporates construction engineering and professional contents which respond to the needs of the industry. It also embraces the liberal arts approach to education through its multidisciplinary nature. Thus, the program will contribute positively to the well needed human development efforts in Egypt.

It is the aim to form an architect with a comprehensive vision, capable of integrating all the aspects dealing with the built environment and how it is planned, designed, used, furnished, landscaped, maintained, and appreciated by the society. This is emphasized through a curriculum that maintains a reasonable balance between utilization of the emerging digital design methods and pedagogies, meeting the professional demands, and creating contextual-humanistic and sustainable awareness.

The specific objective of the Architectural Engineering Program is to educate students in the fundamentals of the science and design of architecture with particular emphasis on developing skills of innovation, creativity and critical thinking in the design of the built environment. This is accomplished through research-based studio pedagogy, digital aided design, history, arts and the realization of users requirements within the constraints of the society. In the process, students learn to effectively work independently and collaboratively, develop analytical skills, and consider the impact of architectural solutions on both Egyptian society and the evolving global community.

Graduates of the Architectural Engineering Program will be well equipped to work in the international-level segment of the construction industry. They will become excellent candidates for the local and international architectural design firms. They can effectively work for construction contractors in aspects related to architecture and building integration. Graduates of the program will be qualified for professional licensing in architecture in Egypt and the USA. Furthermore, they will be prepared to pursue graduate studies in architecture and related fields in Egypt and abroad.

The architectural engineering program acquired the UNESCO-UIA Validation from the International Union of Architects (UIA). It is the label of excellence in architectural education of the UIA, which encompasses key professional organizations of architects in countries and territories all over the world. Graduates of UNESCO-UIA validated architectural programs are eligible to register as professional architects in many countries around the world, after passing the required licensure process. The degree of Bachelor of Science in Architectural Engineering at AUC is also acknowledged by the Egyptian Supreme Council of Universities as equivalent to Egyptian Architectural Engineering degrees. Accordingly, graduates of the program are entitled to professional licensure by the Egyptian Syndicate of Engineers, the sole authority for licensing the practice of architecture in Egypt.

Students are admitted to the Architectural Engineering Program either upon admission to AUC or after successful completion of criteria courses. High school students with mathematics/science background are accepted depending on their High School grades and the available quota in the program. Undeclared and transfer students are admitted to the program upon completing criteria courses. Those students are accepted based on their GPA and on available quota in the department.

Students who are admitted to the program have to demonstrate their visualization, graphic communication and creative potential. They must achieve a minimum grade of B- in each of the three courses listed below before taking any other courses in the major.

- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- AENG 273/1521 - Digital Representation Tools for Architects (2 cr.)
- AENG 250/2512 - Foundations of 3-Dimensional Design (3 cr.)

Students should consult the course listings and their faculty advisor on a regular basis to ensure that prerequisites for engineering core, concentration and elective courses are met. A model course plan for the major is provided in the office of the Department of Construction and Architectural Engineering.

A total of 162 credits is required for the bachelor of science degree in Architectural Engineering. Core Curriculum (33 credits), Engineering core requirements (26 credits), Concentration requirements (94 credits), concentration electives (three credits), and general electives (zero-six credits)

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the capstone Senior Projects I and II (AENG 4980 (2 credits) and AENG 4981) (5 credits).

Engineering Core Requirements (26 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- ENGR 101/1001 - Introduction to Engineering (1 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)
- ENGR 229/2112 - Strength and Testing of Materials (4 cr.)
- ENGR 345/3222 - Engineering Economy (3 cr.)
- MACT 131/1121 - Calculus I (3cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)

Concentration Requirements (94 credits)

Visual Communication and Basic Design:

- AENG 221/1511 - Free-hand Representation for Architects (3 cr.)
- AENG 273/1521 - Digital Representation Tools for Architects (2 cr.)
- AENG 250/2512 - Foundations of 3-Dimensional Design (3 cr.)
- AENG 251/2551 - Introduction to Architectural Design (3 cr.)

Architecture, Urban Planning and Interior Design:

- AENG 268/2411 - Surveying for Architects (1 cr.)
- AENG 351/2552 - Architectural Design Studio I (4 cr.)
- AENG 473/3522 - Digital Design Studio and Workshop (3 cr.)
- AENG 368/3531 - Housing Design and Geographic Information Systems (3 cr.)
- AENG 352/3553 - Architectural Design Studio II (4 cr.)
- AENG 453/3554 - Architectural Design Studio III (4 cr.)
- AENG 468/4532 - Urban Design and Landscape Architecture (3 cr.)
- AENG 420/4541 - Design of Interior Spaces (3 cr.)
- AENG 454/4555 - Architectural Design Studio IV (4 cr.)
- AENG 455/4556 - Architectural Design Studio V (4 cr.)
- AENG 456/4557 - Architectural Design Studio VI (4 cr.)
- AENG 490/4980 - Senior Project I (2 cr.)
- AENG 491/4981 - Senior Project II (5 cr.)

History and Humanities and Allied Design Courses:

- AENG 234/2221 - Human Aspects in Architectural Design (3 cr.)
- ARIC 205/2205 - The World of Islamic Architecture, from the Beginnings to the Present Day (3 cr.)
- EGPT 203/2030 - Introduction to Egyptian Architecture (3 cr.)
- AENG 314/2211 - History and Philosophy of Modern and Contemporary Architecture (3 cr.)
- AENG 326/2231 - Environmental Control Systems and Sustainable Design (3 cr.)
- AENG 428/3311 - Detail Design and Finishes in Buildings (3 cr.)
- AENG 429/4312 - Design Development and Construction Documents (3 cr.)
- AENG 441/4421 - Professional Practice, Design Management and Codes (2 cr.)

Construction Engineering and Management:

- AENG 426/3321 - Building Service Systems and Building Systems Integration (3 cr.)
- AENG 323/3331 - Construction Materials and Quality Control (3 cr.)
- AENG 496/3950 - Internship in Construction Projects (0 cr.)
- AENG 497/4951 - Internship in Technical Drawing and Design (1 cr.)
- CENG 302/3112 - Structural Analysis and Design Principles for Architects (3 cr.)
- CENG 305/3151 - Structural Design for Architects I (3 cr.)
- CENG 306/3152 - Structural Design for Architects II (3 cr.)
- CENG 423/4252 - Methods and Equipment for Construction I (3 cr.)

- CENG 441/4410 - Introduction to Construction Management and Cost Estimating (3 cr.)

Concentration Electives (3 credits)

Students should take one course from the following:

- AENG 494/4930 - Selected Topics in Architectural Engineering (3 cr.)
- ARIC 270-271/2270-2271 - From Andalusia to Indonesia: Introduction to Islamic Art and Architecture (3 cr. per semester)
- ARIC 371-372/3271-3272 - Islamic Architecture in Egypt and Syria (3 cr. per semester)
- ARIC 467/5124 - Islamic Architecture in Spain and North Africa (3 cr.)
- CENG 428/4157 - Tall Buildings and Large Span Structures (3 cr.)
- CENG 442/4420 - Construction Project Specifications, Bids, and Contracts (3 cr.)
- CENG 446/4440 - Techniques of Planning, Scheduling and Control (3 cr.)
- CENG 447/4450 - Design, Modeling and Simulation of Construction Systems (3 cr.)
- CENG 452/4158 - Structural Systems and Advanced Design (3 cr.)
- CENG 494/4911 - Selected Topics in Construction Engineering (3 cr.)
- EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)
- EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)
- PHIL 310/3010 - Philosophy and Art (3 cr.)

General Electives (0-6 credits):

Students may take elective courses of their selection to satisfy total program requirement of 162 credit hours.

Biology (B.Sc.) with concentrations in Marine Biology or Molecular and Cell Biology

Bachelor of Science in Biology

The undergraduate program at AUC offers interested students a liberal education in biological sciences, leading to a Bachelor of Science degree. The program provides graduates the broad background necessary in today's job market and prepares them for graduate and professional schools.

Students with a B.Sc. degree in biology are securing positions in the growing fields in industry and in academia. The recent advances in biology have created important new industries in genetic engineering, biomedicine, biotechnology, and pharmacology. Students with ambitions beyond the bachelor level are entering graduate schools and professional schools (medicine, dentistry, veterinary medicine).

Students wishing to receive a Bachelor of Science degree in biology will be required to take a total of 132 credits. Out of the 132 credits 33 credits are allocated for 'Core Curriculum', 25 credits for 'Collateral Requirements', 9 credits for 'General Electives' and 16 credits for upper level courses. Students can be granted a Concentration in Molecular and Cell Biology or Marine Biology concentration after completion of 16 credits from the required respective courses.

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 cr.) and the capstone projects BIOL 495/4980 - Senior Research Thesis (1 cr.) and BIOL 496/4981 - Seminar in Biology (2 cr.)

Biology Requirements (62 credits)

a. Concentration Requirements (46 credits)

- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)
- BIOL 105/1012 - Introductory Biology II (3 cr. + 1 cr. lab)
- BIOL 211/2230 - Molecular and Cell Biology (3 cr. + 1 cr. lab)
- BIOL 214/2340 - General Botany (3 cr. + 1 cr. lab)
- BIOL 221/2150 - Genetics (3 cr. + 1 cr. lab)
- BIOL 241/2090 - Quantitative Biology (3 cr. + 1 cr. lab)
- BIOL 307/3310 - Microbiology (3 cr. + 1 cr. lab)
- BIOL 310/3130 - Molecular Evolution and Population Genetics (3 cr. + 1 cr. lab)
- BIOL 312/3326 - Vertebrate Anatomy and Physiology (3 cr. + 1 cr. lab)
- BIOL 315/3280 - Biochemistry (3 cr.)
- BIOL 341/3510 - Ecology (3 cr. + 1 cr. lab)
- BIOL 495/4980 - Senior Research Thesis (1 cr.)
- BIOL 496/4981 - Seminar in Biology (2 cr.)

b. Biology Electives (16 credits)

Sixteen additional credits from 3000- and 4000- level from the courses listed below:

- BIOL 302/3040 - Environmental Biology for Engineers (2 cr. + 1 cr. lab)
- BIOL 313/3340 - Invertebrate Zoology (3 cr. + 1 cr. lab)
- BIOL 320/3341 - Animal Behavior (3 cr. + 1 cr. lab)
- BIOL 301/3360 - Animal Physiology (3 cr. + 1 cr. lab)
- BIOL 303/3370 - Developmental Biology (3 cr. + 1 cr. lab)
- BIOL 305/3540 - Environmental Biology (3 cr. + 1 cr. lab)
- BIOL 306/3541 - Environmental Biology of the Red Sea (3 cr. + 1 cr. lab)
- BIOL 345/3542 - GIS For Biologists (4 cr.)
- BIOL 360/3600 - Introduction to Bioinformatics (3 cr.)
- BIOL 399/3910 - Guided Studies in Environmental Sciences (3 cr.)
- BIOL 411/4150 - Molecular Biology of the Gene (3 cr. + 1 cr. lab)
- BIOL 415/4230 - Immunology (3 cr. + 1 cr. lab)
- BIOL 430/4330 - Tumor Biology (3 cr. + 1 cr. lab)
- BIOL 440/4540 - Marine Ecology (3 cr. + 1 cr. lab)
- BIOL 445/4541 - Desert Ecology (3 cr. + 1 cr. lab)
- BIOL 408/4930 - Selected Topics in Biology (1-4 cr.)

Collateral Requirements (25 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 106/1006 - General Chemistry II (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)

- CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)
- CHEM 203/2003 - Organic Chemistry I (3 cr.)
- CHEM 306/3006 - Organic Chemistry II (3 cr.)
- CHEM 310L/3010 - Organic Chemistry I Laboratory (1 cr.)
- MACT 112/1221 - Statistical Reasoning (3 cr.)
- MACT 131/1121 - Calculus I (3cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)

General electives (9 credits)

Concentration in Marine Biology

The Department of Biology offers a concentration in Marine Biology to provide students the opportunity to thoroughly study the marine resources and habitats of our planet, in particular those of Egypt (Red Sea and Mediterranean).

The Concentration in Marine Biology requires that students complete 16 credits from the following list of courses, as outline below.

Four credits required:

- BIOL 411/4150 - Molecular Biology of the Gene (3 cr. + 1 cr. lab)

Eight credits to be selected from:

- BIOL 306/3541 - Environmental Biology of the Red Sea (3 cr. + 1 cr. lab)
- BIOL 399/3910 - Guided Studies in Environmental Sciences (3 cr.)¹
- BIOL 440/4540 - Marine Ecology (3 cr. + 1 cr. lab)
- BIOL 408/4930 - Selected Topics in Biology (1-4 cr.)¹

¹ Only marine biology selected topics and guided studies courses will be counted towards the concentration. Requires advisor and chairs' approvals.

Four credits to be selected from:

- BIOL 313/3340 - Invertebrate Zoology (3 cr. + 1 cr. lab)
- BIOL 320/3341 - Animal Behavior (3 cr. + 1 cr. lab)
- BIOL 345/3542 - GIS For Biologists (4 cr.)

Concentration in Molecular and Cell Biology

The Concentration in Molecular and Cell Biology require that students complete 16 credits from the following list of courses below. Students can only chose one 500 level course.

- BIOL 303/3370 - Developmental Biology (3 cr. + 1 cr. lab)
- BIOL 411/4150 - Molecular Biology of the Gene (3 cr. + 1 cr. lab)
- BIOL 415/4230 - Immunology (3 cr. + 1 cr. lab)
- BIOL 430/4330 - Tumor Biology (3 cr. + 1 cr. lab)

BIOL 408/4930 - Selected Topics in Biology (1-4 cr.) ¹

BIOL 410/4910 - Guided Studies in Biology (1-4 cr.) *

BIOT 502/5202 - Cell and Molecular Biology (3 cr.)

BIOT 504/5204 - Experimental Biotechnology (3 cr.)

¹Only Molecular and Cell Biology selected topics and guided studies courses will be counted towards the concentration and requires advisor and chairs approval.

Students completing the requirements of Molecular and Cell Biology or Marine Biology Concentration will receive an official certificate endorsing successful completion of the B.Sc. in Biology- Molecular and Cell Biology or Marine Biology Concentration.

Chemistry, with specializations in Petrochemical Industry, Clinical Chemistry, and Food Chemistry (B.S.)

The chemistry program covers the five main branches of chemistry, namely organic, biochemistry, inorganic, physical and analytical. In addition students may specialize in clinical analysis, industrial chemistry, or food chemistry. In all cases theoretical and applied knowledge are both reinforced and supplemented by a diverse selection of experimental work, a necessary facet of chemistry.

Bachelor of Science

The objective of the Bachelor of Science in chemistry is to train students in both theory and practice of the major branches of chemistry. It prepares students for careers in diverse fields such as industries (chemical, food and beverages, pharmaceuticals, metal and metal finishing, cement, petrochemicals, textiles, paints); environmental monitoring and protection; quality control and quality assurance; clinical analysis; diagnostics; marketing and sales for chemicals and specialty chemicals; education; academic and industrial research. The Bachelor of Science in chemistry also prepares students for medical school.

A student who intends to major in chemistry must complete CHEM 1005 and CHEM 1015 with a minimum of a B average, or if declaring the major before the completion of these two courses, should have obtained a minimum of 80% in Thanawia Amma science or equivalent in other certificates.

The Bachelor of Science in Chemistry degree is accredited by both the Canadian Society for Chemistry (CSC) and the Supreme Council of Egyptian Universities.

A total of 131 credits is required for the bachelor's degree in chemistry:

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the Core are fulfilled by the concentration Science/lab (4 crs) and the capstone project courses CHEM 4980 and CHEM 4981 (total 3 crs).

Concentration Requirements (60 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 106/1006 - General Chemistry II (3 cr.)

- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)
- CHEM 203/2003 - Organic Chemistry I (3 cr.)
- CHEM 206/2006 - Analytical Chemistry I (2 cr.)
- CHEM 216L/2016 - Volumetric and Gravimetric Analysis (2 cr.)
- CHEM 301/3940 - Seminar in Science and Technology (1 cr.)
- CHEM 303/3003 - Thermodynamics (3 cr.)
- CHEM 304/3004 - Physical Chemistry I (3 cr.)
- CHEM 000/3005 - Principles of Chemical Modeling (3 cr.)
- CHEM 306/3006 - Organic Chemistry II (3 cr.)
- CHEM 309/3009 - Inorganic Chemistry I (3 cr.)
- CHEM 310L/3010 - Organic Chemistry I Laboratory (1 cr.)
- CHEM 311/3011 - Analytical Chemistry II (3 cr.)
- CHEM 313L/3013 - Thermodynamics Laboratory (1 cr.)
- CHEM 314L/3014 - Physical Chemistry I Laboratory (1 cr.)
- CHEM 315/3015 - Biochemistry (3 cr.)
- CHEM 316L/3016 - Organic Chemistry II Laboratory (1 cr.)
- CHEM 318L/3018 - Inorganic Chemistry Laboratory (1 cr.)
- CHEM 402/4003 - Physical Chemistry II (3 cr.)
- CHEM 403/4004 - Physical Chemistry III (3 cr.)
- CHEM 406/4006 - Organic Chemistry III (3 cr.)
- CHEM 408/4008 - Inorganic Chemistry II (3 cr.)
- CHEM 412L/4013 - Physical Chemistry II Laboratory (1 cr.)
- CHEM 416L/4016 - Organic Syntheses (2 cr.)
- CHEM 495/4980 - Senior Thesis I (1 cr.)
- CHEM 496/4981 - Senior Thesis II (2 cr.)

Specialization in Petrochemical Industry (12 credits)

- CHEM 307/3522 - Production Basics for Chemical Industries (3 cr.)
- CHEM 000/3523 - Chemistry of Petrochemical Processes
- CHEM 000/4524 - Polymer Chemistry and Technology (3 cr.)
- PENG 422/4525 - Petrochemical Technology (3 cr.)
- CHEM 000/4900 - Industrial Internship (0 credits)

Specialization in Clinical Chemistry (9 credits)

- CHEM 325/3025 - Clinical Chemistry I (3 cr.)
- CHEM 414/4930 - Selected Topics in Chemistry (1-3 cr.)
- CHEM 425/4025 - Clinical Chemistry II (3 cr.)

Specialization in Food Chemistry (9 credits)

- CHEM 220/2020 - Introduction to Food Science and Technology (3 cr.)
- CHEM 320/3020 - Food Chemistry (3 cr.)
- CHEM 407/4007 - Food Processing and Preservation (3 cr.)

Collateral Requirements (26 credits)

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- MACT 131/1121 - Calculus I (3cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)
- PHYS 214/2221 - Waves and Optics (3 cr.)

Electives (12 credits)

Computer Engineering (B.S)

Bachelor of Science in Computer Engineering

Computer engineering is defined as the discipline that embodies the science and technology of design, construction, implementation, and maintenance of software and hardware components of modern computing systems and computer-controlled equipment. It is solidly grounded in the theories and principles of computing, mathematics, science, and engineering and it applies these theories and principles to solve technical problems through the design of computing hardware, software, networks, and processes. Computer engineers are involved in the design of computer-based systems which includes (in addition to systems for portable, desktop and client/server environments and communications devices) distributed computing environments and embedded systems just to name a few. The convergence of several established technologies (such as television, telecommunications and networking infrastructures) resulted in the creation of massive challenges and opportunities for computer engineers.

The undergraduate program in computer engineering is to produce graduates with a broad perspective in both software and hardware topics relevant to computer systems engineering. It provides the foundation and areas of specialization necessary to analyze, design and evaluate systems software, middleware and software/hardware architectures and interfaces. The specific objectives of the program are to: educate students with breadth of knowledge in computer engineering that would allow them to contribute to computing projects individually or as members of multidisciplinary teams with emphasis on the creative applications of scientific knowledge in the analysis, design, and implementation of economical computer software and hardware systems; introduce students to a broad spectrum of computer engineering topics, with concentration in one or more computing areas of their choice; prepare students to cope with, and improve on, the ever-evolving discipline of computer engineering and state-of-the-art technologies in the industry of software and hardware systems. This is achieved through enabling students to integrate various analysis and design methodologies, models, techniques, and tools to develop software/hardware systems and their interfaces at the edge of technology; train students to communicate effectively, think critically, and recognize and consider the impact of computing solutions in a global and societal context with ability to understand and be sensitive to other cultures; motivate students to engage in life-long learning, develop their ability to pursue graduate studies in computer science, computer engineering, or other related areas, and develop students who are creative, possess qualities of leadership, and committed to professional and ethical conduct.

Program Objectives

The expected accomplishments of graduates of the Bachelor of Science in Computer Engineering program at the American University in Cairo are as follows.

1. Establish a career path in Industry or government to become productive and valued engineers within their institutions.
2. Obtain an advanced degree in engineering through successful admission to a reputable graduate program leading to one or more degrees.
3. Contribute ethically and professionally to humanity by becoming innovators, leaders, and lifelong learners in and through successful careers.

Program Learning Outcomes

The program enables students to achieve the following outcomes, by the time of graduation:

- (a) An ability to apply knowledge of mathematics, science, and engineering
- (b) An ability to design and conduct experiments, as well as to analyze and interpret data.
- (c) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (d) An ability to function on multidisciplinary teams
- (e) An ability to identify, formulate, and solve engineering problems
- (f) An understanding of professional and ethical responsibility
- (g) An ability to communicate effectively
- (h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- (i) A recognition of the need for, and an ability to engage in life-long learning
- (j) A knowledge of contemporary issues
- (k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

A total of 162 credits is required for the bachelor of science degree in computer engineering:

Core Curriculum Requirements (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 crs) and the capstone projects CSCE 4980 CSCE 4981 (3 crs).

Engineering Core Requirements (52 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- ENGR 101/1001 - Introduction to Engineering (1 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)
- ENGR 214/2104 - Engineering Mechanics II (Dynamics) (3 cr.)
- ENGR 313/3202 - Engineering Analysis and Computation I (3 cr.)
- ENGR 345/3222 - Engineering Economy (3 cr.)
- ENGR 364/3322 - Fundamentals of Thermofluids (3 cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 200/2131 - Discrete Mathematics (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)

- MACT 240/2132 - Linear Algebra (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)
- PHYS 215/2211 - Introduction to Electronics (3 cr.)
- PHYS 222L/2213 - Electronics lab for Computer Scientists & Computer Engineers (1 cr.)

Concentration Requirements (59 credits)

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 230/2301 - Digital Design I (3 cr.)
- CSCE 231/2303 - Computer Organization and Assembly Language Programming (3 cr.)
- CSCE 239L/2302 - Digital Design I Lab (1 cr.)
- CSCE 253/2501 - Fundamentals of Database Systems (3 cr.)
- CSCE 321/3201 - Analysis and Design of Algorithms (3 cr.)
- CSCE 330/3301 - Computer Architecture (3 cr.)
- CSCE 332/3303 - Fundamental Microelectronics (3 cr.)
- CSCE 337/3304 - Digital Design II (3 cr.)
- CSCE 339L/3302 - Computer Architecture Lab (1 cr.)
- CSCE 341/3701 - Software Engineering (3 cr.)
- CSCE 345/3401 - Operating Systems (3 cr.)
- CSCE 363/3611 - Digital Signal Processing (3 cr.)
- CSCE 432/4301 - Embedded Systems (3 cr.)
- CSCE 435/4311 - Wide Area Networks (3 cr.)
- CSCE 438L/4302 - Embedded Systems Lab (1 cr.)
- CSCE 439L/4312 - Wide Area Networks Lab (1 cr.)
- CSCE 445/4411 - Fundamentals of Distributed Systems (3 cr.)
- CSCE 490/4950 - Industrial Training (1 cr.)
- CSCE 491/4980 - Senior Project I (1 cr.)
- CSCE 492/4981 - Senior Project II (2 cr.)
- MGMT 307/3201 - Management Fundamentals (3 cr.)

Concentration Electives (15 credits)

- CSCE 316/3102 - Programming in Java (3 cr.)
- CSCE 317/3103 - Object Oriented Programming (3 cr.)
- CSCE 325/3104 - Concepts of Programming Languages (3 cr.)
- CSCE 422/4201 - Theory of Computing (3 cr.)
- CSCE 427/4602 - Introduction to Artificial Neural Networks (3 cr.)
- CSCE 436L/4314 - Local Area Networks Lab (1 cr.)
- CSCE 437/4313 - Local and Metropolitan Area Networks (3 cr.)
- CSCE 441/4701 - Object-Oriented Analysis and Design (3 cr.)
- CSCE 446/4421 - Computer Security (3 cr.)

- CSCE 447/4101 - Compiler Design (3 cr.)
- CSCE 453/4501 - Database Systems (3 cr.)
- CSCE 455/4621 - Computer Graphics (3 cr.)
- CSCE 456/4502 - Design of Web-based Systems (3 cr.)
- CSCE 465/4601 - Artificial Intelligence (3 cr.)
- CSCE 485/4930 - Selected Topics in Computer Science and Engineering (1-3 cr.)
- CSCE 495/4910 - Guided Studies in Computer Science and Engineering (1-3 cr.)
- ECNG 413/4103 - Testing of Digital Circuits (3 cr.)
- ECNG 494/4930 - Selected Topics in Electronics and Communications Engineering (3 cr.)

General Electives (0-6 credits)

Computer Science (B.S)

Bachelor of Science in Computer Science

The undergraduate program in Computer Science at AUC is accredited by both the American Accreditation Board for Engineering and Technology (ABET) and the Supreme Council of Egyptian Universities.

Program Objectives

The expected accomplishments of graduates of the Bachelor of Science in Computer Science program at the American University in Cairo are as follows.

1. Establish a career path in industry or government to become productive and valued computing professionals within their institutions.
2. Obtain an advanced degree in computing or a related field through successful admission to a reputable graduate program leading to one or more degrees.
3. Contribute ethically and professionally to humanity by becoming innovators, leaders, and lifelong learners in and through successful careers.

Program Learning Outcomes

The program enables students to achieve the following outcomes, by the time of graduation:

- (a) An ability to apply knowledge of computing and mathematics appropriate to the discipline;
- (b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution;
- (c) An ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs;
- (d) An ability to function effectively on teams to accomplish a common goal;
- (e) An understanding of professional, ethical, legal, security, and social issues and responsibilities;
- (f) An ability to communicate effectively with a range of audiences;
- (g) An ability to analyze the local and global impact of computing on individuals, organizations, and society;
- (h) Recognition of the need for, and an ability to engage in continuing professional development;
- (i) An ability to use current techniques, skills, and tools necessary for computing practices;
- (j) An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modelling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices;

(k) An ability to apply design and development principles in the construction of software systems of varying complexity.

The course of study offers a broad-based intellectual engagement with computing both in theory and practice as well as logic and capabilities. The theoretical ground, abstraction, design as well as the professional practice levels (technical competence, team work, problem solving and communication skills), social and ethical contexts of the discipline of computing are well integrated into the curriculum that the department offers.

The study program is designed to prepare students for a wide variety of careers. The most profound positions that our graduates are well prepared to occupy (or have already been engaged in) may be classified into the following professional disciplines: Software Engineering, Systems Design and Programming, Applications design and programming and Information-Systems design and analysis. The program also prepares students for further studies and research in the computing field.

A total of 132 credits is required for a bachelor's degree in computer science:

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 crs) and the capstone projects CSCE 4980 CSCE 4981 (3 crs).

Computer Science Requirements (60 credits):

a.) Concentration Requirements (42 credits)

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 230/2301 - Digital Design I (3 cr.)
- CSCE 231/2303 - Computer Organization and Assembly Language Programming (3 cr.)
- CSCE 239L/2302 - Digital Design I Lab (1 cr.)
- CSCE 321/3201 - Analysis and Design of Algorithms (3 cr.)
- CSCE 325/3104 - Concepts of Programming Languages (3 cr.)
- CSCE 330/3301 - Computer Architecture (3 cr.)
- CSCE 339L/3302 - Computer Architecture Lab (1 cr.)
- CSCE 341/3701 - Software Engineering (3 cr.)
- CSCE 345/3401 - Operating Systems (3 cr.)
- CSCE 422/4201 - Theory of Computing (3 cr.)
- CSCE 447/4101 - Compiler Design (3 cr.)
- CSCE 490/4950 - Industrial Training (1 cr.)
- CSCE 491/4980 - Senior Project I (1 cr.)
- CSCE 492/4981 - Senior Project II (2 cr.)

b.) Computer Science electives (18 credits)

To be chosen in consultation with the student's advisor from the following (no more than 9 credits can be chosen among the MACT courses):

- CSCE 253/2501 - Fundamentals of Database Systems (3 cr.)
- CSCE 315/3101 - Programming Language (1-2 cr.)
- CSCE 316/3102 - Programming in Java (3 cr.)
- CSCE 317/3103 - Object Oriented Programming (3 cr.)
- CSCE 333/3311 - Data and Computer Communications (3 cr.)
- CSCE 427/4602 - Introduction to Artificial Neural Networks (3 cr.)
- CSCE 432/4301 - Embedded Systems (3 cr.)
- CSCE 435/4311 - Wide Area Networks (3 cr.)
- CSCE 436L/4314 - Local Area Networks Lab (1 cr.)
- CSCE 437/4313 - Local and Metropolitan Area Networks (3 cr.)
- CSCE 438L/4302 - Embedded Systems Lab (1 cr.)
- CSCE 439L/4312 - Wide Area Networks Lab (1 cr.)
- CSCE 441/4701 - Object-Oriented Analysis and Design (3 cr.)
- CSCE 445/4411 - Fundamentals of Distributed Systems (3 cr.)
- CSCE 446/4421 - Computer Security (3 cr.)
- CSCE 448/4702 - Secure Systems Engineering (3 cr.)
- CSCE 453/4501 - Database Systems (3 cr.)
- CSCE 455/4621 - Computer Graphics (3 cr.)
- CSCE 456/4502 - Design of Web-based Systems (3 cr.)
- CSCE 465/4601 - Artificial Intelligence (3 cr.)
- CSCE 485/4930 - Selected Topics in Computer Science and Engineering (1-3 cr.)
- CSCE 495/4910 - Guided Studies in Computer Science and Engineering (1-3 cr.)
- MACT 304/3143 - Numerical Methods (3 cr.)
- MACT 310/3145 - Operations Research (3 cr.)
- MACT 362/3133 - Formal and Mathematical Logic (3 cr.)
- MACT 403/4134 - Modern Algebra (3 cr.)
- MACT 406/4212 - Stochastic Processes (3 cr.)
- MACT 440/4135 - Graph Theory (3 cr.)

Collateral Requirements (30 credits)

- MACT 132/1122 - Calculus II (3 cr.)
- MACT 200/2131 - Discrete Mathematics (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 240/2132 - Linear Algebra (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)
- PHYS 215/2211 - Introduction to Electronics (3 cr.)
- PHYS 222L/2213 - Electronics lab for Computer Scientists & Computer Engineers (1 cr.)

And one of the following courses:

- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 304/3143 - Numerical Methods (3 cr.)

- MACT 310/3145 - Operations Research (3 cr.)
- MACT 406/4212 - Stochastic Processes (3 cr.)
- MACT 440/4135 - Graph Theory (3 cr.)

General Electives (3-15 credits)

Construction Engineering, with concentrations in Construction Materials and Structures, Construction Management and Technology, and Environmental Engineering (B.S.)

Bachelor of Science in Construction Engineering

The construction industry is the largest industry in Egypt and much of the world. Construction engineering is a relatively new field that is designed to foster technological advances in the industry, to utilize modern design techniques, and to develop means to improve production, products, components and subsystems, and distribution and utilization of equipment. Construction engineering covers the basic civil engineering components such as structures, geotechnical, water resources, transportation, and environmental engineering. In addition, it covers, in detail, methods for the modeling of construction projects, numerical simulations, the evaluation of various construction strategies, and construction quality control. It deals with organizational planning, financial and human resources management, productivity measurement, accounting, information systems, strategy and policy formation, contracting, and construction law.

The specific objectives of the Construction Engineering Program are to: educate students in fundamentals of science and engineering with emphasis on construction engineering applications; introduce students to a broad spectrum of construction engineering topics, with concentration in an area of their choice, to plan for construction operations and to fit in construction organizations; prepare students to cope with and improve on the ever evolving technologies in production, products, and components of the construction industry; train students to communicate effectively, work independently and in teams, and fit in a multi-discipline environment; inspire students to recognize and consider the impact of engineering solutions in a global and societal context with the ability to understand and be sensitive to other cultures; motivate students to engage in life-long learning and develop their ability to pursue graduate studies; develop students who are creative, possess qualities of leadership, and are committed to professional and ethical conduct.

Students have the choice of one of three concentration areas within construction engineering. These are: 1) Construction Materials and Structures; 2) Construction Management and Technology; and 3) Environmental Engineering. The Construction Materials and Structures concentration provides students with the ability to integrate advances in construction materials with advanced knowledge in structural design and mechanics. The Construction Management and Technology concentration provides students with the tools that would enable them to become effective construction managers, through gaining a deeper appreciation of the technology and management aspects involved, and a greater exposure to the various facets of the industry. The Environmental Engineering concentration better equips students for involvement in civil infrastructure projects, and enables them to contribute to consulting practice in environmental and water resources engineering. To complete a concentration, students must complete two (2) required courses and one elective course in their chosen concentration area, in addition to an elective within the field of construction engineering, and carry out the graduation thesis in their chosen concentration. The concentration shall be indicated in the students' Diploma.

The Bachelor of Science in Construction Engineering degree is accredited by both the American Accreditation Board for Engineering and Technology (ABET) and the Supreme Council of Egyptian Universities.

Students are admitted to the Construction Engineering Program either upon admission to AUC or after successful

completion of criteria courses. High school students with mathematics/science background are accepted depending on their High School grades and the available quota in the Construction Engineering Program. Undeclared and transfer students are admitted to the program upon completing criteria courses in sciences. Students are accepted based on their GPA and on available quota in the department.

Students should consult the course listings and their faculty advisor on a regular basis to ensure that prerequisites for engineering core, concentration and elective courses are met. A model course plan for the major is provided in the office of the Department of Construction and Architectural Engineering.

A total of 162 credits is required for the Bachelor of Science Degree in Construction Engineering:

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 credits), and the capstone Senior Projects I and II (CENG 4980 and CENG 4981) (3 credits).

Engineering Core Requirements (52 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- ENGR 101/1001 - Introduction to Engineering (1 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)
- ENGR 214/2104 - Engineering Mechanics II (Dynamics) (3 cr.)
- ENGR 229/2112 - Strength and Testing of Materials (4 cr.)
- ENGR 261/2122 - Fundamentals of Fluid Mechanics (3 cr.)
- ENGR 313/3202 - Engineering Analysis and Computation I (3 cr.)
- ENGR 318/3212 - General Electrical Engineering (3 cr.)
- ENGR 345/3222 - Engineering Economy (3 cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)

Concentration Requirements (62 credits)

- AENG 321/3562 - Introduction to Architectural Engineering (3 cr.)
- CENG 215/2251 - Drawing for Construction Engineering and Architecture (1 cr.)
- CENG 280/2311 - Construction Surveying (3 cr.)
- CENG 301/3111 - Structural Analysis (4 cr.)
- CENG 307/3153 - Structural Design (4 cr.)
- CENG 311/3511 - Fundamentals of Hydraulic Engineering (3 cr.)
- CENG 323/3211 - Construction Materials and Quality Control I (4 cr.)

- CENG 325/3010 - Mechanical Engineering in Construction (2 cr.)
- CENG 331/3312 - Geology for Engineers (2 cr.)
- CENG 411/4313 - Soil Mechanics (3 cr.)
- CENG 423/4252 - Methods and Equipment for Construction I (3 cr.)
- CENG 424/4253 - Methods and Equipment for Construction II (2 cr.)
- CENG 431/4351 - Transportation Engineering (3 cr.)
- CENG 441/4410 - Introduction to Construction Management and Cost Estimating (3 cr.)
- CENG 442/4420 - Construction Project Specifications, Bids, and Contracts (3 cr.)
- CENG 446/4440 - Techniques of Planning, Scheduling and Control (3 cr.)
- CENG 448/4460 - Financial Management and Accounting for Construction (3 cr.)
- CENG 452/4158 - Structural Systems and Advanced Design (3 cr.)
- CENG 461/4314 - Design and Construction of Foundations and Retaining Structures (3 cr.)
- CENG 471/4551 - Environmental and Sanitary Engineering (3 cr.)
- CENG 490/4980 - Senior Project I (1 cr.)
- CENG 491/4981 - Senior Project II (2 cr.)
- CENG 497/4951 - Practical Training (1 cr.)

Concentration Electives (12 credits):

To complete the requirements of any of the three concentrations, students must complete a set of four courses comprise the following:

- Two concentration core course from the intended area of concentration (Group A) (6 cr.)
- One elective course from a set of courses relevant to the concentration (Group B) (3 cr.)
- One elective course from the elective courses offered by the Department (3cr.)

Student should also carry out the Senior Graduation Project in their selected concentration subfield.

Construction Materials and Structural Concentrations

Group A:

- CENG 453/4212 - Construction Materials and Quality Control II (3 cr.)
- CENG 454/4113 - Structural Mechanics (3 cr.)

Group B:

- CENG 426/4155 - Steel and Concrete Bridges (3 cr.)
 - CENG 427/4156 - Prefabricated, Water and Prestressed Concrete Structures (3 cr.)
 - CENG 428/4157 - Tall Buildings and Large Span Structures (3 cr.)
 - CENG 462/4315 - Applications in Geotechnical Engineering (3 cr.)
 - CENG 494/4911 - Selected Topics in Construction Engineering (3 cr.)
- Any Materials and Structural related graduate course open for undergraduate.

Construction Management and Technology

Group A:

- CENG 444/4430 - Risk Management and Bidding Strategies (3 cr.)
- CENG 447/4450 - Design, Modeling and Simulation of Construction Systems (3 cr.)

Group B:

- AENG 428/3311 - Detail Design and Finishes in Buildings (3 cr.)
- CENG 449/4470 - Contract Administration (3 cr.)
- CENG 474/4554 - Computer-aided design and construction of environmental and sanitary systems (3 cr.)
- CENG 494/4911 - Selected Topics in Construction Engineering (3 cr.)

Environmental Engineering:

Group A:

- CENG 472/4552 - Design of Water Resources Systems (3 cr.)
- CENG 473/4553 - Unit Operations in Environmental Engineering (3 cr.)

Group B:

- CENG 474/4554 - Computer-aided design and construction of environmental and sanitary systems (3 cr.)
- CENG 475/4555 - Solid and Hazardous Wastes Engineering (3 cr.)
- CENG 494/4911 - Selected Topics in Construction Engineering (3 cr.)

Science Elective (3 credits)

Students should take a science elective course of total 3 credits selected from a set of courses accepted by the department

General Electives (0-6 credits):

Students may take courses of their selection to satisfy program requirement of 162 credit hours.

Dual Degree Option BSc/CENG-MPA

Students enrolled in the School of Science and Engineering may apply to complete the MPA on an accelerated basis in conjunction with completion of the BSc. in engineering. At present, this option is open only to students completing the BSc. in Construction Engineering. Students interested in this option should consult with their advisors during the Fall of their fourth year for potential admission to the program in their fifth year. Those interested in this option are required to complete a summer work assignment for Fall practicum in their fifth year. The program is jointly administered by the Department of Public Policy and Administration in the School of Public Affairs and the School of Sciences and Engineering. Admission is based on the recommendation of the student's SSE advisor and review by the PPAD department. The program prepares students for careers in public service with the highest ethical standards, strong competencies in environmental analysis and management as well as public governance, excellent leadership and communication skills, a sound understanding of the use of evidence and analysis in public service settings, and a

commitment to building a better future for the people of Egypt and the region. Students pursue careers in government, nonprofit organizations, international development agencies, academia, and the private sector.

Students electing the dual degree option begin taking graduate courses in their ninth semester and receive both the BSc. and the MPA upon the completion of their coursework and master's thesis, normally at the end of their 6th year. The following course sequence has been developed for this option, but students should consult their advisor in CENG to ensure that all SSE requirements are met:

SEMESTER IX

- CENG 424/4253 - Methods and Equipment for Construction II (2 cr.)
- Eng. Concentration 1 elective
- CENG 448/4460 - Financial Management and Accounting for Construction (3 cr.) (MPA credit)
- CENG Elective (1)
- CENG 431/4351 - Transportation Engineering (3 cr.)
- CENG 490/4980 - Senior Project I (1 cr.) (Capstone Core Level I)
- CENG 497/4951 - Practical Training (1 cr.) (Practicum)

SEMESTER X

- Engineering Concentration 2
- CENG 567/5243 - Construction Leadership and Management Skills (3 cr.)
- CENG 491/4981 - Senior Project II (2 cr.) (Capstone Core Level II)
- PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.) (MPA credit)
- PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.) (MPA credit)
- Science elective (from MDP list)
- Summer internship – public/NGO management focus preferred (MPA credit through 5198)

SEMESTER XI

- PPAD 591/5198 - Practicum (3 cr.) (Capstone Level II) (MPA Credit)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.) (MPA Credit)
- PPAD Elective selected with MPA advisor (MPA Credit)
- Science elective (selected with PPAD advisor)
- PPAD 598/5298 - Research Seminar (0 cr.) (MPA Credit)

SEMESTER XII

- PPAD 514/5224 - Human Resource Management for Government and Nonprofit Organizations (3 cr.) (MPA Credit)
- PPAD 516/5132 - Social and Environmental Policy (3 cr.) (MPA Credit)
- PPAD 517/5126 - Non-profit Management (3 cr.) (MPA Credit)
- PPAD 599/5299 - Research Guidance (0 cr.) (MPA Credit)

Summer thesis work, if needed.

Lists of MDP-relevant courses will be provided to students in the program prior to registration for each semester, based on offerings available in the appropriate departments

Electronics and Communications Engineering (B.S)

Bachelor of Science

To achieve the mission of Electronics and Communications Engineering requires a solid core of foundation courses in physics, mathematics, computer science and general engineering, which is also essential for life-long learning. Concentration courses in Electronics and Communications Engineering (that integrate theory and laboratory wherever possible) cover electromagnetics, circuits, electronics, digital design and communications. Courses in electric machinery, classical control, computer systems, the capstone senior thesis and industrial internship are also required. State-of-the-art electronics engineering elective courses provide seniors and advanced undergraduates the opportunity to develop a thrust in advanced electronics, communication systems and computers.

Electronics and Communications Engineering accepts high school students with science/mathematics background. Undeclared students may also be accepted to the program when they finish criteria courses set by the department. Admission to the program is supervised by the department and depends on available places and student's performance record.

A total of 162 credits are required for the bachelor's degree in Electronics and Communications Engineering:

Core Curriculum Requirements (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 crs) and the capstone projects ECNG 4980 and ECNG 4981 (3 crs)

Engineering Core Requirements (57 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- ENGR 101/1001 - Introduction to Engineering (1 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)
- ENGR 214/2104 - Engineering Mechanics II (Dynamics) (3 cr.)
- ENGR 313/3202 - Engineering Analysis and Computation I (3 cr.)
- ENGR 345/3222 - Engineering Economy (3 cr.)
- ENGR 364/3322 - Fundamentals of Thermofluids (3 cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 232/2124 - Calculus IV (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)
- MGMT 307/3201 - Management Fundamentals (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)
- PHYS 214/2221 - Waves and Optics (3 cr.)

Concentration Requirements (54 credits)

(ECNG 4980 and ECNG 4981 are counted within the university core)

- ECNG 210/2101 - Digital Logic Design (3 cr.)
- ECNG 215/2105 - Circuit Analysis I (3 cr.)
- ECNG 216/2106 - Circuit Analysis II (3 cr.)
- ECNG 218L/2108L - Digital Logic Design Lab (1 cr.)
- ECNG 219L/2109L - Circuit Analysis Lab (1 cr.)
- ECNG 315/3105 - Electronics I: Basic Electronic Devices & Circuits (3 cr.)
- ECNG 316/3106 - Electronics II: Analog Circuits (3 cr.)
- ECNG 318/3108 - VLSI Design (3 cr.)
- ECNG 319L/3109L - Electronics Lab (1 cr.)
- ECNG 320/3201 - Signals and Systems (3 cr.)
- ECNG 321/3202 - Automatic Control Systems (3 cr.)
- ECNG 341/3401 - Electromagnetic Theory (3 cr.)
- ECNG 352/3502 - Computer Organization and Assembly Language Programming (3 cr.)
- ECNG 360/3601 - Power and Machines (3 cr.)
- ECNG 420/4301 - Fundamentals of Communications I (3 cr.)
- ECNG 421/4302 - Fundamentals of Communications II (3 cr.)
- ECNG 432/4306 - Computer Communication Networks (3 cr.)
- ECNG 439L/4314L - Communications Lab (1 cr.)
- ECNG 442/4402 - Electromagnetic Waves (3 cr.)
- ECNG 453/4503 - Microcontroller System Design (3 cr.)
- ECNG 459L/4509L - Microcontroller System Design Lab (1 cr.)
- ECNG 490/4980 - Senior Project I (1 cr.)
- ECNG 491/4981 - Senior Project II (2 cr.)
The credit hours in ECNG 490/491 are not counted among the concentration credit hour requirements as they are counted in the core curriculum credit hour requirements
- ECNG 497/4950 - Industrial Internship (1 cr.)

Concentration Electives (12 credits)

- ECNG 404L/4304L - Photonics and Optical Communication Laboratory (1 cr.)
- ECNG 410/4101 - Solid-State Devices (3 cr.)
- ECNG 413/4103 - Testing of Digital Circuits (3 cr.)
- ECNG 414/4104 - High Level Digital ASIC Design Using CAD (3 cr.)
- ECNG 415/4105 - Integrated Circuit Fabrication: Materials and Processes (3 cr.)
- ECNG 416/4106 - Advanced ASIC Design (3 cr.)
- ECNG 433/4308 - Telecommunications Systems (3 cr.)
- ECNG 434/4310 - Optical Communication Systems (3 cr.)
- ECNG 436/4312 - Mobile Communication Systems (3 cr.)
- ECNG 447/4407 - Microwave Systems (3 cr.)
- ECNG 455/4505 - Computer Architecture (3 cr.)
- ECNG 456/4506 - Industrial control systems (3 cr.)
- ECNG 458L/4508L - Computer Architecture Lab (1 cr.)
- ECNG 480/4920 - Special Problems in Electronics and Communications Engineering (1-3 cr.)
- ECNG 494/4930 - Selected Topics in Electronics and Communications Engineering (3 cr.)

General Electives (0-9 credits)

Mathematics, with an option in Statistics & Data Analysis (B.S.)

Bachelor of Science in Mathematics

The Bachelor of Science degree in Mathematics develops a level of skill that will enable the student to apply his/her knowledge in industry or teaching and prepares the student for advanced study of mathematics and other fields.

More information on Mathematics as a professional activity and on career opportunities is available on the department webpage:

<http://www.aucegypt.edu/sse/math/alumni/Pages/default.aspx>

A total of 130 credits is required for the bachelor's degree in mathematics. Students may be exempted from the MACT 1121 requirement based on high school certificate and score in mathematics or by passing a placement examination.

Appropriate substitutions allow students from most other majors in the School of Science and Engineering to complete the Mathematics major requirements with 15 to 25 additional credits. See the page http://www.aucegypt.edu/sse/math/Pages/Double_Major.aspx for more details.

Core Curriculum (36 credits)

The science requirements of the core curriculum electives are satisfied by the collateral requirements of the major.

Concentration Requirements (42 credits)

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- MACT 131/1121 - Calculus I (3cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 232/2124 - Calculus IV (3 cr.)
- MACT 200/2131 - Discrete Mathematics (3 cr.)
- MACT 240/2132 - Linear Algebra (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 304/3143 - Numerical Methods (3 cr.)
- MACT 306/3211 - Applied Probability (3 cr.)
- MACT 307/3223 - Statistical Inference (3 cr.)
- MACT 401/4125 - Complex-Function Theory (3 cr.)
- MACT 431/4126 - Real Analysis I (3 cr.)
- MACT 403/4134 - Modern Algebra (3 cr.)

Concentration Electives (21 credits)

To be chosen from the upper level MACT courses in consultation with the advisor. Students majoring in another Science or Engineering program may transfer up to 12 approved credits from their program toward the completion of these 21 credits if double majoring in Mathematics. For more details, see the department's page at:

www.aucegypt.edu/sse/math/Pages/Double_Major.aspx

Collateral Requirements (14 to 16 Credits)

To be chosen among the following:

- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)
- BIOL 105/1012 - Introductory Biology II (3 cr. + 1 cr. lab)
- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 106/1006 - General Chemistry II (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)

Electives (15-17 credits)

Courses to be chosen in consultation with the adviser, excluding MACT 1111, MACT 1112 .

Statistics and Data Analysis Option

Within the bachelor degree in Mathematics, students may choose the Statistics and Data Analysis Option by taking the following courses:

The 21 credits of concentration electives must include:

- MACT 427/4231 - Applied Regression Methods (3 cr.)
- MACT 429/4233 - Applied Multivariate Analysis (3 cr.)

and a minimum of 9 credits selected from the following:

- MACT 308/3144 - Linear Programming (3 cr.)
- MACT 310/3145 - Operations Research (3 cr.)
- MACT 406/4212 - Stochastic Processes (3 cr.)
- MACT 409/4930 - Selected Topics in Mathematics (3 cr.)
- MACT 410/4910 - Guided Studies in Mathematics (1-3 cr.)
- MACT 412/4213 - Mathematical Modeling (3 cr.)

Mechanical Engineering, with concentrations in Design, Industrial, Materials and Manufacturing, Mechatronics, and Power (B.S.)

Bachelor of Science

The educational objectives of the mechanical engineering program are to graduate mechanical engineers who can: practice professionally as team members or leaders in both local and global, multidisciplinary environments; advance their careers in mechanical engineering or other fields through promotions, positions of increasing responsibilities or professional certification; contribute to the welfare of the society, and respond to its needs with consideration of ethical and environmental issues; engage in advanced academic and research careers; and pursue entrepreneurial endeavors.

Students are offered mechanical engineering electives concentrated in five areas: The Design concentration integrates elements of the mechanical engineering program and utilizes modern computer methods to enable the engineer to model, analyze and design mechanical components and systems. The power concentration provides the engineering background for optimum use of energy resources; calculation of energy loads; design, selection and integration of conventional and non-conventional energy systems and components. The Industrial concentration enables the engineer to analyze, design, integrate, automate and manage industrial systems. The Materials and Manufacturing concentration focuses on ways of controlling material composition, treatment, and manufacturing in order to meet design requirements, and achieve desired levels of performance. The Mechatronics concentration focuses on computer programming, automatic control, sensor technology and microprocessor as well as manufacturing techniques.

The program is accredited by both the Accreditation Board for Engineering and Technology (ABET) and the Supreme Council of Egyptian Universities.

Students should consult the course listings and their faculty advisor on a regular basis to ensure that prerequisites for engineering core, concentration and elective courses are met. A model course plan for the Major is provided by the Department.

A student who intends to major in Mechanical Engineering must submit a Major declaration form upon completion of 45 credit hours. A student should declare his/her concentration (s) after completing 80 credit hours and before completing 120 credit hours.

A total of 162 credits is required for the bachelor's degree in mechanical engineering:

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 cr.) and the capstone projects MENG 4980 and MENG 4981 (3 cr.)

Engineering Core Requirements (52 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- ENGR 101/1001 - Introduction to Engineering (1 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)
- ENGR 214/2104 - Engineering Mechanics II (Dynamics) (3 cr.)
- ENGR 229/2112 - Strength and Testing of Materials (4 cr.)
- ENGR 261/2122 - Fundamentals of Fluid Mechanics (3 cr.)
- ENGR 313/3202 - Engineering Analysis and Computation I (3 cr.)
- ENGR 318/3212 - General Electrical Engineering (3 cr.)
- ENGR 345/3222 - Engineering Economy (3 cr.)

- MACT 132/1122 - Calculus II (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)

Concentration Requirements (53 credits)

- MENG 215/2505 - Mechanical Engineering Drawing (1 cr.)
- MENG 327/3207 - Engineering Materials (3 cr.)
- MENG 339/3209 - Fundamentals of Manufacturing Processes (3 cr.)
- MENG 342/3402 - Quality and Process Control (3 cr.)
- MENG 346/3446 - Engineering and Project Management (3 cr.)
- MENG 355/3505 - Mechanics of Materials (3 cr.)
- MENG 356/3506 - Mechanical Design I (3 cr.)
- MENG 361/3601 - Fundamentals of Thermodynamics (3 cr.)
- MENG 362/3602 - Applied Fluid Mechanics (3 cr.)
- MENG 365/3605 - Applied Thermodynamics (3 cr.)
- MENG 372/3502 - Mechanical Systems (3 cr.)
- MENG 375/3705 - System Dynamics (3 cr.)
- MENG 428/4208 - Selection of Materials and Processes for Design (3 cr.)
- MENG 457/4507 - Mechanical Design II (3 cr.)
- MENG 466/4606 - Heat Transfer (4 cr.)
- MENG 490/4980 - Senior Project I (1 cr.)
- MENG 491/4981 - Senior Project II (2 cr.)
- MENG 497/4950 - Industrial Training (1 cr.)
- PHYS 215/2211 - Introduction to Electronics (3 cr.)
- PHYS 221L/2212 - Electronics Laboratory (2 cr.)

Concentration Electives (21 credit hours)

Courses must be selected from at least two of the five available concentrations of courses. A minimum of twelve credits must be taken from one concentration as follows:

Design Concentration:

A minimum of nine credits from courses in group A of the Design concentration and the remaining three credits from courses in either group of the concentration.

Group A:

- MENG 451/4551 - Computer-Aided Design and Prototyping (3 cr.)
- MENG 453/4553 - Finite Element Method and Applications in Design (3 cr.)

- MENG 455/4565 - Design of Engineering Systems (3 cr.)
- MENG 475/4555 - Applied Vibration Measurements, Analysis and Control (3 cr.)
- MENG 476/4756 - Automatic Control Systems (3 cr.)

Group B:

- MENG 413/4663 - Design of Renewable Energy Systems (3 cr.)
- MENG 427/4227 - Failure of Mechanical Components (3 cr.)
- MENG 477/4757 - Robotics: Design, Analysis and Control (3 cr.)
- MENG 458/4558 - Integrated Design (3 cr.)
- MENG 494/4931 - Selected Topics in Design (3 cr.)

Industrial Concentration:

Students are required to complete the six credits from group A courses of the Industrial concentration and six credits from its group B courses.

Group A:

- MENG 341/3441 - Engineering Operations Research (3 cr.)
- MENG 445/4445 - Production and Inventory Control (3 cr.)

Group B:

- MENG 344/3444 - Work Analysis and Design (3 cr.)
- MENG 441/4441 - Decision Support in Engineering Systems (3 cr.)
- MENG 442/4442 - Reliability Engineering and Risk Analysis (3 cr.)
- MENG 443/4443 - Systems Simulation (3 cr.)
- MENG 447/4477 - Manufacturing System Automation (3 cr.)
- MENG 448/4448 - Facilities Planning (3 cr.)
- MENG 449/4449 - Maintenance Management Systems (3 cr.)

Materials and Manufacturing Concentration:

A minimum of six credits from group A courses of the Material and Manufacturing concentration and six from its group B courses.

Group A:

- MENG 421/4221 - Ceramics and Composites (3 cr.)
- MENG 425/4225 - Polymers and Composites (3 cr.)
- MENG 426/4226 - Metals, Alloys and Composites (3 cr.)
- MENG 429/4229 - Nanostructured Materials (3 cr.)

Group B:

- MENG 427/4227 - Failure of Mechanical Components (3 cr.)
- MENG 432/4232 - Materials, Processing, and Design (3 cr.)
- MENG 436/4932 - Selected Topics in Materials and Manufacturing (3 cr.)
- MENG 439/4239 - Advanced Manufacturing Processes (3 cr.)

Mechatronics Concentration:

Students are required to complete the nine credits from the courses in group A of the Mechatronics concentration and the remaining three credits from courses in group B.

Group A:

- MENG 476/4756 - Automatic Control Systems (3 cr.)
- MENG 478/4778 - Microcontrollers and Mechatronics systems (3 cr.)
- MENG 479/4779 - Integrated Design of Electromechanical Systems (3 cr.)

Group B:

- ECNG 456/4506 - Industrial control systems (3 cr.)
- MENG 439/4239 - Advanced Manufacturing Processes (3 cr.)
- MENG 447/4477 - Manufacturing System Automation (3 cr.)
- MENG 455/4565 - Design of Engineering Systems (3 cr.)
- MENG 477/4757 - Robotics: Design, Analysis and Control (3 cr.)

Power Concentration

Students are required to complete the six credits from the courses in group A of the Power concentration and the remaining six credits from courses in group B.

Group A:

- MENG 412/4662 - Power Plant Technology (3 cr.)
- MENG 413/4663 - Design of Renewable Energy Systems (3 cr.)

Group B:

- MENG 411/4661 - Turbo-Machinery (3 cr.)
- MENG 415/4665 - Internal Combustion Engines (3 cr.)
- MENG 416/4666 - Design of Heating, Ventilation, and Air Conditioning Systems (3 cr.)
- MENG 417/4667 - Refrigeration and Air-conditioning (3 cr.)
- MENG 455/4565 - Design of Engineering Systems (3 cr.)

Notes:

In addition, a minimum of six credits must be taken from another area of concentration.

Pending approval of department and relevance of topic, only one of the concentration electives may be substituted for by a MENG 4930 course.

Students opting for more than one concentration will take a minimum of twenty four credits, such that the minimum requirements of each area of concentration are satisfied. Common courses may be double-counted.

General Electives (3 credits)

Petroleum Engineering (B.S.)

Students who have matriculated in Fall 2015 or later are governed by this catalog, and those who have matriculated earlier have the option of being governed by the catalog of their year of matriculation, and should refer to the earlier catalog for program details.

Bachelor of Science

The petroleum engineer is concerned mainly with the exploration, drilling, reservoir and production operations. Economic and environmentally safe petroleum production and processing require the application of engineering principles in addition to a wide spectrum of knowledge including chemistry, geology, physics, and mathematics.

The petroleum engineering program at AUC graduates a petroleum engineer who, within a few years of graduation, fulfills societal needs, with consideration to ethical and environmental issues, in one or more of the following roles:

1. A professional team member in a multidisciplinary environment, local or global.
2. A leader in petroleum engineering through promotion, or professional development.
3. A successful member of an advanced academic or research organization.
4. A successful entrepreneur.

To provide more depth above that provided by the fundamental petroleum engineering core courses, students are required to select 9 credit hours from among a list of more specialized elective courses.

Students will be admitted to the program either through the AUC admissions office (gate admissions), after satisfying the general admission requirements and grade requirements in mathematics and sciences as declared by the department, or as undeclared and transfer students based on their performance record after successful completion of the criteria courses. Students are advised to consult with the department to ensure that admission criteria have been successfully met.

A total of 162 credits must be successfully completed to be awarded a Bachelor of Science in Petroleum Engineering.

Core curriculum requirements (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 crs) and the capstone projects PENG 4980 and PENG 4981 (3 crs).

Engineering and Science core requirements (52 credits)

- ENGR 101/1001 - Introduction to Engineering (1 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CHEM 105/1005 - General Chemistry I (3 cr.)
- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)
- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)
- ENGR 214/2104 - Engineering Mechanics II (Dynamics) (3 cr.)
- ENGR 229/2112 - Strength and Testing of Materials (4 cr.)
- ENGR 261/2122 - Fundamentals of Fluid Mechanics (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- ENGR 313/3202 - Engineering Analysis and Computation I (3 cr.)
- ENGR 318/3212 - General Electrical Engineering (3 cr.)
- ENGR 345/3222 - Engineering Economy (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)

Petroleum core requirements (68 credits)

- SCI 250/2005 - Introduction to Geology (3 cr.)
- PENG 000/2013 - Petroleum Industry Overview (1 cr.)
- PENG 219/2413 - Fundamentals of Surveying (1 cr.)
- PENG 301/3011 - Petroleum Geology and Exploration (3cr.)
- PENG 302/3021 - Reservoir Rock Properties (3 cr.)
- PENG 303/3022 - Petrophysics and Fluids Lab (1 cr.)
- PENG 311/3111 - Drilling Engineering I (3 cr.)
- PENG 313/3112 - Drilling Engineering I Lab (1 cr.)
- PENG 305/3211 - Reservoir Fluids (2 cr. + 1 cr.)
- PENG 331/3215 - Reservoir Engineering Fundamentals (3 cr.)
- PENG 333/3221 - Well Testing (3 cr.)
- PENG 334/3222 - Well Testing Lab (1 cr.)
- PENG 351/3225 - Natural Gas Engineering (3 cr.)
- PENG 320/3227 - Formation Evaluation (3cr. + 1cr.)
- PENG 321/3310 - Well Completion and Workover (3 cr.)
- PENG 322/3311 - Production Engineering Fundamentals (2 + 1 Lab)
- PENG 323/3321 - Surface Facilities (3 cr.)
- PENG 361/3411 - Thermodynamics (3cr.)
- PENG 411/4121 - Drilling Engineering II (3 cr.)
- PENG 471/4223 - Reservoir Simulation and Modeling (2 cr. + 1 cr.)
- PENG 412/4225 - Secondary and Tertiary Recovery (4 cr.)
- PENG 461/4226 - Petroleum Economics (3 cr.)
- PENG 000/4227 - Reservoir Description and Characterization (3 cr.)
- PENG 000/4320 - Well Production Enhancement (3 cr.)

- PENG 497/4950 - Industrial Training (1cr.)
- PENG 490/4980 - Senior Project I (1cr.)
- PENG 491/4981 - Senior Project II (2cr.)

Electives (9 credits)

Students must select three courses (9 credits) out of the following electives.

- PENG 000/4015 - Exploration Methods (3 cr.)
- PENG 000/4125 - Advanced Well Construction (3 cr.)
- PENG 000/4229 - Unconventional Reservoirs (3 cr.)
- PENG 451/4313 - Petroleum and Gas Transmission and Storage (3 cr.)
- PENG 000/4325 - Well Stimulation (3 cr.)

Physics, with a specialization in Solar Energy (B.S.)

Bachelor of Science

The undergraduate program in Physics is designed to provide students with a thorough and flexible training in the fundamental aspects of classical and modern physics. Lecture material is reinforced and complemented by closely integrated laboratory work, and the varied course offerings provide several options from which students may choose according to their interests and abilities.

Physics students can either obtain a bachelor's degree in Physics or a bachelor's degree in Physics with a specialization in Solar Energy.

The Solar Energy specialization is in alignment with both national and international trends that emphasize the importance of renewable energy in general and solar energy in particular. While retaining the fundamentals of the conventional degree in Physics, this specialization provides students with basic and applied knowledge in the solar energy field.

A student who intends to major in Physics or to change from any other major must successfully complete the following courses with a minimum average GPA of 2.5: PHYS 1011; PHYS 1012; PHYS 1021; PHYS 1022; MACT 1122.

A total of 132 credit hours are required for the bachelor's degree in Physics distributed as follows:

Core Curriculum (33 credits)

The remaining 7 credit hours required to satisfy the core are fulfilled by the concentration Science/lab (4 crs) and the capstone projects PHYS 4980 (3 crs).

Concentration Requirements (44 credits)

- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)
- PHYS 204L/2222 - Optics Laboratory (1 cr.)

- PHYS 211/2041 - Foundations of Modern Physics (3 cr.)
- PHYS 000/2042 - Modern Physics Laboratory (1 cr.)
- PHYS 214/2221 - Waves and Optics (3 cr.)
- PHYS 215/2211 - Introduction to Electronics (3 cr.)
- PHYS 221L/2212 - Electronics Laboratory (2 cr.)
- PHYS 279/2241 - Computational Methods in Physics (2 cr. + 1 cr.)
- PHYS 311/3031 - Thermodynamics and Statistical Mechanics (3 cr.)
- PHYS 312/3013 - Theoretical Mechanics (3 cr.)
- PHYS 316/3023 - Electromagnetic Theory (3 cr.)
- PHYS 321L/3052 - Nuclear Physics Lab (1 cr.)
- PHYS 322L/3232 - Solid-State Physics Lab (2 cr.)
- PHYS 323L/4234 - Semiconductor Technology Lab (2 cr.)
- PHYS 325/3231 - Introduction to Solid-State Physics (3 cr.)
- PHYS 421/4042 - Quantum Mechanics I (3 cr.)

Collateral Requirements (22 credits)

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- MACT 132/1122 - Calculus II (3 cr.)
- MACT 231/2123 - Calculus III (3 cr.)
- MACT 232/2124 - Calculus IV (3 cr.)
- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 305/3142 - Introduction to PDE and Boundary-Value Problems (3 cr.)

Thesis Requirement (3 credits)

- PHYS 401/4980 - Senior Thesis and Seminar (3 cr.)

Note:

In special cases, and with advisor's approval, another 400-level course may be substituted for the Senior Thesis and Seminar.

General Electives (9 credits)

Concentration Electives (21 credits):

Students have to fulfill 21 credits from the elective courses listed below. Up to 9 credits of the physics concentration electives can be taken from upper division (300 and 400 level) courses in mathematics

For the Solar Energy specialization, the student has to complete at least 12 credits from group **B** and at least 6 credits from group **C**

Group A

- PHYS 000/3071 - General Relativity and Cosmology (3 cr.)
- PHYS 000/4043 - Quantum Mechanics II (3 cr.)
- PHYS 413/4051 - Nuclear and Particle Physics (3 cr.)
- PHYS 415/4930 - Selected Topics in Physics (3 cr.)

Group B

- PHYS 412/4233 - Semiconductor Physics (3 cr.)
- PHYS 000/4241 - Introduction to Solar Energy (3 cr.)
- PHYS 000/4242 - Introduction to Nanophysics (3 cr.)
- PHYS 000/4243 - Physics of Solar Energy Conversion Nanosystems (3 cr.)
- PHYS 000/4244 - Introduction to Nanotechnology (3 cr.)

Group C

- PHYS 414/4224 - Photonics (3 cr.)
- PHYS 404L/4225 - Photonics and Optical Communication Laboratory (1 cr.)
- PHYS 314/3223 - Advanced Optics (3 cr.)
- PHYS 416/4281 - Experimental Methods in Physics (3 cr.)
- PHYS 402/4910 - Independent Study (1-3 cr.)

Accounting Minor

Students who seeks to a minor in accounting must already be declared in another major and completed ACCT 201/2001 - Financial Accounting (3 cr.) with a minimum grade of **B** and ACCT 202/2002 - Managerial Accounting (3 cr.) with a minimum grade of **B**. Students who have successfully completed these courses, with the minimum required grades and who meet the minimum minor weighted grade point average as determined by the department, will be accepted in the minor. Accepted students should plan their minor with their academic advisor with the approval of the department.

Calculation of the Minor weighted grade point Average

The minor weighted grade point Average = Overall GPA at time of minor declaration x 60% + (Average GPA in ACCT 2001 and ACCT 2002) x 40%.

Admission to the Accounting minor is competitive. Eligible students will be ranked and selected based on their minor weighted grade point average.

Students who have a minor in accounting are not permitted to have a minor in business administration.

Students who seek the Bachelor of Business Administration degree are not permitted to minor in accounting.

The accounting minor consists of at least five courses (15 credits) two of which are required, and three are electives, as follows:

Required courses:

- ACCT 201/2001 - Financial Accounting (3 cr.)

- ACCT 202/2002 - Managerial Accounting (3 cr.)

Additional elective courses (at least THREE) from the following with approval of the advisor:

- ACCT 301/3001 - Intermediate Accounting I (3 cr.)
- ACCT 302/3002 - Intermediate Accounting II (3 cr.)
- ACCT 303/3003 - Advanced Accounting (3 cr.)
- ACCT 304/3004 - Cost Accounting (3 cr.)
- ACCT 305/3005 - Auditing (3 cr.)
- ACCT 306/3006 - Principles of Taxation (3 cr.)

American Studies Minor

The minor in American Studies at AUC is an interdisciplinary program in which students take a minimum of five courses (15 credits) among specified offerings involving the study of the history or culture of the United States and the Americas. Students are required to take ECLT 209 /HIST 2019 (Introduction to American Studies), and four other courses as electives from among courses offered on American issues and topics in anthropology, journalism, history, literature, philosophy, sociology, political science, and other disciplines. Courses listed under the heading "Selected Topics" may be included if the content is relevant to the United States and the Americas.

Requirements:

- ECLT 209/2019 - Introduction to American Studies (3 cr.)

And at least four of the following:

- AMST 299/2096 - Selected Topics for Core Curriculum (3 cr.)
- AMST 301/3100 - The US and the World Economy (3 cr.)
- AMST 310/3010 - American Literature to 1900 (3 cr.)
- AMST 311/3011 - Modern American Literature (3 cr.)
- AMST 356/3016 - American Philosophy (3 cr.)
- AMST 400/4001 - Selected Topics in American Studies (3 cr.)
- AMST 444/4444 - Media Law and Policy (3 cr.)
- ANTH 360/3080 - Gender, Sexuality and Social Change (3 cr.)
- ANTH 390/3305 - Selected People and Culture Areas (3 cr.)
See footnote one.
- ECLT 308/3008 - Modern European and American Literature (3 cr.)
- HIST 201/2501 - History of American Civilization to the Nineteenth Century (3 cr.)
- HIST 202/2502 - History of Modern American Civilization (3 cr.)
- HIST 401/4588 - Selected Topics in the History of the United States (3 cr.)
- POLS 303/3403 - American Government and Politics (3 cr.)
- POLS 415/4615 - U.S. Foreign Policy (3 cr.)
- SOC 303/3303 - Social Movements (3 cr.)
- SOC 307/3304 - Social Class and Inequality (3 cr.)
See footnote one.

- SOC 332/3060 - Social Constructions of Difference: Race, Class and Gender (3 cr.)
See footnote one.
- SOC 408/4020 - Criminology (3 cr.)
See footnote one.

Notes:

Footnote one: when instructor and the Dean of GAPP deem course content appropriate

Footnote two: with permission of the instructor

See departmental announcements or AUC Catalog entries under departmental headings for complete course descriptions.

Anthropology Minor

The minor in Anthropology provides students with a basic knowledge of anthropological method and theory from a cross-cultural perspective on selected aspects of the world's cultures and societies.

Fifteen credits are required for the minor in Anthropology: ANTH 2101 , ANTH 3105 and three additional anthropology courses of which at least one must be at the 400-level.

Applied Probability and Statistics Minor

Applied Probability and Statistics are essential tools for analyzing data in various fields. A minor in Applied Probability and Statistics will prepare students and enhance their abilities to understand and solve problems in their own major fields. The minor in Applied Probability and Statistics is also designed to meet a demand by industry and governmental agencies for personnel who are able to utilize appropriate statistical and other quantitative methods to solve problems as diverse as quality control and population dynamics and to facilitate wise decision making in the face of uncertainty.

Requirements (15 credits):

- MACT 112/1221 - Statistical Reasoning (3 cr.)
Or MACT 210/2222 - Statistics for Business (3 cr.)
- MACT 427/4231 - Applied Regression Methods (3 cr.)

and either

- MACT 306/3211 - Applied Probability (3 cr.)
and
- MACT 307/3223 - Statistical Inference (3 cr.)

or

- MACT 317/3224 - Probability and Statistics (3 cr.)

In addition to 3-6 credits from:

- MACT 406/4212 - Stochastic Processes (3 cr.)
- MACT 429/4233 - Applied Multivariate Analysis (3 cr.)

Arab and Islamic Civilizations Minor

Requirements (15 credits):

Any five courses offered by the department (ARIC).

Arabic Literature Minor

Program Requirements (15 credits):

Students should take two (2) introductory courses in sequence either:

- ARIC 201/2101 - Introduction to Classical Arabic Literature (3 cr.)
 - ARIC 202/2102 - Introduction to Modern Arabic Literature (3 cr.)
- Or

- ARIC 203/2103 - Classical Arabic Literature in Translation (3 cr.)
- ARIC 204/2104 - Modern Arabic Literature in Translation (3 cr.)

Students will also take three (3) courses from the following, depending on the student's area of interest:

- ARIC 305/3104 - Arabic Literature and Gender (3 cr.)
- ARIC 306/3106 - Arabic Literature and Film (3 cr.)
- ARIC 307/3107 - The Writer and the State (3 cr.)
- ARIC 308/3108 - Colloquial and Folk Literature (3 cr.)
- ARIC 309/3097 - Selected Themes and Topics in Arabic Literature (3 cr.)
- ARIC 310/3197 - Selected Themes and Topics in Arabic Literature in Translation (3 cr.)
- ARIC 314/3114 - The Arabic Novel (3 cr.)
- ARIC 315/3115 - Arabic Drama (3 cr.)
- ARIC 316/3116 - The Arabic Short Story (3 cr.)
- ARIC 401/5110 - Senior Seminar in Arabic Texts (3 cr.)
- ARIC 402/5111 - Senior Seminar in Arabic Literature in Translation (3 cr.)
- ARIC 403/5112 - Arabic Literary Criticism (3 cr.)

Archaeological Chemistry Minor

This minor in archaeological chemistry provides students with the necessary knowledge for the elucidation of some archaeological problems. The minor is of particular value to Arts or Egyptology students.

Requirements

Total credits: 17.

All of the following courses (14 cr.):

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 106/1006 - General Chemistry II (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)
- CHEM 312/3002 - Archaeological Chemistry I (3 cr.)

And one of the following courses (3 cr.):

- CHEM 103/1003 - Chemistry and Society (3 cr.)
- SCI 240/2004 - Chemistry, Art and Archaeology (3 cr.)

Architectural Design Minor

The minor in Architectural Design provides students with an understanding of the underlying principles of architectural design. It serves students in all majors. It is especially useful for students interested in pursuing careers in the development, finance, construction and/or promotion of building related activities. It is also important for other students with social, cultural, and art backgrounds, who are interested in the respective aspects of the built environment. Construction engineering students will also benefit from the minor by becoming better qualified in the challenging activities of the construction industry.

Students from any discipline may apply for the Minor. A limited number will be accepted every semester. Students are accepted based on their GPA and on available quota in the department. The following requirements must be satisfied for joining and continuing in the minor:

- Students with a minimum GPA of 3.0 are accepted based on available quota in the department.
- A minimum grade of "B" in the basic architectural design courses (ENGR 1005 , AENG 2551 and AENG 1521) to continue in the minor.

The Minor requires completion of 17 credit hours. These are:

Basic Architectural Design Requirement (7 cr. hours):

All of the following courses:

- AENG 251/2551 - Introduction to Architectural Design (3 cr.)
- AENG 273/1521 - Digital Representation Tools for Architects (2 cr.)

- ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)

Background Humanities and Fine Arts Elective Requirement (3 cr. hours):

One of the following courses:

- AENG 222/1561 - Architecture: Art or Engineering (3 cr.)
- ARIC 270-271/2270-2271 - From Andalusia to Indonesia: Introduction to Islamic Art and Architecture (3 cr. per semester)
- EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)
- EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)

Main Architectural Design Requirement (7 cr. hours)

All of the following courses:

- AENG 351/2552 - Architectural Design Studio I (4 cr.)
- AENG 420/4541 - Design of Interior Spaces (3 cr.)

Notes:

Construction Engineering students may not count the main architectural design courses (AENG 2552 & AENG 4541) for both the Construction Engineering Major and the Architectural Design Minor.

Bioinformatics Minor

The program offers a minor in Bioinformatics for students interested in an academic or industrial career in computational biology for analysis of molecular data in health, diseases, environment and/or food research and industry.

Course Structure

To be awarded a minor in Bioinformatics, a student must successfully complete the following 18 credits depending on the students' major.

Molecular Biology (3 credits)

- BIOL 221/2150 - Genetics (3 cr. + 1 cr. lab)
- BIOL 211/2230 - Molecular and Cell Biology (3 cr. + 1 cr. lab)
- CHEM 315/3015 - Biochemistry (3 cr.)

Introductory Computing (3 credits)

- CSCE 110/1101 - Programming Fundamentals (3 cr.)

Bioinformatics Specialization (9 credits)

- BIOL 360/3600 - Introduction to Bioinformatics (3 cr.)
- BIOL 361/3601 - Bioinformatics Tools and Techniques (3 cr.)
- BIOL 460/4690 - Bioinformatics Capstone Seminar I (1 cr.)
- BIOL 461/4691 - Bioinformatics Capstone Seminar II (2 cr.)

Elective (3 credits)

- BIOL 310/3130 - Molecular Evolution and Population Genetics (3 cr. + 1 cr. lab)
- BIOL 307/3310 - Microbiology (3 cr. + 1 cr. lab)
- BIOL 341/3510 - Ecology (3 cr. + 1 cr lab)
- BIOL 411/4150 - Molecular Biology of the Gene (3 cr. + 1 cr. lab)
- BIOL 408/4930 - Selected Topics in Biology (1-4 cr.)
- CSCE 321/3201 - Analysis and Design of Algorithms (3 cr.)
- CSCE 453/4501 - Database Systems (3 cr.)
- CSCE 465/4601 - Artificial Intelligence (3 cr.)
- CSCE 427/4602 - Introduction to Artificial Neural Networks (3 cr.)
- CSCE 485/4930 - Selected Topics in Computer Science and Engineering (1-3 cr.) 1

Notes

¹Only bioinformatics and computational biology selected topics and guided studies courses will be counted towards the concentration. Requires advisor and chairs approval.

If a course from the list of possible electives for the minor is in the student's major requirement, it does not fulfill the minor elective requirement.

Students are reminded to work out a feasible study plan for the required courses in this minor. In particular, they need to ensure that they have sufficient number of semesters left in the candidature to complete the courses and to note that BIOL 360/3600 and BIOL 361/3601 are only offered once a year.

Biology Minor

The program also offers a minor in Biology to supplement the education of students in related disciplines including but not limited to biometry, bioinformatics, biochemistry, biophysics, psychology, and anthropology.

Twenty credits are required for a minor in Biology: BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab) , BIOL 105/1012 - Introductory Biology II (3 cr. + 1 cr. lab) , and three additional 4-credit 200, 300, or 400 level BIOL courses.

Twenty credits are required for a minor in Biology:

Choose one of the following and three additional 4-credit 200, 300, or 400 level BIOL courses.

- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)
- BIOL 105/1012 - Introductory Biology II (3 cr. + 1 cr. lab)

Biomedical Sciences Minor

The minor in Biomedical Sciences provides students with a useful complement to majors in sciences, engineering, business and humanities at AUC. The program offers directed study in human and animal systems to broaden the background of students wishing to pursue professional careers in biomedical industry, biotechnology, bioinformatics, medicine, and other related areas.

This program fulfills the sciences requirements for the Medical College Admission Test (MCAT®), and the Dental College Admission test (DAT®). Students who wish to apply for medical, dental or other related biomedical graduate programs must complete all other course requirements for admission, as well as other application requirements and extracurricular activities.

Program of Study

The program requires completion of a minimum of 15 credits in biomedical sciences courses. Biology majors are not eligible for this minor.

Admission requirements

A grade of B or better in the following courses:

- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)
- CHEM 106/1006 - General Chemistry II (3 cr.) + CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.) + PHYS 124L/1022 - General Physics Laboratory II (1 cr.)

Required courses

- BIOL 211/2230 - Molecular and Cell Biology (3 cr. + 1 cr. lab)
- BIOL 315/3280 - Biochemistry (3 cr.)

Elective Courses

A minimum of TWO courses from the following:

- BIOL 307/3310 - Microbiology (3 cr. + 1 cr. lab)
- BIOL 312/3326 - Vertebrate Anatomy and Physiology (3 cr. + 1 cr. lab)
- BIOL 301/3360 - Animal Physiology (3 cr. + 1 cr. lab)
- BIOL 303/3370 - Developmental Biology (3 cr. + 1 cr. lab)
- BIOL 411/4150 - Molecular Biology of the Gene (3 cr. + 1 cr. lab)
- BIOL 415/4230 - Immunology (3 cr. + 1 cr. lab)
- BIOL 430/4330 - Tumor Biology (3 cr. + 1 cr. lab)
- BIOL 360/3600 - Introduction to Bioinformatics (3 cr.)

Business Administration Minor

The minor in business administration is designed to introduce students to the basic concepts, models and techniques of the discipline. Students seeking to minor in Business Administration have to apply for the minor following the completion of the following three courses:

ACCT 201/2001 - Financial Accounting (3 cr.)

BADM 203/2001 - Introduction to Business (3 cr.)

ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

or

ECON 202/2011 - Introduction to Microeconomics (3 cr.)

or

ENGR 345/3222 - Engineering Economy (3 cr.)

Students seeking to minor in Business Administration have to apply for the minor prior to registering for business minor courses. The selection of students into the minor in Business Administration is competitive and will depend on the calculation of an equal weighted score between:

I. Overall GPA

The Overall GPA will be calculated using the following criteria:

1. A minimum of 27 credit hours must be completed.
2. All courses a student has completed excluding the course with the worst grade*.

*The worst grade is only excluded if the student has taken 30 or more credit hours.

II. GPA in Minor Requirement courses

The student's GPA in the above three courses required for minor declaration.

Admission to the Business Administration minor is competitive. Eligible students will be ranked and selected based on their weighted grade point average.

Requirements

The minor requires completion of five courses (15 credit hours) as follows:

1.

- ACCT 201/2001 - Financial Accounting (3 cr.)

2.

- BADM 203/2001 - Introduction to Business (3 cr.)

3.

- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
or
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)
or
- ENGR 345/3222 - Engineering Economy (3 cr.)

4.

- MKTG 302/2101 - Principles of Marketing (3 cr.)

5.

- FINC 303/2101 - Business Finance I (3 cr.)

Chemistry Minor

The minor in chemistry provides students with a workable knowledge of the basic principles of chemistry and some of their applications. Students may choose to concentrate on one of the main areas in Chemistry.

The minor in chemistry is comprised of (16-18 credits).

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 106/1006 - General Chemistry II (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)

Additional Requirements

- 8-10 credits of higher level courses in chemistry to be chosen in consultation with a faculty advisor.

Classical/Medieval Islamic History Minor

Requirements (15 credits):

5 courses from the following, depending on the student's area of interest:

- ARIC 320/3020 - Introduction to Sufism (3 cr.)
- ARIC 321/3321 - Zawiya, Harems, Coffee shops, Everyday Life in the Pre-Modern Mideast (3 cr.)
- ARIC 322/3322 - Land, Trade and Power: a History of Economic Relations in the Middle East, 600-1800 A.D. (3 cr.)
- ARIC 323/3323 - Marriage and the Family in the Medieval and Early Modern Middle East (3 cr.)
- ARIC 324/3324 - Non-Muslim Communities in the Muslim World (3 cr.)
- ARIC 336/3336 - Studies in Ibn Khaldun (3 cr.)
- ARIC 343/3343 - Birth of Muslim Community and Rise of the Arab Caliphates (3 cr.)
- ARIC 344/3344 - Caliphs and Sultans in the Age of Crusades and Mongols (3 cr.)

- ARIC 345/3345 - Gunpowder Empires: Ottomans, Safavids and Mughols (3 cr.)
- ARIC 353/3353 - Muslim Political Thought (3 cr.)
- ARIC 440/5131 - Arabic Historical Literature (3 cr.)
- ARIC 451/5133 - Islamic Institutions (3 cr.)
- ARIC 460/5135 - Selected Topics in Middle Eastern History, 600-1800 AD (3 cr.)

Community Development and Organizing Minor

The minor in Community Development provides students with theoretical and practical knowledge that enhances their understanding and vision of a strong civil society, one that is engaged and participatory. The required curriculum includes hands-on community-based learning experiences to initiate the students' professional development in an applied setting. Students learn about the relevance and role of community and personal empowerment in response to population needs. The practicum model is designed with a broad educative focus meant to provide students not only with skills and techniques, but also opportunities for inquiry, for trying and testing new ideas within collaborative relationships, and for engaging community development in new ways.

Academic Advising will be provided to minors through the Anthropology, Sociology and Psychology units. Students need to consult the academic advisor in the SAPE Department in order to declare Community Development and Organizing as a minor.

Course requirements: 15 credits, including the following:

Required Courses (9 credits)

- PSYC 240/2201 - Introduction to Community Development (3 cr.)
- PSYC 340/3202 - Participatory Action Research in Community Settings (3 cr.)
- AND
- SOC/ANTH/PSYC 4203 - Practicum in Community Development (3 cr.)

Electives (6 credits) two of the following:

- ANTH 303/3020 - Social Movements (3 cr.)
- ANTH 370/3085 - Environmental Issues in Egypt (3 cr.)
- ANTH 372/3090 - Public Anthropology (3 cr.)
- ANTH 380/3105 - Fieldwork Methods (3 cr.)
- ANTH 450/4050 - Critical Approaches to Development (3 cr.)
- ANTH 460/4560 - Development Studies Seminar (3 cr.)
- SOC 203/2301 - Social Problems of the Middle East (3 cr.)
- SOC 307/3304 - Social Class and Inequality (3 cr.)
- SOC 435/4040 - Gender and Power in Development (3 cr.)
- SOC 304/3025 - Development Agencies (3 cr.)
- PSYC 330/3003 - Community Psychology (3 cr.)
- PSYC 430/4063 - Advanced Community Psychology (3 cr.)

Comparative Religion Minor

The minor in Comparative Religion is designed to allow students with an interest in religious studies to pursue their research by choosing from a selection of courses on various aspects of the subject both past and present.

Requirements (15 credits):

- CREL 210/2603 - Religions of the World (3 cr.)

Any two other CREL courses (6 credits)

Either two further CREL courses or any two of the following courses (6 credits):

- ANTH 422/4025 - Religion in a Global World (3cr.)
- ARIC 320/3020 - Introduction to Sufism (3 cr.)
- ARIC 324/3324 - Non-Muslim Communities in the Muslim World (3 cr.)
- ARIC 335/3435 - Introduction to the Study of Islam (3 cr.)
- EGPT 440/4040 - Ancient Egyptian Religion and Ethics (3 cr.)
- EGPT 445/5160 - Selected Topics in Coptic Studies (3 cr.)
- PHIL 226/2112 - Philosophy of Religion (3 cr.)

Notes:

With the approval of the CREL advisor, other 300 or 400 level courses on Islam from ARIC, HIST, POLS or PHIL may be substituted for the non-CREL courses listed above.

Computer Science Minor

A minor in Computer Science provides students from other disciplines with basic knowledge and practice in computing that would enable them to develop simple or advanced applications in their field of study.

A minor in Computer Science is comprised of at least 15 credits. Students must follow the study plan of one of the listed options, according to their majors. Students are required to plan their courses such that not more than six Computer Science credits are taken in one semester.

Options for Minor

Theoretical Aspects in Computer Science:

Recommended for Math major students:

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 321/3201 - Analysis and Design of Algorithms (3 cr.)
- CSCE 422/4201 - Theory of Computing (3 cr.)

Data Base Systems:

Recommended for Business, Economics & Engineering majors students:

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 253/2501 - Fundamentals of Database Systems (3 cr.)
- CSCE 453/4501 - Database Systems (3 cr.)

Computer Systems:

Recommended for Physics, Mechanical & Construction majors students but not permitted for Electronics Engineering major:

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 230/2301 - Digital Design I (3 cr.)
- CSCE 231/2303 - Computer Organization and Assembly Language Programming (3 cr.)
- CSCE 239L/2302 - Digital Design I Lab (1 cr.)

Embedded Systems:

Recommended for Electronics Engineering major students only:

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)
- CSCE 110/1101 - Programming Fundamentals (3 cr.)
- CSCE 210/2201 - Data Structures and Algorithms (3 cr.)
- CSCE 345/3401 - Operating Systems (3 cr.)
- CSCE 432/4301 - Embedded Systems (3 cr.)
- CSCE 438L/4302 - Embedded Systems Lab (1 cr.)

Coptic Studies Minor

The minor in Coptic Studies provides students with an introduction to the Coptic period as it follows on from the Pharaonic period and into the Islamic period. This interdisciplinary program, drawing primarily from the Egyptology and Arabic Studies, will cover religion, art, literature, & social and political history from the early days until the present. Influences between different groups, as manifested culturally, will also be studied. Although the main offerings for this minor are currently based in Egyptology and Arabic Studies, other offerings from Political Science, Religion, Art History, History, etc. can also be included, where appropriate.

The minor is supervised by the head of the Egyptology Unit in the SAPE Department.

Requirements (15 credits):

- EGPT 400/5150 - Introduction to Coptic (3 cr.)

Any two of the following:

- EGPT 342/5120 - History of Egypt in the Graeco-Roman Era (3 cr.)
- EGPT 445/5160 - Selected Topics in Coptic Studies (3 cr.)

Any two of the following:

- ARIC 324/3324 - Non-Muslim Communities in the Muslim World (3 cr.)
- ARIC 344/3344 - Caliphs and Sultans in the Age of Crusades and Mongols (3 cr.)
- ARIC 370/3270 - The Age of Transition: Early Islamic Art and the Pre-Islamic Past (3 cr.)

Notes:

Appropriate courses from other departments may be substituted.

Development Studies Minor

Advisor: H. Sabea (Anthropology)

The purpose of the development studies minor is to offer students an introduction to the various social, political, economic, and cultural factors related to the process of development. The approach is interdisciplinary and comparative, with primary emphasis upon development-related issues.

Academic advising is provided through the Anthropology and Sociology units of the Department of Sociology, Anthropology, Psychology, and Egyptology on behalf of an interdisciplinary group of faculty.

Requirements (15 credits):

From the following lists of approved courses, three "development courses" from at least two disciplines other than the major, one "area studies course" not included in the major, and the Development Studies Seminar to be taken after or concurrent with the completion of other courses in the minor:

Approved Development Courses:

- ANTH 320/3040 - States, Capital and Rural Lives (3 cr.)
- ANTH 321/3045 - The Urban Experience (3 cr.)
- ANTH 360/3080 - Gender, Sexuality and Social Change (3 cr.)
- ANTH 372/3090 - Public Anthropology (3 cr.)
- ANTH 450/4050 - Critical Approaches to Development (3 cr.)
- ANTH 462/4065 - Culture, Economy and the Everyday (3 cr.)
- ANTH 492/4070 - Political Anthropology (3 cr.)
- ECON 224/2091 - Economic History (3 cr.)
- ECON 310/3013 - Public Finance (3 cr.)
- ECON 312/3053 - Economic Development (3 cr.)
- POLS 310/3510 - Introduction to Development (3 cr.)
- POLS 323/3423 - Comparative Government and Politics: Developing Systems (3 cr.)
- POLS 460/4560 - Development Studies Seminar (3 cr.)

- SOC 303/3303 - Social Movements (3 cr.)
- SOC 321/3045 - The Urban Experience (3 cr.)
- SOC 322/3050 - Rural Sociology (3 cr.)
- SOC 323/3055 - Fundamentals of Population Studies (3 cr.)
- SOC 431/4035 - Political Sociology (3 cr.)
- SOC 435/4040 - Gender and Power in Development (3 cr.)
- SOC 450/4106 - Critical Approaches to Development (3 cr.)

Approved Area-Studies Courses:

- ANTH 312/3301 - Peoples and Cultures of the Middle East and North Africa (3 cr.)
- ANTH 382/3302 - Peoples and Cultures of Sub-Saharan Africa (3 cr.)
- ANTH 384/3303 - Peoples and Cultures of Latin America (3 cr.)
- ANTH 386/3304 - Peoples and Cultures of Asia (3 cr.)
- ECON 215/2051 - Economic History of the Modern Middle East (3 cr.)
- ECON 414/4094 - Economics of Egypt (3 cr.)
- ECON 415/4051 - Seminar on Economic Development in the Middle East (3 cr.)
- POLS 206/2404 - Europe in International Politics in the Twentieth Century (3 cr.)
- POLS 308/3408 - Comparative Politics of the Middle East (3 cr.)
- POLS 324/3424 - Comparative Government and Politics in Contemporary Eastern Europe and Russia (3 cr.)
- POLS 354/3454 - Political and Social Thought in the Modern Arab World (3 cr.)
- POLS 420/4420 - Issues in Middle East Politics (3 cr.)
- POLS 439/4439 - Government and Politics in the Modern Caucasus and Central Asia (3 cr.)
- SOC 203/2301 - Social Problems of the Middle East (3 cr.)

Special Topics

Selected special topics courses may be accepted as part of "development courses" or "area-studies courses" by the approval of the Advisor:

- SOC 400/4099 - Selected Topics in Sociology (3 cr.)

Digital Media Minor

A minor in Digital media will help students understand creativity in the digital sphere. From web design to animation to different technical skills, students will be exposed to thinking and working in the digital world. Students will develop ideas and projects for TV, the Web and different digital platforms.

Based on the availability of space, a limited number of students will be accepted into the minor. Faculty recommendations are based on the student's performance in the required two courses for minor declaration, DSGN 2113 and DSGN 2200.

Requirements (15 credits):

Choose FIVE from the following:

- DSGN 200/2200 - Analogue and Digital Practices (3 cr.)

- DSGN 213/2113 - Introduction to Visual Cultures (3 cr.)
- DSGN 250/2250 - Digital Practice I (3 cr.)
- DSGN 313/3213 - Web Design (3 cr.)
- DSGN 335/3235 - Animation (3 cr.)
- DSGN 350/3250 - Digital Practices II (3 cr.)

Economics Minor

The minor in field of study provides students with an introduction to the fundamental historical, descriptive, and theoretical concepts of the field.

Requirements (15 credits):

- ECON 201/2021 - Introduction to Macroeconomics (3 cr.)
- ECON 202/2011 - Introduction to Microeconomics (3 cr.)

Additional Requirements

- **Three** other economics courses, with a minimum of two 300-level courses or above.

Courses not included

- ECON 216/2061 - Mathematics for Economists I (3 cr.)
- ECON 218/2081 - Statistics for Economists (3 cr.)
- ECON 316/3061 - Mathematics for Economists II (3 cr.)
- ECON 318/3081 - Introduction to Econometrics (3 cr.)

With the approval of the instructor and the unit head, students may substitute other economics courses for credit towards the minor.

Egyptology Minor

Egyptology is the science and study of Ancient Egypt, including the different aspects of its material and nonmaterial culture. The minor in Egyptology is designed to provide students with a substantive introduction to Ancient Egyptian civilization through the study of its history, art and architecture, religion and literature.

Requirements (15 credits):

All three of the following:

- EGPT 343/3211 - History of Ancient Egypt I: Pre-Dynastic Through Middle Kingdom Egypt (3 cr.)
- EGPT 344/3212 - History of Ancient Egypt II: Middle Kingdom through Ptolemaic Egypt (3 cr.)
- EGPT 304/5100 - Culture and Society of Ancient Egypt (3 cr.)

Two from among the following

- EGPT 250/2250 - Ancient Egyptian Literature in Translation (3 cr.)
- EGPT 253/2251 - Hieroglyphics I (3 cr.)
- EGPT 254/2252 - Hieroglyphics II (3 cr.)
- EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)
- EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)
- EGPT 440/4040 - Ancient Egyptian Religion and Ethics (3 cr.)

Electronics Minor

The Electronics Minor is coordinated by the Electronics and Communications Engineering department (ECNG).

The aim of the minor in electronics is to provide students typically majoring in physics, chemistry, computer science, mathematics, and engineering with a working knowledge of electronics. The hands-on laboratory instruction emphasized in the minor enables scientists and engineers to optimize their use of electronic equipment. The Electronics Minor cannot be taken by students majoring in ECNG.

Requirements 17 credit hours of electronics minor should cover:

- PHYS 215/2211 - Introduction to Electronics (3 cr.)
- PHYS 221L/2212 - Electronics Laboratory (2 cr.)
- ECNG 218L/2108L - Digital Logic Design Lab (1 cr.)
- ECNG 210/2101 - Digital Logic Design (3 cr.)

A minimum of 8 credits selected from the following:

- CSCE 330/3301 - Computer Architecture (3 cr.)
- CSCE 339L/3302 - Computer Architecture Lab (1 cr.)
- ECNG 321/3202 - Automatic Control Systems (3 cr.)
- ECNG 413/4103 - Testing of Digital Circuits (3 cr.)
- PHYS 323L/4234 - Semiconductor Technology Lab (2 cr.)
- PHYS 404L/4225 - Photonics and Optical Communication Laboratory (1 cr.)
- PHYS 414/4224 - Photonics (3 cr.)
- PHYS 415/4930 - Selected Topics in Physics (3 cr.)

English and Comparative Literature Minor

The minor in English and Comparative Literature introduces students to the analysis of the various literary genres and seeks to foster a critical appreciation and love of literature as well as an understanding of its role in society and culture.

Requirements (15 credits):

Any five literature courses offered by the department, exclusive of 100-level courses.

Entrepreneurship Minor

The Minor in business entrepreneurship is designed to introduce students to the idea of entrepreneurship, the traits and behaviors of an entrepreneur. They will learn how to identify market opportunities and how to conduct simple feasible studies for their business ideas. Students can also expect to learn the basic legal aspects of establishing a company in Egypt, and the basic marketing and financial knowledge and skills they need to manage their new company. This knowledge is finally integrated when students engage in multidisciplinary teams in the challenging yet exciting task of creating a new venture and preparing a full business plan. Further exposure to real life will be attained through an internship that each student will have to attend. Students who have completed the minor requirements and who meet the GPA requirement should apply for the minor in their senior year. Students who minor in entrepreneurship are not permitted to have a minor in business administration or accounting.

Requirements

The Entrepreneurship minor requires completion of five courses (15 credit hours) as follows:

- BADM 203/2001 - Introduction to Business (3 cr.)
- ENTR 303/3201 - Principles of Entrepreneurial Finance (3 cr.)
- ENTR 413/4102 - Entrepreneurship and Innovation (3 cr.)
- ENTR 417/4301 - Entrepreneurship Lab: Developing and Launching a New Venture (3 cr.)
- MKTG 302/2101 - Principles of Marketing (3 cr.)

Environmental Science Minor

Coordinated by: A. Bos (Biology), A. Ramadan (Chemistry)

The minor in Environmental Science is an interdisciplinary program coordinated by the departments of Biology and Chemistry. The curriculum is flexible to allow students of all majors to enroll in the minor. The elective courses are designed to satisfy an individual's field of interest. In the course of their studies, students will be subjected to significant environmental issues and challenges at the national, regional and international levels. The minor will enhance the students' career marketability. Students are required to choose an advisor for their minor from either the Department of Biology or the Department of Chemistry.

Requirements (21-23 credits):

Concentration Requirements (9-10 credits)

- BIOL 399/3910 - Guided Studies in Environmental Sciences (3 cr.)

One of the following Biology courses:

- BIOL 102/1040 - Essentials of Environmental Biology (3 cr.)
- BIOL 302/3040 - Environmental Biology for Engineers (2 cr. + 1 cr. lab)
- BIOL 305/3540 - Environmental Biology (3 cr. + 1 cr. lab)

One of the following Chemistry courses:

- CHEM 104/1004 - Man and the Environment (3 cr.)
- CHEM 205/2005 - Environmental Analytical Chemistry (3 cr.)
- CHEM 311/3011 - Analytical Chemistry II (3 cr.)

Electives (9-10 credits)

- ANTH 370/3085 - Environmental Issues in Egypt (3 cr.)
- BIOL 306/3541 - Environmental Biology of the Red Sea (3 cr. + 1 cr. lab)
- CENG 471/4551 - Environmental and Sanitary Engineering (3 cr.)
- POLS 442/4542 - Environmental Politics (3 cr.)
- SCI 260/2006 - Environmental Geology (3 cr.)
- SCI 302/3002 - Science, Technology and the Environment (3 cr.)
- HIST 430/4107 - The Environment in World History (3 cr.)

Additional Requirements (3 credits)

Choose one of the following:

- MACT 112/1221 - Statistical Reasoning (3 cr.)
- MACT 210/2222 - Statistics for Business (3 cr.)
- MACT 317/3224 - Probability and Statistics (3 cr.)

Notes:

Students must finish their concentration requirements in biology and chemistry before taking BIOL 3910 /CHEM 3910.

Film Minor

Minor Requirements:

All Film minor students must complete 18 credit hours of course work as follows:

Complete THREE Foundation Courses (9 credits)

- FILM 200/2200 - Analogue and Digital Practices (3 cr.)
- FILM 220/2120 - Introduction to Film (3 cr.)
- FILM 320/3120 - Cinema in Egypt and the Arab World (3 cr.)

Choose TWO Survey Courses (6 credits)

- FILM 310/3110 - History of World Cinema (3 cr.)
- FILM 340/3140 - Documentary Film (3 cr.)
- FILM 341/3041 - Anthropology and Film (3 cr.)

- FILM 351/3251 - Digital Editing (3 cr.)
- FILM 352/3352 - The Film Industry (3 cr.)
- FILM 353/3253 - Digital Cinematography (3 cr.)
- FILM 354/3354 - Film Audience and Reception (3 cr.)
- FILM 360/3160 - The Filmmaker (3 cr.)
- FILM 390/3190 - Film Genres (3 cr.)
- FILM 456/4356 - Experiential Learning in Film (3 cr.)

Choose ONE from the Following Senior Courses (3 credits)

- FILM 450/4250 - Senior Film Project (3 cr.)
- FILM 470/4370 - Advanced Seminar in Film Study and Research (3 cr.)

Financial Mathematics Minor

This interdisciplinary Minor in Financial Mathematics program allows non-mathematics majors to obtain a basic understanding of how modern mathematics is being applied across a wide spectrum of the financial service industry - investment banks, hedge funds, consulting firms, investment firms, insurance companies, commercial banks, brokerage houses and other corporations.

Course Structure

To be awarded a minor in Financial Mathematics, a student must successfully complete the following 15 credits:

1. MACT 132/1122 - Calculus II (3 cr.) (*Students may be exempted from the MACT 131 requirement based on high school certificate and score in mathematics or by passing a placement examination.*)
2. MACT 231/2123 - Calculus III (3 cr.)
3. MACT 321/3311 - Mathematics of Investment (3 cr.)
4. MACT 421/4312 - Mathematics of Derivatives Pricing I (3 cr.)
5. MACT 422/4313 - Mathematics of Derivatives Pricing II (3 cr.)

Students are reminded to work out a feasible study plan for the 5 courses in this minor requirement. In particular, they need to ensure that they have sufficient number of semesters left in the candidature to complete the courses and to note that MACT3311, MACT4312 and MACT4313 are only offered once a year.

This minor is not awarded with the majors in Mathematics or Actuarial Science.

History Minor

The minor in History is designed to provide students with a substantial introduction to the craft of history while allowing them to choose their own areas of interest.

Requirements (15 credits):

Any five history courses offered by the department, exclusive of 100-level courses.

Information Systems Minor

The study of information systems focuses on the need to improve systems for the benefit of individuals, organizations and society at large. An information system is concerned not only with the technical development of systems applications but also with the interface with people and the support of different business and decision processes. The information systems minor aims to provide a supplementary course of study for students who are taking a major in disciplines outside the departments of Management and Computer Science.

Students who select a minor in information systems (IS) understand the fundamental concepts of information processing and the relationship between the underlying technology and end-user applications that are continuously changing and affecting different elements related to business and organizational development and growth... Equipped with this knowledge, the students enrolled in the minor will be able to solve different computer and information systems related problems, as well as exploring the latest in information and communication technology.

Students who minor in information systems are not permitted to have a minor in business administration or accounting.

Course Requirements

Students who minor in information systems are required to complete the following courses:

1.

- CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)

2.

- CSCE 201/2502 - Information Technology (3 cr.)
or
- MOIS 305/2101 - Introduction to Information Systems/Technology (3 cr.)

3.

- MOIS 406/3201 - Management Information Systems and Database Management (3 cr.)
or
- MOIS 430/4202 - Business Information Systems Analysis and Development (3 cr.)

4.

- MOIS 432/3601 - Decision Support Systems and Business Intelligence (3 cr.)

5.

- CSCE 456/4502 - Design of Web-based Systems (3 cr.)
or
- MOIS 435/3301 - Entrepreneurial IT and Electronic Business (3 cr.)

International Relations Minor

Requirements:

- POLS 203/2003 - Introduction to Political Science II (3 cr.)
This course must be taken if, and only if, POLS 1001 was not taken during the Freshman year.
- POLS 205/2403 - Europe in the Age of Revolution and Reform (1789-1914) (3 cr.)
Or
- POLS 206/2404 - Europe in International Politics in the Twentieth Century (3 cr.)
Students minoring in International Relations are strongly encouraged to take POLS 2404.
- POLS 320/3620 - International Relations (3 cr.)

Additional Requirements

Plus **three** courses (**two** courses, if POLS 2003 had to be taken) chosen from:

- POLS 405/4605 - International Politics in the Middle East (3 cr.)
- POLS 409/4609 - Seminar: International Organization (3 cr.)
- POLS 411/4611 - Contemporary Foreign Policies (3 cr.)
- POLS 413/4513 - International Financial Institutions (3 cr.)
- POLS 430/4030 - Seminar: Special Topics in Political Science for Undergraduates (3 cr.)
- POLS 440/4640 - Seminar: Special Topics in International Relations for Undergraduates (3 cr.)
- POLS 471/4371 - Introduction to Public International Law (3 cr.)

Islamic Art and Architecture Minor

This minor gives a greater appreciation of the cultural heritage of the Arab-Islamic world to interested students.

Requirements (15 credits):

- ARIC 206/2206 - The City of Cairo (3 cr.)
- ARIC 270-271/2270-2271 - From Andalusia to Indonesia: Introduction to Islamic Art and Architecture (3 cr. per semester)

Two of the following:

- ARIC 370/3270 - The Age of Transition: Early Islamic Art and the Pre-Islamic Past (3 cr.)
- ARIC 371-372/3271-3272 - Islamic Architecture in Egypt and Syria (3 cr. per semester)
- ARIC 465-466/5122-5123 - Islamic Architecture in Turkey, Persia and Central Asia (3 cr.)

Islamic Studies Minor

The minor is designed for students, particularly those coming from abroad, who wish to gain a deeper knowledge and appreciation of Islam as a culture.

Requirements (15 credits):

- ARIC 404/5113 - Sira and Hadith (3 cr.)
- ARIC 435/5141 - Studies in the Qur'an (3 cr.)
- ARIC 451/5133 - Islamic Institutions (3 cr.)

And two of the following:

- ARIC 336/3336 - Studies in Ibn Khaldun (3 cr.)
- ARIC 353/3353 - Muslim Political Thought (3 cr.)
- ARIC 354/3405 - Islamic Philosophy (3cr.)
- ARIC 454/5134 - Modern Movements in Islam (3 cr.)
- ARIC 463/5101 - Selected Topics in the History of Islamic Thought and Institutions (3cr.)

Journalism and Mass Communication Minor

The study of journalism and mass communication provides the student with a basic exposure to news gathering and reporting skills, multi-media writing skills and other mass media cultures. Students who have completed JRMC 2200 and RHET 1100 and who meet the GPA requirement of 3.4 are encouraged to apply for the minor before their junior year.

Requirements (18 credits):

- JRMC 200/2200 - Introduction to Mass Communication (3 cr.)
- JRMC 201/2201 - Mass Media Writing (3 cr.)

And one of the following:

- JRMC 202/2202 - Multimedia Writing (3 cr.)
- JRMC 203/2203 - Mass Media Ethics and Responsibility (3 cr.)
- JRMC 250/2250 - Global Media Systems (3 cr.)

Additional Requirements:

Three additional courses at the 300 level or above (provided that prerequisites are completed). Courses not included are JRMC 406/4406 - Internship (3 cr.) and JRMC 499/4499 - Directed Individual Study in Mass Communication (1-3 cr.) and Capstone Courses JRMC 4480 , JRMC 4482 and JRMC 4425 and MTKG courses.

Linguistics Minor

The linguistics minor is administered by the English Language Institute in cooperation with the Anthropology Unit and the Department of Rhetoric and Composition. It offers courses in linguistics anthropology, Teaching English to Speakers of Other Languages (TESOL), or writing in specific genres. The minor is particularly valuable as a complement to majors such as English and comparative literature, Psychology, Sociology, Anthropology, and Journalism and Mass Communication.

Requirements (9 credits):

- LING 200/2201 - Languages of the World (3 cr.)
- LING 252/2200 - Introduction to Linguistics (3 cr.)
- LING 352/3075 - Language in Culture (3 cr.)
/ANTH 3075

And two of the following elective courses (6 credits)

ANTH 332/3060 - Social Constructions of Difference: Race, Class and Gender (3 cr.)
ANTH 380/3105 - Fieldwork Methods (3 cr.)

LING 268/2210 - Principles and Practice of Teaching English (3 cr.)
LING 299/2299 - Selected Topic for Core Curriculum (3 cr.)
LING 400/4099 - Selected Topics in Linguistics
LING 422/4212 - Language and Human Development (3 cr.)

RHET 322/3320 - Writing in the Social Sciences (3 cr.)
RHET 325/3340 - The Rhetoric of Argument in the Humanities and Social Sciences (3 cr.)
RHET 334/3250 - Digital Rhetoric (3 cr.)
RHET 400/4360 - Writing and Editing for Publication (3 cr.)
RHET 410/4260 - Writing for Project Funding (3 cr.)

Mathematics Minor

The minor in Mathematics will acquaint non-mathematics majors with the diversity of the field and enhance the student's ability to formulate and solve problems in other disciplines.

Requirements (15 credits):

For students majoring in the Science & Engineering School:

- MACT 233/2141 - Differential Equations (3 cr.)
- MACT 240/2132 - Linear Algebra (3 cr.)
and 3 courses among:
- MACT 232/2124 - Calculus IV (3 cr.)
and the 300-level and 400-level MACT courses

For students majoring in Economics:

- MACT 112/1221 - Statistical Reasoning (3 cr.)
- MACT 240/2132 - Linear Algebra (3 cr.)
- ECON 316/3061 - Mathematics for Economists II (3 cr.)
and 2 courses among: 300-400 level MACT courses and
- ECON 416/4061 - Mathematical Economics (3 cr.)

For all the other students:

- MACT 112/1221 - Statistical Reasoning (3 cr.)
Or MACT 210/2222 - Statistics for Business (3 cr.)
- MACT 131/1121 - Calculus I (3cr.)
and any 3 MACT courses (excluding MACT 1111 , MACT 1112 and MACT 1930)

Mechatronics

Coordinator and Minor Advisor: M. Habib

The minor in Mechatronics provides students with broad understanding of the latest developments of synergized interdisciplinary knowledge, design principles, technologies, and practical skills within the growing field of Mechatronics. It serves students in all majors. The Minor in Mechatronics as a unifying interdisciplinary field enables students with such knowledge and practical experience to develop new and innovative solutions across disciplines for highly emerging technical challenges. It is envisaged that the Minor would attract students to be part of the new era of industrialization, widen their views and understanding, develop creative thinking, and to enable students to look forward to a high quality job satisfaction with enhanced career prospects.

The minor in Mechatronics requires to complete (15) credit-hour courses. Students can select their (15) credit-hour from two pools of courses as follow:

I. The first pool of courses is under MENG courses.

It is required to select a minimum of (9) credit-hour from the following list:

Minor core: students must complete the following two courses

- MENG 477/4757 - Robotics: Design, Analysis and Control (3 cr.)
- MENG 479/4779 - Integrated Design of Electromechanical Systems (3 cr.)

Minor electives: a minimum of 3 credit-hour must be selected from the minor electives

- MENG 375/3705 - System Dynamics (3 cr.)
- MENG 476/4756 - Automatic Control Systems (3 cr.)
- MENG 478/4778 - Microcontrollers and Mechatronics systems (3 cr.)

II. The second pool of courses is under other SSE departments.

A maximum of (6) credit-hour to be selected from the following list:

For students from ECNG

- ECNG 321/3202 - Automatic Control Systems (3 cr.)
- ECNG 453/4503 - Microcontroller System Design (3 cr.)

For Students from CSCE

- CSCE 427/4602 - Introduction to Artificial Neural Networks (3 cr.)

For students from PHYS

For students from PENG

- PENG 471/4223 - Reservoir Simulation and Modeling (2 cr. + 1 cr.)

Middle East Politics Minor

The minor in Middle East politics is open to students majoring in disciplines other than political science. It requires successful completion of five courses selected from the following, which may be taken with the consent of the instructor:

Requirements:

- POLS 203/2003 - Introduction to Political Science II (3 cr.)
This course must be taken if, and only if, POLS 101 was not taken during the Freshman year.
- POLS 308/3408 - Comparative Politics of the Middle East (3 cr.)

Additional Requirements

and **Four** courses (**three** courses if POLS 202 had to be taken) selected from the following:

- POLS 325/3425 - Government and Politics of Egypt (3 cr.)
- POLS 354/3454 - Political and Social Thought in the Modern Arab World (3 cr.)
- POLS 405/4605 - International Politics in the Middle East (3 cr.)
See footnote one.
- POLS 420/4420 - Issues in Middle East Politics (3 cr.)
- POLS 422/4422 - Contemporary Egypt (3 cr.)
- POLS 430/4030 - Seminar: Special Topics in Political Science for Undergraduates (3 cr.)
(Whenever content is relevant. May be taken more than once for credit if content changes)
- POLS 432/4432 - Seminar: Comparative Politics and/or Policies (3 cr.)
(Whenever content is relevant)

Notes:

Footnote 1: The requirement that POLS 3620 be taken as a prerequisite for POLS 4605 may be waived for minors with the consent of the instructor.

Music Minor

In order to complete the minor in music, a student will:

- Learn to read music, and acquire fundamental listening and sight-reading skills.
- Learn the basic principles of music theory, either Western or Arab.
- Study representative great works of music literature and composers who produced them, either Western or Arab.
- Make substantial progress in learning to sing or play an instrument; more advanced students may also present part of a solo recital, with the permission of their teacher.
- Sing in a choir, and/ or play in an instrumental ensemble.

This will require that the student complete 17 credit hours of instruction, normally including the following:

Theory and literature (10 cr.)

- MUSC 220/2200 - Introduction to Music (3 cr.)

EITHER

- MUSC 240/2400 - Western Music Theory I (3 cr.)
AND
- MUSC 241/2401 - Sight-Singing and Aural Skills I (1 cr.)
AND
- MUSC 360/3200 - Music in the Western Tradition (3 cr.)

OR

- MUSC 245/2450 - Arab Music Theory I (3 cr.)
AND
- MUSC 246/2451 - Maqam I (Arab Music Sight-Singing and Aural Skills) (1 cr.)
AND
- MUSC 342/3250 - Music in the Arab Tradition (3 cr.)

Performance (4 cr.)

MUSC 1800-1801 Applied Private Instruction (1 cr. each = 2 cr.)

Two semesters of ensemble, chosen from among the following:

- MUSC 262-362-462/2620-2621-2622 - Arab Music Ensemble (1 cr.)
- MUSC 263-363-463/2630-2631-2632 - Guitar Ensemble (1 cr.)
- MUSC 264-364-464/2640-2641-2642 - Chamber Music Ensembles (1 cr.)
- MUSC 265-365-465/2650-2651-2652 - Rehearsal/Performance Practicum (1 cr.)
- MUSC 266-366-466/2660-2661-2662 - Chamber Singers (1 cr.)
- MUSC 267-367-467/2670-2671-2672 - Cairo Choral Society (1 cr.)

Music Technology (3 cr.)

EITHER

- MUSC 330/2300 - Introduction to Music Technology (3 cr.)
OR
- MUSC 331/2301 - Music Production Using Protocols I (3 cr.)

Music Technology Minor

In order to complete a minor in music technology, a student will:

- Learn to read music, and acquire fundamental listening and sight-reading skills.
- Learn the basic principles of music theory (either Western or Arab).
- Acquire some fluency at playing piano, and at using the keyboard as a tool for music data entry; more advanced students may present a part of a solo recital, in piano or another instrument, with permission of their teacher.
- Learn the fundamental techniques of recording, editing, mixing, and mastering.
- Acquire an intermediate knowledge of Protocols and editing software.
- Acquire an intermediate understanding of MIDI.

This will require the student to complete 18 credit hours of instruction, normally including the following:

Theory and literature (7 cr.)

- MUSC 220/2200 - Introduction to Music (3 cr.)

EITHER

- MUSC 240/2400 - Western Music Theory I (3 cr.)
AND
- MUSC 241/2401 - Sight-Singing and Aural Skills I (1 cr.)

OR

- MUSC 245/2450 - Arab Music Theory I (3 cr.)
AND
- MUSC 246/2451 - Maqam I (Arab Music Sight-Singing and Aural Skills) (1 cr.)

Performance (2 cr.)

- MUSC 284-285-286/2850-2851-2852 - Private Instruction for Piano Proficiency (1 cr. each)

Music Technology (9 cr.)

- MUSC 232-332-432/2302-3302-4302 - Digital Audio / MIDI Lab (1 cr. each)
- MUSC 330/2300 - Introduction to Music Technology (3 cr.)
- MUSC 331/2301 - Music Production Using Protocols I (3 cr.)

Philosophy Minor

The minor in philosophy introduces the student to the specific forms of philosophic questioning and to philosophic methods and modes of thought. It offers an opportunity for students to learn about the unique contribution philosophical traditions have made to civilization; moreover the minor shows students the close relationship philosophy has with the social sciences, the arts, and the natural sciences.

Requirements (15 credits):

Any five philosophy courses, exclusive of 1000-level courses and PHIL 2100, selected in consultation with a member of the philosophy faculty.

PHIL 2100 is prerequisite for all philosophy courses except PHIL 1010, PHIL 1099, and PHIL 2010.

Physics Minor

The minor in physics is designed to provide students majoring in science, computer science or engineering with the opportunity of complementing their major disciplines with a series of courses designed to provide in-depth appreciation of physics.

Requirements (17 credits)

Students have to complete the following courses (8cr.)

- PHYS 204L/2222 - Optics Laboratory (1 cr.)
- PHYS 211/2041 - Foundations of Modern Physics (3 cr.)
- PHYS 214/2221 - Waves and Optics (3 cr.)
- PHYS 000/2042 - Modern Physics Laboratory (1 cr.)

And a minimum of 9 credits from the following:

- PHYS 311/3031 - Thermodynamics and Statistical Mechanics (3 cr.)
- PHYS 312/3013 - Theoretical Mechanics (3 cr.)
- PHYS 316/3023 - Electromagnetic Theory (3 cr.)
- PHYS 321L/3052 - Nuclear Physics Lab (1 cr.)
- PHYS 322L/3232 - Solid-State Physics Lab (2 cr.)
- PHYS 325/3231 - Introduction to Solid-State Physics (3 cr.)
- PHYS 413/4051 - Nuclear and Particle Physics (3 cr.)
- PHYS 421/4042 - Quantum Mechanics I (3 cr.)

Political Economy Minor

The minor in Political Economy is open to students majoring in disciplines other than Political Science.

Requirements:

The Minor requires successful completion of :

- POLS 203/2003 - Introduction to Political Science II (3 cr.)
(This course must be taken if, and only if, POLS 1001 was not taken during the Freshman year)
- POLS 350/3550 - Introduction to Political Economy (3 cr.)
- POLS 351/3551 - Theory and History of Political Economy (3 cr.)
- POLS 425/4525 - Global Political Economy (3 cr.)

Additional Requirements

Plus **two** courses (**one** course if POLS 2003 had to be taken) from the following:

- POLS 413/4513 - International Financial Institutions (3 cr.)
- POLS 424/4524 - Political Economy of the Middle East and North Africa (3 cr.)
- POLS 442/4542 - Environmental Politics (3 cr.)

Political Science Minor

Requirements (15 credits) to be taken as follows:

1. if POLS 1001 has already been taken in the Freshman Year:
five Political Science courses at 300 or 400 level.
2. if POLS 1001 has not been taken in the Freshman Year:
POLS 2003 plus four Political Science courses at 300 or 400 level.

Psychology Minor

The minor in psychology provides a general introduction to the field without the depth of methodological training required of majors.

Students who intend to seek a minor in Psychology must have taken PSYC 1000 and have obtained a grade of "B" or higher. Admission is competitive. A combination of discipline-relevant factors, including performance in PSYC 1000, GPA, and involvement in extracurricular activities related to psychology will be used to determine eligibility. Selection of classes for the Minor should be approved in consultation with the Psychology faculty.

Core requirements (3 credits)

- PSYC 201/1000 - Introduction to Psychology (3 cr.)

General Requirements (6 Credits)

Students must select at least one course from each of the groups listed below

- Individual Context (3 credits)
- PSYC 327/3270 - Theories of Personality (3 cr.)
or
- PSYC 342/3420 - Abnormal Psychology (3 cr.)
Social Context (3 credits)

- PSYC 301/3010 - Social Psychology (3 cr.)
or
- PSYC 330/3003 - Community Psychology (3 cr.)

Additional Requirements (6 credits)

Two additional psychology courses. Psychology minors are permitted to enroll in any psychology courses for which they meet the requirements.

Sociology Minor

The minor in sociology introduces students to the central concepts and methods of the field. Emphasis is on the theoretical perspectives of sociology in the study of society, culture, and the individual.

Requirements (15 credits)

Prerequisites for these courses must be completed in order to minor in sociology.

- **One** 300-level sociology course
- **One** 400-level sociology course
- SOC 201/2101 - Introduction to Sociology (3 cr.)
- SOC 309/3102 - History of Social Theory (3 cr.)
- SOC 381/3105 - Doing Survey Research in the Social Sciences (3 cr.)

Theatre Minor

The minor in theatre provides a general introduction to the art and craft of theatre through the study of dramatic literature and the exploration of performance processes through practical application.

Students are encouraged to declare the minor early in their academic career to accommodate necessary prerequisites and give the student the benefit of practical experience. After declaring, all students must have an advising session with the Director of Theatre to define the selected course of study.

Requirements:

A minimum of 18 credits in Theatre:

- THTR 203/1201 - Theatre in the Making (3 cr.)
- THTR 230/2301 - Play Analysis (3 cr.)
Three credits total from the following:
- THTR 204/2401 - Introduction to Technical Theatre (3 cr.)
- THTR 240/2601 - Production Practicum (1 cr. per production)
- THTR 242/2603 - Rehearsal and Performance Practicum (1 cr. per production)
One from the following:
- THTR 225/2201 - Acting I (3 cr.)
- THTR 226/2211 - Acting in Arabic I (3 cr.)
- THTR 461/4103 - Dramatic Theory and Criticism (3 cr.)

One additional Theatre course, must be a 300 level course or higher.

Type Design Minor

Students will learn about the intricacies of Type in the Type Design Minor. The skill for using and manipulating both Latin and Arabic typography is the highlight of this minor. Special focus is paid to the history and practice of Arabic script and type.

Based on the availability of space, a limited number of students will be accepted into the minor. Faculty recommendations are based on the student's performance in the required courses for minor declaration, DSGN 2113 DSGN 2200 .

Requirements (15 credits):

Choose FIVE from the following:

- DSGN 200/2200 - Analogue and Digital Practices (3 cr.)
- DSGN 210/2210 - Typography I (3 cr.)
- DSGN 213/2113 - Introduction to Visual Cultures (3 cr.)
- DSGN 318/3118 - History of Arabic Calligraphy (3 cr.)
- DSGN 320/3220 - Typography II (3 cr.)
- DSGN 330/3230 - Typography III (3 cr.)

Writing Minor

The Minor in Writing introduces and advances the knowledge, understanding and value of rhetoric and writing disciplines at the university. It provides the opportunity for students to study and practice across disciplines of writing, from narrative nonfiction and creative writing, to business and technical writing, to approaches to academic inquiry.

Requirements (15 credits):

Students who opt to minor in Writing must have completed RHET 2010 with a minimum grade of B-.

To fulfill the 15 credits for the Minor in Writing, students take:

Required course for each emphasis area:

- Writing in the Creative Genres:ECLT 3070 (Creative Writing)
- Business/Technical Writing: RHET 3210 (Business Communication)
- Writing and Society: RHET 3310 (Effective Rhetoric: Discourse and Power)

Additional Requirements (12 credits total):

- 6-9 credits in one emphasis area (Writing in the Creativity Genres, Business/ Technical Writing, or Writing and Society)
- 3 credits in a second emphasis area, and

- 0-3 credits in any area of their choice

Minor in Writing courses may be double-counted for:

- Core Curriculum credit at the *secondary* level
- Core Curriculum credit at the *capstone* level

Minor in Writing courses may NOT be double-counted for:

- Primary Core requirement in Rhetoric and Composition (3-9 credits)
- Major/Concentration credit

Students who have already taken any of the writing courses below as *electives* or Core courses (as described above) may count credits retroactively.

Course list by emphasis area:

A. Writing in the Creative Genres

Students who select this area of emphasis will practice and work toward mastery in several creative genres of writing, including the following: narrative nonfiction, autobiography, travel writing, fiction, poetry, playwriting and children's literature. They will read within and practice the conventions of these genres, consider ethical concerns raised in the genres, develop critical mastery of the creative genres, and produce a substantial capstone project demonstrating significant growth in writing in a chosen creative genre.

- ECLT 370/3070 - Creative Writing (3 cr.)
- RHET 340/3120 - Life Narratives: Reading as Writers (3 cr.)
- RHET 341/3130 - Travel Writing (3 cr.)
- RHET 342/3140 - Writing Children's Literature (3 cr.)
- RHET 345/3110 - The Writer's Workshop (3 cr.)
- RHET 380/3150 - Poetry Writing (3 cr.)
- RHET 390/3160 - Fiction writing (3 cr.)
- RHET 450/4160 - Imagining the Book (3 cr.)

B. Business/Technical Writing

Students who select this area of emphasis will practice and work toward professional competency in the fields of business, science and technical communications, including the following: business writing, technical writing, proposal writing, and digital rhetoric. They will read within and practice the conventions of these fields of communication, and will reflect upon ethical and critical standards enforced or called into question by these practices.

- RHET 225/2220 - Public Speaking (3 cr.)
- RHET 320/3210 - Business Communication (3 cr.)
- RHET 321/3230 - Technical Communication (3 cr.)
- RHET 332/3240 - Presentation and Persuasion in Business (3 cr.)
- RHET 334/3250 - Digital Rhetoric (3 cr.)
- RHET 410/4260 - Writing for Project Funding (3 cr.)
- RHET 480/4270 - Research and Writing Internship (3 cr.)

- RHET 490/4280 - Advanced Scientific and Technical Writing (3 cr.)

C. Writing and Society

Students who select this area will focus on the social power of writing: writing as a force in academic disciplines, writing and cognitive studies, and writing for publication in the various disciplines. Students learn how writing drives thought, genres, and the development of disciplines and consider ethical concerns raised through this practice.

- RHET 310/3310 - Effective Rhetoric: Discourse and Power (3 cr.)
- RHET 322/3320 - Writing in the Social Sciences (3 cr.)
- RHET 323/3330 - Changing Words, Changing Worlds (3 cr.)
- RHET 325/3340 - The Rhetoric of Argument in the Humanities and Social Sciences (3 cr.)
- RHET 330/3350 - Writing and Cognition (3 cr.)
- RHET 400/4360 - Writing and Editing for Publication (3 cr.)

Selected Topics and Independent Study

(Depending on 'topic,' these courses may fit in any of above 'emphasis' areas each course may be repeated for credit as long as the content differs each time it is taken.)

- RHET 199/1099 - Selected Topics (3 cr.)
- RHET 299/2099 - Selected Topics (3 cr.)
Public Speaking
- RHET 399/3099 - Selected Topics (3 cr.)
Advanced Style
- RHET 460/4060 - Independent Study (1-3 cr.)

Development Practice (MDP) option BSc/CENG-MPA

Dual Degree Option BSc/CENG-MPA

Students enrolled in the School of Science and Engineering may apply to complete the MPA on an accelerated basis in conjunction with completion of the BSc. in engineering. At present, this option is open only to students completing the BSc. in Construction Engineering. Students interested in this option should consult with their advisors during the Fall of their fourth year for potential admission to the program in their fifth year. Those interested in this option are required to complete a summer work assignment for Fall practicum in their fifth year. The program is jointly administered by the Department of Public Policy and Administration in the School of Public Affairs and the School of Sciences and Engineering. Admission is based on the recommendation of the student's SSE advisor and review by the PPAD department. The program prepares students for careers in public service with the highest ethical standards, strong competencies in environmental analysis and management as well as public governance, excellent leadership and communication skills, a sound understanding of the use of evidence and analysis in public service settings, and a commitment to building a better future for the people of Egypt and the region. Students pursue careers in government, nonprofit organizations, international development agencies, academia, and the private sector.

Students electing the dual degree option begin taking graduate courses in their ninth semester and receive both the BSc. and the MPA upon the completion of their coursework and master's thesis, normally at the end of their 6th year. The following course sequence has been developed for this option, but students should consult their advisor in CENG to ensure that all SSE requirements are met:

SEMESTER IX

- CENG 424/4253 - Methods and Equipment for Construction II (2 cr.)
- Eng. Concentration 1 elective
- CENG 448/4460 - Financial Management and Accounting for Construction (3 cr.) (MPA credit)
- CENG Elective (1)
- CENG 431/4351 - Transportation Engineering (3 cr.)
- CENG 490/4980 - Senior Project I (1 cr.) (Capstone Core Level I)
- CENG 497/4951 - Practical Training (1 cr.) (Practicum)

SEMESTER X

- Engineering Concentration 2
- CENG 567/5243 - Construction Leadership and Management Skills (3 cr.)
- CENG 491/4981 - Senior Project II (2 cr.) (Capstone Core Level II)
- PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.) (MPA credit)
- PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.) (MPA credit)
- Science elective (from MDP list)
- Summer internship – public/NGO management focus preferred (MPA credit through 5198)

SEMESTER XI

- PPAD 591/5198 - Practicum (3 cr.) (Capstone Level II) (MPA Credit)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.) (MPA Credit)
- PPAD Elective selected with MPA advisor (MPA Credit)
- Science elective (selected with PPAD advisor)
- PPAD 598/5298 - Research Seminar (0 cr.) (MPA Credit)

SEMESTER XII

- PPAD 514/5224 - Human Resource Management for Government and Nonprofit Organizations (3 cr.) (MPA Credit)
- PPAD 516/5132 - Social and Environmental Policy (3 cr.) (MPA Credit)
- PPAD 517/5126 - Non-profit Management (3 cr.) (MPA Credit)
- PPAD 599/5299 - Research Guidance (0 cr.) (MPA Credit)

Summer thesis work, if needed.

Lists of MDP-relevant courses will be provided to students in the program prior to registration for each semester, based on offerings available in the appropriate departments

Political Science (B.A.) and International Human Rights Law (M.A.)

Dual Degree Option in Political Science (B.A.) and International Human Rights Law (M.A.)

The Dual Degree option combines a BA in Political Science and an MA in International Human Rights Law. It is a dual degree, creating a synergy between the existing BA in Political Science and the existing MA in International Human Rights Law.

The dual degree option enables good students to prepare for a postgraduate degree while completing the requirements for the BA in Political Science. Non-law students who achieve a MA Degree under the auspices of the Law Department

at AUC qualify for better jobs in Egypt or abroad, or pursue a legal education at prestigious law schools in the United States and elsewhere. The MA degree also provides students with the necessary expertise in international human rights law and with the intellectual, analytical and communication tools needed to intervene critically and effectively in the global policy debates confronting their societies as policy makers, academics, activists and international civil servants.

Interested students have the option of starting the Dual Degree in the sixth semester of the political science BA at AUC. During the fifth semester (i.e., before the semester in which s/he enrolls in POLS 4371) the student has to declare her/his intention to pursue the Dual Degree by submitting a graduate admission application. The student should follow the application procedures for graduate studies. Admission decisions will be made by the Law Department's Admission Committee. Successful applicants will be admitted pending the fulfillment of two conditions: i) finishing the requirements of their undergraduate degrees with at least B (GPA 3); and ii) obtaining an average of at least a B+ (GPA of at least 3.3) across the three cross-listed 'Dual Degree' Law courses. Places are limited.

Under this structure, dual-degree students will be required to take three 400-level courses that are cross-listed under LAW and POLS. These three "Dual Degree" cross-listed courses (see below) will count for credit towards both the BA in Political Science and under the MA in International Human Rights Law.

The three 'Dual Degree' Law courses to be offered to undergraduates in the Political Science Department are the following: (a) POLS 471/4371 - Introduction to Public International Law (3 cr.) (b) POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.) and (c) POLS 478/4378 - Introduction to International Human Rights Law (3 cr.) The curriculum for the MA IHRL requires the completion of nine courses and a thesis, as indicated in the tentative plan below: 3 POLS/LAW undergraduate courses, 2 graduate regional human rights courses, 3 graduate elective courses, LAW 5227 , and the thesis.

Tentative Plan for Full-time Students

SEMESTER VI (POLS undergraduate program)

LAW/POLS 471/4371 - Introduction to Public International Law (3 cr.) (counts towards both concentrations in POLS for all students) (and MA IHRL credits)
[4 POLS courses or other courses as required to complete POLS BA degree]

SEMESTER VII (POLS undergraduate program)

LAW/POLS 478/4378 - Introduction to International Human Rights Law (3 cr.) (counts towards both BA POLS and MA IHRL credits)
[4 POLS courses or other core courses as required to complete POLS BA degree]

SEMESTER VIII (POLS undergraduate program)

LAW/POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.) (counts towards both BA POLS and MA IHRL credits)
[4 POLS courses or other core courses as required to complete POLS BA degree]

SEMESTER IX (MA IHRL program)

LAW 514/5214 - Human Rights in the Middle East (3 cr.) * (2 out of 3 starred courses required)
LAW 519/5219 - Human Rights in Africa (3 cr.) * (2 out of 3 starred courses required)
LAW 513/5213 - The European System of Human Rights Protection (3 cr.) * (2 out of 3 starred courses required)
LAW Electives**

SEMESTER X (MA IHRL program)

LAW Electives**
 LAW Electives**
 LAW 527/5227 - Graduate Law Seminar (3 cr.)

SEMESTER XI (MA IHRL program)

LAW 599/5299 - Research Guidance/Thesis (no cr., graded)

*** Lists of LAW elective courses will be provided to students in the program prior to registration for each semester.*

Sustainable Development M.Sc. (Dual Degree)

The M.Sc. Sustainable Development program at AUC and the various English language delivered LaureaMagistrale in Ingegneria, Architecture or Design at the Politecnico di Milano offer a dual degree program. This cooperation between the American University in Cairo and the Politecnico di Milano provides students interested in both universities the opportunity to have two masters but not obligatory. Students interested only to study at the AUC still can apply only for the AUC Masters in Sustainable Development, so they do not have to apply for a second degree from Italy and the same for the students interested only in Politecnico di Milano.

Students from Politecnico di Milano, after completing their first year of LaureaMagistrale and achieving a minimum of 60 ECTS (18 Credit Hours), join the M.Sc. program in Sustainable Development offered by AUC. Such students will complete 18 Credit Hours (60 ECTS), divided into 9 Credit Hours of Core Module courses (GREN 5201 is mandatory, plus selected ones from among GREN 5202, GREN 5203, GREN 5204, and GREN 5205) and 9 Credit Hours from the modules: Green Technologies Module (GREN 5211, GREN 5213, GREN 5214), the Entrepreneurship Module (GREN 5221, GREN 5222, GREN 5223, GREN 5224), the Sustainable Cities Module (GREN 5231, GREN 5232, GREN 5233), or the Sustainable Communities Module GREN 5244. An additional 9 Credit Hours (30 ECTS) are required as Sustainable Development Project, to be carried out either as a project work/internships at the Politecnico di Milano or at AUC in the form of three courses (GREN 5281, GREN 5282, GREN 5283). Finally, such students will produce a final thesis in English through 30 ECTS (9 Credit Hours) defended to faculty at both institutions. After completing 180 ECTS (60 ECTS at POLIMI, 18 Credit Hours at AUC, 9 credit hours/30 ECTS of project and 30 ECTS thesis), students shall be awarded two MSc degrees: the "LaureaMagistrale" in Ingegneria, Architettura or Design, according to the specific course of studies at the POLIMI and the Master of Science in Sustainable Development.

Students from the American University in Cairo, after completing 18 Credit Hours (60 ECTS) in the M.Sc. Sustainable Development program, join one of the English-language delivered LaureaMagistrale programs at the Politecnico di Milano to take 60 ECTS (18 Credit Hours). At AUC, the initial 18 Credit Hours is divided into 9 Credit Hours of Core Module courses (GREN 5201 is mandatory, plus selected ones from among GREN 5202, GREN 5203, GREN 5204, and GREN 5205) and 9 Credit Hours from the modules: Green Technologies Module (GREN 5211, GREN 5213, GREN 5214), the Entrepreneurship Module (GREN 5221, GREN 5222, GREN 5223, GREN 5224), the Sustainable Cities Module (GREN 5231, GREN 5232, GREN 5233), or the Sustainable Communities Module GREN 5244. Upon completion of those 18 Credit Hours, students who began at AUC study for one year at Politecnico di Milano for 60 ECTS (18 Credit Hours) in one of the approved programs; approved courses are those that meet the qualifications for the selected degree program (list of available programs and admission rules can be found under:

<http://www.polinternational.polimi.it/educational-offer/laurea-magistrale-equivalent-to-master-of-science-programmes/>

Students will have also to complete an additional 9 Credit Hours (30 ECTS) of Sustainable Development Project at AUC in the form of three courses (GREN 5281, GREN 5282 and GREN 5283) or as a project work/internships at the Politecnico di Milano. Finally, such students will produce a final thesis in English through 9 Credit Hours (GREN 5251, GREN 5252, GREN 5253) defended to faculty at both institutions. After completing total 54 Credit Hours (180 ECTS), students shall be awarded two MSc degrees: the "LaureaMagistrale in Ingegneria, Architettura or Design, according to the specific course of studies at the POLIMI and the Master of Science in Sustainable Development.

The conversion of credits from Politecnico di Milano to the American University in Cairo is calculated as follows: 1 Credit Hours is equal to 3.33 ECTS.

Admissions

A candidate for the Dual Degree Program, at both AUC and the Politecnico di Milano must meet the requirements for admission to the AUC M.Sc. Sustainable Development program and the selected LaureaMagistrale. AUC students can apply after completing their first semester latest by 30th March of each year. Admission to the Dual Degree Program is based on academic qualifications, experience, and a personal statement of interest.

Arabic Studies, with specializations in Islamic Art and Architecture, Arabic Language and Literature, Middle Eastern History and Islamic Studies (M.A.)

The department of Arab and Islamic Civilizations (ARIC) offers Master's degrees in Arabic Studies with emphases in four fields: Islamic Art and Architecture, Middle Eastern History, Islamic Studies, Arabic Language and Literature. The degree program is designed to give students a solid academic background in the ideas and traditions that form the foundation of the important contributions of the Arab and Muslim peoples to human civilization. Course offerings cover the Arab and Islamic world from the seventh century to the modern era. All students must write a master's thesis based on research using original Arabic language sources. There is no comprehensive exam option. The master's degree in Arabic Studies is best-suited for students who hope to pursue a career in academia, but it will also prove invaluable to students who want to go into diplomacy, government service, journalism, and similar fields.

The student may choose one of the following areas of specialization:

1. Arabic Language and Literature
2. Islamic Art and Architecture
3. Middle Eastern History
4. Islamic Studies

Courses

The student must take a minimum of eight courses in his/her area of specialization.

These must include

For Arabic Language and Literature specialization

Choose one of the following:

- ARIC 504/5210 - Seminar on a Selected Work or Author in Classical Arabic Literature (3 cr.)
OR
- ARIC 507/5211 - Seminar on Modern Arabic Literature: Nineteenth Century (3 cr.)
- ARIC 508/5212 - Seminar on Modern Arabic Literature: Twentieth Century (3 cr.)

For Islamic Art and Architecture specialization

Choose one of the following:

- ARIC 575-576/5222-5223 - Special Studies in Islamic Art and Architecture (3 cr.)

For Islamic Studies Specialization

Choose one of the following:

- ARIC 435/5141 - Studies in the Qur'an (3 cr.)
Or
- ARIC 525/5241 - Seminar on Selected Topics in Sira or Hadith (3 cr.)

Students may also choose one of the following:

- ARIC 526/5242 - Seminar on Selected Topics in Islamic Law and Legal Theory (3 cr.)
Or
- ARIC 527/5243 - Selected Topics in Islamic Theology, Sufism or Philosophy (3 cr.)

For Middle Eastern History specialization

Choose one of the following:

- ARIC 530/5230 - Seminar on a Selected Topic in Medieval Arab/Islamic History, 600-1800 A.D. (3 cr.)
OR
- ARIC 542/5231 - Seminar on the Nineteenth-Century Middle East (3 cr.)
OR
- ARIC 543/5232 - Seminar on the Twentieth-Century Middle East (3 cr.)

Additional Requirements

5100 level courses may be taken as part of the M.A. program in which case extra readings and research will be required of the graduate students. See below:

- ARIC 510-511/5213-5214 - Special Studies in Classical Arabic Literature (3 cr.)
- ARIC 512-513/5215-5216 - Special Studies in Modern Arabic Literature (3 cr.)
- ARIC 521-522/5202-5203 - Special Studies in Islamic Thought and Institutions (3 cr.)
- ARIC 560 - 561/5233-5234 - Special Studies in Middle Eastern History (3 cr.)
- ARIC 575-576/5222-5223 - Special Studies in Islamic Art and Architecture (3 cr.)

Notes:

Subject to departmental approval, up to two courses may be taken outside the area of specialization.

Courses on 19th - 20th century Middle Eastern history are taught by the Department of History.

Admissions

The history unit has a preference for applicants who already have some academic background in Arabic and Islamic studies and who have studied the Arabic language at the university level for at least one year.

Language

To be eligible for the master of arts degree in Arabic Studies the student must reach an acceptable level of proficiency in advanced literary Arabic as established by examinations. The student whose degree concentration is Arabic language and literature is expected to go beyond this minimum requirement. The student whose degree concentration is Islamic Art & Architecture is expected to attain the equivalence of ALNG 2101-2102-2103 by test. The student whose degree concentration is history must reach the ALNG 3103-3104 level or its equivalent before writing his/her thesis. To be eligible for the degree of master of arts in Arabic studies, the student must also demonstrate through examination a reading knowledge of at least one major language other than English, preferably French or German. If the student's research can be performed successfully without knowledge of a third language, the department may exempt the student from this requirement.

Thesis

A thesis is required in all three branches of the master of arts in Arabic studies. The thesis must be written in English and submitted in accordance with university regulations.

Community Psychology (M.A.)

Master of Arts in Community Psychology

The Master of Arts in Community Psychology is administrated by the graduate program in Counseling and Community Psychology. The Community Psychology degree places its graduates at the forefront of advancing global trends towards multicultural and systemic community psychology practice. Courses prepare students to work with communities, schools, governments, international or multilateral organizations and/or nongovernmental organizations to develop, implement, and evaluate psychosocial interventions that promote psychological and physical health and well-being. The program exposes students to methods of community psychology practice that are ethically responsible and culturally appropriate to Egypt and the region.

Admission

The applicant should have a minimum of 3.0 GPA in undergraduates studies; if the student has an MA in a related field already, a 3.0 GPA will also be expected at that level. Applicants should have taken an introduction to psychology course and completed previous coursework in statistics and research methods relevant to the social sciences. It is preferred that applicants have completed an undergraduate major in psychology or a related filed, or have relevant work experience.

The program course sequence only starts in the fall semester. Admitted students with course prerequisite requirements and/or English language requirements, must complete these requirements before being allowed to enroll in the program classes. In this respect, applicants to the program are strongly encouraged to apply before mid-November of each year. This will allow for an early evaluation of prerequisite requirements so that whenever possible, these requirements can be met before the start of the fall semester.

Language Requirement

The applicant should demonstrate proficiency in the English language in accordance with AUC standards.

Courses (36 credit hours)

Course work for the Master of Art requires the completion of 36 credits as follows:

1. Core courses

15 credits Required / 5 courses

- PSYC 500/5200 - Fundamentals of Counseling (3 cr.)
- PSYC 502/5210 - Community Psychology and Systems Theory (3 cr.)
- PSYC 505/5230 - Ethics and Professional Issues (3 cr.)
- PSYC 508/5220 - Applied Research Design and Statistical Analysis (3 cr.)
- PSYC 540/5270 - Community and Group Interventions (3 cr.)

2. Specialization courses

9 credits Required / 3 courses

- PSYC 525/5253 - Consultation to Non-Profit Organizations (3 cr.)
- PSYC 530/5233 - Community Assessment and Program Evaluation (3 cr.)
- PSYC 535/5243 - Prevention and Intervention in Communities (3 cr.)

3. Elective

3 credits Required / 1 Elective course

4. Internship/Final Project

6 credits Required 8 months

- PSYC 596/5263 - Internship in Community Psychology (3 cr.)

5. Thesis

A thesis must be written in English and submitted in accordance with university regulations. Students should familiarize themselves with procedures regarding committee selection, writing of the thesis, presentation to the supervisor and readers, and defense of the thesis. Complying with the procedural requirements within the specified time sequences is the responsibility of the student.

- PSYC 599/5299 - Research Guidance and Thesis (3 cr.)

Counseling Psychology (M.A.)

Master of Arts in Counseling Psychology

The Master of Arts in Counseling Psychology is administrated by the graduate program in Counseling and Community Psychology. The Counseling Psychology program will help students develop skills and knowledge that are needed to provide counseling services to individuals, couples, and groups struggling with psychosocial issues and mental illness. The program exposes students to methods of psychological practice that are ethically responsible and culturally appropriate to Egypt and the region.

Admission

The applicant should have a minimum of 3.0 GPA in undergraduate studies; if the student has an MA in a related field already, a 3.0 GPA will also be expected at that level. The applicant should have also completed an undergraduate major in psychology and/or the completion of a minimum of 15 credits (or equivalent) in psychology or related social/behavioral sciences including: Statistics, Research Design, and Psychopathology.

The program course sequence only starts in the fall semester. Admitted students with course prerequisite requirements and/or English language requirements, must complete these requirements before being allowed to enroll in the program classes. In this respect, applicants to the program are strongly encouraged to apply before mid-November of each year. This will allow for an early evaluation of prerequisite requirements so that whenever possible, these requirements can be met before the start of the fall semester.

Language Requirement

The applicant should demonstrate proficiency in the English language in accordance with AUC standards

Courses (42 credit hours)

Course work for the Master of Art requires the completion of 42 credits as follows:

1. Core Courses

18 credits Required / 6 courses

- PSYC 500/5200 - Fundamentals of Counseling (3 cr.)
- PSYC 502/5210 - Community Psychology and Systems Theory (3 cr.)
- PSYC 504/5291 - Advanced Lifespan Development (3 cr.)
- PSYC 505/5230 - Ethics and Professional Issues (3 cr.)
- PSYC 508/5220 - Applied Research Design and Statistical Analysis (3 cr.)
- PSYC 540/5270 - Community and Group Interventions (3 cr.)

2. Specialization courses:

18 credits/ 6 courses

- PSYC 506/5261 - Psychopathology and Resilience across Cultures (3 cr.)

- PSYC 510/5241 - Theories of Counseling and Psychotherapy (3 cr.)
- PSYC 515/5251 - Psychological Assessment (3 cr.)
- PSYC 550/5281 - Couples Counseling and Human Sexuality (3 cr.)
- PSYC 580/5264 - Practicum I in Counseling Psychology (3 cr.)
- PSYC 581/5274 - Practicum II in Counseling Psychology (3 cr.)

3. Internship

6 credits Required 8 months.

- PSYC 590/5284 - Internship in Counseling Psychology (3 cr. + 3 cr.)

Economics in International Development (M.A.)

This program is specially designed for students who wish to acquire in-depth understanding and knowledge in the field of development. An interdisciplinary approach is adopted as an essential requirement for gaining a broader and more integrated perspective of this dynamic field of study. The program should be of interest to those who plan to seek a position or a career with a wide range of development-related institutions at the macro or micro levels. Examples include; United Nations Agencies, The World Bank, bilateral donor representative offices/projects, NGOs, and development-finance institutions. In addition, the program equips students to assume technical positions in government departments directly concerned with development planning and evaluation.

Admission

The applicant for admission to this program should have a good knowledge of the concepts and analytical tools of economics. An applicant whose bachelor's degree is in a discipline other than economics may be admitted provisionally, but in such cases the applicant must either display competence in economics by passing required examinations or develop the necessary competence by completing additional undergraduate courses.

The department uses as reference for admission, minimum acceptable scores on the Graduate Record Exam (GRE) of 150 verbal, 150 quantitative, and 3.0 analytical (which is equivalent to 450 verbal, 600 quantitative, and 3.0 analytical for exams taken prior to September 1, 2011). Prior to full admission, students must have reported their GRE examination scores.

Courses

A minimum of 27 credit hours is required. All students must:

1. Take four core courses

- ECON 500/5251 - The Economic Setting for Development (3 cr.)
- ECON 505/5231 - Advanced International Trade (3 cr.)
- ECON 507/5282 - Quantitative Methods (3 cr.)
- ECON 590/5259 - Research Practicum (3 cr.)

2. Choose five electives

One from each of the following groups of courses as indicated below:

Group 1

- ECON 508/5271 - Labor Economics (3 cr.)
- ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)
- ECON 512/5254 - Economic Growth & Development (3 cr.)
- ECON 519/5213 - Project Evaluation (3 cr.)
- ECON 530/5217 - Health Economics in Developing Countries (3 cr.)

Group 2

- POLS 525/5225 - International Political Economy (3 cr.)
- POLS 535/5235 - Middle East Politics (3 cr.)
- POLS 536/5236 - Contemporary Issues in Political Islam (3 cr.)
- POLS 561/5261 - Public Policy and Development (3 cr.)
- POLS 562/5262 - International Development Organizations (3 cr.)

Group 3

- SOC/ANTH 500/5201 - Classical Social Thought (3 cr.)
- SOC/ANTH 507/5200 - Introduction to Migration and Refugee Studies (3 cr.)
- SOC/ANTH 530/5230 - Theorizing the State (3 cr.)
- SOC/ANTH 535/5235 - Maintaining Systems of Global Inequality (3 cr.)
- SOC/ANTH 560/5260 - Population Dynamics (3 cr.)
- PSYC 525/5253 - Consultation to Non-Profit Organizations (3 cr.)

Group 4

- LAW 503/5203 - Law and Economic Development (3 cr.)
- LAW 512/5212 - Human Rights and the United Nations (3 cr.)
- LAW 516/5216 - Economic, Social, and Cultural Rights (3 cr.)
- LAW 522/5222 - International Economic and Trade Law (3 cr.)

Group 5

- PPAD 504/5222 - Fundamentals of Financial Planning and Management for Government and Nonprofit Organizations (3 cr.)
- PPAD 505/5121 - Institutions, Democratization, and Public Policy (3 cr.)
- PPAD 512/5114 - Management of Development Programs (3 cr.)
- PPAD 517/5126 - Non-profit Management (3 cr.)
- PPAD 520/5133 - Global Health Issues and Policies (3 cr.)
- PPAD 522/5135 - Promotion of Local Economic Development (3 cr.)
- PPAD 526/5128 - Corporate Social Responsibility and NGO Partnerships (3 cr.)

Economics with a Thesis Option or with concentrations in Middle East Economic Development, Competitive Strategy and Valuation, International Economics, and Financial Economics for Non-Thesis Track (M.A.)

Completion of the AUC Graduate Program in Economics opens wide opportunities for prestigious and creative jobs in research centers and departments, both in government and private institutions. AUC graduates of this program have also made valuable additions to several U.N. and international development institutions.

Admission

The applicant for admission to the master's program in economics should have a considerable background in economic theory. An applicant whose bachelor's degree is in a discipline other than economics may be admitted provisionally, but in such cases the applicant must complete additional undergraduate courses. The prerequisite for full admission to the master's degree in economics is completion of ECON 4061 and ECON 4081 with a grade of B or better; i.e. a student must complete ECON 4061 and ECON 4081 before enrolling in any 500 level course.

The department uses as reference for admission, minimum acceptable scores on the Graduate Record Exam (GRE) of 150 verbal, 150 quantitative, and 3.0 analytical (which is equivalent to 450 verbal, 600 quantitative, and 3.0 analytical for exams taken prior to September 1, 2011). Prior to full admission, students must have reported their GRE examination scores.

Students applying for Master in Economics can choose either Thesis Track or Non-Thesis Track option. Total credit hours for completion of the Master Degree for either track is 27 credit hours.

Requirements for Thesis Track

Courses

All students must take the following four courses (12 credit hours)

- ECON 501/5221 - Advanced Macroeconomic Theory (3 cr.)
- ECON 502/5211 - Advanced Microeconomic Theory (3 cr.)
- ECON 518/5281 - Econometrics (3 cr.)
- ECON 525/5201 - Research Workshop (3 cr.)

Three Additional Courses (9 credit hours)

A maximum of three hours of 5000-level courses or 4000 level courses in related fields other than economics may be taken for graduate credit with the approval of the Director of Graduate Studies and the Department Chair.

Thesis (six credit hours)

An M.A. thesis is not allowed to be submitted for examination until the student has made a presentation of a major part of it at the department seminar.

Requirements for Non-Thesis Track

Courses

All students must take the following four courses (12 credit hours)

- ECON 501/5221 - Advanced Macroeconomic Theory (3 cr.)
- ECON 502/5211 - Advanced Microeconomic Theory (3 cr.)
- ECON 518/5281 - Econometrics (3 cr.)
- ECON 525/5201 - Research Workshop (3 cr.)

Three Additional Courses (9 credit hours)

A maximum of three hours of 5000-level courses or 4000 level courses in related fields other than economics may be taken for graduate credit with the approval of the Director of Graduate Studies and the Department Chair.

Concentration Fields

Within the Non-Thesis track student must complete at least one Concentration Field (6 credit hours).

The MA in Economics offers four concentration fields:

1. Middle East Economic Development (6 credit hours)

- ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)
- ECON 512/5254 - Economic Growth & Development (3 cr.)

2. Competitive Strategy and Valuation (6 credit hours)

- ECON 519/5213 - Project Evaluation (3 cr.)
- ECON 520/5215 - Competitive Strategy and Game Theory (3 cr.)

3. International Economics (6 credit hours)

- ECON 505/5231 - Advanced International Trade (3 cr.)
- ECON 517/5233 - International Finance (3 cr.)

4. Financial Economics (6 credit hours)

- ECON 504/5241 - Financial Economics (3 cr.)
- ECON 528/5242 - Financial Econometrics (3 cr.)

Educational Leadership (M.A.) with concentrations in School Leadership and Higher Education

Master of Arts in Educational Leadership (EDUL)

A total of 34 credit hours (10 courses plus the thesis) are required for MA students. Students may, with prior department approval, bring in up to six credit hours of coursework from other relevant programs. The program seeks to enroll students who are passionate about improving educational leadership in schools and higher education in Egypt, the Middle East, and beyond. By focusing on education from an international and comparative perspective, we intend for students to gain professional educational skills in a global context of reform. All students in the MA Program in Educational Leadership must either complete and defend a thesis, or complete the "Alternative to Thesis Option" as described below.

Thesis

The Graduate School of Education conceives of the thesis in one of a variety of ways, including, but not limited to:

1. As a research paper that utilizes quantitative, qualitative, or mixed research methods based on a theoretical framework and a full review of the related literature.
2. As a thorough literature review that utilizes meta-analytic techniques or a theoretical framework to organize and portray a concept, argument, or field-based concern.
3. As an applied project that utilizes a rigorous literature review and a carefully explained problem in order to demonstrate skill in applying research to real problems in the field.
4. As a policy analysis or program evaluation that utilizes various analytic methods to provide interpretation on the effect of a particular policy or program, bolstered by a thorough literature review.

The thesis should be between 10,000 and 20,000 words and should demonstrate capacity to utilize research tools and existing empirical and theoretical literature.

A proposal must be submitted to, and approved by, a committee consisting of a faculty supervisor, a second reader, and the Department Chair. Upon approval, IRB and other research approvals (such as CAPMAS) must be obtained prior to any data being collected. Upon completion of the thesis, the document must be submitted to, and approved by, the same committee. A period of two semesters must be devoted to the thesis.

Alternative to Thesis Option

In lieu of a thesis, the student may opt to: (i) take one extra 3-credit course; and then (ii) sit for a comprehensive exam, through registering for a 1-credit Comprehensive Exam course. The exam will consist of essays written in a specified time period, followed by a brief oral interview conducted by 2 faculty members. The purpose of the interview is to give the candidate the opportunity to amplify and supplement the written papers.

Core Courses

The following courses represent the content Core courses required of all students.

- EDUC 511/5201 - Foundations of Educational Research (3 cr.)
- EDUC 521/5202 - Social Foundations of Education (3 cr.)
- EDUC 531/5203 - Introduction to International & Comparative Education (3 cr.)
- EDUC 541/5204 - Human Development & Learning Theory (3 cr.)
- EDUC 542/5221 - Transformational Leadership (3 cr.)
- EDUC 546/5223 - Organizational Theory and Educational Institutions (3 cr.)

All students must also complete two semesters of the thesis by registering for EDUC 599/5299 - Research Guidance and Thesis (2 cr.) (2 cr. each course) in the last two semesters of the program, for a total of 4 credit hours, or complete the alternative to Thesis option.

Concentrations

Each student will select one of the following concentrations: School Leadership or Higher Education. Students must take a minimum of three courses from their concentration and complete their thesis on a subject within that concentration.

1. School Leadership

Students in the School Leadership concentration are required to complete at least three of the following courses:

- EDUC 551/5205 - Foundations of Instructional Practice (3 cr.)
- EDUC 535/5213 - Educational Evaluation & Assessment (3 cr.)
- EDUC 534/5217 - Strategic Educational Planning and Development (3 cr.)
- EDUC 544/5222 - School Governance and Management (3 cr.)
- EDUC 573/5224 - Research-based Instructional Leadership (3 cr.)
- EDUC 583/5229 - Issues in Comparative Education for Educational Leaders (3 cr.)
- EDUC 556/5233 - Action Research (3 cr.)
- EDUC 580/5282 - Independent Study in International & Comparative Education (3 cr.)

2. Higher Education

Students in the Higher Education concentration are required to complete at least three of the following courses:

- EDUC 534/5217 - Strategic Educational Planning and Development (3 cr.)
- EDUC 552/5231 - Online and Blended Learning Design and Instruction in Developing Countries (3 cr.)
- EDUC 562/5241 - Pedagogy & Theory of Modern Teaching & Learning in Higher Education (3 cr.)
- EDUC 563/5242 - Theories of Student Development in Higher Education (3 cr.)
- EDUC 564/5243 - Policy and Administration in Higher Education (3 cr.)
- EDUC 561/5249 - Current Issues in Higher Education (3 cr.)
- EDUC 580/5282 - Independent Study in International & Comparative Education (3 cr.)

Additional courses for both concentrations can be taken from among the other MA-level courses offered by the Graduate School of Education.

**Egyptology and Coptology MA, with tracks in Art,
Archaeology and History; Language, Literature and Religion;
and Coptology (M.A.)**

**Master of Arts in Egyptology &
Coptology**

The graduate program in Egyptology/Coptology at AUC offers an outstanding opportunity to study Egyptology/Coptology at the graduate level in Egypt.

There are 3 different possible tracks for the MA:

1. Art, Archaeology and History
2. Language, Literature and Religion
3. Coptology

The graduate program will help prepare students for careers in Egyptology/Coptology and for further studies in the discipline. It takes full advantage of being located in Egypt where students can visit and study the monuments in context, as well as gain practical experience in their chosen field. The program is designed to expose students to different aspects of the discipline, teach them to think critically and creatively, and put into practice the academic skills that they are acquiring. To ensure AUC graduates a high quality of academic opportunity and flexibility, these programs follow international guidelines for similar degrees at accredited institutions in the USA.

Requirements

The MA consists of a total of 27 credits: 8 courses (7 classroom courses, 1 of field-work, appropriate to each candidate's interest), and a thesis. 4 are core courses, and 4 can be chosen by the student. Thus, for students with an archaeological interest this will be more excavation focused, and for students who are more philologically inclined, this will be more epigraphic in nature. If students have a non-Egyptology background, up to a year of additional course work of prerequisites might be required. These will be drawn from the undergraduate offerings, but for graduate students will require extra work in the form of a more extensive reading list, more detailed and longer papers, and more challenging exams.

We also require students to have a reading knowledge of either French or German prior to writing a thesis, which would be tested by a language exam. If the student's research can be performed successfully without knowledge of a second language, the department may exempt the student from this requirement.

A thesis is required in all three branches of the MA in Egyptology and Coptology. The thesis must be written in English and submitted in accordance with university regulations.

A maximum of two 400-level courses may be taken as part of the MA program. Approved 300 and 400 level courses may be taken at the 500 level in special circumstances.

Admission Criteria

Applicants seeking admission to the graduate program should have an undergraduate degree of high standing (3.0 equivalent to a B or higher), and pass the Egyptology Unit's English language proficiency test (if deemed necessary). Admission will only be in the fall semester. To continue in the program, a 3.0 average must be maintained.

Breakdown of Courses for Each Track:

Egyptology: Art, Archaeology, and History (after fulfilling prerequisites):

4 core courses and 4 optional courses and a thesis (EGPT 5992)

Required:

- EGPT 540/5180 - Advanced Method and Theory: Archaeological and Historical (3 cr.)
- EGPT 598/5991 - Research Seminar: Research Design and Writing (3 cr.)
- EGPT 541/5420 - Material Culture: Looking at Artifacts in Context (3 cr.) or EGPT 542/5430 - Site Analysis (3 cr.)

If a student has had no field experience, s/he should take

- EGPT 591/5191 - Field Work (3 cr.)

If the student has had sufficient field experience, the fourth course should be chosen from the list below, in consultation with the advisor.

Optional:

Four choices from other courses depending on individual interest (if students were AUC undergraduates, they will have to take courses that they have never taken before):

- EGPT 510/5100 - Culture and Society of Ancient Egypt (3 cr.)
- EGPT 512/5130 - Art, Societies, and Cultures of the Ancient Near East (3 cr.)
- EGPT 530/5120 - Graeco-Roman Egypt (3 cr.)
- EGPT 519/5199 - Selected Topics in Ancient Egyptian Art and Culture (3 cr.)
** Can be taken more than once if the subject matter changes.
- EGPT 521/5140 - Societies and Cultures of Ancient Nubia (3 cr.)
- EGPT 522/5220 - Ancient Egyptian Religion and Ethics (3 cr.)
- EGPT 525/5230 - Settlement and Daily Life in Ancient Egypt (3 cr.)
- EGPT 526/5240 - Death and Burial in Ancient Egypt (3 cr.)
- EGPT 533/5330 - Coptic Art and Architecture (3 cr.)
- EGPT 545/5170 - Selected Topics in Cultural Resource Management and Museology (3 cr.)
** Can be taken more than once if the subject matter changes.
- EGPT 560/5440 - The Iconography of Ancient Egypt (3 cr.)
ANY language class (Egyptian texts-from amongst the offerings for the philologists) If appropriate for people who wish to specialize in conservation.
- EGPT 000/5030 - Independent Study and Guided Readings (3 cr.)
Cannot be taken more than twice.

Egyptology: Language, Literature, and Religion (after fulfilling prerequisites):

4 core courses and 4 optional courses and a thesis (EGPT 5992)

Required:

- EGPT 598/5991 - Research Seminar: Research Design and Writing (3 cr.)
- EGPT 504/5510 - Advanced Hieratic (3 cr.)

Any two from the below, depending on level, and in consultation with advisors:

- EGPT 561/5550 - Advanced Readings in Ancient Egyptian Religion Texts (3 cr.)
- EGPT 500/5151 - Hieroglyphics III (3 cr.)
- EGPT 501/5153 - Hieroglyphics IV (3 cr.)
- EGPT 562/5560 - Advanced Readings in Historical Literature from the Old Kingdom to the Late Period (3 cr.)

Optional:

Four choices from other courses depending on individual interest, including:

- EGPT 502/5520 - Introduction to Demotic (3 cr.)
- EGPT 503/5530 - Ptolemaic Hieroglyphs (3 cr.)
- EGPT 505/5150 - Introduction to Coptic (3 cr.)
- EGPT 521/5140 - Societies and Cultures of Ancient Nubia (3 cr.)
- EGPT 522/5220 - Ancient Egyptian Religion and Ethics (3 cr.)
- EGPT 530/5120 - Graeco-Roman Egypt (3 cr.)
- EGPT 510/5100 - Culture and Society of Ancient Egypt (3 cr.)
- EGPT 512/5130 - Art, Societies, and Cultures of the Ancient Near East (3 cr.)
- EGPT 519/5199 - Selected Topics in Ancient Egyptian Art and Culture (3 cr.)
** Can be taken more than once if the subject matter changes.
- EGPT 591/5191 - Field Work (3 cr.)
- EGPT 545/5170 - Selected Topics in Cultural Resource Management and Museology (3 cr.)
** Can be taken more than once if the subject matter changes.
- EGPT 000/5030 - Independent Study and Guided Readings (3 cr.)
Cannot be taken more than twice.

Coptology:

4 core courses and 4 optional courses and a thesis (EGPT 5992)

Required:

- EGPT 505/5150 - Introduction to Coptic (3 cr.)
- EGPT 506/5540 - Advanced Coptic Texts (3 cr.)
- EGPT 598/5991 - Research Seminar: Research Design and Writing (3 cr.)
- EGPT 533/5330 - Coptic Art and Architecture (3 cr.)
Or
- EGPT 539/5160 - Selected Topics in Coptic Studies (3 cr.)

Choices:

Four choices from other courses depending on individual interest:

- EGPT 530/5120 - Graeco-Roman Egypt (3 cr.)
- EGPT 531/5320 - The Romano-Byzantine World and Egypt (3 cr.)
- EGPT 532/5310 - Classical Art and Archaeology (3 cr.)
- EGPT 533/5330 - Coptic Art and Architecture (3 cr.)
- EGPT 539/5160 - Selected Topics in Coptic Studies (3 cr.)
* The Selected Topics classes will change from semester to semester, depending on staffing options and student interest. Topics might range from: The study of Coptic Literature; Coptic Music; The Monastery of Abu Mena; Art in Monastic Devotional Practice, etc.
- ARIC 575-576/5222-5223 - Special Studies in Islamic Art and Architecture (3 cr.)
- EGPT 000/5030 - Independent Study and Guided Readings (3 cr.)
Cannot be taken more than twice.

Prerequisites

For students who have no background in Egyptology certain prerequisites will be required. Some of their MA coursework can also be taken during the time that they are working on their prerequisites.

The prerequisites are:

Fall

- EGPT 253/2251 - Hieroglyphics I (3 cr.)
- EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)
- EGPT 343/3211 - History of Ancient Egypt I: Pre-Dynastic Through Middle Kingdom Egypt (3 cr.)

Spring

- EGPT 254/2252 - Hieroglyphics II (3 cr.)
- EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)
- EGPT 344/3212 - History of Ancient Egypt II: Middle Kingdom through Ptolemaic Egypt (3 cr.)

MA Thesis

After completing the coursework, each student will prepare a statement of their research intent and methodology for the MA Thesis. The Research Methods and Theory Class will prepare for this. Once this statement is accepted by the committee, the student will be free to research and write, while continuing to meet with his/her committee head on a regular basis. The student's committee must accept the completed thesis, which will be viva voce.

English and Comparative Literature (M.A.)

Admission

An applicant for admission to the master's program in English and comparative literature should have a considerable background in the study of literature. Applicants who are not native speakers of English or graduates of English and comparative literature at AUC will be required to demonstrate on the TOEFL with TWE that their command of English is adequate for study in the program.

Courses

A minimum of twenty-four graduate hours is required. Normally, eight courses are to be taken at the 5000 level. However, up to two of the eight courses might be taken at the 4000-level. All students admitted to the graduate program will be required to take ECLT 5106 "Greek Classics and Translation", ECLT 5108 "The History of Literary Criticism", ECLT 5109 "Modern Literary Criticism", and ECLT 5255 "Research Methods in Literature", unless they have taken these courses at the undergraduate level. No more than two graduate-level courses may be transferred from another university.

With permission of the student's adviser and the chair of the department, a student may take graduate coursework in another department provided that its content is directly concerned with the area of the student's degree work. No more than two such courses will be accepted for credit toward the master's degree.

Language

Before writing a thesis the student must demonstrate, in an examination, knowledge of either French or German. At the discretion of the department another modern language may be substituted, should it be more pertinent to the student's field of interest. The exam for both languages will take place in Spring and Fall of each year.

Thesis

The department conceives of the thesis as a research paper at the recommended length of forty to sixty pages (10,000 to 15,000 words), double-spaced, standard font, which should demonstrate by its high quality the student's ability to handle the techniques of research and to write critically and pointedly about a given subject. The topic must be chosen from subjects in the student's area of concentration. It must be acceptable to the student's thesis director in the light of his/her special qualification and his/her judgment of the student's capability, and the availability of the required library facilities.

A proposal must be submitted to, and approved by, the first and second readers as well as the department chair. This should be approximately one to two thousand words. A working bibliography should be included. There will be a final defense of the thesis and related topics.

Gender and Women's Studies in the Middle East/North Africa, with specializations in Geographies of Gender and Justice, Gendered Political Economies, and Gender and Women's Studies in the Middle East/ North Africa (M.A.)

Master of Arts in Gender and Women's Studies in the Middle East/North Africa

The graduate program in Gender and Women's Studies offers advanced study in **three** tracks:

- Geographies of Gender and Justice
- Gendered Political Economies
- Gender and Women's Studies in the Middle East/ North Africa

The graduate program in Gender and Women's studies prepares graduates for a wide variety of professional careers. Specialists in gender and women's studies are being hired as consultants in international development agencies, local NGO's, national government agencies, all of which hire people that have special training in understanding gender relations. Students wishing to pursue doctoral work will find that interdisciplinary training in gender and women's studies equips them with theoretical and methodological strengths in most disciplines and applied research fields. Consistent with the mission of the School of Global Affairs and Public Policy, Gender and Women's Studies is an interdisciplinary graduate program.

Geographies of Gender and Justice

Geographies of Gender and Justice offers advanced study of contemporary practices and problems of justice ranging from international justice regimes to national legal cultures to social and economic justice claims with a particular focus on the global south.

Gendered Political Economies

The specialization in Gendered Political Economies engages with shifts in the gendering of economic and political trajectories of late modernity. It deals with issues relating to poverty, labor politics, political economies of desire, migration, mobility and development histories and practices. The aim is to provide students with a solid grounding in the nexus between gender and modalities for reorganizing the political economic order in the contemporary world.

Gender and Women's Studies in the Middle East/ North Africa

The Gender and Women's Studies in the Middle East, North Africa focus offers an interdisciplinary field of analysis that draws its questions and approaches from the humanities and social sciences through investigating how relations of gender are embedded in social, political and cultural formations. It provides students with an interdisciplinary and transnational perspective with special emphasis on the Middle East and North African region.

Core Requirements

There are three core requirements for students in all specializations:

- GWST 500/5100 - Theorizing Gender (3 cr.)
- GWST 505/5205 - Gender and Feminist Research Methodologies (3 cr.)
- GWST 000/5298 - Thesis Writing Seminar (3 cr.)

Specialization in Geographies of Gender and Justice

There are three required courses:

- GWST 502/5102 - Justice: Histories and Theories (3 cr.)
- GWST 508/5108 - Women and Human Rights (3 cr.)
- SOC/ANTH 530/5230 - Theorizing the State (3 cr.)

Electives:

The remaining two courses are 500 level electives one of which must be a GWST course. The list of electives are reviewed by the IGWS Graduate Advisory Committee every academic year. The list of electives for any given semester is available on the IGWS graduate center website.

Specialization in Gendered Political Economics

There are three required courses:

- GWST 504/5104 - Gender and Migration (3 cr.)
- GWST 506/5106 - Reading Capital (3 cr.)
- GWST 507/5107 - Critical Geographies: Reading the Global South (3 cr.)

Electives:

The remaining two courses are 500 level electives one of which must be a GWST course. The list of electives are reviewed by the IGWS Graduate Advisory Committee every academic year. The list of electives for any given semester is available on the IGWS graduate center website.

Specialization in Gender and Women's Studies in the Middle East and North Africa

There are three required courses:

- GWST 501/5101 - Approaches to Gender and Women's Studies in the Middle East/ North Africa (3 cr.)
- GWST 503/5103 - Histories and Theories of Gender and Development (3 cr.)
- GWST 504/5104 - Gender and Migration (3 cr.)

Electives:

The remaining two courses are 500 level electives one of which must be a GWST course. The list of electives are reviewed by the IGWS Graduate Advisory Committee every academic year. The list of electives for any given semester is available on the IGWS graduate center website.

MA Thesis

All students must complete a thesis according to university regulations. Students must register for GWST 5299. Before commencing work on the thesis, the student must have a thesis proposal approved by the IGWS Graduate Advisory Committee. Students should familiarize themselves with the specific procedural requirements of the IGWS thesis. Guidelines are available in the IGWS office and on the web.

Admission

Applicants seeking admission to the graduate program should have an undergraduate degree of high standing in the social sciences or humanities with an overall grade of gawayid giddan or a grade point average of 3.0 or above. Those who lack this background but who are exceptionally well qualified may be admitted provisionally. Provisional admission usually involves additional non-credit coursework to prepare the applicant for graduate work over one or two semesters. Provisionally accepted students must successfully complete the required prerequisites before being admitted to enroll in GWST graduate courses. Students are admitted to the graduate degree program in the fall semester only.

International & Comparative Education (M.A.) with concentrations in International Education Development & Policy and Teaching and Learning

Master of Arts in International & Comparative Education (ICED)

A total of 34 credit hours (10 courses plus the thesis) are required for MA students. Students may, with prior department approval, bring in up to six credit hours of coursework from other relevant programs. The program seeks to enroll students who are interested in improving educational policy and practice in Egypt, the Middle East, and beyond. By focusing on education from an international and comparative perspective, the program prepares students to gain inquiry-based practices and professional educational skills in local, regional and global contexts of reform which offer career opportunities in educational policy, development, and NGOs in addition to classroom teaching. All students in the MA Program in International and Comparative Education must either complete and defend a thesis, or complete the "Alternative to Thesis Option" as described below.

Thesis

The Graduate School of Education conceives of the thesis in one of a variety of ways, including, but not limited to:

1. As a research paper that utilizes quantitative, qualitative, or mixed research methods based on a theoretical framework and a full review of related literature.
2. As a thorough literature review that utilizes meta-analytic techniques or a theoretical framework to organize and portray a concept, argument, or field-based concern.
3. As an applied project that utilizes a rigorous literature review and a carefully explained problem in order to demonstrate skill in applying research to real problems in the world.
4. As a policy analysis or program evaluation that utilizes various analytic methods to provide interpretation of the effect of a particular policy or program, bolstered by a thorough literature review.

The thesis should be between 10,000 and 20,000 words and should demonstrate capacity to utilize research tools and existing empirical and theoretical literature.

A proposal must be submitted to, and approved by, a committee consisting of a faculty supervisor, a second reader, and the Department Chair. Upon approval, IRB and other research approvals (such as CAPMAS) must be obtained before any data are collected. Upon completion of the thesis, the document must be submitted to, and approved by, the same

committee. An oral defense with the thesis committee will be required. A period of two semesters must be devoted to the thesis.

Alternative to Thesis Option

In lieu of a thesis, the student may opt to: (i) take one extra 3-credit course; and then (ii) sit for a comprehensive exam, through registering for a 1-credit Comprehensive Exam course. The exam will consist of essays written in a specified time period, followed by a brief oral interview conducted by 2 faculty members. The purpose of the interview is to give the candidate the opportunity to amplify and supplement the written papers.

Core Courses

The following courses represent the content Core Courses required of all MA students.

- EDUC 511/5201 - Foundations of Educational Research (3 cr.)
- EDUC 521/5202 - Social Foundations of Education (3 cr.)
- EDUC 531/5203 - Introduction to International & Comparative Education (3 cr.)
- EDUC 541/5204 - Human Development & Learning Theory (3 cr.)
- EDUC 551/5205 - Foundations of Instructional Practice (3 cr.)
- EDUC 575/5215 - Educational Policy Analysis (3 cr.)

All students must also complete two semesters of the thesis by registering for EDUC 599/5299 Research Guidance and Thesis (2 cr. each course) in the last two semesters of the program, for a total of 4 credit hours, or complete the alternative to Thesis option.

Concentrations

Each student will select one of the following concentrations: International Education Development & Policy, or Teaching and Learning. Students must take a minimum of three courses from their concentration and complete their thesis on a subject within that concentration.

1. International Education Development and Policy

Students in the International Education Development and Policy concentration are required to complete at least three of the following courses:

- EDUC 532/5211 - Globalization, Development, and Educational Reform in the Arab World (3 cr.)
- EDUC 533/5212 - Comparative Gender, Adolescent, Youth, and Human Development Policy (3 cr.)
- EDUC 535/5213 - Educational Evaluation & Assessment (3 cr.)
- EDUC 536/5214 - Human Rights-based Education (3 cr.)
- EDUC 588/5216 - Research-Based Comparative Approaches to Educational Reform (3 cr.)
- EDUC 534/5217 - Strategic Educational Planning and Development (3 cr.)
- EDUC 585/5219 - Current Issues in International Education Development and Policy (3 cr.)
- EDUC 580/5282 - Independent Study in International & Comparative Education (3 cr.)

2. Teaching and Learning

Students in the Teaching & Learning concentration are required to complete at least three of the following courses:

- EDUC 535/5213 - Educational Evaluation & Assessment (3 cr.)
- EDUC 534/5217 - Strategic Educational Planning and Development (3 cr.)
- EDUC 552/5231 - Online and Blended Learning Design and Instruction in Developing Countries (3 cr.)
- EDUC 554/5232 - Literacy, Learning and Education (3 cr.)
- EDUC 556/5233 - Action Research (3 cr.)
- EDUC 557/5234 - Reaching Diverse and Underserved Learners (3 cr.)
- EDUC 581/5239 - Current Issues in Teaching & Learning (3 cr.)
- EDUC 580/5282 - Independent Study in International & Comparative Education (3 cr.)

Additional courses for both concentrations can be taken from among the other MA-level courses offered by the Graduate School of Education.

International Human Rights Law (M.A.)

International Human Rights Law considers protection of the individual as developed through organs of the United Nations, other international institutions, and at regional and domestic levels in the North and in the South. The program seeks to give students a thorough grounding in the theoretical underpinnings of human rights law and in the methods of solid multidisciplinary research that are required for investigating legal issues pertaining to human rights. It is intended for those presently working, or desiring to work, in humanitarian organizations, in government departments and agencies concerned with humanitarian issues, or in other public, private and international sectors where there is increasingly a need for persons who have an understanding of the law and legal consequences of human rights within an international framework.

It is possible to work towards the MA in International Human Rights Law and the Diploma in Forced Migration and Refugee Studies (FMRS) simultaneously or sequentially, and to cross count 4 courses (12 credits) with the advice and consent of the department for a total of eleven courses (see Dual Graduate Degrees under Academic Requirements and Regulations section).

Admission

The applicant for admission to the MA program should have an acceptable bachelor's degree in law, political science or a closely related social science (preferably with a minor in political science or law studies) with a grade of *gayyid giddan* (very good) or a grade point average of 3.0. Applicants with deficiencies in their preparation may be required to take appropriate courses at the undergraduate level. English language proficiency is required as per general AUC graduate admission requirements. Admitted degree candidates should normally start their course sequence in the fall semester. Students enrolled in the AUC English Language Institute must complete all ELI Courses and modules before being allowed to enroll in Law Classes. For these students, spring enrollment is allowed.

Course Requirements

The International Human Rights Law MA degree requires a total of 27 credits hours.

There are five required courses:

- LAW 509/5209 - International Law (3 cr.)
- LAW 510/5210 - Introduction to International Human Rights and Humanitarian Law (3 cr.)
- LAW 527/5227 - Graduate Law Seminar (3 cr.)

Two out of the following three courses:

- LAW 513/5213 - The European System of Human Rights Protection (3 cr.)
- LAW 514/5214 - Human Rights in the Middle East (3 cr.)
- LAW 519/5219 - Human Rights in Africa (3 cr.)

•

The remaining four courses are electives, two of which have to be Law courses.
Department approval is required for electives offered by other departments.

Thesis Requirements

The research requirement for the MA in International Human Right Law is satisfied by writing a thesis of sufficient depth and length for the topic addressed therein and prepared under the supervision of a faculty member of the department. Students are required to register for the following course while fulfilling their thesis requirement.

- LAW 599/5299 - Research Guidance/Thesis (no cr., graded)

Degree Time Framework

Fulfilling the M.A. in International Human Rights Law normally calls for two years of study.

Dual Degree Option in Political Science (B.A.) and International Human Rights Law (M.A.)

The Dual Degree option combines a BA in Political Science and an MA in International Human Rights Law. It is a dual degree, creating a synergy between the existing BA in Political Science and the existing MA in International Human Rights Law.

The dual degree option enables good students to prepare for a postgraduate degree while completing the requirements for the BA in Political Science. Non-law students who achieve a MA Degree under the auspices of the Law Department at AUC qualify for better jobs in Egypt or abroad, or pursue a legal education at prestigious law schools in the United States and elsewhere. The MA degree also provides students with the necessary expertise in international human rights law and with the intellectual, analytical and communication tools needed to intervene critically and effectively in the global policy debates confronting their societies as policy makers, academics, activists and international civil servants.

Interested students have the option of starting the Dual Degree in the sixth semester of the political science BA at AUC. During the fifth semester (i.e., before the semester in which s/he enrolls in POLS 4371) the student has to declare her/his intention to pursue the Dual Degree by submitting a graduate admission application. The student should follow the application procedures for graduate studies. Admission decisions will be made by the Law Department's Admission Committee. Successful applicants will be admitted pending the fulfillment of two conditions: i) finishing the requirements of their undergraduate degrees with at least B (GPA 3); and ii) obtaining an average of at least a B+ (GPA of at least 3.3) across the three cross-listed 'Dual Degree' Law courses. Places are limited.

Under this structure, dual-degree students will be required to take three 400-level courses that are cross-listed under LAW and POLS. These three "Dual Degree" cross-listed courses (see below) will count for credit towards both the BA in Political Science and under the MA in International Human Rights Law.

The three 'Dual Degree' Law courses to be offered to undergraduates in the Political Science Department are the following: (a) POLS 471/4371 - Introduction to Public International Law (3 cr.) (b) POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.) and (c) POLS 478/4378 - Introduction to International Human Rights Law (3 cr.) The curriculum for the MA IHRL requires the completion of nine courses and a thesis, as indicated in the tentative plan below: 3 POLS/LAW undergraduate courses, 2 graduate regional human rights courses, 3 graduate elective courses, LAW 5227, and the thesis.

Tentative Plan for Full-time Students

SEMESTER VI (POLS undergraduate program)

LAW/POLS 471/4371 - Introduction to Public International Law (3 cr.) (counts towards both concentrations in POLS for all students) (and MA IHRL credits)

[4 POLS courses or other courses as required to complete POLS BA degree]

SEMESTER VII (POLS undergraduate program)

LAW/POLS 478/4378 - Introduction to International Human Rights Law (3 cr.) (counts towards both BA POLS and MA IHRL credits)

[4 POLS courses or other core courses as required to complete POLS BA degree]

SEMESTER VIII (POLS undergraduate program)

LAW/POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.) (counts towards both BA POLS and MA IHRL credits)

[4 POLS courses or other core courses as required to complete POLS BA degree]

SEMESTER IX (MA IHRL program)

LAW 514/5214 - Human Rights in the Middle East (3 cr.) * (2 out of 3 starred courses required)

LAW 519/5219 - Human Rights in Africa (3 cr.) * (2 out of 3 starred courses required)

LAW 513/5213 - The European System of Human Rights Protection (3 cr.) * (2 out of 3 starred courses required)

LAW Electives**

SEMESTER X (MA IHRL program)

LAW Electives**

LAW Electives**

LAW 527/5227 - Graduate Law Seminar (3 cr.)

SEMESTER XI (MA IHRL program)

LAW 599/5299 - Research Guidance/Thesis (no cr., graded)

*** Lists of LAW elective courses will be provided to students in the program prior to registration for each semester.*

Journalism and Mass Communication (M.A.)

Master of Arts

The Master of Arts program in journalism and mass communication is designed to provide intellectual growth and advanced training for persons already engaged in mass media or public information work. Students wishing to specialize in a particular area, such as marketing communication or international business journalism, sociological or political communication, are encouraged to design a sequence of elective courses that best meets their interests.

Admission

Students are required to have a minimum GPA of 3.00 (on a 4.00 scale) on an undergraduate degree from an accredited college or university. For students who have been out of school for some time work experience or other relevant criteria may be considered in lieu of a lower than 3.0 GPA. Students who have below a 3.0 cumulative GPA from their bachelor's degree may still be considered for provisional admission and should provide an explanation of extenuating circumstances and/or a demonstration of outstanding work experience.

Students who do not have an undergraduate degree in a mass communication major from AUC may be asked to complete a set of readings and/or a program of undergraduate prerequisite courses completed with grades of B or higher.

In addition to the general requirements established by the university, the applicant must demonstrate a proficiency in English at an advanced level and obtain an acceptable score on the Graduate Record Examination (GRE) (*currently frozen*).

Students are also required to submit two recommendation letters from relevant, credible sources and a personal statement of purpose, which is evaluated for its clarity of expression, creativity, and persuasiveness in arguing that:

- The applicant has the necessary record of preparation and performance to succeed in the program.
- The applicant's goals can be served by the program's courses and experiences.
- The program itself can benefit from the applicant's experiences.

Applicants are also to submit an updated curriculum vitae, official transcripts of all university degrees, and samples of professionally published or broadcast work if available.

A writing sample that demonstrates the potential to write clearly and critically is also required. If the student has graduated within the last three years, an academic paper from the undergraduate (or M.A.) coursework will suffice. Writing samples may include a term paper, a chapter from an Honors or M.A. thesis, or a conference paper. If the student has graduated more than three years ago, he/she should include an essay of 300-500 words about a recent local, regional, or international communication issue that he/she deems important.

Applicants may be required to take an entry exam administered by the department to measure their writing skills and their overall awareness of the communication field and the word around them. Applicants may also be required to sit through a personal interview.

Admission Checklist:

- GRE Scores (frozen)
- Official transcripts
- Proof of English language proficiency
- Two letters of recommendation
- Personal statement
- Curriculum vitae
- Samples of published/ broadcast work

- Writing sample

Courses

A minimum of 27 graduate credit hours is required, including the following four core courses. Note that the four core courses should be taken as early after admission to the program as possible.

- JRMCM 500/5200 - Seminar in Mass Communication Theory and Literature (3 cr.)
- JRMCM 502/5202 - Seminar: Current Issues in Mass Communication (3 cr.)
- JRMCM 504/5204 - Seminar: Research Methods in Mass Communication (3 cr.)
- JRMCM 550/5250 - Seminar in International Communication (3 cr.)

Note

Students should complete the following courses as early after admission to the program as possible.

- JRMCM 500/5200 - Seminar in Mass Communication Theory and Literature (3 cr.)
- JRMCM 504/5204 - Seminar: Research Methods in Mass Communication (3 cr.)

Additional Requirements

Additional coursework should come from the following list of Master of Arts courses, or because of the interdisciplinary scope of mass communication, students may, with adviser approval, take and apply up to three 500-level courses (9 hours) from other disciplines. A maximum of six credit hours of 400-level coursework may be approved and counted toward the required credit hours.

Master of Arts Courses

- JRMCM 500/5200 - Seminar in Mass Communication Theory and Literature (3 cr.)
- JRMCM 501/5201 - Advanced Reporting and Writing (3 cr.)
- JRMCM 502/5202 - Seminar: Current Issues in Mass Communication (3 cr.)
- JRMCM 504/5204 - Seminar: Research Methods in Mass Communication (3 cr.)
- JRMCM 506/5206 - Internship (3 cr.)
- JRMCM 550/5250 - Seminar in International Communication (3 cr.)
- JRMCM 570/5270 - Seminar in Mass Communication and National Development (3 cr.)
- JRMCM 571/5271 - Digital Journalism (3 cr.)
- JRMCM 580/5280 - Impact of Television: Issues and Developments (3 cr.)
- JRMCM 590/5290 - Special Topics (3 cr.)

Comprehensive Examination

Master of Arts students must complete the following courses in preparation for the comprehensive examination. The examination procedure is described in the “General Requirements” section. An oral examination may be required in addition to the written examination. Students must pass comprehensive examinations before being permitted to begin work on their theses.

- JRMCM 500/5200 - Seminar in Mass Communication Theory and Literature (3 cr.)

- JRMC 502/5202 - Seminar: Current Issues in Mass Communication (3 cr.)
- JRMC 504/5204 - Seminar: Research Methods in Mass Communication (3 cr.)
- JRMC 550/5250 - Seminar in International Communication (3 cr.)

Thesis

A thesis is required for all students. The department's thesis committee must approve the thesis topic after the student, in consultation with an advisor, submits a formal proposal. Written in English, the thesis must be defended by the student before faculty members, and must conform to current university requirements, policies and procedures.

Middle East Studies (M.A.)

Consistent with the mission of the School of Global Affairs and Public Policy, Middle East Studies is an interdisciplinary academic program designed to provide students with a comprehensive understanding of the peoples, societies and economies of the region. The graduate program offers courses in Arabic language and literature, anthropology, economics, gender and women's studies, history, law, political science and sociology with the purpose of introducing students to a variety of methodologies for studying the Middle East. The graduate program focuses on the period from the 18th century onwards and addresses issues of religion, ecology, history, economy, society, polity, gender, and culture. Given the geographical location of Cairo, the program as a whole concentrates on the Arab region. The program is intended for students who wish to pursue a variety of careers such as academia, diplomacy, other government service, work with NGOs, development, business, finance, journalism, public relations and cultural affairs.

Master of Arts

The master's degree program in Middle East Studies is an interdisciplinary degree program. Applicants for admission should have an undergraduate degree of high standing (GPA of 3.0 or higher). Prerequisites are often assigned depending on the individual student's academic background. The program is designed to meet the needs of aspiring professionals who need in-depth knowledge of the modern Middle East as well as those intending to pursue an academic career.

Admission

Students are normally admitted to the MA degree program in the fall only. The application deadline for fall 2011 is February 1 for application with a fellowship and April 1 for application without a fellowship. Students who are offered admission must indicate their intention to enroll by May 15 and pay a deposit to hold their place.

Language

To obtain the MA each candidate must demonstrate, in addition to the normal university requirements in English, proficiency in Modern Standard Arabic up to the completion of ALNG 2101-2102-2103.

Proficiency is tested by an examination administered by the Arabic Language Institute. Students who have no background in Arabic are strongly advised to enroll in the summer intensive course (20 contact hours a week, 12 credits) of the Arabic Language Unit before beginning their MA program.

Courses

Ten courses are required for the MA degree (Eight for those who choose to write an MA thesis and enroll in MEST 5298 and MEST 5299. The following two courses are required:

- MEST 569/5201 - A Critical Introduction to Middle East Studies (3 cr.)
- MEST 570/5202 - Interdisciplinary Seminar in Middle East Studies (3 cr.)

Students must choose three of the following eight courses:

- An approved 400 or 500 level course in modern Arabic literature.
- ARIC 451/5133 - Islamic Institutions (3 cr.)
- ARIC 542/5231 - Seminar on the Nineteenth-Century Middle East (3 cr.)
/HIST 5222
- ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)
- GWST 501/5101 - Approaches to Gender and Women's Studies in the Middle East/ North Africa (3 cr.)
- LAW 505/5205 - Islamic Law Reform (3 cr.)
- POLS 535/5235 - Middle East Politics (3 cr.)
- SOC/ANTH 503/5290 - Middle Eastern Societies and Cultures (3 cr.)

Note

The other five courses (or three for thesis writers) may be selected from 400 or 500 level courses related to the Middle East in Anthropology/Sociology, Arabic Studies, Economics, Gender and Women's Studies, History, Law, Middle East Studies and Political Science. No more than two 400 level courses may be counted towards the degree and only one course originally at the 400 level but for which requirement are added to raise it to 500 level may be applied towards the degree. Students must consult with their advisor to ensure an adequate coverage of social science and history.

Thesis

Students opting to do a thesis must complete a thesis in accordance with university regulations. Before commencing work on the thesis, the student must have a thesis proposal approved by three faculty members.

Comprehensive Examination

Students not opting to do a thesis will, after the completion of all course requirements, take a comprehensive examination administered by an interdisciplinary examining board. An oral examination will be given following the written test.

Migration and Refugee Studies with concentrations in Migration, and in Refugee Studies (M.A.)

Master of Arts

The MA program in Migration and Refugee studies is an interdisciplinary degree program that aims to provide graduates with critical knowledge, research methods and analytical skills of current theoretical, legal, political, economic, social, demographic and psychological issues in migration and refugee studies. The knowledge and skills

acquired may be applied in careers within institutions such as governmental, non-governmental and international agencies, as well as universities, research organizations and private corporations dealing with the multitude of issues connected with migration and refugee movements. Students have the option of pursuing concentrations in migration or in refugee studies.

It is possible to work towards the MA in Migration and Refugee Studies with other MAs and Diplomas in the fields of Humanity and Social Sciences simultaneously or sequentially. For more information, see Dual Graduate Degrees under the Academic Requirements and Regulations section: Graduate Academic Requirements & Regulations

Admission

Applicants seeking admission to the Master's program should have an undergraduate degree of high standing (equivalent of a B grade or higher) within the field of Humanities and/or Social Sciences and meet the university's language proficiency. Pre-requisites may be assigned, depending on the student's academic background. Students with related work, research or volunteer experience will be given priority.

Requirements:

Course Requirements

The MA program requires the successful completion of 8 courses (24 credit hours). All students must take the following 5 core courses:

- MRS 507/5200 - Introduction to Migration and Refugee Studies (3 cr.)
- MRS 518/5201 - International Refugee Law (3 cr.)
- MRS 500/5202 - Migration & Refugee Movements in the Middle East and North Africa (3 cr.)
- MRS 501/5203 - International Migration & Development (3 cr.)
- MRS 576/5204 - Research Methods in Migration and Refugees Studies (3 cr.)

For a concentration in migration, students should choose 3 courses from the following electives:

- MRS 504/5104 - Gender and Migration (3 cr.)
- MRS 508/5208 - Special Topics in Migration and Refugee Studies (3 cr.)
(When relevant to migration)
- MRS 509/5209 - Migration, Integration and Citizenship (3 cr.)
- MRS 528/5228 - Migration in International Law (3 cr.)
- MRS 584/5284 - Practicum: Internship or Research (3 cr.)
(Supervised internship with organization working on migration issues)
With Center approval, students may take a course offered by another department or center.

For a concentration in refugee studies, students should choose 3 courses from the following electives:

- MRS 512/5112 - Psychosocial Issues in Forced Migration (3 cr.)
- MRS 505/5205 - Palestinian Refugee Issues (3 cr.)
- MRS 508/5208 - Special Topics in Migration and Refugee Studies (3 cr.)

- (When relevant to refugee studies)
- MRS 584/5284 - Practicum: Internship or Research (3 cr.)
(Supervised internship with organization working on refugee issues)
With Center approval, students may take a course offered by another department or center.

To take the degree without a concentration, students may choose 3 courses from any of the electives listed above.

Thesis Requirements

All students must complete a thesis according to university regulations. Before commencing work on the thesis, the student must present a thesis proposal for approval by CMRS. The thesis proposal should comprise a research question, including a set of hypotheses, the sources of information and an outline of the research method to be used – and should not exceed 2000 words. After the acceptance of the thesis proposal, students must register for course MRS 5299 "Research Guidance and Thesis". After the completion of the thesis, it must be defended in an oral examination during which questions may be asked regarding any aspect of the thesis itself or of courses taken in the program particularly as they may relate to the thesis.

Time Line

Completion of the Masters Degree in Migration and Refugee Studies will normally take 2 years.

Philosophy (M.A.)

Mission and Goals:

The mission statement of the M.A. program in Philosophy (reflecting those of the Department and the University) is as follows:

Engaging in graduate study in philosophy is to engage in a process of coming to understand one's self and one's place in the world. The M.A. in Philosophy is devoted to this endeavor through its content and form. It engages students in asking questions about the possibility of knowledge, the nature of morality, beauty and aesthetic experience, the meaning of religious experience, the justification and limits of power, and the purpose and meaning of philosophical inquiry itself. And it holds that to be successful in this enquiry clear and careful thinking, the ability to question deeply held assumptions and attitudes, and a commitment to sound reasoning and careful appraisal of evidence is needed.

The goal of the M.A. in Philosophy is therefore to offer the highest quality liberal arts education to our graduate students. Philosophy postgraduates will finish this M.A. program with an in-depth knowledge of the professional discipline as well as the detailed understanding of the history of ideas more generally. This entails rigorous training in rational and critical thought, the close reading and interpretation of some of the history of philosophy's most challenging texts, exemplary intellectual responsibility, and the ability to clearly and effectively present the results of independently conducted research within the form of a M.A. thesis.

In the words of the executive director of the American Philosophical Association, "The skills that philosophy teaches you are wonderfully transferable." Our program aims at teaching students advanced philosophical skills, which they will be able to usefully apply either within the context of a future professional career or as preparation for entering a Ph.D. program at another institution. Students often register for graduate study in Philosophy because of their love of the discipline, rather than for any utilitarian purpose.

Nonetheless, a background in Philosophy can be professionally beneficial, insofar as employers and professional schools have become increasingly aware over the last couple of decades that philosophers tend to have the best training in thinking and writing, and are open and flexible.

Requirements

The M.A. in Philosophy is aimed at any undergraduate with a background in the study of philosophy. A minimum of twenty-four graduate hours are required.

Eight courses must be taken, at least six of which must be taken within the Department of Philosophy at the 5000 level. Students are required to follow the Philosophy Graduate Core, a series of advanced 5000 level seminars that are open only to Masters students. Two such 5000 level seminars are taught each semester. The Department also offers a series of electives: a select number of undergraduate courses that can also be taken at the 5000 level.

A maximum of two courses may be taken within other departments at AUC, at either the 4000 or 5000 level but only with the Chair's approval. Students who are not native speakers of Arabic and who wish to write a thesis within the sphere of Islamic Philosophy will be strongly encouraged to elect for credit at least one of the courses (at an appropriate level) offered by the Arabic Language Institute. Although AUC does not currently offer formal instruction in modern European language, students intending to write a thesis within the sphere of Continental Philosophy will be required to have a basic reading knowledge of either French or German. Any student who wishes to write a thesis in the sphere of Continental Philosophy but who lacks such knowledge is strongly encouraged to privately arrange some tuition outside of AUC.

Before commencing work upon the thesis students will be required to write a thesis proposal. The thesis itself should take the form of a research paper of approximately 15,000 words in length. There will also be a final defense of the finished thesis.

The Philosophy Graduate Program Director organizes a series of (non-credit) seminars at the beginning of every academic year, which all graduate students are expected to attend in order to ensure that they possess the research and academic writing skills requisite for tackling the thesis (PHIL 5299). This training will be further reinforced by the course requirements for the Department's Philosophy Graduate Core courses, in which the students are required to find and engage with relevant secondary literature and write in a highly professional manner for the papers upon which they are examined.

Breakdown of Courses

4 Philosophy Graduate Core courses and 4 optional courses (2 of which can be taken within other departments) and a thesis (PHIL 5299 (no cr.):

Required Philosophy Graduate Core:

- PHIL 500/5201 - Classical Western Philosophy (3 cr.)
- PHIL 501/5202 - Advanced Seminar in Islamic Philosophy (3 cr.)
- PHIL 504/5203 - Kant and Idealism (3 cr.)
- PHIL 505/5204 - Advanced Seminar in Phenomenology (3 cr.)

Optional Philosophy Graduate Courses:

- PHIL 502/5111 - Metaphysics (3 cr.)

- PHIL 503/5199 - Selected Topics in Philosophy (3 cr.)
- PHIL 510/5112 - Advanced Seminar in Aesthetics (3 cr.)
- PHIL 517/5113 - Current Trends in Philosophy (3 cr.)
- PHIL 518/5114 - Philosophical Masterpieces (3 cr.)
- PHIL 520/5115 - Philosophical Figures (3 cr.)
- PHIL 530/5116 - Advanced Ethics (3 cr.)
- PHIL 458-558/5119 - Advanced Seminar in Political Philosophy (3 cr.)
- PHIL 560/5117 - Philosophy of Language and Communication (3 cr.)
- PHIL 562/5118 - Formal and Mathematical Logic (3 cr.)

Political Science, Joint Program with University of Tubingen (Comparative and Middle East Politics and Society- CMEPS), with specializations in Comparative Politics, International Relations, and Development Studies (M.A.)

The Department of Political Science at the American University in Cairo and the Institute of Political Science at the University of Tubingen conduct a joint MA program in Comparative Middle East Politics and Society. Students are required to be enrolled full time, and the third semester of study takes place in the partner institution.

Required Courses

- POLS 501/5201 - Comparative Theory (3 cr.)
(1st semester)
- POLS 535/5235 - Middle East Politics (3 cr.)
(1st semester)
- POLS 558/5258 - Comparative Politics and the Middle East (3 cr.)
(2nd semester)
- POLS 530/5230 - Regime Change and Democratization (3 cr.)
(or Tubingen equivalent 3rd semester)
- POLS 545/5245 - Development Politics and International Cooperation (3 cr.)
(3rd semester)

Plus- elementary German Proficiency.

Plus four more courses in consultation with the Graduate Advisor/Coordinator of the Joint Degree Program

Plus Thesis

Political Science, with specializations in Comparative Politics, International Relations, and Development Studies (M.A.)

The graduate program in Political Science Department offers advanced study in the discipline of Political Science, with particular emphasis and specializations in three areas; Comparative Politics; International Relations, and; Development Studies (previously Professional Development).

The Political Science Department values its location in the heart of the Middle East and seeks, through its faculty, courses and activities, to link the discipline of political science to the thriving and complex political realities of Cairo, Egypt and the region. Its graduate programs offer students a thorough grounding in the theoretical underpinnings of the political phenomena as well as a deep understanding of political realities in Egypt, the Arab World and the international arena. The programs combine courses aimed at familiarizing students with the knowledge necessary for developing their understanding of these political realities with research seminars that are required for familiarizing students with research methods that they will need to independently analyze complex political phenomena.

The graduate programs are intended for students who would like to pursue academic careers as well as those presently working, or desiring to work, in international political bodies, government departments concerned with political issues, or in other public, private and international sectors where there is increasingly a need for persons who have a scientific understanding of the political realities of the Middle East and the World.

Students have the option of pursuing a one-year Graduate Diploma or a Master's degree in any of the three specializations offered by the Department. In addition to the requirements of each option, students will be able to choose elective courses covering the political topics closest to their interest. They are also encouraged to take up to two relevant courses from other departments and units of AUC. The Department works closely with its students to ensure that their chosen courses correspond to and serve their academic and professional goals.

Graduate students constitute an integral part of the academic life of the Political Science Department. They are encouraged to participate, individually and through their association, at the events and activities organized by the Department both inside AUC campus and in the thriving metropolis that constitutes its environment.

Comparative Politics

The strength of Comparative Politics at AUC is in the areas of Third World Politics and Development, with greatest faculty expertise being in Egypt and the Middle East. Graduate studies in Comparative Politics seek to increase students' knowledge about the political dynamics of disparate systems within the larger contexts of state and society, political economy, interstate and regional relations. It seeks to develop skills of analysis and writing in order to enhance students' understanding of their region of interest and its relations with the world. Comparative Politics is particularly suitable for students who wish to pursue a career in academia, research, journalism, political consultancy, or similar positions in which a solid political background and analytical abilities are required.

International Relations

International Relations include examination of current world politics as well as the many dimensions of the international system. This includes regional relations, foreign policies of selected states, as well as Middle Eastern international and interstate relations, and international political economy. The International Relations option seeks to provide greater depth of understanding of the forces operating in the international arena and the constraints that face foreign policy makers. Practice in analyzing current world and regional events and in the skills of written and oral presentation is provided as well as extra curricular activities that are designed to give students the opportunity to put their academic learning into practice. International Relations option is valuable for students who are working or seek to work in foreign relations, either in their own government or in international organizations. The field also prepares students for employment in other kinds of positions that require the ability to analyze and write about national or international politics.

Development Studies

Development Studies (previously Professional Development) is designed for those who have an interest in studying the developing world. The program includes (but is not limited to) courses with practical components and requires an internship usually done in the summer between the first and second years. Development Studies (previously Professional Development) seeks to prepare students to assume positions of greater responsibility in development agencies and organizations by expanding their understanding of the development field, its aims, objectives, methods of operation, and the broad scope of development work in the world today. It seeks to develop students' critical and analytical capacities, and provide practice in linguistic and writing skills needed for development work. Creativity in finding solutions to development problems is encouraged so that graduates may have an impact in their chosen areas of work in development. Practice in preparing project documents is included in the program. Development Studies (previously Professional Development) is designed for those who are either presently working in development organizations or who are seeking to enter a development career.

Admission

The applicant for admission to the master's program should have an acceptable bachelor's degree in political science or in a closely related social science (preferably with a minor in political science), and a grade-point average of at least 3.00 (an overall grade of gayyid giddan for graduates from Egyptian universities). Applicants with deficiencies in their preparation may be required to take appropriate courses at the undergraduate level.

The requirements for the specializations are as follows

All specializations have gateway courses that situate each specialization within its theoretical context and provide students with analytic tools for other courses. These introductory courses also prepare students for research and analysis needed for writing original seminar papers and for the thesis.

Requirements

Specialization in Comparative Politics

A specialization in Comparative Politics requires the following courses.

- POLS 501/5201 - Comparative Theory (3 cr.)
- POLS 504/5204 - Advanced Political Science Methods (3 cr.)
- POLS 530/5230 - Regime Change and Democratization (3 cr.)
- POLS 558/5258 - Comparative Politics and the Middle East (3 cr.)

Plus one course from the following:

- POLS 502/5202 - Scope and Method of Developmental Analysis (3 cr.)
- POLS 503/5203 - International Relations Theory (3 cr.)
- POLS 525/5225 - International Political Economy (3 cr.)

In addition, three courses to be chosen in consultation with the Graduate Studies Director, for a total of 24 credit hours.

Specialization in International Relations

A specialization in International Relations requires the following course.

- POLS 503/5203 - International Relations Theory (3 cr.)
- POLS 504/5204 - Advanced Political Science Methods (3 cr.)

Plus one course from the following:

- POLS 501/5201 - Comparative Theory (3 cr.)
- POLS 502/5202 - Scope and Method of Developmental Analysis (3 cr.)
- POLS 525/5225 - International Political Economy (3 cr.)

Plus two courses from the following:

- POLS 505/5205 - Identity, Culture and Norms in World Politics (3 cr.)
- POLS 510/5210 - Global Governance and World Order(s) (3 cr.)
- POLS 554/5254 - Comparative Foreign Policy: Theories and Applications (3 cr.)
- POLS 555/5255 - Conflict and Security in Global Politics (3 cr.)

In addition, three courses to be chosen in consultation with the Graduate Studies Director, for a total of 24 credit hours.

Specialization in Development Studies

A specialization in Development Studies (previously Professional Development) requires the following courses:

- POLS 502/5202 - Scope and Method of Developmental Analysis (3 cr.)
- POLS 504/5204 - Advanced Political Science Methods (3 cr.)
- POLS 584/5284 - Practicum: Internship or Research (3 cr.)
- POLS 585/5285 - Project Seminar (3 cr.)
- POLS 586/5286 - Skills in Development Practice (3 cr.)

Plus one course from the following:

- POLS 501/5201 - Comparative Theory (3 cr.)
- POLS 503/5203 - International Relations Theory (3 cr.)
- POLS 525/5225 - International Political Economy (3 cr.)

In addition, two courses to be chosen in consultation with the Graduate Studies Director, for a total of 24 credit hours.

Note

With department approval, students are strongly encouraged to take up to six hours of relevant courses outside the department.

Thesis

A thesis, written in English and submitted in accordance with university regulations, is required of all specializations for the master's degree in Political Science. Students, working with a supervisor of their choice, should submit a detailed thesis prospectus to the department for approval. Once approved, students must register for thesis supervision until graduation. The thesis must be defended in an oral examination.

The Department encourages its students to familiarize themselves with procedures regarding committee selection, writing of the thesis, presentation to the supervisor and readers, and defense of the thesis. It strongly encourages them to plan ahead their program in order to successfully meet the procedural requirements within the specified time frame.

Sociology-Anthropology (M.A.)

The graduate program in sociology and anthropology equips students with a thorough grounding in the theory and research methods of both disciplines. Drawing on the expertise of faculty in sociology, anthropology, and other disciplines, it offers a unique opportunity for students to conduct original fieldwork-based research amidst an intellectually stimulating environment. Its longstanding tradition of combining scholarship with a commitment to social, economic and political justice makes the program a dynamic environment for learning and research. Our students conduct fieldwork in Egypt and throughout the Middle East on topics such as urban transformation, gender, religious and social movements, memory and politics of the past, migration, environment, health, the family, poverty, ethnicity and nationalism, media, activism, art and expressive culture, and youth cultures.

The program emphasizes an interdisciplinary approach to social theory and research and has broad applications. It has prepared many of our students for doctoral programs in the social sciences at universities in North America, Europe and other parts of the Global South, as well as other career paths in social research, NGOs, development agencies, and international and non-profit organizations.

Located at the heart of the Middle East, the faculty and students engage critically with the region and the representation of its people, cultures, and politics. The vibrant and cosmopolitan city of Cairo makes the program's location ideal for students interested in conducting fieldwork in the Middle East, North Africa, and the Arab world, as well as its connections to the Mediterranean region, Sub-Saharan Africa, and the larger 'global south'. The program, accepts qualified applicants from a variety of academic and professional backgrounds especially those who are talented and interested in acquiring alternative and critical perspectives on society and politics.

Admission

The applicant for this program should be a graduate of high standing from an undergraduate program in the humanities or social sciences (refers to fields in the Faculties of Arts) with an overall grade of *gayyid giddan* or a grade point average of 3.0 or above. Those who lack this background but who are exceptionally well qualified in other respects may be admitted provisionally. In such cases the department may prescribe a noncredit program of work in theory or method for one or two semesters to correct gaps in course background. The department reserves the right to assess applicants' English proficiency and/or social science abilities in person as a condition of acceptance into the program. Students can be admitted to the program in the fall or spring.

Language

The candidate for the degree must demonstrate proficiency in a language other than English. The language exam is normally taken in Arabic and, in the case of native speakers, is intended to ensure that the student can work as a professional in that language. In certain cases the student may take the exam in a field and/or scholarly language other than Arabic. Students' language skills will be evaluated upon entry into the program for placement purposes and then re-evaluated for proficiency before completing the program.

Courses

Eight courses (24 credits) are required. All students must take: SOC/ANTH 5201, SOC/ANTH 5202, and SOC/ANTH 5298, and either SOC/ANTH 5203 or SOC/ANTH 5204. The remaining four courses should be chosen from the list of electives, each of which is offered in principle at least once in a two-year period. A maximum of six hours of 400-level courses in sociology and anthropology or of 500-level courses in other disciplines (including SOC/ANTH 5200 and SOC/ANTH 5208 when taught by faculty outside the SOC-ANTH program) may be taken with departmental approval.

Thesis

All students must complete a research thesis in accordance with university regulations. Before commencing work on the thesis, the student must write a thesis proposal following strict departmental guidelines that is approved by three faculty members.

Students should familiarize themselves with procedures and deadlines regarding writing the thesis proposal, committee selection, writing of the thesis and presentation to the supervisor and readers. Complying with the procedural requirements by the appropriate deadlines is the responsibility of the student. After completion of the thesis, it must be defended and approved by the thesis committee.

Teaching Arabic as a Foreign Language (M.A.)

Associate Professors: Z. Taha, R. El Essawi (Director TAFL program)

Interest in the Arabic language has increased greatly throughout the world. With this has come a demand for professionals trained in the field. Based on modern theory and practice, the master's degree and the diploma programs in Teaching Arabic as a Foreign Language (TAFL) are especially designed to meet this need.

The master's degree requires two years' residence and covers the following areas: linguistics, second language acquisition, and methods of teaching foreign languages. Practice teaching is also required. The courses have been structured to promote research as well as to develop highly trained teachers. In addition, a number of issues related to the role of Arabic in modern society are freshly examined, such as current methods of teaching Arabic to children, reform of the writing system, grammar reform movements, and the problem of diglossia. The TAFL program seeks to inspire new approaches to these problems.

Admission

Applicants for the master of arts degree in TAFL should preferably hold a bachelor of arts degree specializing in Arabic language, Islamic studies, Middle East area studies, or a modern language. Applicants should also meet general university admission requirements. Applicants with undergraduate specialization in a modern language other than Arabic must take a number of additional courses in the field of Arabic studies. Applicants who are not specialized in Arabic language will need also to take an entrance exam to be offered by ALI to show that applicant has sufficient

command of Arabic to qualify for admission into an Arabic language program. Applicants for the master of arts degree in TAFL should preferably have teaching experience prior to admission into the program or concurrently with the program. Applicants with no or little experience in teaching are required to work as unpaid teacher assistants for at least one semester before graduation.

Language

Non-native speakers of Arabic and holders of degrees other than Arabic language or Islamic studies must demonstrate in an examination that their proficiency in Arabic is adequate for study in the program. The level of language proficiency required for admission is not less than the level Superior as specified by the guidelines of the American Council for the Teaching of Foreign Languages (ACTFL). Those with less but showing exceptional promise may be recommended for AUC preparatory training for a period not to exceed one year.

An applicant who is not a native speaker of English must have sufficient command of English to qualify for admission as an AUC graduate student. Those with less but showing exceptional promise may be recommended for AUC preparatory training for a period not to exceed one year.

Courses

A minimum of 30 graduate credit hours and a thesis are required except as indicated in the "Thesis" section below.

Required of all students

- APLN 501/5201 - Principles of Linguistic Analysis (3 cr.)
- APLN 503/5202 - Second Language Acquisition (3 cr.)
- APLN 510/5203 - Methods of Teaching a Foreign Language I (3 cr.)
- APLN 511/5204 - Methods of Teaching a Foreign Language II (3 cr.)
- APLN 553/5205 - Sociolinguistics (3 cr.)
- APLN 555/5206 - Seminar on Challenges Facing AFL Teachers (3 cr.)

Electives

Electives should complete the required number of credit hours. Choice will depend upon the thesis topic and the student's undergraduate field of study and must be approved by the adviser. While they are normally selected from among 500-level TAFL courses, with the adviser's approval, electives may include up to two non-TAFL courses. No more than two 400-level courses may be counted toward the degree.

Note regarding required and elective courses:

Both required and elective courses are divided into two phases. Phase one courses include: APLN 5201 ,APLN 5202 ,APLN 5203 and APLN 5204 . Phase two courses include: APLN 5102, APLN 5205, APLN 5206 and/or other elective courses that the student proposes to take in order to finish required credits. Students will have to finish phase one courses before moving to phase two courses.

Comprehensive Examination

The comprehensive examination consists of a written examination followed by an oral examination. It is required only of students not writing theses and may not be taken more than twice.

Thesis

The thesis is usually required for graduation. In some circumstances and with the adviser's approval, a candidate may be allowed to replace the thesis with two additional courses, increasing the total number of minimum credit hours required from 30 to 36. In such cases the candidate would be required to take the comprehensive examination.

The student writing a thesis must produce a professional paper on some aspect of TAFL. The thesis must be prepared under the guidance and close supervision of a faculty adviser and a designated committee.

Teaching English to Speakers of Other Languages (M.A.)

Professors Emeriti: Y. El-Ezabi, E. F. Perry, P. Stevens

Professor: A. Agameya (Chair)

Associate Professors: R. Bassiouney, M. Plumlee, A. Gebril

The graduate programs in Teaching English to Speakers of Other Languages (TESOL) are designed to enhance knowledge, skills, and effectiveness of teachers, researchers, and administrators in the profession. These programs attract an international student body and combine rigorous academic standards with an appropriate balance between theory and practice.

Admission

Applicants for the Master of Arts degree in TESOL must have teaching experience prior to admission into the program, or may acquire this experience concurrent with the program.

Language

Applicants who are not native speakers of English will be required to demonstrate on the TOEFL with TWE that their command of English is adequate for study in the program.

Courses

Required of all students:

- APLN 510/5300 - Methods of TESOL I (3 cr.)
- APLN 501/5301 - Principles of Linguistic Analysis (3 cr.)
- APLN 520/5302 - Research Methods in Applied Linguistics (3 cr.)
- APLN 500/5303 - English Grammar (3 cr.)
- APLN 503/5304 - Second Language Acquisition (3 cr.)
- APLN 502/5305 - Assessment in Language Learning (3 cr.)
- APLN 511/5397 - Methods of TESOL II (3 cr.)

For thesis writers:

For thesis writers, a minimum of 33 graduate hours plus the thesis is required. For non-thesis writers, a minimum of 36 graduate hours is required plus a comprehensive examination.

Electives

In choosing electives, students with assistance of their advisors, are to choose at least one course from two of the groups listed below.

1. Education and research:

- APLN 507/5310 - Computer Assisted Language Learning (CALL) (3 cr.)
- APLN 570/5311 - Thesis Proposal Writing (3 cr.)
- APLN 531/5312 - Second Language Reading and Writing: Theory and Practice (3 cr.)
- APLN 540/5370 - Selected Topics in Applied Linguistics (1, 2, or 3 cr.)

2. Linguistics:

- APLN 521/5320 - English Syntax (3 cr.)
- APLN 548/5321 - Corpus Linguistics (3 cr.)
- APLN 550/5322 - Language Pragmatics (3 cr.)
- APLN 551/5323 - Discourse of Analysis for Language Teachers (3 cr.)
- APLN 540/5370 - Selected Topics in Applied Linguistics (1, 2, or 3 cr.)

3. Cross-linguistic, cross-cultural studies:

- APLN 550/5322 - Language Pragmatics (3 cr.)
- APLN 525/5330 - Language Transfer, Contrastive Analysis, and Error Analysis (3 cr.)
- APLN 553/5331 - Sociolinguistics (3 cr.)
- APLN 540/5370 - Selected Topics in Applied Linguistics (1, 2, or 3 cr.)

Note

In the case of APLN 5370 Selected Topics in Applied Linguistics, the course topic must relate to the general category.

Capstone Portfolio

As a part of their graduation requirements, students will submit a capstone portfolio at the end of their final semester. The capstone portfolio will include various items of graded student work from core and elective courses showing that students have successfully achieved MATESOL program learning outcomes. The capstone portfolio will be submitted as a final assignment in APLN 511/5397 - Methods of TESOL II (3 cr.) .

Comprehensive Examination

The Comprehensive Examination consists of a written examination followed by an oral examination. It is required only of students not writing theses, and may not be taken more than twice.

Thesis

The thesis as a requirement for graduation is optional. The student who chooses to write a thesis must produce a professional paper on some aspect of TESOL/applied linguistics. The thesis must be prepared under the guidance and close supervision of a faculty adviser and a designated committee, and must be defended to the satisfaction of the department. The thesis defense is not open to the public.

Television and Digital Journalism (M.A.)

Master's Degree in Television & Digital Journalism

The Kamal Adham Center for Television and Digital Journalism is designed to prepare graduate students for careers in television broadcasting and news reporting in the digital age. Through its master's program, the Center offers graduates the opportunity to become reporters, producers, television anchors, hosts and media professionals at the top television and satellite channels locally and internationally.

The 33-credit hour curriculum provides comprehensive knowledge of the literature and practice of television journalism and news media. It is a practical program that provides intensive and hands-on exposure to the skills needed for producing both field reports and in-studio shows. The program courses focus on editorial and technical skills, such as scriptwriting in English and Arabic, camera use, editing and studio operations, as well as courses on interviewing, talk show hosting and voice coaching. Students learn to use the latest HD and 3D cameras and digital equipment that is comparable to facilities found in major news organizations around the world.

Admission

Applicants are required to have a minimum GPA of 3.00 (on a 4.00 scale) or its equivalent of *gayyid giddan* (very good) in an undergraduate degree from an accredited college or university. Applicants with relevant work experience, but with a GPA slightly lower than 3.0 may still be considered for admission by the Center's graduate committee.

In addition to general language requirements established by AUC, the applicant must demonstrate a proficiency in English at an advanced level. All applicants will be personally interviewed by the director of the program in order to assess their level of communication and spoken language skills. Some applicants will be asked to complete, with a minimum grade of B, one to three undergraduate courses in broadcast writing and production as prerequisites.

Applicants must submit official transcripts of all university degrees, an updated curriculum vitae, two recommendation letters from relevant, credible sources and a personal statement of purpose. Applicants with media experience must submit samples of their work.

Since the Television and Digital Journalism Master's is a practical and hands-on program, requiring daily assignments outside of normal scheduled classes, students are expected to be available to take classes and complete assignments during the day and evening hours. Students are advised not to hold full-time employment that might conflict with fulfilling the program's requirements.

Admission checklist:

- Proof of English Language proficiency
- Official transcripts
- Curriculum Vitae
- Two letters of recommendation
- Personal statement of purpose
- Samples of published/broadcast work if applicable
- Director interview

TV & Digital Journalism Master's Courses

A minimum of 11 courses totaling 33 credit hours is required for the degree. All students must take the following:

- TVDJ 507/5207 - Practicum: TV or Special Video Assignment (3 cr.)
- TVDJ 537/5237 - TV Digital News Gathering and Script Writing (3 cr.)
- TVDJ 538/5238 - Arabic TV Script Writing (3 cr.)
- TVDJ 539/5239 - TV Presentation and Voice Coaching (3 cr.)
- TVDJ 541/5241 - Field and Studio Digital Camera Production (3 cr.)
- TVDJ 542/5242 - Digital Video Editing (3 cr.)
- TVDJ 545/5245 - TV Studio News Reporting (3 cr.)
- TVDJ 546/5246 - TV Digital Journalism Capstone (3 cr.)
- TVDJ 559/5259 - TV Interviewing and Talk Show Hosting (3 cr.)

Electives

All students must also take two (2) 500-level courses offered either by the Department of Journalism and Mass Communication or departments and/or Centers of the School of Global Affairs and Public Policy. All electives must be approved by the advisor to ensure relevance to the program.

Thesis and Comprehensive Exams

The Master's degree in Television and Digital Journalism is a professional degree. In lieu of comprehensive exams and a thesis, students are required to complete a capstone project. Those students who desire a thesis degree in preparation for eventual PhD study at an Egyptian university must, in addition to the requirements above, take JRCM 5200, JRCM 5202, JRCM 5204 and JRCM 5250, sit for comprehensives and enroll for a thesis.

Business Administration, with tracks in Finance, Marketing, Operations Management, Management of Information Technology and Construction Industry (M.B.A.)

Master of Business Administration (MBA)

The MBA is designed to prepare students who have completed undergraduate work in any academic discipline and intend to pursue a management career. The primary objective of the program is to provide candidates with a general and versatile business acumen, skills and technical competencies, which have become essential for the success of today's business professional. While the curriculum meets international standards, it also addresses local and regional business peculiarities. Advanced and elective courses provide more specialized insights in certain business areas. The program is housed by the School of Business which holds the triple-crown accreditation; the Association to Advance Collegiate Schools of Business (AACSB), European Quality Improvement System (EQUIS), and the Association of MBAs (AMBA) accreditations.

Admission

All applicants must satisfy the university's graduate admission requirements and obtain an acceptable score on the Graduate Management Admission Test (GMAT). In addition, applicants should have three or more years of relevant professional experience. To obtain the MBA degree, a minimum of 39 semester credit hours and a maximum of 48 credit hours are required. The exact number of credits will be determined according to the educational background of each candidate.

MBA Foundation Courses (12-30 credits)

The MBA Foundation courses are directed at providing the student with a basic background in the various functional areas of Business. Once these foundation courses are completed, students will be required to take the Strategic Management course, BADM 5310. The foundation courses are as follows:

- ACCT 501/5201 - Financial Reporting and Analysis (3 cr.)
- FINC 527/5201 - Managerial Economics (3 cr.)
- FINC 540/5202 - Financial Management (3 cr.)
- MGMT 502/5202 - Managing Organizations in a Dynamic Environment (3 cr.)
- MGMT 510/5307 - Entrepreneurship and Innovation (3 cr.)
- MGMT 504/5302 - Managing Human Capital (3 cr.)
- MKTG 520/5201 - Marketing Management (3 cr.)
- MOIS 508/5201 - Information and Communication Technology in Business (3 cr.)
- OPMG 507/5201 - Introduction to Business Statistics (3 cr.)
- OPMG 520/5202 - Operations Management for Competitive Advantage (3 cr.)

Integrating course:

- BADM 000/5310 - Strategic Management (3 cr.)

MBA Electives (12-21 credits)

Following the completion of the foundation courses and BADM 000/5310 - Strategic Management (3 cr.) students would select four elective courses from at least three different tracks. At least three courses should be track mandatory courses. A student may also specialize in a specific track by selecting three courses from the same track (two track mandatory courses and a track elective). The fourth course should be selected from another track or from the list of general electives. Concurrent registration for foundation courses, BADM 000/5310 - Strategic Management (3 cr.), track courses, and general electives is subject to approval.

Available tracks are as follows:

Finance

Marketing

Operations Management

Management of Information Technology

Construction Industry

Finance Track

To complete this track, students must complete four track courses. The two track mandatory courses stated below, and choose one course from the list of track electives. The fourth course is to be taken from any other track or from the list of general electives.

Two Track Mandatory courses

- FINC 541/5203 - Investments and Portfolio Management (3 cr.)
- FINC 544/5351 - Advanced Corporate Finance (3 cr.)

Track Electives (choose one course):

- FINC 512/5313 - Options and Derivatives (3 cr.)
- FINC 542/5311 - International Financial Management (3 cr.)
- FINC 543/5312 - Financial Institutions and Markets (3 cr.)
- FINC 570/5370 - Selected Topics in Financial Management (3 cr.)
- FINC 575/5375 - Independent Study in Financial Management (1-3 cr.)

Marketing Track

To complete this track, students must complete four track courses. The two track mandatory courses stated below, and choose one course from the list of track electives. The fourth course is to be taken from any other track or from the list of general electives.

Two Track Mandatory courses

- MKTG 526/5305 - Integrated Marketing Communication (3 cr.)
- MKTG 530/5306 - Strategic Marketing (3 cr.)

Track Electives (choose one course):

- MKTG 521/5301 - Marketing Research Methods (3 cr.)
- MKTG 524/5304 - Global Marketing (3 cr.)
- MKTG 000/5307 - Strategic Brand Management (3 cr.)
- MKTG 570/5370 - Contemporary Topics in Marketing (3 cr.)
- MKTG 575/5375 - Independent Study in Contemporary Topics in Marketing (1-3 cr.)

Operations Management Track

To complete this track, students must complete four track courses. The two track mandatory courses stated below, and choose one course from the list of track electives. The fourth course is to be taken from any other track or from the list of general electives.

Two Track Mandatory courses:

- OPMG 532/5305 - Operations Strategy (3 cr.)
- OPMG 521/5301 - Managing and Coordinating Supply Chains (3 cr.)

Track Electives (choose one course):

- OPMG 528/5302 - Managing Dynamic Projects (3 cr.)
- OPMG 533/5306 - Business Dynamics (3 cr.)
- OPMG 530/5303 - Data Analysis (3 cr.)
- OPMG 570/5370 - Selected Topics in Operations Management (3 cr.)
- OPMG 575/5375 - Independent Study in Operations Management (1-3 cr.)

Management of Information Technology Track

To complete this track, students must complete four track courses. The two track mandatory courses stated below, and choose one course from list of track electives. The fourth course is to be taken from any other track or from the list of general electives.

Two Track Mandatory courses

- MOIS 549/5301 - Systems Analysis, Design, and Implementation (3 cr.)
- MOIS 550/5302 - Decision Support Systems (3 cr.)

Track Electives (choose one course):

- MOIS 551/5303 - Electronic Business: Doing Business in the Digital Economy (3 cr.)
- MOIS 555/5305 - Information Technology Strategy and Entrepreneurship (3 cr.)
- OPMG 521/5301 - Managing and Coordinating Supply Chains (3 cr.)
- MOIS 570/5370 - Advanced Topics (Next Generation Technologies) (3 cr.)
- MOIS 575/5375 - Independent Research in Management of Information Systems/Technology (1-3 cr.)

Construction Industry Track

To complete this track, students must complete four track courses. The two track mandatory courses stated below, and choose one course from list of track electives. The fourth course is to be taken from any other track or from the list of general electives.

Two Track Mandatory courses

- CENG 530/5261 - Contracts in Construction Industry (3 cr.)
- CENG 531/5262 - Construction Management (3 cr.)

Track Electives (choose one course):

- CENG 532/5263 - Planning, Scheduling and Control (3 cr.)
- CENG 534/5265 - Risk Management and Bidding Strategies (3 cr.)
- CENG 535/5266 - Claims and Disputes in the Construction Industry (3 cr.)

List of General Electives

- ACCT 502/5301 - Managerial Accounting for Decision Making (3 cr.)
- ACCT 570/5370 - Selected Topics in Accounting (3 cr.)
- ACCT 575/5375 - Independent Study in Accounting (1-3 cr.)
- MGMT 506/5304 - Management of International Business Organizations (3 cr.)
- MGMT 509/5306 - Leadership (3 cr.)
- MGMT 511/5308 - Strategic Management of Innovation (3 cr.)
- MGMT 570/5370 - Selected Topics in Management (3 cr.)
- MGMT 575/5375 - Independent Study in Management (1-3 cr.)
- ECON 519/5213 - Project Evaluation (3 cr.)
- ECON 520/5215 - Competitive Strategy and Game Theory (3 cr.)
- ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)
- ECON 508/5271 - Labor Economics (3 cr.)

MBA Capstone (3 credits)

- BADM 000/5401 - Business Consultancy (3 cr.)

Executive Master of Business Administration (EMBA)

The EMBA is a professional degree designed for experienced executives with significant work experience (minimum 8 years) who are seeking to push their boundaries and limits with greater strategic vision, skills and leadership development that can immediately be applied to their current positions and have immediate effect on advancing to senior management positions in their organizations. The program focuses on integrating innovation, entrepreneurship and leadership to encourage future executives to think out the box. The curriculum emphasizes managerial and leadership skills, developing creativity and innovation, building on previous experiences, creating a solid networks with classmates, alumni and faculty as well as mastering broad range of functional and managerial knowledge. It enable students to apply immediately newfound skills and ideas in their workplace and engage in real-time global business challenges.

Admissions

All applicants must satisfy the general university requirements for graduate programs and have a bachelor's degree from a regionally accredited college or university in any academic discipline with minimum GPA of 3.0 and minimum

8 years of experience in his field of work. The GMAT is recommended but not required as the case of the MBA. A personal interview is a must to be accepted in the program. In addition, minimum acceptable results for standardized test for English Language proficiency will be required as in line with university policies for admission i.e TOFEL, 2 recommendation letters, written essay, written letter of commitment from the organization, whether sponsoring or not its employees, to allow their employees off the job during the program. To obtain EMBA degree, a total of 48 credit hours are required.

EMBA Program Structure

The EMBA program is delivered in a highly interactive modular format. It consists of 23 modules for a total of 48 credit hours to satisfy the requirements of the program at AUC.

Program Details

The 23 modules of the program are divided into five sections:

Section 1: General Management Perspectives:

Takes Participants from general insights to challenging business practices of today's economy and globalization, thus preparing them for what they will be doing in the coming modules. Participants will learn general insights about business practices, globalization of economy latest theories and best practices of today, importance of using team-work approach which the program focuses on through out the modules either through group assignments, case studies and projects and building basic framework in a qualitative, analytical and problem solving skills. It covers the following modules:

- EMBA 601/5601 - Change Management and Global Transformation (1.75 cr.)
- EMBA 602/5602 - Team-work & Communication (1.75 cr.)
- EMBA 603/5603 - Data Analysis and Analytical Decision Modeling for Optimizing Decisions (2 cr.)

Section 2: Business Core:

Gaining common business knowledge background with more depth and complexity in order to master the management's fundamentals and disciplines. This section is going to prepare them to master the management fundamentals i.e. accounting, finance, marketing etc., with a much higher level of complexity and expertise. It will expand and strengthens participants' basic knowledge in the fundamental disciplines of business, so they will be able to integrate everything together when making business decisions or developing action plans that provide effective leadership of the organization.

- EMBA 604/5604 - Managerial Economics (1.75 cr.)
- EMBA 605/5605 - Strategic Accounting (1.75 cr.)
- EMBA 606/5606 - Financial Management (2 cr.)
- EMBA 607/5607 - Corporate Financial Management (1.75 cr.)
- EMBA 608/5608 - Talent Management, Coaching & Mentoring (1.75 cr.)
- EMBA 609/5609 - Managerial Decision Making and Operation Management (2 cr.)
- EMBA 610/5610 - Global Marketing Management (International Live-in Module) (2.75 cr.)

- EMBA 611/5611 - Competitive & Corporate Strategy (International Live-in Module) (2.75 cr.)
- EMBA 612/5612 - E- Business & Managers' Toolkit (2 cr.)

Section 3: Managerial Global Leadership:

The modules combine a solid foundation in critical management practices with essential skills for senior level executives i.e. negotiation. It prepares executives to be effective leaders, confident, innovative, visionary, be able to manage entrepreneurial ventures and for the management greatest challenge of all, constant change. The continuous shift in the globalized economy and the rapid advances in communication technology forces organizations to constantly reshape their business strategies, structure and role of their business leaders. Executives have to change themselves to be confident, speedy, visionary, innovative, and responsive to this challenging business environment. Being effective leaders, they will help their organizations to survive in this unpredictable global business environment; relating business to legal environment, competition law and corporate governance and how they affect decision-making. This section addresses what executives should know about legal environment, competition law and about how corporate governance affects the way organizations are directed and controlled. It will address some important aspects such as separation of ownership and control, property rights and reconciling conflicts between stakeholders. It examines how the quality of corporate governance system influences prices, shares of the company and cost of raising capital and how it complies with the legal and regulatory requirements. It relates business to its legal environment and provides broad analysis of how laws influence management decisions and strategies. Participants will be familiarized with certain basic legal concepts relating to doing business on the national and international levels. Thus completing the cycle by making executives familiar with how business decisions and transactions should comply with national as well as international laws.

- EMBA 613/5613 - Leadership & Management (1.75 cr.)
- EMBA 614/5614 - Innovation and Creating the Best Practices of Tomorrow (1.75 cr.)
- EMBA 615/5615 - Global Supply Chain Management and Operational Excellence (2 cr.)
- EMBA 616/5616 - Negotiation & Conflict Management (1.75 cr.)
- EMBA 617/5617 - Entrepreneurial Management (1.75 cr.)
- EMBA 618/5618 - Doing Business With The East (International Live-in Module) (2.75 cr.)
- EMBA 619/5619 - Doing Business With The East (International Live-in Module) (2.75 cr.)

Section 4: Advanced Business Core:

Relating business to legal environment, competition law and corporate governance and how they affect decision-making. This section addresses what executives should know about legal environment, competition law and about how corporate governance affects the way organizations are directed and controlled. It will address some important aspects such as separation of ownership and control, property rights and reconciling conflicts between stakeholders. It examines how the quality of corporate governance system influences prices, shares of the company and cost of raising capital and how it complies with the legal and regulatory requirements. It relates business to its legal environment and provides broad analysis of how laws influence management decisions and strategies. Participants will be familiarized with certain basic legal concepts relating to doing business on the national and international levels. Thus completing the cycle by making executives familiar with how business decisions and transactions should comply with national as well as international laws.

- EMBA 620/5620 - Corporate Governance & Social Responsibility (2 cr.)
- EMBA 621/5621 - Business & Legal Environment (1.75 cr.)
- EMBA 622/5622 - Development & Rationale for Competitive Law (1.75 cr.)

Section 5: Integrating Project:

This section is the integrating part of the program. Participants undertake a consulting project within their own organization, identify a challenge or an opportunity to seek to address and undertake the appropriate analysis leading to a recommended course of action. They are encouraged to apply and integrate several analytic tools and organizational skills learned in various modules during the program.

- EMBA 623/5623 - Adapting to Global Environment - Integration Consultation Project (4 cr.)

Computing (M. Comp.)

Master in Computing (Non Thesis Option)

The Master in computing (M.Comp.) at AUC prepares students for higher level professional practice in local and international markets. The objectives of the program are to provide graduates with:

- A broad knowledge of advanced Computer Science topics
- Creative applications of scientific knowledge in the analysis, design, and implementation of computer systems
- Detailed knowledge of modern computational and experimental methods
- Extensive knowledge in an area of student interest from one of the offered fields of research
- Awareness of the local and global context in which Computer Science is practiced, including industrial and business practices, social needs, and considerations of cultures and ethics
- An ability to solve computational problems, think critically, function well in a team, and communicate effectively
- A high standard of written and oral communication on technical matters

Admission

Admission requirements are the same as those for the thesis-option M.S.

Courses (33 credit hours)

Eleven courses (33 credit hours) are required: Two core courses (6 credit hours), and Nine electives (27 credit hours).

Core Courses (6 credit hours)

All candidates must take Two core courses to be chosen from the following four courses:

- CSCE 525/5221 - Algorithms and Complexity Theory (3 cr.)
- CSCE 530/5231 - Advanced Processor Architecture (3 cr.)
- CSCE 545/5241 - Distributed Systems (3 cr.)

- CSCE 565/5261 - Advanced Artificial Intelligence (3 cr.)

Elective Courses (27 credits)

Nine courses to be chosen from the following courses, two additional courses not taken from the above list could be considered.

- CSCE 527/5262 - Neural Networks and Genetic Algorithms (3 cr.)
- CSCE 529/5222 - Design and Analysis of Parallel Algorithms (3 cr.)
- CSCE 532/5242 - Parallel Computer Architecture (3 cr.)
- CSCE 535/5232 - High Speed Networks (3 cr.)
- CSCE 541/5271 - Advanced Software Engineering (3 cr.)
- CSCE 543/5272 - Advanced Software Quality (3 cr.)
- CSCE 555/5268 - Computer Graphics and Animation (3 cr.)
- CSCE 561/5263 - Knowledge Engineering (3 cr.)
- CSCE 563/5267 - Digital Image Processing (3 cr.)
- CSCE 564/5265 - Web Mining (3 cr.)
- CSCE 567/5266 - Computer Vision (3 cr.)
- CSCE 569/5264 - Natural Language Processing and Machine Translation (3 cr.)
- CSCE 585/5930 - Selected Topics in Computer Science (3 cr.)
- CSCE 591/5980 - Capstone Project in Computing (3 cr.)
- CSCE 642/6231 - Mobile and Pervasive Computing (3 cr.)
- CSCE 664/6261 - Advanced Data Mining (3 cr.)
- CSCE 692/6930 - Advanced Selected Topics in Computer Science (3 cr.)

Construction Engineering (M.Eng.)

The Master of Engineering Degree in Construction Engineering prepares graduate students for higher-level professional practice in local and international markets, whether in consulting practice, industry, or government. It is intended for construction engineers who wish to master the practice in their field of specialty

Program Objectives

- Detailed knowledge in management, systems, design and materials in construction engineering.
- Extensive knowledge in an area of student interest from one of the fields involved in construction engineering.
- Awareness of the local and global context in which construction engineering is practiced, including economic and business practices, societal needs, and considerations of public health, safety, environment, culture and ethics.
- An ability to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively.
- A high standard of written and oral communication on technical matters.

Admission

Admission requirements are the same as those for the Master of Science Program.

Courses (33 credit hours)

Course work for the Master of Engineering degree requires the completion of a minimum of 33 credit hours as follows:

I- Construction Engineering Core (21 credit hours)

Students must complete 21 credits in graduate construction engineering courses.

II- Elective Courses (12 credit hours)

Students may elect to take four courses (12 credits). A minimum of two courses must be taken from offerings in engineering disciplines (including ENGR). No more than one 400-level course, not in the student's undergraduate major may be taken for graduate credit, subject to approval of the advisor.

Electronics and Communications Engineering (M. Eng.)

The name of the Electronics Engineering department has been changed to be the Electronics and Communications Engineering department. This change is effective starting Spring 2014. All degrees offered by the department will reflect the new name starting Spring 2014, and all transcripts issued for students graduating Spring 2014 onwards will bear the new name.

The Master of Engineering Degree in Electronics and Communications Engineering prepares students for higher level professional practice in local and international markets, whether in private consulting practice, industry, or government activities. It is intended for electronics engineers who wish to master the practice in their field of specialty.

1. Program Objectives

The objectives of the Master of Engineering Degree in Electronics and Communications Engineering are to provide the graduates of the program with:

- Detailed knowledge in product, systems, design and materials in electronics engineering.
- Extensive knowledge in an area of student interest from one of the fields involved in electronics engineering.
- Awareness of the local and global context in which electronics engineering is practiced, including economic and business practices, societal needs, and considerations of public health, safety, environment, culture and ethics.
- An ability to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively.
- A high standard of written and oral communication on technical matters.

2. Admission

Admission requirements are the same as those for the Master of Science Program.

3. Courses (33 Credit hours)

A minimum of 11 courses is required. The courses are selected from the following categories.

Core Courses (3 credit hours)

All students select one out of the following four ENGR core courses:

- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)

Concentration Courses** (30 credit hours)

Candidates must select at least eight courses out of the following ECNG course list:

- ECNG 510/5210 - Advanced Solid-State Devices (3 cr.)
- ECNG 516/5216 - Analog Integrated Circuit Design (3 cr.)
- ECNG 517/5217 - Digital Integrated Circuit Design (3 cr.)
- ECNG 518/5218 - Advanced Integrated Circuit Design (3 cr.)
- ECNG 000/5219 - High-Performance Integrated Circuit Modeling (3 cr.)
- ECNG 520/5231 - Advanced Digital Communications (3 cr.)
- ECNG 521/5233 - Wireless Communication Systems (3 cr.)
- ECNG 522/5230 - Stochastic Processes for Engineers (3 cr.)
- ECNG 524/5234 - Enabling Technologies for High Data Rate Communications (3 cr.)
- ECNG 525/5225 - Digital Signal Processing (3 cr.)
- ECNG 526/5236 - Information Theory and Coding (3 cr.)
- ECNG 530/5238 - Advanced Computer Networks (3 cr.)
- ECNG 541/5241 - Microwave Circuit Analysis and Design (3 cr.)
- ECNG 547/5247 - RF and Microwave Systems (3 cr.)
- ECNG 548/5248 - RF Integrated Circuit Design (3 cr.)
- ECNG 549/5249 - Antennas Design and Applications (3 cr.)
- ECNG 553/5223 - Fault-Tolerant Computing and Reliability Modeling (3 cr.)
- ECNG 556/5226 - Networked Control Systems Design & Applications (3 cr.)
- ECNG 594/5930 - Advanced Topics in Electronics and Communications Engineering (3 cr.)

**Note:

- Up to two PHD ECNG courses (600-level) to be taken for credit towards the above MS/ME degree are allowed

- Subject to the approval of the advisor and the graduate director the candidate is permitted to take six credit hours from the following two options

1. one 400-level or graduate-level course (3 credit hours) from outside the department and within the School of Sciences and Engineering;
2. Graduate Independent Study course (ECNG 5910) (1 to 3 credit hours).

However, the student may take a maximum of 3 hours of independent study, and a maximum of one course (3 credit hours) from outside the ECNG department.

Electronics and Communications Engineering with Concentration in Management of Technology (M. Eng.)

The name of the Electronics Engineering department has been changed to be the Electronics and Communications Engineering department. This change is effective starting Spring 2014. All degrees offered by the department will reflect the new name starting Spring 2014, and all transcripts issued for students graduating Spring 2014 onwards will bear the new name.

The Master of Engineering Degree in Electronics and Communications Engineering with Concentration in Management of Technology prepares students for higher level professional practice in local and international markets. It is intended for electronics engineers who wish to master the practice in their field of specialty, as well as understanding the notion of technology and innovation as key to wealth creation, competitiveness and sustainable economic and social development. Potential students can come from academia, multinational corporations, government sectors, and owners, managers and employees of private/public sector companies.

1. Program Objectives

The objectives of the program are:

- To provide students with solid knowledge in product and systems design in electronics engineering.
- To train students to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively.
- To educate students on high standard of written and oral communication on technical matters.
- To enable students to manage and guide technology-based organization in a changing environment
- To expose students to methods of integrating technology and business strategies
- To educate student on methods to develop an organizational structure and necessary functions that permit sustainable success.

2. Admission

Admission requirements are the same as those for the Master of Science in Electronics and Communications Engineering program.

3. Courses (33 credit hours)

A minimum of eleven courses (33 credit hours) are required.

The ECNG courses are selected from the following categories:

Concentration Courses* (24 credit hours)

Candidates must select at least 7 courses out of the following list of 15 courses:

- ECNG 510/5210 - Advanced Solid-State Devices (3 cr.)
- ECNG 516/5216 - Analog Integrated Circuit Design (3 cr.)
- ECNG 517/5217 - Digital Integrated Circuit Design (3 cr.)
- ECNG 518/5218 - Advanced Integrated Circuit Design (3 cr.)
- ECNG 000/5219 - High-Performance Integrated Circuit Modeling (3 cr.)
- ECNG 520/5231 - Advanced Digital Communications (3 cr.)
- ECNG 521/5233 - Wireless Communication Systems (3 cr.)
- ECNG 522/5230 - Stochastic Processes for Engineers (3 cr.)
- ECNG 524/5234 - Enabling Technologies for High Data Rate Communications (3 cr.)
- ECNG 525/5225 - Digital Signal Processing (3 cr.)
- ECNG 526/5236 - Information Theory and Coding (3 cr.)
- ECNG 530/5238 - Advanced Computer Networks (3 cr.)
- ECNG 541/5241 - Microwave Circuit Analysis and Design (3 cr.)
- ECNG 547/5247 - RF and Microwave Systems (3 cr.)
- ECNG 548/5248 - RF Integrated Circuit Design (3 cr.)
- ECNG 549/5249 - Antennas Design and Applications (3 cr.)
- ECNG 553/5223 - Fault-Tolerant Computing and Reliability Modeling (3 cr.)
- ECNG 556/5226 - Networked Control Systems Design & Applications (3 cr.)
- ECNG 594/5930 - Advanced Topics in Electronics and Communications Engineering (3 cr.)

***Note:**

Subject to the approval of the advisor and graduate director the candidate is permitted to take three credit hours from one of the following two options:

1. one 400-level or graduate-level course (3 credit hours) from outside the department and within the School of Sciences and Engineering;
2. Graduate Independent Study (ECNG 5910) course (1 to 3 credit hours).

MoT Courses (9 credit hours)

Candidates must select 3 courses out of the following list:

- ECNG 570/5271 - New Product Design and Development (3 cr.)
- ECNG 571/5272 - Technology and Innovation Management (3 cr.)
- ECNG 572/5273 - Strategic Management of Innovation (3 cr.)
- ECNG 573/5274 - Entrepreneurship and Innovation (3 cr.)

Environmental Systems Design (M.Eng.)

The Master of Engineering Degree in Environmental Systems Design prepares students for higher level professional practice in local and international markets, whether in private consulting practice, industry, or government and regulatory activities.

Program Objectives

The objectives of the Master of Engineering Degree in Environmental Systems Design are to provide the graduates of the program with:

- Extensive knowledge in fundamental environmental engineering science, the interactions of pollutants in water, air, and subsurface environments, and the design of treatment / pollutant remediation systems.
- In-depth knowledge in an area of student interest deriving from one of the areas of environmental engineering noted above, including applications in environmental hydraulics, solid and hazardous waste engineering, and management of environmental control systems.
- Awareness of the local and global context in which environmental engineering is practiced, including economic and business practices, societal needs, and considerations of public health, safety, culture and ethics.
- An ability to solve unstructured engineering problems of social significance, think critically, and function well in a team.
- A high and ethical standard of written and oral communication on technical matters.

Admission

Admission requirements are the same as those for the Master of Science Program.

Courses (33 credit hours)

Course work for the Master of Engineering degree requires the completion of 33 credit hours as follows:

I- Engineering core (6 credits)

- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)

One course (3 cr.) is selected out of

- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)

II- Environmental Engineering core (15 credits)

- ENVE 561/5250 - Water Quality Control (3 cr.)
- ENVE 562/5251 - Unit Operations in Environmental Engineering (3 cr.)
- ENVE 564/5252 - Air Pollution Control Engineering (3 cr.)
- ENVE 566/5254 - Solid and Hazardous Wastes Engineering (3 cr.)
- ENVE 567/5255 - Environmental Chemistry (3 cr.)
- ENVE 569/5258 - Groundwater Hydrology and Contamination (3 cr.)

III- Elective Courses (12 credit hours)

Four courses (12 cr.) are to be selected from a set of graduate courses in engineering, physical sciences, social sciences, management and other related graduate level courses subject to advisor and director's approval. No more than one 400-level course in engineering, computer science and other related areas, not in the student's undergraduate major, may be taken for graduate credit subject to advisor and director's approval.

Mechanical Engineering (M.Eng.)

The Master of Engineering in Mechanical Engineering at AUC prepares students for higher level professional practice in local and international markets.

Program Objectives

The objectives of the Master of Engineering Degree are to provide the graduates of the program with:

- A broad knowledge of modern computational and experimental methods in engineering.
- Detailed knowledge in engineering design, materials and manufacturing, industrial engineering, power and mechatronics.
- Awareness of the local and global context in which mechanical engineering is practiced, locally and globally, including economic and business practices, societal needs, and considerations of public health, safety, environment, culture and ethics.
- An ability to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively.
- A high standard of written and oral communication on technical matters.

Admission

Admission requirements are the same as those for the Master of Science Program.

Courses (33 credit hours)

Course work for the Master of Engineering degree requires the completion of a minimum of 33 credit hours as follows:

I- Engineering and Mechanical Engineering core (21 credits)

Students must complete 21 credits in graduate mechanical engineering courses.

II- Elective Courses (9 credit hours)

Students may elect to take three courses (9 credits). A minimum of two courses must be taken from offerings in mechanical engineering/ engineering disciplines (including ENGR). No more than one 400-level course, not in the student's undergraduate major may be taken for graduate credit, subject to approval of the advisor and department chair.

III- Capstone project (3 credits)

Students are required to attend the library and writing modules of ENGR 5940 and to undertake an engineering project approved by the chair of the supervisory committee, which consists of the student advisor and two additional faculty members. A final report is submitted and orally defended in the presence of the supervisory committee.

Robotics, Control and Smart Systems (M.Eng.)

Master of Engineering in Robotics, Control and Smart Systems (RCSS)

The Master of Engineering in Robotics, Control and Smart Systems provides academic excellence through an interdisciplinary education in the fields with aim to prepare graduate students for careers in industry, education and research (local, regional and global).

Program Objectives:

The Master of Engineering in Robotics, Control and Smart Systems graduates engineers who :

1. Have broad foundation in both the theoretical and the practical skills of RCSS interdisciplinary knowledge space,
2. Integrate fundamental and advanced knowledge to solve complex interdisciplinary problems in the field of RCSS,
3. Work independently as well as collaboratively within interdisciplinary teams and prepared to be team leaders,
4. Demonstrate competitive professional advancement, and engage in advanced academic and research in areas of their interest within industry, research centers, and academia both in local and global environment.

Admissions

A bachelor's degree in engineering, with minimum GPA of 3.0 out of 4.0 in major area is required as a basic requirement or admissions into the RCSS master's program. Admission is also subject to the general university requirements for graduate programs. For those students whose grade records indicate promising ability, but who otherwise are not have adequate preparation in sciences or engineering, admission may be granted under the requirement that remedial courses will be taken.

Program Structure

A total of 33 credit hours are required for the Master of Engineering in RCSS. The program of study should include 33 credit hours of courses.

Courses (33 credit hours):

I. Group I (6 credit hours)

A minimum of 6 credit hours are required from this list of courses:

- RCSS 501/5201 - Robotics: Kinematics, Dynamics and Control (3 cr.)
- RCSS 502/5202 - Embedded Real Time Systems (3 cr.)
- RCSS 503/5203 - Modern Control Design (3 cr.)
- RCSS 504/5204 - Applied Estimation (3 cr.)

II. Group II (18 credit hours)

A minimum of 18 credit hours are required from this list of courses:

- RCSS 521/5221 - Intelligent and Autonomous Robotic Systems (3 cr.)
- RCSS 522/5222 - Mechatronics Innovations and Experimental Robotics (3 cr.)
- RCSS 523/5223 - Bioinspired Robotics and Multi Robotic Systems (3 cr.)
- RCSS 524/5224 - Robotics and Intelligent Automated Manufacturing (3 cr.)
- RCSS 531/5231 - Teleoperation, Haptic Systems and Collaborative Control (3 cr.)
- RCSS 532/5232 - Robust and Optimal Control (3 cr.)
- RCSS 533/5233 - Nonlinear and Adaptive Control (3 cr.)
- RCSS 534/5234 - Networked Control Systems: Design and Applications (3 cr.)
- RCSS 541/5241 - Smart Systems and Computational Intelligence (3 cr.)
- RCSS 542/5242 - MEMS/NEMS Technology and Devices (3 cr.)
- RCSS 543/5243 - Image Analysis and Computer Vision (3 cr.)
- RCSS 544/5244 - Sensors, Perception and Smart Systems (3 cr.)
- RCSS 545/5245 - Advanced Artificial Intelligence (3 cr.)
- RCSS 592/5930 - Selected Topics in RCSS (3 cr.)

III. Group III (3 credit hours)

- RCSS 593/5980 - Capstone Project (3 cr.)

IV. Group IV (6 credit hours)

Select (6 credits) from the above two groups or from other graduate courses in engineering, physical sciences, or management subject to advisor and director's approval. No more than one 400-level course in engineering or other related areas, not in the student's undergraduate major, may be taken for graduate credit subject to advisor and director's approval.

Global Affairs, with concentrations in International Cooperation, and International Security (MGA)

The Master of Global Affairs (MGA) is administered by the Department of Public Policy and Administration in the School of Global Affairs and Public Policy. The program prepares students for leadership and responsibility positions in the conduct of global affairs and public policy in governments and international and regional multilateral agencies as well as in business and civil society organizations. It is expected that students will be drawn from and/or employed in

mid-career positions in institutions working in global affairs or demonstrate promise for such careers, based on their commitment and their academic and professional background.

The MGA program aims to provide students with knowledge and professional skills required for the functioning of the global system in an inclusive manner at the international and national levels, combining conceptual understanding with analytic skills and knowledge of global affairs. Through this program, students will gain the capability to participate effectively in the formulation and implementation of policies in their own countries and in supporting, guiding, and monitoring action on global affairs at the multilateral level. Ultimately, both their own countries and the global system should benefit from the knowledge acquired.

Admission

All applicants must satisfy the university's graduate admission requirements. Candidates for the MGA are recommended but not required to have two or more years of relevant professional experience.

Courses (33 credit hours)

Students seeking the degree of Master of Global Affairs must complete 33 credit hours of coursework plus a master's project. The program core, required of all students, consists of 6 courses (18 credits). Students must also complete a concentration of 5 courses (15 credits). Students may elect either the concentration in International Security or the concentration in International Cooperation. Students are required to declare their concentration before beginning their second semester of enrollment in the program. In addition to coursework, students must complete a master's project consistent with department and university guidelines.

Core Requirement (18 credit hours):

Students must complete four (4) courses in group 1, one (1) course in group 2, and one (1) course in group 3.

Group 1: Complete all four (4) of the following:

- PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.)
- PPAD 527/5251 - International Organization in Global Governance (3 cr.)
- PPAD 528/5252 - Theory and Practice of Negotiation (3 cr.)
- PPAD 540/5161 - Diplomacy: Theory and Practice (3 cr.)

Group 2: Complete one (1) of the following:

- PPAD 524/5129 - Globalization and Development (3 cr.)
- PPAD 529/5151 - Issues in International Security (3 cr.)
- LAW 509/5209 - International Law (3 cr.)

Group 3: Complete one (1) of the following:

- PPAD 502/5231 - Economics for Public Policy Analysis (3 cr.)
- PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.)

- POLS 561/5261 - Public Policy and Development (3 cr.)
- PPAD 508/5211 - Qualitative Analysis for Policy and Administration (3 cr.)
- PPAD 509/5212 - Applied Quantitative Analysis (3 cr.)

Concentration Requirement (15 credit hours):

Students must complete 5 courses in one of the following two areas. In addition to the courses shown for each concentration, students may select a course from the core list shown above as a Group 2 concentration course, if not taken as a core course (i.e., a course may be counted toward only one requirement) or, with advisor approval, may substitute an appropriate offering of PPAD 5199 - Selected Topics in Public Policy and Administration.

MGA Concentration 1: International Security – 5 courses (15 credits) required

Group 1: Required for all students in the concentration

- PPAD 530/5152 - International Intervention and Conflict Management (3 cr.)
- PPAD 539/5258 - Role of Force: Strategy and Statecraft (3 cr.)

Group 2: Complete one (1) of the following:

- PPAD 531/5153 - Armament, Arms Control and Disarmament (3 cr.)
- PPAD 532/5154 - Issues in regional security in the Middle East and Africa (3 cr.)
- POLS 554/5254 - Comparative Foreign Policy: Theories and Applications (3 cr.)
- PPAD 591/5198 - Practicum (3 cr.)
- PPAD 529/5151 - Issues in International Security (3 cr.)
(If not taken in core group 2).
- PPAD 542/5159 - Islam and Global Affairs (3 cr.)
- PPAD 543/5160 - War, Peace and Conflict Resolution in Islam (3 cr.)

Group 3:

Complete two (2) additional relevant courses (other than PPAD 5298 and PPAD 5299; selected in consultation with departmental advisor).

MGA Concentration 2: International Cooperation -- 5 courses (15 credits) required

Group 1: Required for all students in concentration

- PPAD 533/5155 - Cooperation for Development in the Multilateral System (3 cr.)
- POLS 525/5225 - International Political Economy (3 cr.)

Group 2: Complete one (1) of the following:

- PPAD 516/5132 - Social and Environmental Policy (3 cr.)
- PPAD 534/5156 - Comparative Bilateral Cooperation Policies for Development (3 cr.)
- PPAD 535/5157 - Multilateral Cooperation for Development at the Country Level: Issues and Practice (3 cr.)
- PPAD 591/5198 - Practicum (3 cr.)
- PPAD 542/5159 - Islam and Global Affairs (3 cr.)

Group 3:

Complete two (2) additional relevant courses (other than PPAD 5298 and PPAD 5299 ; selected in consultation with departmental advisor).

Master's Project

Students are required to complete a master's project addressing a challenge relevant to their concentration from the point of view of an organization involved in the issue, which will serve as the project's client. If a member of the organization's staff is not available, the client role may be performed by an alternate designated by the department. The preparation of the master's project proposal and final report must comply with departmental guidelines with regard to client involvement, content, format, dates, and the review and supervision process. Students developing a project proposal with a client are strongly encouraged to enroll in PPAD 5198, the practicum. Once the project proposal is approved by the student's master's project supervisor, the student must enroll in PPAD 5298, the research seminar, for one semester and for the additional semesters that are needed to complete the project, in PPAD 5299, research guidance, until the project is completed. The student will pay 3 credits of tuition for the first enrollment in PPAD 5299, subsequent enrollments if needed will require payment of 1 credit per semester. The master's project may be completed as a team or as an individual project.

International and Comparative Law (LL.M.)

The Ibrahim Shihata Memorial LL.M Program in International and Comparative Law

Dr. Ibrahim Shihata, in whose memory this LL.M has been established, made significant contributions to the development of international economic law. In addition to his positions of Senior Vice President and General Counsel with the World Bank, Dr. Shihata also served as Secretary-General of the International Center for the Settlement of Investment Disputes; he was principal architect of the Multilateral Investment Guarantee Agency (MIGA); and he was responsible for the World Bank Guidelines for the Legal Treatment of Foreign Investments. Other positions included first Director General of the OPEC Fund for Economic Development and General Counsel of the Kuwait Fund. He was instrumental in establishing the Inter-Arab Investment Guarantee Agency, and he was the founder of the International Development Law Institute in Rome. Indeed the entire career of Dr. Shihata was devoted to the infrastructures that assisted development. The LL.M program itself, as well as individual courses, are directly concerned with law and development. In Dr. Shihata's words: "Law, as the formal instrument of orderly change in society, plays a pivotal role, even though this role has not always been readily recognized."

The Master of Laws (LL.M) Degree in International and Comparative Law is intended for law school graduates who seek to acquire the intellectual and analytical tools to intervene critically and effectively in the global policy debates confronting their societies, as policy makers, practicing lawyers, judges, academics, activists or international civil

servants. In the context of constantly changing global economic and political realities, and the crumbling of old regulatory models, the Degree is designed to empower students to adapt, innovate and gain mastery over what they don't know.

The Master of Laws (LL.M.) Degree in International and Comparative Law offers a wide range of courses designed to provide students with the intellectual tools to promote and critically assess economic, social, and legal developments. The curriculum is flexible and allows students to pursue advanced studies in specialized areas (e.g., business regulation, Islamic law and Middle Eastern legal systems, gender studies, and international human rights law). LL.M. students have an invaluable opportunity to benefit from the multidisciplinary offerings of the School of Global Affairs and Public Policy (GAPP). Fulfilling the requirements of the LL.M. degree normally calls for two years of study.

Admission

The Applicant for admission to the LL.M degree should have an acceptable bachelor's degree in law, political science or a closely related social science (preferably with a minor in political science or law studies) with a grade of *gayyid* (good) or its equivalent for full admission. Students lacking the grade requirement may be eligible to be considered for provisional admission (as specified in the AUC catalog *supra*). Acceptance is by decision of the Law Faculty Committee, which may grant provisional admission pending the fulfillment of certain conditions. English language proficiency is required as per general AUC graduate admission requirements. Admitted degree candidates should normally start their course sequence in the fall semester. Students enrolled in the AUC English Language Institute must complete all ELI Courses and modules before being allowed to enroll in Law Classes. For these students, spring enrollment is allowed.

For students admitted to the LL.M degree without a first degree in law, the *Equivalent Certificates Committee* (ECC) of the Supreme Council of Universities in Egypt may consider on a case-by-case basis, the equivalence of the LL.M degree.

Requirements

The LL.M degree requires nine courses (27 credits hours) as well as a thesis of sufficient depth and length as specified below.

Four courses are required:

- LAW 500/5200 - Legal Research and Writing (3 cr.)
 - LAW 527/5227 - Graduate Law Seminar (3 cr.)
- Two out of the following three courses:
- LAW 501/5201 - Jurisprudence (3 cr.)
 - LAW 502/5202 - Comparative Law (3 cr.)
 - LAW 509/5209 - International Law (3 cr.)

Electives

Students will be able to take up to five courses as electives, three of which have to be law courses. The Law Department's approval is required for electives offered by other Departments.

Thesis Requirements

The research requirement for the LL.M. is satisfied by writing a thesis of sufficient depth and length for the topic addressed therein and prepared under the supervision of a faculty member of the department. Students are required to register for the following course while fulfilling their thesis requirement.

- LAW 599/5299 - Research Guidance/Thesis (no cr., graded)

Public Administration, with concentrations in Management of Public Sector Reform, and Management of Nonprofit and Development Organizations (MPA)

Master of Public Administration

The Master of Public Administration is administered by the Department of Public Policy and Administration in the School of Global Affairs and Public Policy. The program prepares students for leadership and upper management positions in public service. Students, who are generally mid-career at entry, pursue careers in government, nonprofit organizations, international development agencies, academia, and the private sector.

Program objectives

The mission of the MPA Program is to support effective and efficient administration of government and nonprofit organizations and better public governance in Egypt and the Middle East by preparing professionals for careers in public service with the highest ethical standards, strong competencies in public governance, excellent leadership and communication skills, a sound understanding of the use of evidence and analysis in public service settings, and a commitment to building a better future for the people of Egypt and the region.

Admission

All applicants must satisfy the university's graduate admission requirements. Candidates for the MPA or DPA are recommended but not required to have two or more years of relevant professional experience.

Courses (33 credit hours)

Students seeking the degree of Master of Public Administration must complete 33 credit hours plus a thesis. The program core, required of all students, consists of 6 courses (18 credits). Students must complete a concentration of 5 courses (15 credits). Students may elect either the concentration in Management of Public Sector Reform or the concentration in Management of Nonprofits and Development Organizations. Students are required to declare their concentration before beginning their second semester of enrollment in the program. In addition to coursework, students must complete a thesis consistent with department and university guidelines and complete at least one enrollment in each of the mandatory thesis sequence courses (PPAD 5298 and PPAD 5299, both non-credit).

Core Requirement (18 credit hours):

Students must complete four (4) courses in group 1, one (1) course in group 2, and one (1) course in group 3.

Group 1: Complete all four (4) of the following:

- PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.)
- PPAD 501/5221 - Strategic Management for Government and Nonprofit Organizations (3 cr.)
- PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.)
- PPAD 514/5224 - Human Resource Management for Government and Nonprofit Organizations (3 cr.)

Group 2: Complete one (1) of the following:

- PPAD 504/5222 - Fundamentals of Financial Planning and Management for Government and Nonprofit Organizations (3 cr.)
- PPAD 511/5122 - Administrative Environment and Public Policy in Egypt and the Middle East (3 cr.)
- PPAD 512/5114 - Management of Development Programs (3 cr.)

Group 3: Complete one (1) of the following:

- PPAD 508/5211 - Qualitative Analysis for Policy and Administration (3 cr.)
- PPAD 509/5212 - Applied Quantitative Analysis (3 cr.)
- PPAD 515/5202 - Public Policy Analysis and Program Evaluation (3 cr.)

Concentration Requirement (15 credit hours):

Students must complete 5 courses in one of the following two areas. In addition to the courses shown for each concentration, students may select a course from the core list shown above as a Group 3 concentration course, if not taken as a core course (i.e., a course may be counted toward only one requirement).

MPA Concentration 1: Management of Public Sector Reform -- 5 courses (15 credits) required

Group 1: Choose two from the following four courses

- PPAD 510/5113 - Organizational Behavior for Government and Nonprofit Management (3 cr.)
- PPAD 513/5223 - International Models of Public Management (3 cr.)
- PPAD 518/5123 - Governance, Accountability, and Stakeholder Negotiations (3 cr.)
- PPAD 523/5125 - Citizen-centered government (3 cr.)

Group 2: Complete three other courses selected in consultation with the departmental advisor, of which at least two must be PPAD courses. Students are strongly encouraged to take a course in another School of Global Affairs and Public Policy department or center if possible and in particular students in this concentration are strongly recommended to take at least one course in law as a concentration elective.

MPA Concentration 2: Management of Nonprofit and Development Organizations -- 5 courses (15 credits) required

Group 1: Choose two from the following three courses

- PPAD 512/5114 - Management of Development Programs (3 cr.)
- PPAD 517/5126 - Non-profit Management (3 cr.)
- PPAD 526/5128 - Corporate Social Responsibility and NGO Partnerships (3 cr.)

Group 2: Complete three other courses selected in consultation with the departmental advisor, of which at least two must be PPAD courses.

Students are strongly encouraged to take a course in another School of Global Affairs and Public Policy department or center if possible.

Practicum (PPAD 591): 3 credits Graded Pass-Fail

Students are strongly encouraged to undertake a practicum within their concentration, ideally in conjunction with their thesis work.

Thesis

Students are required to write a thesis on some aspect of public administration relevant to their concentration. The preparation of the thesis and the thesis itself must comply with Departmental and AUC guidelines with regard to content, format, dates, and the review and supervision process. Students are responsible for familiarizing themselves with these guidelines and meeting formal deadlines. Students preparing the thesis normally develop a preliminary thesis proposal during PPAD 5201, a required core course, but may prepare an alternative thesis proposal if desired. Once the proposal is approved, students are required to enroll in PPAD 5298, the thesis research seminar, in the first semester in which they are working on the research component and write-up of their thesis. Thereafter, if additional work is required to complete the thesis, students must enroll each semester in PPAD 5299. Students must pay 3 credits of tuition for the first enrollment in PPAD 5298 and PPAD 5299 and thereafter pay 1 credit of tuition each semester, until the thesis is successfully defended and approved by the Dean.

PPAD 5298, the thesis research seminar, is designed to support the applied research required for the thesis and the writing of the thesis itself. Students will be required to read and comment on the work of other students, both orally and in writing, and to present draft thesis chapters.

Dual Degree Option BSc/CENG-MPA

Students enrolled in the School of Science and Engineering may apply to complete the MPA on an accelerated basis in conjunction with completion of the BSc. in engineering. At present, this option is open only to students completing the BSc. in Construction Engineering. Students interested in this option should consult with their advisors during the Fall of their fourth year for potential admission to the program in their fifth year. Those interested in this option are required to complete a summer work assignment for Fall practicum in their fifth year. The program is jointly administered by the Department of Public Policy and Administration in the School of Public Affairs and the School of Sciences and Engineering. Admission is based on the recommendation of the student's SSE advisor and review by the PPAD department. The program prepares students for careers in public service with the highest ethical standards, strong competencies in environmental analysis and management as well as public governance, excellent leadership and communication skills, a sound understanding of the use of evidence and analysis in public service settings, and a commitment to building a better future for the people of Egypt and the region. Students pursue careers in government, nonprofit organizations, international development agencies, academia, and the private sector.

Students electing the dual degree option begin taking graduate courses in their ninth semester and receive both the BSc. and the MPA upon the completion of their coursework and master's thesis, normally at the end of their 6th year. The following course sequence has been developed for this option, but students should consult their advisor in CENG to ensure that all SSE requirements are met:

SEMESTER IX

- CENG 424/4253 - Methods and Equipment for Construction II (2 cr.)
- Eng. Concentration 1 elective
- CENG 448/4460 - Financial Management and Accounting for Construction (3 cr.) (MPA credit)
- CENG Elective (1)
- CENG 431/4351 - Transportation Engineering (3 cr.)

- CENG 490/4980 - Senior Project I (1 cr.) (Capstone Core Level I)
- CENG 497/4951 - Practical Training (1 cr.) (Practicum)

SEMESTER X

- Engineering Concentration 2
- CENG 567/5243 - Construction Leadership and Management Skills (3 cr.)
- CENG 491/4981 - Senior Project II (2 cr.) (Capstone Core Level II)
- PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.) (MPA credit)
- PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.) (MPA credit)
- Science elective (from MDP list)
- Summer internship – public/NGO management focus preferred (MPA credit through 5198)

SEMESTER XI

- PPAD 591/5198 - Practicum (3 cr.) (Capstone Level II) (MPA Credit)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.) (MPA Credit)
- PPAD Elective selected with MPA advisor (MPA Credit)
- Science elective (selected with PPAD advisor)
- PPAD 598/5298 - Research Seminar (0 cr.) (MPA Credit)

SEMESTER XII

- PPAD 514/5224 - Human Resource Management for Government and Nonprofit Organizations (3 cr.) (MPA Credit)
- PPAD 516/5132 - Social and Environmental Policy (3 cr.) (MPA Credit)
- PPAD 517/5126 - Non-profit Management (3 cr.) (MPA Credit)
- PPAD 599/5299 - Research Guidance (0 cr.) (MPA Credit)

Summer thesis work, if needed.

Lists of MDP-relevant courses will be provided to students in the program prior to registration for each semester, based on offerings available in the appropriate departments

Public Policy, with concentrations in Social and Environmental Policy, Promotion and Regulation of Private Sector Development, and Media Policy (MPP)

Master of Public Policy

The Master of Public Policy is administered by the Department of Public Policy and Administration in the School of Global Affairs and Public Policy. The program prepares students for leadership positions in public service and for careers as policy analysts. Students, who are generally in the early part of their career at entry, pursue careers in government, nonprofit organizations, international development agencies, academia, consulting firms, and the private sector.

Program objectives

The mission of the MPP Program is to support evidence-based policy-making and better public governance in Egypt

and the Middle East by preparing professionals for careers in public service with the highest ethical standards, strong competencies in public governance, excellent leadership and communication skills, capability to develop and use evidence and analysis in public service settings, and a commitment to building a better future for the people of Egypt and the region.

Admission

All applicants must satisfy the university's graduate admission requirements. Candidates for the MPP or DPP should have adequate preparation in quantitative analytic methods. Relevant professional experience is desirable but not required.

Courses (33 credit hours)

Students seeking the degree of Master of Public Policy must complete 33 credit hours plus a thesis. The program core, required of all students, consists of 6 courses (18 credits). Students must complete a concentration of 5 courses (15 credits). Students may elect either the concentration in Social and Environmental Policy or the concentration in Government Regulation and Promotion of the Private Sector. Students are required to declare their concentration before beginning their second semester of enrollment in the program and to identify an area of professional concentration at that time. In addition to coursework, students must complete a thesis consistent with department and university guidelines and complete at least one enrollment in each of the mandatory thesis sequence courses (PPAD 5298 and PPAD 5299, both non-credit).

Core Requirement (18 credit hours):

Students must complete four (4) courses in group 1, one (1) courses in group 2, and one (1) course in group 3.

Group 1: Complete all four (4) of the following:

- PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.)
- PPAD 502/5231 - Economics for Public Policy Analysis (3 cr.)
- PPAD 503/5232 - Role of Government in a Market-Oriented Economy (3 cr.)
- PPAD 515/5202 - Public Policy Analysis and Program Evaluation (3 cr.)

Group 2: Complete one (1) of the following:

- PPAD 505/5121 - Institutions, Democratization, and Public Policy (3 cr.)
- PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.)
- PPAD 507/5131 - Government Finance for Policy Analysis (3 cr.)
- PPAD 517/5126 - Non-profit Management (3 cr.)
- PPAD 518/5123 - Governance, Accountability, and Stakeholder Negotiations (3 cr.)
- PPAD 519/5124 - Leadership and Communication for Public Affairs (3 cr.)

Group 3: Complete one (1) of the following:

- PPAD 508/5211 - Qualitative Analysis for Policy and Administration (3 cr.)
- PPAD 509/5212 - Applied Quantitative Analysis (3 cr.)

NOTE: Students with limited preparation management and social science are strongly encouraged to enroll in PPAD 5111 ; conversely, students with a background in management and/or social science may not enroll in PPAD 5111 for credit toward the MPP. Students with strong preparation in economics may substitute any course in Group 2 or 3 to complete their Group 1 requirement.

Concentration Requirement (15 credit hours):

Students must complete 5 courses in one of the concentrations below. In addition to the courses shown for each concentration, students may select a course from the core list shown above as a Group 3 concentration course if not taken as a core course (i.e., a course may be counted towards only one requirement). Students may substitute up to two courses for those shown with permission of the department. Students who have completed at least 4 core courses and who have a GPA of 3.5 or better may petition the department to complete a concentration in another policy field, such as urban policy or health policy, which must include at least 3 PPAD courses.

MPP Concentration 1: Social and Environmental Policy – 5 courses (15 credits) required

Students should select concentration courses based on their chosen area of specialization, which may include health and social services policy, anti-poverty policy, environmental policy, or an area defined by the student.

Group 1: Required for all students in concentration

- PPAD 516/5132 - Social and Environmental Policy (3 cr.)

Group 2: Complete one (1) of the following:

- PPAD 520/5133 - Global Health Issues and Policies (3 cr.)
- PPAD 524/5129 - Globalization and Development (3 cr.)
- PPAD 525/5127 - Reforming Delivery of Social Services (3 cr.)
- PPAD 526/5128 - Corporate Social Responsibility and NGO Partnerships (3 cr.)

Group 3: Complete three (3) additional courses selected in consultation with the departmental advisor, of which at least two should be PPAD courses selected in consultation with departmental advisor. Students are strongly encouraged to take at least one (1) course in another School of Global Affairs and Public Policy department or center if possible.

MPP Concentration 2: Promotion and Regulation of the Private Sector Development – 5 courses (15 credits) required

Students should select concentration courses based on their chosen area of specialization, which may include financial markets; telecommunications, power, and water; private sector development; regional economic development, or a topic identified by the student.

Group 1: Complete two (2) of the following:

- PPAD 521/5134 - Government Regulation of Business and Investment (3 cr.)
- PPAD 522/5135 - Promotion of Local Economic Development (3 cr.)
- PPAD 507/5131 - Government Finance for Policy Analysis (3 cr.)

Group 2: Complete two (2) courses from the offerings of the Law and/or Economics Departments

Selected in consultation with departmental advisor. Students with limited backgrounds in law or economics may take one course at the 400 level in law or economics or select alternative PPAD course(s).

Group 3: Complete one (1) additional PPAD course selected in consultation with the departmental advisor.

MPP Concentration 3: Media Policy - 5 courses (15 credits) required

Group 1: Required for all students in the concentration:

- JRMC 444/4444 - Media Law and Policy (3 cr.)
- JRMC 550/5250 - Seminar in International Communication (3 cr.)
- JRMC 570/5270 - Seminar in Mass Communication and National Development (3 cr.)

Group 2: Complete two of the following:

- JRMC 420/4420 - Media Management (3 cr.)
- JRMC 502/5202 - Seminar: Current Issues in Mass Communication (3 cr.)
- PPAD 511/5122 - Administrative Environment and Public Policy in Egypt and the Middle East (3 cr.)
- LAW 510/5210 - Introduction to International Human Rights and Humanitarian Law (3 cr.)

Practicum (PPAD 5198): 3 credits Graded Pass-Fail

Students are strongly encouraged to undertake a practicum within their concentration, ideally in conjunction with their thesis work. P/F graded.

Thesis

Students are required to write a thesis on some aspect of public policy relevant to their concentration. The preparation of the thesis and the thesis itself must comply with Departmental and AUC guidelines with regard to content, format, dates, and the review and supervision process. Students are responsible for familiarizing themselves with these guidelines and meeting formal deadlines. Students preparing the thesis normally develop a preliminary thesis proposal during PPAD 5201, a required core course, but may prepare an alternative thesis proposal if desired. Once the proposal is approved, students are required to enroll in PPAD 5298, the thesis research seminar, in the first semester in which they are working on the research component and write-up of their thesis. Thereafter, if additional work is required to complete the thesis, students must enroll each semester in PPAD 5299. Students must pay 3 credits of tuition for the first enrollment in PPAD 5298 and PPAD 5299 and thereafter pay 1 credit of tuition for each semester, until the thesis is successfully defended and approved by the Dean.

PPAD 5298, the thesis research seminar, is designed to support the applied research required for the thesis and the writing of the thesis itself. Students will be required to read and comment on the work of other students, both orally and in writing, and to present draft thesis chapters.

Biotechnology (M.Sc.)

The Master of Science program in biotechnology provides postgraduate education to prepare students for a career in biotechnology through the construction of a firm foundation in the science and engineering of biotechnology and to provide an introduction to bioentrepreneurship.

A total of 33 credit hours is required for the Master of Science degree. This consists of 24 credits hours of courses, 6 credit hours of thesis work, and 3 credit hours of seminar.

Program Objectives

The objectives of the Master of Science in Biotechnology are:

1. To introduce students to a combination of fundamentals and frontline applications in the field of biotechnology.
2. To introduce students to regulatory affairs, intellectual property issues, and ethics related to different aspects of biotechnology.
3. To introduce students to principles and requirements of bio-entrepreneurship.
4. To provide the students with a deep understanding of the research techniques and data analysis in the area of specialization.
5. To train students to solve biotechnology-related problems, think critically, function well in a team, and communicate effectively.
6. To train students at a high standard of written and oral communication skills on technical matters

Admission

A Bachelor's degree in sciences or engineering, with a minimum GPA of 3.0 out of 4.0, is required for admission into the biotechnology master's program. Admission is also subject to the general university requirements for the graduate program. For those students whose grade records indicate promising ability, but who otherwise did not have an adequate preparation in sciences or engineering, admission may be granted under the requirement that remedial courses will be taken.

Courses (24 credits)

The program of study is planned with the faculty advisor, and should include 12 credit hours of core courses and 12 credit hours of elective courses.

Biotechnology Core Courses (12 credit hours)

To be chosen from the following courses:

- BIOT 501/5201 - Biochemistry (3 cr.)
- BIOT 502/5202 - Cell and Molecular Biology (3 cr.)
- BIOT 503/5203 - Biotechnology (3 cr.)
- BIOT 504/5204 - Experimental Biotechnology (3 cr.)
- BIOT 505/5205 - Basics of Bioentrepreneurship (3 cr.)
- BIOT 521/5206 - Fundamentals of Bioinformatics (3 cr.)

Biotechnology Electives Courses (12 credit hours)

To be chosen from the following list of courses:

- BIOT 531/5207 - Molecular Diagnosis (3 cr.)
- BIOT 541/5208 - Molecular Genetics (3 cr.)
- BIOT 511/5211 - Bioengineering (3 cr.)
- BIOT 543/5210 - Microbial Biotechnology (3 cr.)
- BIOT 551/5930 - Selected Topics in Biotechnology (3 cr.)
- BIOT 604/6204 - Model Systems in Cancer Research (2 cr. + 1 cr. lab)
- BIOT 620/6206 - Computational Genomics and Transcriptomics (3 cr.)
- BIOT 621/6207 - Systems and Computational Biology (3 cr.)
- BIOT 601/6930 - Current Topics in Biotechnology (3 cr.)

Notes:

Students may also take a maximum of one 400-level course in sciences or engineering, or other related areas subject to their advisor's approval.

Thesis (9 credit hours)

Each student must submit a thesis topic that has been approved by a faculty supervisor normally after acquiring 12 credit hours of course work. Since various research topics are addressed in a sequence of two seminar courses, the student must register for the first (BIOT 5940) before submitting a thesis topic while the second (BIOT 5941) must be taken during the execution of the thesis research. To ensure adequate faculty consultation, two semesters of the graduate thesis course (BIOT 5980) are required. After that, the course may be taken for one credit hour each semester until completion of the program requirements.

- BIOT 590/5940 - Graduate Seminar I (2 cr.)
- BIOT 591/5941 - Graduate Seminar II (1 cr.)
- BIOT 599/5980 - Research Guidance and Thesis (3 cr. + 3 cr.)

Chemistry, with concentration in Food Chemistry (M.Sc.)

Master of Science in Chemistry

The Master of Science program in Chemistry provides postgraduate education to prepare students for a career in Chemistry or related fields through the development of a firm foundation in the fundamental science and applications of chemistry.

A total of 33 credit hours is required for the Master of Science degree. This consists of 24 credits hours of courses and 9 credit hours of thesis work.

Admission

A Bachelor's degree in Chemistry or a related discipline with a minimum GPA of 3.0 out of 4.0, is required for admission into the Chemistry master of science program. Admission is also subject to the general university requirements for the graduate program. For those students whose grade records indicate promising ability, but who otherwise did not have an adequate preparation in chemistry, admission may be granted under the requirement that remedial courses will be taken.

Courses (24 credits)

The program of study is planned with the faculty advisor, and should include 9 credit hours of core courses, 12 credit hours chosen from the specialization courses, and 3 credit hours of electives.

Students not opting for the Food Chemistry Concentration can fulfill the 12 credits of the concentration requirements

with any chemistry 500 or 600 level courses. With the consent of the program director, one 500 or 600 level course in another science or engineering discipline can be taken and counted towards the concentration requirements.

Core Courses (9 credit hours)

To be chosen from the following courses:

- CHEM 000/5200 - Environmental Physical Chemistry (3 cr.)
- CHEM 501/5201 - Biochemistry (3 cr.)
- CHEM 502/5202 - Organometallics (3 cr.)
- CHEM 503/5203 - Advanced Organic Chemistry (3 cr.)
- CHEM 504/5204 - Methods of Structure Determination (3 cr.)
- CHEM 000/5206 - Advanced Food Chemistry (3 cr.)
- CHEM 519/5219 - Food Analysis (3 cr.)

Food Chemistry Concentration Courses (12 credit hours)

To be chosen from the following courses:

- CHEM 511/5211 - Applied Food Microbiology (3 cr.)
- CHEM 512/5212 - Food Safety Assurance (3 cr.)
- CHEM 513/5213 - Food Packaging (3 cr.)
- CHEM 514/5214 - Nutritional Evaluation of Food during Processing (3 cr.)
- CHEM 515/5215 - Food Additives, Contaminants and Legislation (3 cr.)
- CHEM 516/5216 - Food Fermentation (3 cr.)
- CHEM 517/5217 - Sensory Evaluation of Food Products (3 cr.)
- CHEM 518/5218 - Functional Foods and Nutraceuticals (3 cr.)
- CHEM 519/5219 - Food Analysis (3 cr.)

Chemistry Electives (3 credit hours)

A minimum of one course is selected as elective. No more than one 400-level or higher in sciences or engineering, or other related areas, not in the student's undergraduate major, may be taken for graduate credit subject to advisor's approval. Students may also select from the following list of courses:

- CHEM 551/5930 - Selected Topics in Chemistry (3 cr.)
- CHEM 552/5910 - Independent Study in Chemistry (3 cr.)

Thesis (9 credit hours)

Each student must submit a thesis topic that has been approved by a faculty supervisor normally after acquiring 12 credit hours of course work. Since various research topics are addressed in a sequence of two seminar courses, the student must register for the first (CHEM 5940) before submitting a thesis topic while the second (CHEM 5941) must be taken during the execution of the thesis research. To ensure adequate faculty consultation, two semesters of the graduate thesis course (CHEM 5980) are required. After that, the course may be taken for one credit hour each semester until completion of the program requirements.

- CHEM 590/5940 - Graduate Seminar I (2 cr.)

- CHEM 591/5941 - Graduate Seminar II (1 cr.)
- CHEM 599/5980 - Research Guidance and Thesis (3 cr. + 3 cr.)

Computer Science (M.Sc.)

Master of Science

The master of science program in computer science offers students the opportunity to engage in course work, research projects, and other activities designed to develop theoretical background and up-to-date practical skills in the rapidly changing area of Computer Science. The program provides a broad spectrum of study in preparation for careers in advanced computer research areas. The program allows students flexibility in planning their program of study after the initial course requirements are met.

Admission

The program is open to Computer Science graduates and also to selected students whose preparation is outside Computer Science. However, students entering graduate study from outside the computer science area may be required to go through additional preparation before beginning their graduate program. Those students who have some deficiency in their undergraduate training but are well qualified in other aspects may be admitted provisionally. The department may prescribe a number of prerequisite courses to make up for the deficiency.

Courses (24 credit hours)

A minimum of eight courses (24 credit hours) is required: four core courses (12 credit hours), and four electives (12 credit hours).

Core Courses (12 credit hours)

All candidates must take the following four core courses:

- CSCE 525/5221 - Algorithms and Complexity Theory (3 cr.)
- CSCE 530/5231 - Advanced Processor Architecture (3 cr.)
- CSCE 545/5241 - Distributed Systems (3 cr.)
- CSCE 565/5261 - Advanced Artificial Intelligence (3 cr.)

Elective Courses (12 Credit hours)

- CSCE 527/5262 - Neural Networks and Genetic Algorithms (3 cr.)
- CSCE 529/5222 - Design and Analysis of Parallel Algorithms (3 cr.)
- CSCE 532/5242 - Parallel Computer Architecture (3 cr.)
- CSCE 535/5232 - High Speed Networks (3 cr.)
- CSCE 541/5271 - Advanced Software Engineering (3 cr.)
- CSCE 543/5272 - Advanced Software Quality (3 cr.)
- CSCE 555/5268 - Computer Graphics and Animation (3 cr.)
- CSCE 561/5263 - Knowledge Engineering (3 cr.)
- CSCE 563/5267 - Digital Image Processing (3 cr.)
- CSCE 564/5265 - Web Mining (3 cr.)

- CSCE 567/5266 - Computer Vision (3 cr.)
- CSCE 569/5264 - Natural Language Processing and Machine Translation (3 cr.)
- CSCE 585/5930 - Selected Topics in Computer Science (3 cr.)
- CSCE 642/6231 - Mobile and Pervasive Computing (3 cr.)
- CSCE 664/6261 - Advanced Data Mining (3 cr.)
- CSCE 692/6930 - Advanced Selected Topics in Computer Science (3 cr.)

Thesis (8 Credit hours)

The graduate thesis work is an important and required part of the master's degree program. Each student must submit a thesis topic that has been approved by a faculty supervisor, normally after 12 credit hours. Various research topics are discussed in the seminar courses. The student must register in the first seminar course before submitting a thesis topic and once during the execution of the thesis research. To ensure adequate faculty consultation on the thesis, the student must register for the graduate thesis for at least two semesters.

The Computer Science seminar is a two-semester course (1 credit hour per semester) designed to prepare students for research in Computer Science. The seminar must be taken by all students. The first seminar will help the student select a topic for his/her thesis and must be taken before submitting a thesis topic. In the second seminar, the student will present a report on his/her thesis progress.

Example of a Program Completion Plan:

- Semester 1: 3 graduate courses
- Semester 2: 3 graduate courses + seminar P1
- Semester 3: 2 graduate courses + Thesis
- Semester 4: Thesis + seminar P2

Construction Engineering (M.Sc.)

The Master of Science program in Construction Engineering is administered by the Construction and Architectural Engineering Department. The Program offers high quality education that prepares students for advanced academic, research and professional careers in construction management & systems and structural engineering & construction materials.

Program Objectives

The objectives of the Master of Science in Construction Engineering are to provide the graduates of the program with:

- A broad knowledge of modern computational and experimental methods in engineering.
- Extensive knowledge in construction management & systems and in structural engineering & construction materials
- In-depth understanding of the research techniques and data analysis in construction engineering
- An ability to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively
- A high standard of written and oral communication on technical matters

Admission

A candidate for the master's program in Construction Engineering must have a B.Sc. degree in civil, construction or architectural engineering. Students who have some deficiency in their undergraduate training but are well-qualified in other respects may be admitted provisionally. The Department of Construction and Architectural Engineering may prescribe a program of noncredit work to make up for the deficiency.

Courses (24 credit hours)

A minimum of eight courses (24 credit hours) is required. The courses are selected from the following categories:

I- Core Courses (6 credit hours)

All students select two out of the following four **ENGR core** courses:

- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)

II- Concentration Courses (12 credit hours)

Students should select a minimum of four courses from any of the courses of the following subfields in Construction Engineering:

Construction Management and Systems

- CENG 570/5244 - Advanced Construction Management (3 cr.)
- CENG 571/5225 - Advanced Systems Analysis for Construction Engineering (3 cr.)
- CENG 572/5245 - Claims and Disputes in the Construction Industry (3 cr.)
- CENG 574/5226 - Methods and Equipment for Construction (3 cr.)
- CENG 575/5246 - Techniques of Planning, Scheduling and Control (3 cr.)
- CENG 576/5227 - Advanced Systems for Construction (3 cr.)
- CENG 578/5247 - Resource Management for Construction Projects (3 cr.)
- CENG 565/5241 - Infrastructure Asset Management (3 cr.)
- CENG 566/5242 - Simulation Applications in Construction (3 cr.)

Structural Engineering and Construction Materials

- CENG 573/5220 - Advanced Construction and Building Materials (3 cr.)
- CENG 577/5210 - The Finite Element Method in Structural Engineering (3 cr.)
- CENG 579/5121 - Assessment, Protection and Repair of Structures (3 cr.)

III- Elective Courses (6 credit hours)

A minimum of two courses are selected as electives. The courses are selected from a set of graduate courses in engineering, physical sciences, social sciences, management and other related graduate level courses subject to advisor

and chair's approval. No more than one 400-level course in engineering, computer science and other related areas, not in the student's undergraduate major, may be taken for graduate credit subject to advisor and chair's approval.

A minimum of one course must be selected from the concentration courses in Construction Engineering

- CENG 592/5292 - Advanced Topics in Construction Engineering (3 cr.)

May include:

- Geotechnical Engineering
- Construction Technology Analysis and Development
- Advanced Structural Design and Construction

Thesis

Graduate thesis work is an important and required part of the Construction Engineering Master of Science degree program. Each student must submit a thesis topic that has been approved by a faculty advisor by the end of the first academic year. Various research topics are discussed in ENGR 5940 and ENGR 5941, Graduate Thesis Seminar I and II. Students must register in ENGR 5940 before submitting a thesis topic and in ENGR 5941 during execution of the thesis research to present their thesis plan. To ensure adequate faculty consultation on the thesis, the student must register for CENG 5290, Graduate Thesis, by the completion of 18 credit hours. Students must register in CENG 5290 for at least two semesters. The first two registrations in CENG 5290 must be for three credit hours, after that CENG 5290 is taken for one credit hour each semester until completion of the program requirements.

Electronics and Communications Engineering (M. Sc.)

The name of the Electronics Engineering department has been changed to be the Electronics and Communications Engineering department. This change is effective starting Spring 2014. All degrees offered by the department will reflect the new name starting Spring 2014, and all transcripts issued for students graduating Spring 2014 onwards will bear the new name.

A candidate for the master's program in Electronics and Communications Engineering must have a degree in electrical or computer engineering or related discipline. Students who have some deficiency in their undergraduate training but are well-qualified in other respects may be admitted provisionally. The Electronics and Communications Engineering Department may prescribe a program of noncredit work to make up for the deficiency.

1. Program Objectives

The objectives of the Master of Science Degree in Electronics and Communications Engineering are to provide the graduates of the program with:

- A broad knowledge of modern computational and experimental methods in engineering.

- Extensive knowledge in one of the following specializations: VLSI and nanosystems, communication systems, microwave and RF systems, digital and network systems.
- Deep understanding of the research techniques and data analysis in the area of specialization.
- An ability to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively.
- A high standard of written and oral communication on technical matters.

2. Admission

A candidate for the master's program in Electronics and Communications Engineering must have a degree in engineering. Students who have some deficiency in their undergraduate training but are well-qualified in other respects may be admitted provisionally. The Electronics and Communications Engineering Department may prescribe a program of noncredit work to make up for the deficiency.

3. Courses (24 Credit hours)

A minimum of eight courses (24 credit hours) is required.

The courses are selected from the following categories:

Core Courses (3 credit hours)

All students select one out of the following four ENGR core courses:

- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)

Concentration Courses** (21 credit hours)

Candidates must select at least five courses out of the following ECNG course list:

- ECNG 510/5210 - Advanced Solid-State Devices (3 cr.)
- ECNG 516/5216 - Analog Integrated Circuit Design (3 cr.)
- ECNG 517/5217 - Digital Integrated Circuit Design (3 cr.)
- ECNG 518/5218 - Advanced Integrated Circuit Design (3 cr.)
- ECNG 000/5219 - High-Performance Integrated Circuit Modeling (3 cr.)
- ECNG 520/5231 - Advanced Digital Communications (3 cr.)
- ECNG 521/5233 - Wireless Communication Systems (3 cr.)
- ECNG 522/5230 - Stochastic Processes for Engineers (3 cr.)
- ECNG 524/5234 - Enabling Technologies for High Data Rate Communications (3 cr.)
- ECNG 525/5225 - Digital Signal Processing (3 cr.)

- ECNG 526/5236 - Information Theory and Coding (3 cr.)
- ECNG 530/5238 - Advanced Computer Networks (3 cr.)
- ECNG 541/5241 - Microwave Circuit Analysis and Design (3 cr.)
- ECNG 547/5247 - RF and Microwave Systems (3 cr.)
- ECNG 548/5248 - RF Integrated Circuit Design (3 cr.)
- ECNG 549/5249 - Antennas Design and Applications (3 cr.)
- ECNG 553/5223 - Fault-Tolerant Computing and Reliability Modeling (3 cr.)
- ECNG 556/5226 - Networked Control Systems Design & Applications (3 cr.)
- ECNG 594/5930 - Advanced Topics in Electronics and Communications Engineering (3 cr.)

****Note:**

- Up to two PHD ECNG courses (600-level) to be taken for credit towards the above MS/ME degree are allowed

- Subject to the approval of the advisor and the graduate director the candidate is permitted to take six credit hours from the following two options

1. one 400-level or graduate-level course (3 credit hours) from outside the department and within the School of Sciences and Engineering;
2. Graduate Independent Study course (ECNG 5910) (1 to 3 credit hours).

However, the student may take a maximum of 3 hours of Graduate Independent Study, and a maximum of one course (3 credit hours) from outside the ECNG department.

4. Thesis (9 credit hours)

Graduate thesis work is an important and required part of the Electronics Engineering Master of Science degree program. Each student must submit a thesis topic that has been approved by a faculty advisor by the end of the first academic year. Various research topics are discussed in ENGR 5940 (2 credits) and ENGR 5941 (1 credit), Graduate Thesis Seminar I and II. Students must register in ENGR 5940 before submitting a thesis topic and in ENGR 5941 during execution of the thesis research to present their thesis plan. To ensure adequate faculty consultation on the thesis, the student must register for ECNG 5980, Graduate Thesis, by the completion of 18 credit hours. Students must register in ECNG 5980 for at least two semesters. The first two registrations in ECNG 5980 must be for three credit hours, after that ECNG 5980 is taken for one credit hour each semester until completion of the program requirements.

Environmental Engineering (M.Sc.)

The Master of Science program in Environmental Engineering is an interdisciplinary engineering degree program that is administered by a director and a steering committee from the engineering departments. Other faculty members from the School of Sciences and Engineering participate in the program. It provides a broad program of study in preparation for careers in advanced engineering areas in addition to in depth knowledge in Environmental Engineering with a strong research component. Graduates will be prepared for Ph.D. studies or for research and leadership in government, industry and international consulting companies.

Program Objectives

The objectives of the Master of Science in Environmental Engineering graduate program are to provide the graduates of the program with:

- A broad knowledge of modern computational and experimental methods in engineering.

- Extensive knowledge in fundamental environmental engineering science, the interactions of pollutants in water, air, and subsurface environments, and the design of treatment/pollutant remediation systems.
- In-depth understanding of the research methods and data analysis in one of the areas of environmental engineering noted above.
- An ability to solve unstructured engineering problems of social significance, think critically, and function well in a team.
- A high and ethical standard of written and oral communication on technical matters.

Admission

A candidate for the master's program in environmental engineering must have a Bachelor's degree in engineering. Admission is also subject to the general university requirements for graduate study, including English language proficiency. A minimum GPA of 3.0 out of 4.0 is required for full admission into the master's program. Students who have some deficiency in their undergraduate training but are will-qualified in other aspects may be admitted provisionally. The program director may prescribe a program of noncredit work to make up for the deficiency.

Courses (24 credit hours)

A minimum of eight courses (24 credit hours) is required. The courses are selected from the following categories:

I- Core Courses (6 credit hours)

All students select two out of the following four ENGR core courses:

- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)

II- Concentration Courses (12 credit hours)

Students should select a minimum of four courses from the following environmental engineering courses:

- ENVE 561/5250 - Water Quality Control (3 cr.)
- ENVE 562/5251 - Unit Operations in Environmental Engineering (3 cr.)
- ENVE 564/5252 - Air Pollution Control Engineering (3 cr.)
- ENVE 566/5254 - Solid and Hazardous Wastes Engineering (3 cr.)
- ENVE 567/5255 - Environmental Chemistry (3 cr.)
- ENVE 569/5258 - Groundwater Hydrology and Contamination (3 cr.)

III- Elective Courses (6 credit hours)

A minimum of two courses are selected as electives. The courses are selected from a set of graduate courses in engineering, physical sciences, social sciences, management and other related graduate level courses subject to advisor and director's approval. No more than one 400-level course in engineering, computer science and other related areas, not in the student's undergraduate major, may be taken for graduate credit subject to advisor and director's approval

Thesis

Graduate thesis work is an important and required part of the environmental engineering master's degree program. Each student must submit a thesis topic that has been approved by a faculty advisor by the end of the first academic year. Various research topics are discussed in the following Graduate Thesis Seminar courses. Students must register in ENGR 5940 before submitting a thesis topic and in ENGR 5941 during execution of the thesis research to present their thesis plan. To ensure adequate faculty consultation on the thesis, the student must register for ENVE 5980, Research Guidance Thesis, by the completion of 18 credit hours. Students must register in ENVE 5980 continuously and for at least two semesters. Each of the first two registrations in ENVE 5980 must be for three credit hours, after that ENVE 5980 is taken for one credit hour each semester until completion of the program requirements.

Finance, with concentrations in Corporate Finance, and Investments (M.Sc.)

The MSc in Finance directly targets the expertise required in today's global financial environment. This program gives a clear understanding of practical financial decision-making. Graduates work in investment and merchant banks, insurance and pension funds, and for governments and multinational companies.

Admission

All applicants must satisfy the university's graduate admission requirements and obtain an acceptable score on the Graduate Management Admission Test (GMAT) or Graduate Record Examinations (GRE). The Applicant must present a bachelor's degree from a regionally accredited college or university with a minimum GPA of 3.0 or very good for non-GPA measured degrees. No previous working experience is needed.

To obtain the MSc in Finance degree, students must complete 42 credit hours of which 33 credit hours of course work and nine credit hours of thesis. Students with relevant background can waive some of the core courses but must complete a minimum of 36 credit hours to be awarded the degree. A research methodology course will be mandatory.

The program will consist of 11 for-credit courses plus a thesis designed to be completed in two full years.

MSc Core Courses (18 credits)

Students must complete six core courses before attempting to take any of the elective courses. Students with relevant background can waive up to two core courses. The core courses are:

- ACCT 501/5201 - Financial Reporting and Analysis (3 cr.)
- FINC 527/5201 - Managerial Economics (3 cr.)
- FINC 535/5204 - Applied Financial Econometrics (3 cr.)
- FINC 540/5202 - Financial Management (3 cr.)
- FINC 541/5203 - Investments and Portfolio Management (3 cr.)
- OPMG 507/5201 - Introduction to Business Statistics (3 cr.)

MSc Electives (12 credits)

The student must complete all core courses before attempting to take any of the elective courses. The student specializes in one of two concentration fields which are Investments and Corporate Finance. The student must take four courses (12 cr.) from his concentration field.

1- Investments Concentration

Students must take four elective (12 credits)

- FINC 512/5313 - Options and Derivatives (3 cr.)
- FINC 513/5331 - Fixed Income Securities (3 cr.)
- FINC 516/5314 - Real Estate Finance (3 cr.)
- FINC 518/5315 - Islamic Finance (3 cr.)
- FINC 542/5311 - International Financial Management (3 cr.)
- FINC 543/5312 - Financial Institutions and Markets (3 cr.)
- FINC 545/5333 - Private Equity and Venture Capital (3 cr.)
- FINC 570/5370 - Selected Topics in Financial Management (3 cr.)
- FINC 575/5375 - Independent Study in Financial Management (1-3 cr.)

2- Corporate Finance Concentration

- FINC 512/5313 - Options and Derivatives (3 cr.)
- FINC 514/5353 - Financial Risk Analysis (3 cr.)
- FINC 517/5352 - Financial Modeling (3 cr.)
- FINC 518/5315 - Islamic Finance (3 cr.)
- FINC 542/5311 - International Financial Management (3 cr.)
- FINC 543/5312 - Financial Institutions and Markets (3 cr.)
- FINC 544/5351 - Advanced Corporate Finance (3 cr.)
- FINC 545/5333 - Private Equity and Venture Capital (3 cr.)
- FINC 570/5370 - Selected Topics in Financial Management (3 cr.)
- FINC 575/5375 - Independent Study in Financial Management (1-3 cr.)

Research Methodology (3 credit hours)

A student must take a research methodology course before starting the thesis.

- FINC 590/5402 - Research Methodology (3 cr.)

Thesis (9 credit hours)

The thesis is not allowed to be submitted for examination until the student has made a presentation of a major part of it at a department seminar.

- FINC 599/5401 - Thesis (9 cr.)

Mechanical Engineering (M.Sc.)

The Master of Science program in Mechanical Engineering is administered by the Mechanical Engineering Department. The program offers high quality education that prepares students for advanced academic, research and professional careers in one of the following specializations: Design, Industrial Engineering, Materials and Manufacturing Engineering, Mechatronics and Power.

Program Objectives

The objectives of the Master of Science Degree in Mechanical Engineering are to provide the graduates of the program with:

- A broad knowledge of modern computational and experimental methods in engineering.
- Extensive knowledge in one of the following specializations: design, industrial engineering, materials and manufacturing or power and mechatronics.
- Deep understanding of the research techniques and data analysis in the area of specialization.
- An ability to solve unstructured engineering problems, think critically, function well in a team, and communicate effectively.
- A high standard of written and oral communication on technical matters.

Admission

A candidate for the master's program in Mechanical Engineering must have a degree in engineering. Students who have some deficiency in their undergraduate training but are well-qualified in other respects may be admitted provisionally. The Mechanical Engineering Department may prescribe a program of noncredit work to make up for the deficiency.

Courses (24 credit hours)

A minimum of eight courses (24 credit hours) is required. The courses are selected with the help of the advisor and approval of the chair from the following categories:

I- Engineering Core Courses (Minimum 3 credit hours)

All students select at least one out of the following four ENGR core courses:

- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)

II- Mechanical Engineering Core Courses (Minimum 6 credit hours)

Students should select a minimum of two courses from one of the following mechanical engineering courses:

- MENG 517/5251 - Engineering Systems Analysis and Design (3 cr.)
- MENG 522/5222 - Materials in Design and Manufacturing (3 cr.)
- MENG 529/5229 - Failure Analysis and Prevention (3 cr.)
- MENG 542/5242 - Total Quality Management (3 cr.)
- MENG 560/5270 - Applied Control, Vibration and Instrumentations (3 cr.)
- MENG 660/6261 - Sustainability of Thermal Systems (3 cr.)

III- Technical Elective Core Courses (Minimum 9 credit hours in a given area)

Students should select a minimum of three courses from the following elective courses:

- MENG 521/5221 - Advanced Topics in Mechanical Behavior of Engineering Materials (3 cr.)
- MENG 523/5223 - Physical Metallurgy (3 cr.)
- MENG 524/5224 - Electronic Phenomena in Solids (3 cr.)
- MENG 525/5225 - Deformation and Fracture of Materials (3 cr.)
- MENG 526/5226 - Computer Methods in Materials Engineering (3 cr.)
- MENG 527/5227 - Composite Materials: Mechanics, Manufacturing, and Design (3 cr.)
- MENG 528/5228 - Advanced Testing and Characterization Techniques (3 cr.)
- MENG 530/5230 - Nanostructured Materials (3 cr.)
- MENG 531/5231 - Fabrication of Nanomaterials For Films And Devices (3 cr.)
- MENG 532/5232 - Simulation and Modeling for Nanoscale Materials and Systems (3 cr.)
- MENG 534/5234 - Materials for Energy Conversion and Storage (3 cr.)
- MENG 535/5235 - Biomaterials (3 cr.)
- MENG 541/5241 - Integrated Manufacturing Systems (3 cr.)
- MENG 543/5243 - Systems Modeling and Optimization (3 cr.)
- MENG 545/5245 - Production Systems Design (3 cr.)
- MENG 548/5248 - Facilities Planning and Design (3 cr.)
- MENG 553/5253 - Advanced Computer Aided Design (3 cr.)
- MENG 554/5254 - Advanced Stress Analysis in Design and Manufacturing (3 cr.)
- MENG 555/5255 - Analysis and Design of Dynamic Systems (3 cr.)
- MENG 557/5257 - Engineering Design Methodologies (3 cr.)
- MENG 558/5258 - Applied Finite Element Analysis for Engineers (3 cr.)
- MENG 561/5271 - Robotics: Kinematics, Dynamics and Control (3 cr.)
- MENG 562/5272 - Embedded Real Time Systems (3 cr.)
- MENG 563/5273 - Modern Control Design (3 cr.)
- MENG 564/5274 - Autonomous Robotics: Modeling, Navigation and Control (3 cr.)
- MENG 573/5263 - Cogeneration and Energy Storage (3 cr.)
- MENG 575/5265 - CFD and Turbulence Modeling (3 cr.)

IV- General Elective Courses (Maximum 6 credit hours)

The courses are selected from a set of graduate courses in all engineering disciplines, physical sciences, social sciences, management and other related graduate or 400-level courses subject to advisor and chair's approval.

Thesis

Graduate thesis work is an important and required part of the Mechanical Engineering Master of Science degree program. Each student must submit a thesis topic that has been approved by a faculty advisor by the end of the first academic year. Various research topics are discussed in ENGR 5940 and ENGR 5941, Graduate Thesis Seminar I and II. Students must register in ENGR 5940 before submitting a thesis topic and in ENGR 5941 during execution of the thesis research to present their thesis plan. To ensure adequate faculty consultation on the thesis, the student must register for MENG 5981, Graduate Thesis, by the completion of 18 credit hours. Students must register in MENG 5981 continuously and for at least two semesters. The first two registrations in MENG 5981 must be for three credit hours, after that MENG 5981 is taken for one credit hour each semester until completion of the program requirements.

Nanotechnology (M.Sc.)

Masters of Science in Nanotechnology

The Masters of Science in Nanotechnology provides academic excellence in advanced sciences and technologies through an interdisciplinary education in the fields of materials science, physics, chemistry and engineering preparing students for careers in industry, education and research, with the capacity necessary to compete and excel in the ever expanding world of nanotechnology.

This program is facilitated by the available state of the art equipment at the Yousef Jamil Science and Technology Research Center (YJSTRC).

A total of 33 credit hours are required for the Masters of Science degree. This consists of 24 credit hours of courses, 6 credit hours of thesis work, and 3 credit hours of seminar.

Program Objectives:

The Masters of Science in Nanotechnology graduates scientists and engineers who:

1. Have the knowledge of the enabling technologies and the key aspects relevant to application in nanotechnology
2. Foster a strong culture of interdisciplinary research and development at AUC, Egypt and the region
3. Engage in advanced academic and research careers
4. Excel in an interdisciplinary environment both as individuals and within a team
5. Seize and develop commercial opportunities in the fast-advancing nanotechnology field locally and globally.

Admissions

A bachelor's degree in sciences or engineering, with minimum GPA of 3.0 out of 4.0 is required for admissions into the nanotechnology master's program. Admission is also subject to the general university requirements for graduate program. For those students whose grade records indicate promising ability, but who otherwise are not have adequate preparation in sciences or engineering, admission may be granted under the requirement that remedial courses will be taken.

Courses (24 credit hours):

The program of study is planned with the faculty advisor, and should include a minimum of 9 hours of core courses and a minimum of 12 credit hours of electives:

I. Core Courses (at least 9 credit hours)

- NANO 500/5200 - Nanomaterials, Synthesis, Processing and Applications (3 cr.)
- NANO 502/5202 - Simulation and Modeling for Nanoscale Materials and Systems (3 cr.)
- NANO 503/5203 - Advanced Testing and Characterization Techniques (3 cr.)
- NANO 504/5204 - Fabrication of Nanomaterials For Films And Devices (3 cr.)
- NANO 505/5205 - Nanochemistry (3 cr.)
- NANO 506/5206 - Management and Economics of Nanotechnology (3 cr.)

II. Nanotechnology Elective courses (at least 12 credit hours)

A minimum of 12 credit hours are required from this list of courses.

Students may also take a maximum of one 400-level courses in Sciences and Engineering, or other related areas subject to their advisor's approval.

- NANO 520/5210 - Advanced Quantum Mechanics (3 cr.)
- NANO 521/5221 - MEMS/NEMS Technology and Devices (3 cr.)
- NANO 522/5222 - Electronic Transport in Semiconductors (3 cr.)
- NANO 532/5232 - Nanocomposite Science and Technology (3 cr.)
- NANO 533/5233 - Materials for Energy Conversion and Storage (3 cr.)
- NANO 541/5241 - The Chemistry of Nanostructures (3 cr.)
- NANO 542/5242 - Nanoelectrochemistry (3 cr.)
- NANO 551/5251 - Nanotechnology Applications in Construction Materials (3 cr.)
- NANO 552/5252 - Nanotechnology in Studying Damage and Failure in Structures (3 cr.)
- NANO 561/5261 - Advanced Solid-State Devices (3 cr.)
- NANO 562/5262 - Advanced Integrated Circuit Design (3 cr.)
- NANO 571/5271 - Bionanotechnology (3 cr.)
- NANO 592/5930 - Selected Topics in Nanotechnology (3 cr.)

III. Elective Courses (6 credit hours)

A minimum of two courses are selected as electives. The courses are selected from the NT Core (I) or Elective courses (II) or from other 5000 or 6000 level courses from graduate programs in the Sciences and Engineering, subject to the advisor's approval.

No more than one 4000-level course (3 cr.) may be taken from graduate credit in Sciences and Engineering, or other related areas, subject to the advisor's approval.

Thesis (9 credit hours)

Each student must submit a thesis topic that has been approved by a faculty supervisor by the end of the first academic year. Various research topics are discussed in NANO 5940 and NANO 5941, Graduate Thesis Seminar I and II, respectively. Students must register for Graduate Thesis Seminar I (NANO 5940) before submitting a thesis topic while Graduate Thesis Seminar II (NANO 5941) should be taken during the execution of the thesis research work. To insure adequate faculty consultation on the thesis, the student must register for the Research Thesis Guidance course (NANO 5980) by the completion of 18 credit hours. The NANO 5980 course must be registered over two consecutive semesters after which the course may be registered for one credit hour each semester until completion of the program requirement.

- NANO 590/5940 - Graduate Thesis Seminars I (2 cr.)

- NANO 591/5941 - Graduate Thesis Seminar II (1 cr.)
- NANO 599/5980 - Research Guidance Thesis (3 cr.)

Physics (M.Sc.)

The Master of Science program in physics provides, along with a deep and solid foundation in basic physics, theoretical and experimental skills that are transferable to many professions besides the traditional physics research careers. These skills, acquired within the main stream of study in theoretical and condensed matter physics, include mathematical modeling, instrumentation and experiment design, and general laboratory and research techniques.

A total of 32 credit hours is required for the Master of Science degree. This consists of 24 credit hours of courses and 8 credit hours of thesis work.

Admission

A Bachelor's degree in physics or a related field, with a minimum GPA of 3.0 out of 4.0, is required for admission into the physics master's program. Admission is also subject to the general university requirements for the graduate program. For those students whose grade records indicate promising ability, but who otherwise did not have an adequate preparation in physics, admission may be granted under the requirement that remedial courses will be taken.

Courses (24 credit hours)

The program of study is planned with the faculty advisor; and should include 12 credit hours of core courses, 3-6 credit hours of core elective courses, and 6-9 credit hours of Physics electives.

Core Courses (12 credit hours)

- PHYS 501/5061 - Mathematical Physics (3 cr.)
- PHYS 502/5023 - Classical Electrodynamics (3 cr.)
- PHYS 504/5013 - Classical Mechanics (3 cr.)
- PHYS 506/5043 - Advanced Quantum Mechanics (3 cr.)

Core Elective Courses (3-6 credit hours)

Choice of courses with consultation of advisor.

- PHYS 507/5242 - Computational Physics (3 cr.)
- PHYS 508/5282 - Advanced Experimental Techniques (3 cr.)
- PHYS 509/5032 - Advanced Thermodynamics and Statistical Mechanics (3 cr.)

Physics Electives (6-9 credit hours)

A maximum of 3 credit hours of the physics electives can be taken from graduate level courses in other related areas subject to the advisors' approval.

- PHYS 510/5235 - Introduction To Solids (3 cr.)
- PHYS 512/5236 - Electronic Transport in Semiconductor (3 cr.)

- PHYS 513/5237 - Theory of Solids (3 cr.)
- PHYS 549/5024 - Passive Microwave Circuits (3 cr.)
- PHYS 556/5277 - MEMS/NEMS Technology and Devices (3 cr.)
- PHYS 561/5910 - Independent Studies (1-3 cr.)
- PHYS 562/5930 - Selected topics in Physics (3 cr.)

Thesis (8 credit hours)

Each student must submit a thesis topic that has been approved by a faculty supervisor, normally after acquiring 12 credit hours of course work. Since various research topics are addressed in a sequence of two seminar courses, the student must register for the first before submitting a thesis topic while the second must be taken during the execution of the thesis research. To ensure adequate faculty consultation, two semesters of the graduate thesis course are required.

- PHYS 590/5940 - Graduate Seminar I (1 cr.)
- PHYS 591/5941 - Graduate Seminar II (1 cr.)
- PHYS 599/5980 - Research Guidance and Thesis (3 cr. + 3 cr.)

Robotics, Control and Smart Systems (M.Sc.)

Master of Science in Robotics, Control and Smart Systems (RCSS)

The specialized master program in Robotics, Control and Smart Systems (RCSS) provides interdisciplinary academic and educational excellence in advanced sciences and technologies with unique educational, learning and research environment that advances scientific understanding enabling students to develop innovative and intelligent ideas for autonomous and smart products and systems to meet today's most pressing challenges and prepare them for careers in industry, academia and research.

The Master of Science in Robotics, Control and Smart Systems provides academic excellence through an interdisciplinary education in the fields with the aim to prepare graduate students for careers in industry, academia and research (local, regional and global).

This program is facilitated by the available state of the art equipment at two Mechatronics Laboratories (Mechatronics Design Lab., Mechatronics and Intelligent Systems Lab.) in Mechanical Engineering department and MEM/NEM facilities at Yousef Jameel Science and Technology Research Center (YJSTRC).

Program Objectives:

The Master of Science in Robotics, Control and Smart Systems graduates scientists and engineers who:

1. Have broad knowledge in both the theoretical and the practical skills of RCSS interdisciplinary field.
2. Integrate fundamental and advanced knowledge to solve complex interdisciplinary problems in RCSS field,
3. Undertake interdisciplinary research, find new knowledge, analyze and document results, apply and communicate the results reflecting knowledge depth of the research in RCSS field,
4. Work independently as well as collaboratively within interdisciplinary teams and be prepared to be team leaders,

5. Demonstrate competitive professional advancement, pursue higher graduate degrees and engage in advanced academic and research in areas of their interest within industry, research centers, and academia both in local and global environment.

Admissions

A bachelor's degree in engineering, with minimum GPA of 3.0 out of 4.0 in major area is required as a basic requirement or admissions into the RCSS master's program. Admission is also subject to the general university requirements for graduate programs. For those students whose grade records indicate promising ability, but who otherwise do not have adequate preparation in sciences or engineering, admission may be granted under the requirement that remedial courses will be taken.

Program Structure

A total of 33 credit hours are required for the Master of Science in RCSS. The program of study should include 24 credit hours of courses, 9 credit hours of thesis work.

Courses (24 credit hours):

I. Group I (6 credit hours)

A minimum of 6 credit hours are required from this list of courses:

- RCSS 501/5201 - Robotics: Kinematics, Dynamics and Control (3 cr.)
- RCSS 502/5202 - Embedded Real Time Systems (3 cr.)
- RCSS 503/5203 - Modern Control Design (3 cr.)
- RCSS 504/5204 - Applied Estimation (3 cr.)

II. Group II (12 credit hours)

A minimum of 12 credit hours are required from this list of courses:

- RCSS 521/5221 - Intelligent and Autonomous Robotic Systems (3 cr.)
- RCSS 522/5222 - Mechatronics Innovations and Experimental Robotics (3 cr.)
- RCSS 523/5223 - Bioinspired Robotics and Multi Robotic Systems (3 cr.)
- RCSS 524/5224 - Robotics and Intelligent Automated Manufacturing (3 cr.)
- RCSS 531/5231 - Teleoperation, Haptic Systems and Collaborative Control (3 cr.)
- RCSS 532/5232 - Robust and Optimal Control (3 cr.)
- RCSS 533/5233 - Nonlinear and Adaptive Control (3 cr.)
- RCSS 534/5234 - Networked Control Systems: Design and Applications (3 cr.)
- RCSS 541/5241 - Smart Systems and Computational Intelligence (3 cr.)
- RCSS 542/5242 - MEMS/NEMS Technology and Devices (3 cr.)
- RCSS 543/5243 - Image Analysis and Computer Vision (3 cr.)
- RCSS 544/5244 - Sensors, Perception and Smart Systems (3 cr.)

- RCSS 545/5245 - Advanced Artificial Intelligence (3 cr.)
- RCSS 592/5930 - Selected Topics in RCSS (3 cr.)

III. Group III (6 credit hours)

Select (6 credits) from the above two groups or from other graduate courses in engineering, physical sciences, or management subject to advisor and director's approval. No more than one 400-level course in engineering or other related areas, not in the student's undergraduate major, may be taken for graduate credit subject to advisor and director's approval.

Thesis (9 credit hours)

Graduate thesis work is an important part of the requirements for the Master of Science degree program in RCSS. Each student must submit a thesis topic that has been approved by a faculty advisor by the end of the first academic year. Various research topics are discussed in RCSS 5940 and RCSS 5941, Graduate Thesis Seminar I and II. Students must register in RCSS 5940 before submitting a thesis topic and in RCSS 5941 during execution of the thesis research to present their thesis plan. To ensure adequate faculty consultation on the thesis, the student must register for RCSS 5989, Graduate Thesis, by the completion of 18 credit hours. Students must register in RCSS 5989 continuously and for at least two semesters. The first two registrations in RCSS 5989 must be for three credit hours, after that RCSS 5989 is taken for one credit hour each semester until completion of the thesis requirements.

- RCSS 590/5940 - Graduate Thesis Seminar I (2 cr.)
- RCSS 591/5941 - Graduate Thesis Seminar II (1 cr.)
- RCSS 599/5989 - Research Guidance Thesis (3 cr.)

Sustainable Development (M.Sc.)

Director: Hani Sewilam

Steering Committee: Adham Ramadan (Dean of Graduate Studies), Hani Sewilam (Program Director), Salah El-Hagger (SSE), George Marquis (HUSS), Ayman Ismail (BUS), Khaled Abdelhalim (GAPP), Ted Purinton (GSE), and the Associate Deans of the SSE, HUSS, BUS, GAPP and GSE.

Master of Science in Sustainable Development

The MSc program in Sustainable Development is designed to take advantage of sustainable development as an economic growth opportunity. This MSc program aims to create a whole new generation of business and social entrepreneurs with the skills will allow them to start up green businesses, launch innovative ventures and products, and put in place public policy and social entrepreneurship innovations that, together, address society's environmental and natural resource challenges. The program aims to provide students with a sound theoretical and practical understanding of innovation and entrepreneurship in all three sectors-private, governmental and non-profit- in preparation for careers as entrepreneurs and "intrapreneurs" in a range of organizations.

Through this program, students will learn how to identify, assess and shape environmental ideas into real business opportunities and how to support such ventures through entrepreneurial private, government and civil society initiatives. Adopting an interdisciplinary approach, the course work combines a conceptual review of the relationships among business, industry, environment, policy and society, with a much more applied examination of the wide range of initiatives that relate to environmental management and sustainable economic development.

The MSc is facilitated by the available state-of-the-art equipment and facilities available at the SSE, BUS and GAPP.

A minimum of 33 credit hours is required for the MSc. The degree to be awarded is an "AUC MSc in Sustainable Development."

Objectives

The graduates of the MSc in Sustainable Development will

1. Have the multi-disciplinary knowledge of green innovation and the key aspects and dimensions of sustainable development.
2. Foster a strong culture of green entrepreneurship and business in Egypt and the region
3. Engage in advanced green industry careers
4. Excel in an interdisciplinary environment both as individuals and within a team
5. Seize and develop commercial opportunities in the fast advancing green technologies field locally and globally.

Admissions

A candidate for the program must have a bachelor's degree in Engineering, policy, business or social background. Admission is also subject to the general university requirements for graduate study, including English language proficiency. A minimum GPA of 3.0 out of 4.0 is required for full admission into the program. Students who have some deficiency in their undergraduate training but are well-qualified in other aspects maybe admitted provisionally. The program director and track coordinators may prescribe a program of non-credit work to make up for the deficiency.

Courses (24 credit hours)

The program of study is planned with the program director, and should include a minimum of 9 credit hours of core courses and a minimum of 15 credit hours of electives from three of the four sustainable development sub-modules. A maximum of 3 credits hours may be taken as independent study (GREN 000/5910 - Independent Study in Sustainable Development (3 cr.)) with prior approval of the program director. Students might be asked to take additional non-credit courses from the balance module to qualify them for this program.

I. Core Module- M1 (9 Credit Hours)

All students must take GREN 5201 Global Changes and Sustainable Development and select two more courses out of GREN 5202 , GREN 5203 ,GREN 5204 and GREN 5205 .

- GREN 502/5202 - Engineering for a Sustainable Environment (3 cr.)
- GREN 503/5203 - Core Concepts & Applications for Social & Environmental Policy (3 cr.)
- GREN 504/5204 - Entrepreneurship and Innovation (3 cr.)
- GREN 505/5205 - Environment and Society (3 cr.)

II. Balance Module- M2 (0 Credit Hours)

Students might be asked to take one or more courses from a list of courses approved by the GREN advisory committee and selected with their advisor to upgrade their knowledge and qualify them for this program.

III. Sustainable Development Module M3- Electives (15 Credit Hours)

Students should take five courses (15 cr.) in the Sustainable Development Module to cover three of the four sub-modules. These courses are to include three courses (9 cr.) from the sub-module the student wants to concentrate in. All students must take at least one course (3 cr.) out of these five courses from the Green Technologies sub-module M3-A. A maximum of 3 credit hours can be taken as an independent study course or as a 4000-level course of a topic of relevance with prior approval of the program director.

Green Technologies Module (M3-A):

- GREN 511/5211 - Water Desalination (3 cr.)
- GREN 000/5215 - Sustainability of Thermal Systems (3 cr.)
- GREN 513/5213 - Solid and Hazardous Wastes Engineering (3 cr.)
- GREN 514/5214 - Green Buildings (3 cr.)

Entrepreneurship Module (M3-B):

- GREN 521/5221 - Marketing Management (3 cr.)
- GREN 522/5222 - Strategic Management of Innovation (3 cr.)
- GREN 523/5223 - Managing in a Dynamic Environment (3 cr.)
- GREN 524/5224 - Financial Management (3 cr.)

Sustainable Cities Module (M3-C):

- GREN 531/5231 - Policy for Sustainable Cities (3 cr.)
- GREN 532/5232 - Greening the Built Environment (3 cr.)
- GREN 533/5233 - Urban Infrastructure Development for Sustainability (3 cr.)
- GREN 000/5235 - Corporate Social Responsibility and NGO Partnerships (3 cr.)

Sustainable Communities Module (M3-D):

- GREN 544/5244 - Cities: Structure and Dynamics (3 cr.)
- GREN 000/5245 - Community Assessment and Program Evaluation (3 cr.)
- GREN 000/5246 - Community Psychology and Systems Theory (3 cr.)
- GREN 000/5247 - Prevention and Intervention in Communities (3 cr.)
- GREN 000/5248 - Consultation to Non-Profit Organizations (3 cr.)

Thesis (9 Credit Hours)

Each student must submit a thesis topic that has been approved by a faculty supervisor by the end of the first academic year. Various research topics are discussed in GREN 5251 and GREN 5252, Graduate Thesis Seminar I and II, respectively. Students must register for Graduate Thesis Seminar I (GREN 5251) before submitting a thesis topic while Graduate Thesis Seminar II (GREN 5252) should be taken during the execution of the thesis research work. To ensure adequate faculty consultation on the thesis, the student must register for the Research Thesis Guidance Course (GREN 5253) by the completion of 18 credit hours. The GREN 5253 course must be registered over two consecutive semesters after which the course may be registered for one credit hour each semester until completion of the program requirement. The Thesis seminar will be developed and offered by all the schools involved in the program.

- GREN 571/5251 - Graduate Thesis Seminar I (2 cr.)
- GREN 572/5252 - Graduate Thesis Seminar II (1 cr.)
- GREN 573/5253 - Research Guidance Thesis (3 cr. + 3 cr.)

Students are encouraged to "twin" in the thesis work. At least two students can agree on submitting a topic for a "twinning thesis" that has to be approved by their faculty supervisors from at least two different schools by the end of the first academic year. The twinning thesis does not mean reducing the workload, since each student should complete minimum 33 credits to be awarded a twinning MSc degree. Students work on one topic from different perspectives and submit two theses.

Community Psychology (Graduate Diploma)

The Graduate Diploma in Community Psychology is administrated by the graduate program in Counseling and Community Psychology. The diploma places its graduates at the forefront of advancing global trends towards multicultural and systemic community psychology practice. Courses prepare students to work with communities, schools, governments, international or multilateral organizations and/or nongovernmental organizations to develop, implement, and evaluate psychological interventions that promote social, psychological, and physical health and well-being. The program exposes students to methods of community psychology practice that are ethically responsible and culturally appropriate to Egypt and the region.

The diploma aims to complete students' existing knowledge by providing training in understanding communities from a psychological and systems perspective while preparing students to intervene in communities on issues of importance.

Admission

At a minimum, applicants must meet at least one of two requirements: a) have at least two years relevant full-time work experience, or b) have completed or be near completion a Master's degree in a related discipline. It is expected that candidates have a minimum GPA of 3.0 out of 4.0 in previous academic studies and current academic studies if currently enrolled in a graduate program. Admission is competitive, and dependent on successful interview.

Language Requirement

The applicant should demonstrate proficiency in the English language in accordance with AUC standards.

Courses (18 credit hours)

Course work for the Graduate Diploma requires the completion of 18 credits as follows:

Required Courses

12 credits Required / 4 courses

- PSYC 502/5210 - Community Psychology and Systems Theory (3 cr.)
- PSYC 525/5253 - Consultation to Non-Profit Organizations (3 cr.)
- PSYC 530/5233 - Community Assessment and Program Evaluation (3 cr.)
- PSYC 535/5243 - Prevention and Intervention in Communities (3 cr.)

Electives

6 credits Required / 2 courses

Students should take two additional electives that best meet their professional goals, with approval from the graduate advisor and the department in which the course is offered. Students will be encouraged to take a course related to research methodology if they have not already completed a graduate-level research course.

Notes

Students will be encouraged to complete the diploma in one year. For students pursuing a dual degree, a maximum of two courses from their Master's degree can double count towards the diploma.

Comparative Literary Studies (Graduate Diploma)

The Diploma is administered by the Department of English and Comparative Literature. It offers a program in Literature and Literary Studies, that is both multi-cultural and interdisciplinary, for students from Egypt and abroad. There is a demand—both intellectual and vocational—in our intertwined world to understand how different cultures and linguistic traditions represent themselves and imagine their world. The Program is designed to familiarize the students with the comparative approach to literature and the interdisciplinary nature of literary studies while highlighting how comparative literary studies contribute to new directions in professional and academic developments. It brings the tools and insights of literary and cultural criticism to bear on contemporary concerns from human rights to gender issues, particularly as influenced by, and in, the “global south.” The program requires students to take eighteen credit hours of courses and seminars. The Diploma can be completed in two semesters by full-time students, but the Program can accommodate part-time students. Should the Diploma student in good standing decide during or after completion of the requirements to work towards an MA degree, the student may apply to transfer to the MA degree but must then meet the requirements of the MA program.

Admission

Applicants seeking admission to the Graduate Diploma in Comparative Literary Studies must have completed an undergraduate degree in any field. They are required to meet the graduate admission standards of AUC and meet the English language requirements of the Department of English and Comparative Literature. Information concerning these can be found in the AUC catalog and the Office of Graduate Admission.

Curriculum

Students take a total of six courses and sit for an examination in a language of their choice other than English. Each diploma student is assigned a faculty advisor who will recommend courses and seminars, taking in consideration the vocational and intellectual interest of the student. Students will have a choice of four graduate courses in ECLT and two graduate courses in specified Departments/Programs of HUSS.

- 1 ECLT course in Period/Genre/Theme/Author. 3 cr.
- 1 ECLT course in Literary Criticism/Hermeneutics/Philosophical Dimension of Literature. 3 cr.
- 2 ECLT courses in Selected Topics in Comparative Literature. 6 cr.
- 2 Humanities/Social Sciences courses relevant to comparative and interdisciplinary studies, approved by the student advisor and by the instructor of the course, from the following fields:

Arabic Literature (either in Arabic or in translation)

Gender and Women's Studies

Forced Migration and Refugee Studies

International Human Rights Law

Sociology/Anthropology

Computer Science (Graduate Diploma)

Admission

Admission requirements are the same as those for the M.Sc.

Courses (18 credit hours)

Course work for the diploma in Computer Science is directed at providing the student with background in subjects relevant to the designated Computer Science discipline.

Total Requirements

A total of six 500-level CSCE courses (18 credit hours) is required for the diploma.

Notes:

The courses which have been successfully completed in the diploma program can be considered as part of the master's degree requirements for students who are admitted to the master's degree studies. The diploma may be completed in one academic year; no thesis is required.

Economics in International Development (Graduate Diploma)

This graduate diploma is designed for students who wish to gain a basic understanding and knowledge of development, but who may not intend to proceed to obtain a Master's Degree. This Diploma program is also interdisciplinary to provide a broader and more integrated perspective of development issues.

The Diploma should be of interest to those who plan to seek a position or a career with development-related institutions or with government departments directly concerned with development planning and evaluation.

Admission

The applicant for admission to this program should have a good knowledge of the concepts and analytical tools of economics. An applicant whose bachelor's degree is in a discipline other than economics may be admitted provisionally, but in such cases, the applicant must either display competence in economics by passing required examinations or develop the necessary competence by completing additional undergraduate courses.

The department uses as reference for admission, minimum acceptable scores on the Graduate Record Exam (GRE) of 150 verbal, 150 quantitative, and 3.0 analytical (which is equivalent to 450 verbal, 600 quantitative, and 3.0 analytical for exams taken prior to September 1, 2011). Prior to full admission, students must have reported their GRE examination scores.

Courses

A minimum of 15 credit hours is required. All students must:

1. Take two core courses

- ECON 500/5251 - The Economic Setting for Development (3 cr.)
- ECON 507/5282 - Quantitative Methods (3 cr.)

2. Choose three electives

One from each of the following groups of courses as indicated below:

Group 1

- ECON 505/5231 - Advanced International Trade (3 cr.)
- ECON 508/5271 - Labor Economics (3 cr.)
- ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)
- ECON 512/5254 - Economic Growth & Development (3 cr.)
- ECON 519/5213 - Project Evaluation (3 cr.)
- ECON 530/5217 - Health Economics in Developing Countries (3 cr.)

Group 2

- POLS 525/5225 - International Political Economy (3 cr.)
- POLS 535/5235 - Middle East Politics (3 cr.)
- POLS 536/5236 - Contemporary Issues in Political Islam (3 cr.)
- POLS 561/5261 - Public Policy and Development (3 cr.)
- POLS 562/5262 - International Development Organizations (3 cr.)

Group 3

- SOC/ANTH 500/5201 - Classical Social Thought (3 cr.)
- SOC/ANTH 507/5200 - Introduction to Migration and Refugee Studies (3 cr.)
- SOC/ANTH 530/5230 - Theorizing the State (3 cr.)
- SOC/ANTH 535/5235 - Maintaining Systems of Global Inequality (3 cr.)
- SOC/ANTH 560/5260 - Population Dynamics (3 cr.)
- PSYC 525/5253 - Consultation to Non-Profit Organizations (3 cr.)

Note

Students awarded the Diploma may apply for admission to the M.A. in Economics International Development.

Gender and Women's Studies in the Middle East and North Africa (Graduate Diploma)

Course Requirements

Six courses (18 credit hours) are required for the diploma. Diploma students must take two required courses (GWST 5100 and GWST 5205) and four GWST elective courses.

The diploma option allows students to pursue a disciplinary M.A. at AUC and at the same time acquire gender studies qualifications.

International and Comparative Law (Graduate Diploma)

The Graduate Diploma in International and Comparative Law is intended for law school graduates seeking to update their knowledge in international and comparative law and to acquire the intellectual tools to advance academically and professionally. The Graduate Diploma in International and Comparative Law offers the possibility to explore in depth a range of topics in international and comparative law. With a flexible curriculum, students may shape their schedules to focus on the topics of their interest. The Fulfillment of the requirements of the Graduate Diploma, normally calls for two semesters of study.

Admission

The applicant for admission to the Graduate Diploma in International and Comparative Law should have an acceptable bachelor's degree in law, political science or a closely related social science (preferably with a minor in political science or law studies) with a grade of *gayyid* (good) or its equivalent for full admission. Students lacking the grade requirement may be eligible to be considered for provisional admission (as specified in the AUC catalog *supra*). Acceptance is by decision of the Law Faculty Committee, which may grant provisional admission pending the

fulfillment of certain conditions. English language proficiency is required as per general AUC graduate admission requirements. Admitted degree candidates should normally start their course sequence in the fall semester. Students enrolled in the AUC English Language Institute must complete all ELI Courses and modules before being allowed to enroll in Law Classes. For these students, spring enrollment is allowed.

Following admission to the Diploma in International and Comparative Law, students may apply for admission to the LLM program in International and Comparative Law. As a minimum enabling condition, students need to achieve a B+ grade average at the end of their Diploma studies. The application may be submitted at the end of the fulfillment of the Diploma requirements. If the application is successful, credits earned during the diploma will count towards the LLM, given that the Diploma curriculum is identical with the curriculum of the first year of the LLM program. Upon completion of the LLM requirements the student will receive *only* the LLM degree and therefore *not* the Diploma.

Requirements

The Graduate Diploma requires 18 credit hours.

Two courses are required:

- LAW 500/5200 - Legal Research and Writing (3 cr.)

One out of the following two courses:

- LAW 502/5202 - Comparative Law (3 cr.)
- LAW 509/5209 - International Law (3 cr.)

Electives

Students will be able to take up to four courses as electives. The Law Department's approval is required for electives offered by other departments.

International Human Rights Law (Graduate Diploma)

The Graduate Diploma in International Human Rights Law is intended for graduate students seeking to update their knowledge in human rights law and to acquire the intellectual tools to advance academically and professionally. The Graduate Diploma in Human Rights Law offers the possibility to explore in depth a range of topics in human rights and humanitarian law. With a flexible curriculum, students may shape their schedules to focus on the topics of their interest. The fulfillment of the requirements of the Graduate Diploma, normally calls for one year of study.

Admission

The applicant for admission to the IHRL diploma should have an acceptable bachelor's degree in law, political science or a closely related social science (preferably with a minor in political science or legal studies) with a grade of *guyyid*

giddan (very good) or a grade point average of 3.0. Applicants with deficiencies in their preparation may be required to take appropriate course at the undergraduate level. English language proficiency is required as per general AUC graduate admission requirements. Admitted degree candidates should normally start their course sequence in the fall semester. Students enrolled in the AUC English Language Institute must complete all ELI Courses and modules before being allowed to enroll in Law Classes. For these students, spring enrollment is allowed.

Following admission to the Diploma in International Human Rights Law, students may apply for admission to the MA degree in International Human Rights Law. As a minimum enabling condition, students need to achieve a B+ grade average at the end of their Diploma studies. The application may be submitted following fulfillment of the Diploma requirements. If the application is successful, credits earned during the Diploma will count towards the MA, given that the Diploma curriculum is identical with the curriculum of the first year of the MA program. Upon completion of the MA requirements the student will receive *only* the MA Degree and therefore *not* the Diploma.

Requirements

The Graduate Diploma requires 18 credit hours.

There are four required courses:

- LAW 509/5209 - International Law (3 cr.)
- LAW 510/5210 - Introduction to International Human Rights and Humanitarian Law (3 cr.)

And Two out of the following three courses:

- LAW 513/5213 - The European System of Human Rights Protection (3 cr.)
- LAW 514/5214 - Human Rights in the Middle East (3 cr.)
- LAW 519/5219 - Human Rights in Africa (3 cr.)

*

The remaining two courses are electives. The Law Department's approval is required for electives offered by other departments.

Degree Time Framework

Fulfilling the Graduate Diploma in International Human Rights Law normally calls for one year of study.

Middle East Studies (Graduate Diploma)

The diploma program in Middle East Studies is designed to fill the need for familiarity with modern Middle Eastern culture and society, particularly for students who have not been exposed to an intensive study of the Middle East at the undergraduate level.

Students are expected to finish the program in two semesters, though they may take up to four semesters to complete their requirements.

Admission

An applicant should have an undergraduate degree of high standing (a GPA of 3.0 or above). Prerequisites may be assigned depending on the applicant's academic background.

Language

To obtain the diploma each candidate must demonstrate, in addition to the normal university requirements in English, proficiency in Modern Standard Arabic up to the completion of ALNG 1101-1102-1103.

Courses

Five courses are required for the Diploma, from at least three departments. Students can take a maximum of two courses at the 400 level. Students must take three of the following courses:

- ARIC 451/5133 - Islamic Institutions (3 cr.)
- ARIC 543/5232 - Seminar on the Twentieth-Century Middle East (3 cr.)
or HIST 5223
- ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)
- MEST 569/5201 - A Critical Introduction to Middle East Studies (3 cr.)
- POLS 535/5235 - Middle East Politics (3 cr.)
- SOC/ANTH 503/5290 - Middle Eastern Societies and Cultures (3 cr.)

The remaining two courses must be related to the Middle East, from Arab & Islamic Civilizations, Economics, Gender and Women's Studies, History, Law, Middle East Studies, Political Science or Anthropology/Sociology.

Migration and Refugee Studies (Graduate Diploma)

Specialized Graduate Diploma in Migration and Refugee Studies

Admission

Applicants seeking admission to the Graduate diploma should have an undergraduate degree of high standing (equivalent of a B grade or higher) within the field of humanities and or Social Sciences and meet the university's language proficiency exam.

Course Requirements

The Graduate Diploma requires the successful completion of 6 courses (18 credit hours). These include four required core courses plus two elective courses.

All students must take:

- MRS 500/5202 - Migration & Refugee Movements in the Middle East and North Africa (3 cr.)
- MRS 501/5203 - International Migration & Development (3 cr.)
- MRS 507/5200 - Introduction to Migration and Refugee Studies (3 cr.)
- MRS 518/5201 - International Refugee Law (3 cr.)

Two electives are to be chosen from the CMRS list of electives offered each semester.

Time Line

Completion of the Graduate Diploma in Migration and Refugee Studies will normally take 1 year. It does not require the completion of a thesis. Students who finish the diploma can develop it into an MA by taking the two extra required courses of the MA program and complete a thesis.

Physics (Graduate Diploma)

The graduate diploma in physics is directed at providing the student with advanced background in areas such as computational physics, mathematical modeling, laboratory techniques, instrumentation, experiment design, and research techniques. A total of 18 credit hours (6 courses) is required for the diploma.

Admission

Admission requirements are the same as those for the M. Sc. program.

Courses (18 credits)

The courses may be selected from the 500-level physics courses. No more than two 400-level courses, not previously taken, may be considered for credit. Successfully completed 500-level courses in the diploma program will fulfill master's degree requirements should the student subsequently be admitted into the master's degree program. The diploma program may be completed in one academic year, and no thesis or qualifying examination is required.

Political Science (Graduate Diploma)

The Diploma in Political Science is designed as a one-year (two semesters) program for students who wish to enhance their professional qualifications or pursue an academic interest in the field of politics. The Diploma Program requires the completion of any six courses chosen from the graduate offerings in Political Science, which include Middle East Politics, International Relations, Development Studies, Political Economy, and Comparative Politics.

Admission

Requirements for admission to the Diploma program are the same as those for admission to the graduate degree program of the department. Should a student in good standing decide during or after completion of the requirements for the Diploma that he/she wishes to work towards the MA degree he/she may apply to transfer to one of the degree specializations

Psychosocial Interventions for Forced Migrants and Refugees (Graduate Diploma)

Specialized Graduate Diploma in Psychosocial Intervention for Forced Migrants and Refugees

The diploma is offered by the Center for Migration and Refugee Studies (CMRS) in collaboration with the Psychology unit of the SAPE department.

Admission

Applicants seeking admission to the Graduate diploma in - Psychosocial Intervention for forced migrants and refugees should have an undergraduate degree of high standing (no less than a GPA of 3.00) within the field of humanities and/or Social Sciences and meet the university's language proficiency exam. Pre-requisites may be assigned, depending on the student's academic background. Students with related work, research or volunteer experience will be given priority.

Applicants must display through a written personal statement in their applications the following traits: leadership, compassion, cultural sensitivity, social responsibility, emotional maturity, good mental health, and ethical standards. Recommendation letters will be required.

Graduates of this new specialized diploma will acquire core competencies that qualify them to think critically and analytically about migration and refugee issues and plan and implement holistic culturally sensitive interventions that minimize or alleviate the psychosocial issues affecting forced migrants and refugees at individual, family, group, community and societal levels. They will learn to plan, manage and implement state-of-the-art interventions that make an impact on the psychosocial well-being of refugee adults and children without discrimination due to ethnicity, gender, religion or capacities. These interventions can be implemented during and after emergencies in urban, rural or camp locations. They will include but not be limited to the provision of humanitarian relief that supports human rights and dignity, provision of basic psychological first aid and psychosocial support, facilitation of psycho-education and support for families and groups, community and child focused activities in support of psychosocial well-being, advocacy, referral, protection, psycho-education and peace building.

Course Requirements

The specialized graduate diploma in applied psychosocial intervention requires the successful completion of 6 courses with 19 credit hours. These will consist of 5 core courses, plus one elective. The practicum course:

- MRS 513/5213 - Practicum in Psychosocial Interventions for Forced Migrants and Refugees (2 cr.) will be taken twice, once in the Fall and once in Spring; each semester will count for 2 credit hours.

The remaining four core courses are:

- MRS 507/5200 - Introduction to Migration and Refugee Studies (3 cr.)
 - MRS 512/5112 - Psychosocial Issues in Forced Migration (3 cr.)
 - PSYC 502/5210 - Community Psychology and Systems Theory (3 cr.)
 - MRS 514/5214 - Psychosocial Interventions for Forced Migrants and Refugees (3 cr.)
- The one elective can be selected based on student interests, with approval from the Director of the psychosocial program.

Time Line

The Graduate Diploma in Psychosocial Intervention can be finished in one year of full time study or two years of part-time study. It does not require the completion of a thesis. Students who finish the diploma can develop it into an MA by taking the MA required courses and completing a thesis.

On the other hand, following completion of the Graduate Diploma in Psychosocial Intervention for forced migrant and refugees, if a student wants to undertake the FMRS Diploma in refugee studies, he/she will need to take one or two courses only of the four core courses depending on the electives taken in the psychosocial diploma plus two electives of the FMRS diploma.

Public Administration (Graduate Diploma)

Program Requirements

The Diploma Program requires the completion of 18 credit hours of coursework in the PPAD department, including at least 12 credit hours from the courses making up the MPA core.

Public Policy (Graduate Diploma)

Program Requirements

The Diploma Program requires the completion of 18 credit hours of coursework in the PPAD department, including at least 12 credit hours from the courses making up the MPP core.

Sustainable Development (Graduate Diploma)

Director: Hani Sewilam

Graduate Diploma in Sustainable Development

The Diploma in Sustainable Development considers the concept of sustainable development as an economic growth opportunity. The Diploma is designed for candidates who desire to make a contribution to the emerging field of sustainable development. The Diploma is directed at providing the student with multi-disciplinary background in areas such as innovation and entrepreneurship, sustainable technologies, social and environmental policy. It aims at preparing students for careers in green industry with the capacity necessary to lead sustainable development in Egypt and the Middle East. Adopting an interdisciplinary approach, the course work combines a conceptual review of the relationships between business, industry, environment, policy and society, with a much more applied examination of the wide range of initiatives that relate to environmental management and sustainable economic development.

The Diploma is facilitated by the available state-of-the-art equipment and facilities available at the SSE, BUSS, GAPP, HUSS, GSE and DDC.

A minimum of 18 credit hours (6 courses) are required for the diploma. The degree to be awarded is a "Graduate Diploma" as an AUC Degree.

Objectives:

The graduates of the Diploma in Sustainable Development will

1. Have the multi-disciplinary knowledge of green innovation and the key aspects and dimensions of sustainable development
2. Foster a strong culture of green entrepreneurship and business development in Egypt and the region
3. Engage in advanced green industry careers
4. Excel in an interdisciplinary environment both as individuals and within a team
5. Seize and develop commercial opportunities in the fast-advancing green technologies field locally and globally.

Admissions

A candidate for the program must have a Bachelor's in Engineering, policy, business or social sciences. Admission is also subject to the general university requirements for graduate study, including English language proficiency. A minimum GPA of 3.0 out of 4.0 is required for full admission into the program. Students who have some deficiency in their undergraduate training but are well-qualified in other aspects may be admitted provisionally. The program director and tract coordinators may prescribe a program of noncredit work to make up for the deficiency.

Courses (18 credit hours)

The program of study is planned with the program director, and should include a minimum of 9 credit hours of core courses and a minimum of 9 credit hours of electives from two of the four sustainable development sub-modules. A maximum of 3 credit hours may be taken as independent study (GREN 000/5910 - Independent Study in Sustainable Development (3 cr.)) with prior approval of the program director. Students might be asked to take additional non-credit courses from the balance module to qualify them for this program.

I. Core Module- M1 (9 Credit Hours)

All students must take GREN 5201 and select two more courses out of GREN 5202 ,GREN 5203 ,GREN 5204 and GREN 5205 .

- GREN 501/5201 - Global Changes and Sustainable Development (3 cr.)
- GREN 502/5202 - Engineering for a Sustainable Environment (3 cr.)
- GREN 503/5203 - Core Concepts & Applications for Social & Environmental Policy (3 cr.)
- GREN 504/5204 - Entrepreneurship and Innovation (3 cr.)
- GREN 505/5205 - Environment and Society (3 cr.)

II. Balance Module- M2 (0 Credit Hours)

Students might be asked to take one or more courses from a list of courses approved by the GREN advisory committee and selected with their advisor to upgrade their knowledge and qualify them for this program.

III. Sustainable Development Module M3- Electives (9 Credit Hours)

Students should take a total of three courses (9 cr.) in the Sustainable Development Module to cover two of the four sub-modules. These courses are to include two courses (6 cr.) from the sub-module the student wants to concentrate in. All students must take at least one course (3 cr.) out of these three courses from the Green Technologies sub-module M3-A. A maximum of three credit hours can be taken as an independent study course or as a 4000-level course of a topic of relevance with prior approval of the program director.

Green Technologies Module (M3-A):

- GREN 511/5211 - Water Desalination (3 cr.)
- GREN 000/5215 - Sustainability of Thermal Systems (3 cr.)
- GREN 513/5213 - Solid and Hazardous Wastes Engineering (3 cr.)
- GREN 514/5214 - Green Buildings (3 cr.)

Entrepreneurship Module (M3-B):

- GREN 521/5221 - Marketing Management (3 cr.)
- GREN 522/5222 - Strategic Management of Innovation (3 cr.)
- GREN 523/5223 - Managing in a Dynamic Environment (3 cr.)
- GREN 524/5224 - Financial Management (3 cr.)

Sustainable Cities Module (M3-C):

- GREN 531/5231 - Policy for Sustainable Cities (3 cr.)
- GREN 532/5232 - Greening the Built Environment (3 cr.)
- GREN 533/5233 - Urban Infrastructure Development for Sustainability (3 cr.)
- GREN 000/5235 - Corporate Social Responsibility and NGO Partnerships (3 cr.)

Sustainable Communities Module (M3-D):

- GREN 544/5244 - Cities: Structure and Dynamics (3 cr.)
- GREN 000/5245 - Community Assessment and Program Evaluation (3 cr.)
- GREN 000/5246 - Community Psychology and Systems Theory (3 cr.)
- GREN 000/5247 - Prevention and Intervention in Communities (3 cr.)
- GREN 000/5248 - Consultation to Non-Profit Organizations (3 cr.)

T AFL (Graduate Diploma)

Complete the following six TAFL courses:

The diploma program in TAFL is designed for qualified teachers of Arabic who meet the same admission requirements as those for the masters degree. The diploma is awarded to those who successfully complete the following six TAFL courses:

- APLN 516/5102 - The Linguistics of Arabic (3 cr.)
- APLN 510/5203 - Methods of Teaching a Foreign Language I (3 cr.)
- APLN 511/5204 - Methods of Teaching a Foreign Language II (3 cr.)
- APLN 507/5210 - Computer Assisted Language Learning (CALL)/Computer Operations Techniques (3 cr.)
- APLN 502/5305 - Assessment in Language Learning (3 cr.)

Notes

One three-hour elective course to be decided upon by the student

A maximum of one appropriate course may be accepted, with departmental approval, as transfer credit toward the diploma in lieu of APLN 5305 , APLN 5203, APLN 5102, or an acceptable elective.

TESOL (Graduate Diploma)

The Diploma program is designed for qualified teachers of English who meet the same admission requirements as those for the Master of Arts degree.

The Diploma is awarded to those who successfully complete the following six TESL courses:

- Two three-hour additional courses to be decided upon by the student in consultation with the academic adviser
- APLN 500/5303 - English Grammar (3 cr.)
- APLN 501/5301 - Principles of Linguistic Analysis (3 cr.)
- APLN 503/5304 - Second Language Acquisition (3 cr.)
- APLN 510/5300 - Methods of TESOL I (3 cr.)

A maximum of one appropriate course may be accepted

With departmental approval, as transfer credit toward the Diploma in lieu of the following:

- APLN 501/5301 - Principles of Linguistic Analysis (3 cr.)
 - APLN 503/5304 - Second Language Acquisition (3 cr.)
 - APLN 510/5300 - Methods of TESOL I (3 cr.)
 - APLN 511/5397 - Methods of TESOL II (3 cr.)
- or an acceptable elective

Applied Sciences, with specializations in Biotechnology, Chemistry, Computer Science and Nanotechnology (Ph.D.)

Doctor of Philosophy in Applied Sciences

The Ph.D. in Applied Sciences is an interdisciplinary program that applies modern approaches from the experimental, natural and life sciences in conjunction with theoretical and computational methods from the disciplines of engineering,

mathematics and computer science to the solution of advanced problems of fundamental importance. The Ph.D. program in Applied Sciences emphasizes the application of research methods and procedures to advanced areas of importance in the sciences and technology. The program builds on the premise that advancing the applied sciences and technology must be based on fundamental comprehension of the various disciplines, while continually being responsive to the needs of new technologies, and the interdisciplinary nature of the modern scientific enterprise. This program will be administered by a committee which has a representation of faculty from various graduate programs in the School of Sciences and Engineering.

This program offers a Ph.D. degree in Applied Sciences with specializations in:

- Nanotechnology,
- Biotechnology,
- Chemistry,
- or Computer Science.

Admission Requirements

- M.Sc. in Engineering or Sciences discipline
- Demonstrated proficiency in English language as determined by AUC graduate admissions
- Obtain an acceptable score in the Graduate Record Exam (GRE)

Program Objectives

The mission of the Ph.D. program in Applied Sciences and Engineering is to provide in-depth training to students in the natural sciences, modern engineering, and computer science and in the conduct of original research leading to a doctoral dissertation.

The primary goal of the program is to provide students with an opportunity to contribute to the advancement of knowledge in the field of applied sciences and engineering. The program is aimed at providing students with the opportunity to develop their professional knowledge and expertise to a high caliber and to qualify for leadership positions in teaching, in research, in administration and management and in policy analysis and program development. The program caters to demands of industry and research institutes and places a strong emphasis on original thinking, professional behavior and ethical conduct. The objectives of the program are for students to acquire

1. A broad analytic understanding of advanced experimental, theoretical and computational methods in the applied sciences and engineering
2. Substantive knowledge of some field or area of practice (e.g., nanotechnology, biotechnology, computer science, environmental engineering, etc.).
3. Competence to conduct independent, empirical research that extends the knowledge base of the field of interest.
4. Ability to generate new ideas, convince others that their ideas are worth pursuing, do the necessary research to demonstrate that their ideas are viable, and communicate the results of their research in the public domain.

Program Outcomes

Upon completing the degree requirements for the Ph.D. Program in Applied Sciences and Engineering graduating students should have the ability to:

1. Pursue a career in academia in teaching and/or research.
2. Pursue a career in industrial research and development (R&D).
3. Identify well-defined science and/or engineering problems of importance to the profession or the community, as well as generate new ideas and approaches to resolve such problems.
4. Apply advanced experimental, analytical and computational techniques to solve complex science problems.

5. Convince others that their ideas are worth pursuing and explore funding opportunities for their research.
6. Initiate scientific collaborations schemes that advance their research endeavors.
7. Successfully communicate their results to constituencies of various technical backgrounds and fields of specialty.
8. Make significant contributions to their field of specialization and profession through their own continued research, writing, teaching, and practice.
9. Implement the code of ethics within the study and work environments.

Doctoral of Philosophy Degree Requirements:

Students going through this program are expected to successfully complete the following requirements:

1. **Pass the required course work with a GPA 3.0 or higher:** This ensures the breadth of knowledge of the Ph.D. student.
2. **Pass a Qualifying Examination:** This signifies that course work is completed and that the student has sufficient background knowledge in her/his field of specialization.
3. **Present and defend a proposal of the intended research work:** This demonstrates that the candidate has defined her/his research problem and is capable of identifying the research methodology that she/he will adopt.
4. **Submit a written Dissertation and defend it in a final Oral Defense:** This marks the completion of the requirements for the Ph.D. degree.

Doctoral Coursework:

As part of the process of achieving candidacy, a doctoral student must complete a set of courses known as the doctoral candidacy coursework. It includes at least thirty-six (36) credit hours of relevant graduate coursework beyond the bachelor's degree, of which at least eighteen (18) credit hours must be earned at AUC. Students who change their major specialization from that used for their master's degree to a new specialization for their Ph.D. degree may have to take more than thirty-six (36) hours to fulfill the course requirements. Because of the interdisciplinary nature of the program and in order to ensure sufficient breadth of study, the program is designed to include required core coursework in areas outside one's main specialization. In addition, the student must complete 3 credit hours of Seminar courses and register for thirty-three (33) credit hours of Dissertation research work. Courses for each specialization will be listed at the 5000 and 6000 levels in addition to remedial courses to be taken at the 4000 level whenever deemed necessary.

The Academic Advisor and the Research Advising Committee:

The academic advisor is determined by the specialization of the student, and is particularly important for assistance in the preliminary course planning of a student's Ph.D. program. Each specialization has at least one faculty member advisor (usually the Graduate Program Director of the discipline). The academic advisor will be available to the student to help in her/his preliminary choice of the courses. As the student progresses in the program she/he chooses the members of the Research Advisory Committee, which consists of the Chair of the Committee (Dissertation Advisor) and two other members. This committee will play a greater role in finalizing the courses for the student's Plan of Study and in advising her/his research work. It is the responsibility of the student to find a faculty member willing to serve as the Chair of the Research Advisory Committee and to choose in consultation with her/him the other members.

Ph.D. Plan of Study for Qualification and Candidacy:

The Ph.D. Plan of Study is intended to help the student select courses and will ensure that she/he has an academic program that meets the Ph.D. coursework requirements. The Plan of Study will also allow the students to identify a sequence of courses that meets her/his professional objectives. A preliminary Plan of Study will be drafted in consultation with the student's academic advisor and should be submitted before the student signs up to take the Ph.D.

Qualifying Examination.

As the student advances in the program, she/he should choose the members of her/his Research Advisory Committee. The final plan of Study will be drafted in consultation with the Research Advisory Committee. A final up-to-date copy must be submitted before the student applies to take the qualifying exam.

The Plan of Study must contain a listing of the courses the student has taken or intends to take to satisfy the qualification coursework requirements and must constitute a coherent program within the scope of the chosen specialization. It is the student's responsibility to make sure that all requirements are met. Any departure from the requirements must be requested by written petition, which should normally flow starting from the supervisor, to the director of the specialization area, then the Associate Dean for Graduate Studies and Research for final approval.

Doctoral Qualifying Examination:

The purpose of the Ph.D. Qualifying Examination is to evaluate the student's ability to analyze problems and to synthesize solutions. It should demonstrate the ability of the student to interrelate basic concepts and ideas in her/his field of study. At least twelve (12) weeks prior to the examination, the student must submit a request indicating her/his intention to take the examination. The Ph.D. Qualifying Examination will be administered by an Examining Committee in each specialization. Following the examination, the Examining Committee will submit an evaluation of the student's performance to Office of the Associate Dean for Graduate Studies and Research. The qualifying examination is typically taken in the semester immediately following the completion of the coursework credit hours, but no later than during the fourth semester since admission into the program. Any deviation from this schedule must be made by written petition and subsequent approval as indicated earlier.

The Proposal Defense:

Typically in the semester immediately after the successful completion of the qualifying examination, the student has to write a research proposal under the guidance of the Dissertation Advisor and will give a Proposal Presentation in front of the Research Advisory Committee. Upon the acceptance of the proposal by the Research Advisory Committee, the student makes an oral presentation of the research proposal, including relevant background material. During and after the presentation, the committee will explore the research project with the student in order to provide guidance and make an evaluation of its suitability. They will report their recommendation to the Office of the Associate Dean for Graduate Studies and Research. In case the student does not present an acceptable proposal, the student must take immediate steps to refine the proposal in consultation with the dissertation advisor. The Proposal Presentation requirement is completed when the Research Advisory Committee chair reports a successful proposal presentation to the Office of the Registrar.

Following acceptance of the proposal, the Dissertation Defense Committee is finalized. This consists of the three members of the Research Advisory Committee in addition to two external examiners. The selection of the committee is made in consultation with the supervisor and the director of the specialization area. The membership of this Committee is communicated to the Associate Dean for Graduate Studies and Research and the Dean of Graduate Studies for approval.

The Dissertation and Its Defense --- Final Oral Defense:

Upon completion, the dissertation must receive a written evaluation from each other member of the Dissertation Defense Committee and must be defended orally in an open examination before the committee. Following the successful Final Oral Defense, the student must consult with the dissertation advisor(s) about any changes required by the committee, and must take these changes before final submission of the dissertation to the Dean of Graduate Studies.

Course and Research Requirements

Minimum number of credit hours beyond the B.Sc. degree: 72

Dissertation hours 33 (BIOT 6980, CHEM 6980, CSCE 6980, NANO 6980)

Seminar hours 3

Course hours 36 (See below)

The required number of semester credit hours of coursework to be taken for the Ph.D. degree is dependent upon the M.Sc. degree and is determined by the academic advisor of the student at the time of admission. At least eighteen (18) credit hours of course work must be earned at AUC.

Case 1: M.Sc. in the same Applied Sciences discipline from AUC.

A candidate may receive up to 24 hours of credit to be counted towards the Ph.D. degree

Case 2: M.Sc. in a different Applied discipline, or achieved outside of AUC.

A candidate may receive up to 12 hours of credit to be counted towards the Ph.D. degree

A plan of study will be developed under guidance of the academic advisor of the student at the time of admission and may be modified later on by her/his Research Advisory Committee. Courses are to be selected from the following, noting that at least eighteen credit hours of course work must be earned at AUC as earlier indicated:

I. Core Courses

Core courses are selected from an area outside of the specialization of the student.

Admission Case 1: at least 3 credit hours.

Admission Case 2: at least 6 credit hours.

- BIOT 501/5201 - Biochemistry (3 cr.)
- BIOT 521/5206 - Fundamentals of Bioinformatics (3 cr.)
- CHEM 502/5202 - Organometallics (3 cr.)
- CHEM 503/5203 - Advanced Organic Chemistry (3 cr.)
- CHEM 504/5204 - Methods of Structure Determination (3 cr.)
- CSCE 565/5261 - Advanced Artificial Intelligence (3 cr.)
- CSCE 527/5262 - Neural Networks and Genetic Algorithms (3 cr.)
- CSCE 561/5263 - Knowledge Engineering (3 cr.)
- CSCE 664/6261 - Advanced Data Mining (3 cr.)
- ECNG 510/5210 - Advanced Solid-State Devices (3 cr.)
- ECNG 520/5231 - Advanced Digital Communications (3 cr.)
- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENVE 562/5251 - Unit Operations in Environmental Engineering (3 cr.)
- NANO 502/5202 - Simulation and Modeling for Nanoscale Materials and Systems (3 cr.)
- NANO 503/5203 - Advanced Testing and Characterization Techniques (3 cr.)
- NANO 504/5204 - Fabrication of Nanomaterials For Films And Devices (3 cr.)
- MACT 604/6111 - Advanced Numerical Methods (3 cr.)
- MACT 605/6121 - Advanced Probability with Engineering Applications (3 cr.)
- MENG 543/5243 - Systems Modeling and Optimization (3 cr.)

- MENG 681/6241 - Stochastic Simulation (3 cr.)
- PHYS 502/5023 - Classical Electrodynamics (3 cr.)
- RCSS 504/5204 - Applied Estimation (3 cr.)
- RCSS 541/5241 - Smart Systems and Computational Intelligence (3 cr.)
- BIOT 621/6207 - Systems and Computational Biology (3 cr.)
- PHDS/PHDE 612/6216 - Design and analysis of Experiments (3 cr.)

II- Specialization Courses

Dependent on the admission status, the student will take the following number of credit hours in their relevant area of specialization:

- Admission Case 1: at least 6 credit hours.
- Admission Case 2: at least 12 credit hours.

5000-level masters courses offered by the graduate programs of Biotechnology (BIOT), Chemistry (CHEM), Computer Science (CSCE), Nanotechnology (NANO) and Physics (PHYS) are considered specialization courses. At least one of the courses taken in the specialization must be a 6000-level course relevant to the student's specialization from the following list:

- BIOT 601/6930 - Current Topics in Biotechnology (3 cr.)
- BIOT 602/6931 - Reading and Conference Course (3 cr.)
- BIOT 604/6204 - Model Systems in Cancer Research (2 cr. + 1 cr. lab)
- BIOT 620/6206 - Computational Genomics and Transcriptomics (3 cr.)
- CHEM 603/6103 - Bioseparation Processes for Food and Pharmaceutical Industries (3 cr.)
- CHEM 615/6105 - Principles and Applications of Mass Spectrometry (3 cr.)
- CHEM 000/6107 - Chemistry of Natural and Synthetic Polymers (3 cr.)
- CHEM 000/6910 - Independent Study in Chemistry (3 cr. max.)
- CHEM 000/6930 - Advanced Selected Topics in Chemistry (3 cr.)
- CSCE 642/6231 - Mobile and Pervasive Computing (3 cr.)
- CSCE 692/6930 - Advanced Selected Topics in Computer Science (3 cr.)
- ECNG 661/6211 - Nanoscale CMOS (3 cr.)
- NANO 621/6121 - Nanophotonics (3 cr.)
- NANO 630/6230 - Biomaterials (3 cr.)
- NANO 642/6242 - Nanocatalysis (3 cr.)
- NANO 505/5205 - Nanochemistry (3 cr.)
- NANO 640/6240 - Nanoporous Materials (3 cr.)
- PHYS 602/6025 - Classical Electrodynamics II (3 cr.)
- PHYS 641/6225 - Integrated Photonics (3 cr.)
- PHYS 642/6243 - Computational Electromagnetics (3 cr.)
- PHYS 662/6930 - Advanced Selected Topics in Physics (3 cr.)

III - Dissertation and Seminars (Minimum of 36 credit hours)

Dissertation work includes completion of:

- Graduate Thesis Seminar I, 2 cr. (According to discipline student)

- Graduate Advanced Research Seminar (PHDS 6291), 1 cr.

Research Dissertation Guidance, a minimum of 33 cr. (BIOT 6980, CHEM 6980, CSCE 6980, or NANO 6980)

After completing 33 credit hours of dissertation, the course may be taken for one credit hour each semester until completion of the program requirements.

A PhD guidelines manual will detail advising, the qualifying examination, the proposal defense, and the dissertation defense.

Engineering, with specializations in Construction Engineering, Electronics and Communications Engineering, Environmental Engineering, Mechanical Engineering and Robotics, Control & Smart Systems (Ph.D.)

Doctor of Philosophy in Engineering

The Ph.D. in Engineering is an interdisciplinary program that applies modern approaches from the experimental, natural and life sciences in conjunction with theoretical and computational methods from the disciplines of engineering, mathematics and computer science to the solution of advanced problems of fundamental importance. The Ph.D. program in Engineering emphasizes the application of research methods and procedures to advanced areas of importance in the sciences and technology. The program builds on the premise that advancing the applied sciences and technology must be based on fundamental comprehension of the various disciplines, while continually being responsive to the needs of new technologies, and the interdisciplinary nature of the modern scientific enterprise. This program will be administered by a committee which has a representation of faculty from various graduate programs in the School of Sciences and Engineering.

This program offers a Ph.D. degree Engineering with specializations in:

- Mechanical Engineering,
- Construction Engineering,
- Electronics and Communications Engineering, (The name of the Electronics Engineering department has been changed to be the Electronics and Communications Engineering department. This change is effective starting Spring 2014. All degrees offered by the department will reflect the new name starting Spring 2014, and all transcripts issued for students graduating Spring 2014 onwards will bear the new name.)
- Robotics, Control and Smart Systems,
- or Environmental Engineering.

Admission Requirements

- M.Sc. IN AN Engineering discipline.
- Demonstrated proficiency in English language as determined by AUC graduate admissions
- Obtain an acceptable score in the Graduate Record Exam (GRE)

Program Objectives

The mission of the Ph.D. program in Applied Sciences and Engineering is to provide in-depth training to students in the natural sciences, modern engineering, and computer science and in the conduct of original research leading to a doctoral dissertation.

The primary goal of the program is to provide students with an opportunity to contribute to the advancement of knowledge in the field of applied sciences and engineering. The program aims at providing students with the opportunity to develop their professional knowledge and expertise to a high caliber and to qualify for leadership positions in teaching, in research, in administration and management and in policy analysis and program development. The program caters to demands of industry and research institutes and places a strong emphasis on original thinking, professional behavior and ethical conduct. The objectives of the program are for students to acquire

1. A broad analytic understanding of advanced experimental, theoretical and computational methods in the applied sciences and engineering
2. Substantive knowledge of some field or area of practice (e.g., electronics engineering, environmental engineering, etc.).
3. Competence to conduct independent, empirical research that extends the knowledge base of the field of interest.
4. Ability to generate new ideas, convince others that their ideas are worth pursuing, do the necessary research to demonstrate that their ideas are viable, and communicate the results of their research in the public domain.

Program Outcomes

Upon completing the degree requirements for the Ph.D. Program in Engineering, graduating students should have the ability to:

1. Pursue a career in academia in teaching and/or research.
2. Pursue a career in industrial research and development (R&D).
3. Identify well-defined science and/or engineering problems of importance to the profession or the community, as well as generate new ideas and approaches to resolve such problems.
4. Apply advanced experimental, analytical and computational techniques to solve complex science and/or engineering problems.
5. Convince others that their ideas are worth pursuing and explore funding opportunities for their research.
6. Initiate scientific collaborations schemes that advance their research endeavors.
7. Successfully communicate their results to constituencies of various technical backgrounds and fields of specialty.
8. Make significant contributions to their field of specialization and profession through their own continued research, writing, teaching, and practice.
9. Implement the code of ethics within the study and work environments.

Doctoral of Philosophy Degree Requirements:

Students going through this program are expected to successfully complete the following requirements:

1. **Pass the required course work with a GPA 3.0 or higher:** This insures the breadth of knowledge of the Ph.D. student.
2. **Pass a Qualifying Examination:** This signifies that course work is completed and that the student has sufficient background knowledge in her/his field of specialization.
3. **Present and defend a proposal of the intended research work:** This demonstrates that the candidate has defined her/his research problem and is capable of identifying the research methodology that she/he will adopt.
4. **Submit a written Dissertation and defend it in a final Oral Defense:** This marks the completion of the requirements for the Ph.D. degree.

Doctoral Coursework:

As part of the process of achieving candidacy, a doctoral student must complete a set of course known as the doctoral candidacy coursework. It includes at least thirty-six (36) credit hours of relevant graduate coursework beyond the bachelor's degree, of which at least eighteen (18) credit hours must be earned at AUC. Students who change their major specialization of their master's degree to a new specialization for their Ph.D. degree may have to take more than thirty-six (36) hours to fulfill the course requirements.

Because of the interdisciplinary nature of the program and in order to ensure sufficient breadth of study, the program is designed to include required course work in areas outside one's main specialization. In addition the student must complete 3 credit hours of Seminar courses and register for thirty-three (33) credit hours of Dissertation research work. Courses for each specialization will be listed at the 500 and 600 levels in addition to remedial courses to be taken at the 400 level whenever deemed necessary.

The Academic Advisor and the Research Advising Committee:

The academic advisor is determined by the specialization of the student, and is particularly important for assistance in the preliminary course planning of a student's Ph.D. program. Each specialization has at least one faculty member advisor (usually the Graduate Program Director of the discipline). The academic advisor will be available to the student to help in her/his preliminary choice of the courses. As the student progresses in the program she/he chooses the members of the Research Advisory Committee, which consists of the Chair of the Committee (Dissertation Advisor) and two other members. This committee will play a greater role in finalizing the courses for the student's Plan of Study and in advising her/his research work. It is the responsibility of the student to find a faculty member willing to serve as the Chair of the Research Advisory Committee and to choose in consultation with her/him the other members.

Ph.D. Plan of Study for Qualification and Candidacy:

The Ph.D. Plan of Study is intended to help the student select courses and will ensure that she/he has an academic program that meets the Ph.D. coursework requirements. The Plan of Study will also allow the student to identify a sequence of courses that meets her/his professional objectives. A preliminary Plan of Study will be drafted in consultation with the student's academic advisor and should be submitted before the student signs up to take the Ph.D. Qualifying Examination.

As the student advances in the program, she/he should choose the members of her/his Research Advisory Committee. The final Plan of Study will be drafted in consultation with the Research Advisory Committee. A final up-to-date copy must be submitted before the student applies to take the qualifying exam.

The Plan of Study must contain a listing of the courses the student has taken or intends to take to satisfy the qualification coursework requirements and must constitute a coherent program within the scope of the chosen specialization. It is the student's responsibility to make sure that all requirements are met. Any departure from the requirements must be requested by written petition, which should normally flow starting from the supervisor, to the director of the specialization area, then the Associate Dean for Graduate Studies and Research for final approval.

Doctoral Qualifying Examination:

The purpose of the Ph.D. Qualifying Examination is to evaluate the student's ability to analyze problems and to synthesize solutions. It should demonstrate the ability of the student to interrelate basic concepts and ideas in her/his field of study. At least twelve (12) weeks prior to the examination, the student must submit a request indicating her/his intention to take the examination. The Ph.D. Qualifying Examination will be administered by an Examining Committee in each specialization. Following the examination, the Examining Committee will submit an evaluation of the student's performance to the Office of the Associate Dean for Graduate Studies and Research. The qualifying examination is typically taken in the semester immediately following the completion of the coursework credit hours,

but no later than during the fourth semester since admission into the program. Any deviation from this schedule must be made by written petition and subsequent approval as indicated earlier.

The Proposal Defense:

Typically in the semester immediately after the successful completion of the qualifying examination, the student has to write a research proposal under the guidance of the Dissertation Advisor and will give a Proposal Presentation in front of the Research Advisory Committee. Upon the acceptance of the proposal by the Research Advisory Committee, the student makes an oral presentation of the research proposal, including relevant background material. During and after the presentation, the committee will explore the research project with the student in order to provide guidance and make an evaluation of its suitability. They will report their recommendation to the Office of the Associate Dean for Graduate Studies and Research. In case the student does not present an acceptable proposal, the student must take immediate steps to refine the proposal in consultation with the dissertation advisor. The Proposal Presentation requirements is completed when the Research Advisory Committee chair reports a successful proposal presentation to the Office of the Registrar.

Following acceptance of the proposal, the Dissertation Defense Committee is finalized. This consists of the three members of the Research Advisory Committee in addition to two external examiners. The selection of the committee is made in consultation with the supervisor and the director of the specialization area. The membership of this Committee is communicated to the Associate Dean for Graduate Studies and Research and the Dean of Graduate Studies for approval.

The Dissertation and Its Defense - Final Oral Defense:

Upon completion, the dissertation must receive a written evaluation from each member of the Dissertation Defense Committee and must be defended orally in an open examination before the committee. Following the successful Final Oral Defense, the student must consult with the dissertation advisor(s) about any changes required by the committee, and must make these changes before final submission of the dissertation to the Dean of Graduate Studies.

Course and Research Requirements

Minimum number of credit hours beyond the B.Sc. degree: 72

Dissertation hours 33 (CENG 6290 , ECNG 6980 , ENVE 6980 , MENG 6980)

Seminar hours 3

Course hours 36 (See below)

The required number of semester credit hours of coursework to be taken for the PhD degree is dependent upon the M.Sc. degree and is determined by the academic advisor of the student at the time of admission. At least eighteen (18) credit hours of course work must be earned at AUC.

Case 1: M.Sc. in the same Engineering discipline from AUC.

A candidate may receive up to 24 hours of credit to be counted towards the Ph.D. degree

Case 2: M.Sc. in a different Engineering discipline, or achieved outside of AUC.

A candidate may receive up to 12 hours of credit to be counted towards the Ph.D. degree

A plan of study will be developed under guidance of the academic advisor of the student at the time of admission and may be modified later on by her/his Research Advisory Committee. Courses are to be selected from the following, noting that at least eighteen credit hours of course work must be earned at AUC as earlier indicated:

I - Core Courses

Core courses are selected from an area outside of the specialization of the student.

Admission Case 1: at least 3 credit hours.

Admission Case 2: at least 6 credit hours.

- BIOT 521/5206 - Fundamentals of Bioinformatics (3 cr.)
- CSCE 565/5261 - Advanced Artificial Intelligence (3 cr.)
- CSCE 527/5262 - Neural Networks and Genetic Algorithms (3 cr.)
- CSCE 561/5263 - Knowledge Engineering (3 cr.)
- CSCE 664/6261 - Advanced Data Mining (3 cr.)
- ECNG 510/5210 - Advanced Solid-State Devices (3 cr.)
- ECNG 520/5231 - Advanced Digital Communications (3 cr.)
- ENGR 511/5202 - Computational Methods in Engineering (3 cr.)
- ENGR 518/5204 - Engineering Statistics (3 cr.)
- ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)
- ENVE 562/5251 - Unit Operations in Environmental Engineering (3 cr.)
- NANO 502/5202 - Simulation and Modeling for Nanoscale Materials and Systems (3 cr.)
- NANO 503/5203 - Advanced Testing and Characterization Techniques (3 cr.)
- NANO 504/5204 - Fabrication of Nanomaterials For Films And Devices (3 cr.)
- MACT 604/6111 - Advanced Numerical Methods (3 cr.)
- MACT 605/6121 - Advanced Probability with Engineering Applications (3 cr.)
- MENG 543/5243 - Systems Modeling and Optimization (3 cr.)
- MENG 681/6241 - Stochastic Simulation (3 cr.)
- PHYS 502/5023 - Classical Electrodynamics (3 cr.)
- RCSS 504/5204 - Applied Estimation (3 cr.)
- RCSS 541/5241 - Smart Systems and Computational Intelligence (3 cr.)
- BIOT 621/6207 - Systems and Computational Biology (3 cr.)
- PHDS/PHDE 612/6216 - Design and analysis of Experiments (3 cr.)

II- Specialization Courses

Dependent on the admission status, the student will take the following number of credit hours in their relevant area of specialization:

Admission Case 1: at least 6 credit hours.

Admission Case 2: at least 12 credit hours.

5000-level masters courses offered by the graduate programs of Construction Engineering (CENG), Environmental Engineering (ENVE), Electronics and Communications Engineering (ECNG), Mechanical Engineering (MENG) and Nanotechnology (NANO) are considered specialization courses. At least one of the courses taken in the specialization must be a 6000-level course relevant to the student's specialization from the following list:

- ECNG 619/6219 - Design and Analysis of High-Performance Integrated Circuits (3 cr.)
- ECNG 694/6930 - Advanced Selected Topics in Electronics and Communications Engineering (3 cr.)
- ECNG 625/6235 - Detection, Classification, and Estimation Theory (3 cr.)
- ECNG 661/6211 - Nanoscale CMOS (3 cr.)
- ECNG 694/6930 - Advanced Selected Topics in Electronics and Communications Engineering (3 cr.)
- ENVE 662/6250 - Advanced Treatment Processes (3 cr.)
- ENVE 680/6910 - Independent Study in Environmental Engineering (3 cr. Max.)
- ENVE 692/6930 - Advanced Selected Topics in Environmental Engineering (3 cr.)
- CENG 611/6211 - Structural Stability (3 cr.)
- CENG 612/6212 - Structural Dynamics (3 cr.)
- CENG 613/6213 - Earthquake Engineering and Seismic Design (3 cr.)
- CENG 631/6222 - Specialty Materials for Construction (3 cr.)
- CENG 632/6231 - Highways Pavement Systems and Design (3 cr.)
- CENG 679/6223 - Preserving, Repair and Sustainability of Structures (3 cr.)
- CENG 680/6291 - Independent Study in Structural and Material Engineering (3 cr. max.)
- CENG 692/6292 - Advanced Selected Topics in Structural and Material Engineering (3 cr.)
- MENG 615/6255 - Continuum Mechanics (3 cr.)
- MENG 620/6270 - Nonlinear and Adaptive Control (3 cr.)
- MENG 660/6261 - Sustainability of Thermal Systems (3 cr.)
- MENG 670/6262 - Advanced Transport Phenomena (3 cr.)
- NANO 621/6121 - Nanophotonics (3 cr.)
- NANO 642/6242 - Nanocatalysis (3 cr.)
- RCSS 692/6930 - Advanced Selected Topics in Robotics, Control and Smart Systems (RCSS) (3 cr.)

Environmental Engineering students can also register for online graduate course offerings through a cooperative program between AUC's Department of Construction and Architectural Engineering and Iowa State University's Department of Civil, Construction and Environmental Engineering. A maximum of six credit hours can be earned as such. Sample courses are as follows:

- CE 521: Environmental Biotechnology
- CE 522: Water Pollution Control Processes
- CE 569: Environmental Geotechnology
- CE 571: Surface Water Hydrology

III - Dissertation and Seminars (Minimum of 36 credit hours)

Dissertation work includes completion of:

- Graduate Thesis Seminar I, 2cr. (According to discipline student)
- Graduate Advanced Research Seminar (PHDE 6291), 1 cr.

Research Dissertation Guidance, a minimum of 33 cr. (CENG 6290, ECNG 6980, ENVE 6980, MENG 6980 or RCSS 6980)

After completing 33 credit hours of dissertation, the course may be taken for one credit hour each semester until completion of the program requirements.

A PhD guidelines manual will detail advising, the qualifying examination, the proposal defense, and dissertation defense.

Development Studies at AUC (Graduate)

School of Business

School of Humanities and Social Sciences

Development Studies is a rapidly growing area of study concerned with the long-term social, political and economic changes taking place in the Global South. The field is interdisciplinary and multidisciplinary within the social sciences, drawing on the perspectives of anthropology, economics, gender and women's studies, political science, public policy and administration, and sociology in order to understand the complexities of poverty and inequality, population growth, political economy, globalization, international division of labor, structural adjustment, war and human rights, democratization, civil society and NGOs, social justice, and sustainable and alternative forms of development.

Examining questions of development in the Middle East and Africa, in particular, and the Global South more broadly is an AUC strength. Several departments and research centers at AUC offer students opportunities to pursue advanced degrees and to participate in collaborative applied projects and scholarly research in development studies.

Graduate Programs:

- Economics in International Development (MA and graduate diploma)
- Gender and Women's Studies (MA and graduate diploma)
- Gender and Development in the Middle East/North Africa Track
- Migration and Refugee Studies (MA and graduate diploma)
- Political Science (MA and graduate diploma)
Professional Development Specialization
- Public Policy and Administration (MPPA and graduate diploma)
- Sociology-Anthropology (MA)

Research Centers:

- The Cynthia Nelson Institute for Gender & Women's Studies
- Desert Development Center
- Migration and Refugee Studies Center
- John D. Gerhart Center for Philanthropy and Civic Engagement
- Social Research Center

Premedical Track

Coordinator: A. Abdellatif (Biology)

The Biology department is coordinating the premedical track. The Biology degree incorporates all premedical courses while leading to a Bachelor of Science in Biology.

The Premedical track is open to all AUC undergraduate students. The track provides basic biological and physical science courses that prepare students for admission into medical schools abroad. Most US and Canadian medical schools require completion of a Bachelor degree that includes the required courses for admission. The liberal art education at AUC provides the well-rounded education required by medical schools.

Premedical students will have to fulfill all requirements for a degree in their major and those of the premedical track. Premedical students are assigned an advisor from the Department of Biology to guide with course requirements for medical school admissions, Medical College Admission Test (MCAT), medical school applications and extracurricular activities.

Biology

- BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)
- BIOL 211/2230 - Molecular and Cell Biology (3 cr. + 1 cr. lab)
- BIOL 315/3280 - Biochemistry (3 cr.)

General/Inorganic Chemistry

- CHEM 105/1005 - General Chemistry I (3 cr.)
- CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)
- CHEM 106/1006 - General Chemistry II (3 cr.)
- CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)

Organic Chemistry

- CHEM 203/2003 - Organic Chemistry I (3 cr.)
- CHEM 306/3006 - Organic Chemistry II (3 cr.)
- CHEM 310L/3010 - Organic Chemistry I Laboratory (1 cr.)
- CHEM 316L/3016 - Organic Chemistry II Laboratory (1 cr.)

Mathematics

- MACT 131/1121 - Calculus I (3cr.)
- MACT 132/1122 - Calculus II (3 cr.)

Physics

- PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)
- PHYS 123L/1012 - General Physics Laboratory I (1 cr.)
- PHYS 112/1021 - Electricity and Magnetism (3 cr.)
- PHYS 124L/1022 - General Physics Laboratory II (1 cr.)

English

Any two Rhetoric and Composition core curriculum requirement may be used to satisfy the English requirement.

Social Sciences

- PSYC 201/1000 - Introduction to Psychology (3 cr.)
- SOC 240/2201 - Introduction to Community Development (3 cr.)

One of these courses can be counted as a "Humanities and Social Sciences" core requirement.

Notes:

Students applying for admission into certain medical schools may be required to take additional courses.

Rhetoric and Composition

Core Curriculum Requirements for students entering before Fall 2013.

For students entering Fall 2013 and after, please click [here](#) for current core curriculum requirements.

Core Curriculum Requirements

Students must fulfill 9 credits in **Rhetoric and Composition**, in two ways:

- RHET 101/1000 - Approaches to Critical Writing (3 cr.)
- RHET 102/1100 - Effective Argument (3 cr.)
- RHET 201/2010 - Research Writing (3 cr.)

Or

- A 300 or 400 level writing course (3 cr.) (e.g., RHET 3210, RHET 3230, RHET 3320, RHET 4360, or RHET 4260)
- and:
- RHET 102/1100 - Effective Argument (3 cr.)
- RHET 201/2010 - Research Writing (3 cr.)

Course Prefix Identification and coding rational

Courses are identified by a prefix, which refers to the department offering the course, a four-digit number, a decimal point, and a two-digit number indicating the section number. Not all departmental prefixes represent fields in which a degree is offered; some represent minors and others only courses. This system is consistent across the university.

- 1000-level courses are intended for Freshmen (full-time, credit-earning students in their first year of coursework at AUC).
- 2000-level courses are intended primarily for Sophomore students.
- 3000-level courses are normally designed for Juniors.
- 4000-level courses are designated for Seniors, although superior students of Sophomore or Junior standing may be admitted with permission of the department offering the course.
- 5000 and 6000-level courses are designed and intended for graduate and post-graduate students.

However, when the 5000-level courses have 1 as the second digit, (i.e. 51XX) this indicates that the course may be taken by advanced (Senior and, in exceptional cases approved by the instructor, Junior level) undergraduate students as

well. The same applies to 6000-level courses, which are generally intended for PhD level students. When 6000-level courses have 1 as the second digit (i.e. 61XX), this indicates that the course may be taken by advanced Masters-level students as well.

The second, third, and fourth digits are used by individual departments and programs to indicate the subarea, concentration or specialization within a degree offered, or proper sequence of courses within a particular subarea.

Courses ranging from 52XX-59XX are open to graduate students; however, a senior student who has a B average may take two graduate courses, not exceeding six credits, either for graduate credit or for completion of requirements for the bachelor's degree. In this case the chair of the department concerned must notify the registrar's office.

The departmental prefixes used in labeling courses are given below:

Schools/Departments	PREFIX	Descriptive
Core Curriculum	CORE	Core Curriculum
	SEMR	Seminar
Graduate School of Education	EDUC	Education
The Academy of Liberal Arts		
Department of Arabic Language Instruction	ALNG	Arabic Language Credit Courses
	ALIN	Arabic Language Intensive
	ALIS	Arabic Language Intensive Summer
	ALWT	Arabic Writing Courses
	AIAS	Center for Advanced Arabic Studies in Cairo
Department of English Language Instruction	ELIN	Intensive English
	ENGL	English
Department of Rhetoric and Composition	RHET	Rhetoric and Composition
Office of the Dean of Graduate Studies	GREN	Sustainable Development
School of Business		
Department of Accounting	ACCT	Accounting
Department of Economics	ECON	Economics
Department of Management	ENTR	Entrepreneurship
	FINC	Finance
	INTB	International Business
	MGMT	Management
	MKTG	Marketing
	MOIS	Management of Information Systems
	OPMG	Operations Management

Executive Master in Business Administration Program	EMBA	Executive Master in Business Administration
School of Global Affairs and Public Policy		
Department of Journalism & Mass Communication	JRMC	Journalism and Mass Communication
Department of Law	LAW	Law
Department of Public Policy and Administration	PPAD	Public Policy and Administration
Center for Migration and Refugee Studies	MRS	Migration and Refugee Studies
The Cynthia Nelson Institute for Gender and Women's Studies	GWST	Gender and Women's' Studies
Kamal Adham Center for Television and Digital Journalism	TVDJ	Television and Digital Journalism
Middle East Studies Program	MEST	Middle East Studies
Prince Alwaleed Bin Talal Bin Abdulaziz Alsaud Center for American Studies and Research	AMST	American Studies
School of Humanities and Social Sciences		
Department of Applied Linguistics	LING APLN	Linguistics Applied Linguistics
Department of Arab and Islamic Civilizations	ARIC	Arab and Islamic Civilizations
	TRST	Translation
Department of the Arts	ARTV DSGN MUSC FILM THTR	Visual Arts Graphic Design Music Film Theatre
Department of English & Comparative Literature	ECLT	English and Comparative Literature
Department of History	HIST CREL	History Comparative Religion
Department of Philosophy	PHIL	Philosophy
Department of Political Science	POLS	Political Science
Department of Sociology, Anthropology, Psychology, and Egyptology	ANTH EGPT PSYC	Anthropology Egyptology Psychology

	SOC SOC/ANTH	Sociology Anthropology/Sociology
European Studies	EUST	European Studies
School of Sciences and Engineering		
Department of Biology	BIOL	Biology
Department of Chemistry	CHEM SCI	Chemistry Science
Department of Computer Science and Engineering	CSCE	Computer Science and Engineering
Department of Construction and Architectural Engineering	AENG CENG	Architectural Engineering Construction Engineering
Department of Electronics and Communications Engineering	ECNG	Electronics and Communications Engineering
Department of Mathematics and Actuarial Science	MACT	Mathematics, Actuarial Science
Department of Mechanical Engineering	MENG	Mechanical Engineering
Department of Petroleum and Energy Engineering	PENG	Petroleum Engineering
Department of Physics	PHYS	Physics
Biotechnology Program	BIOT	Biotechnology
Doctorate of Philosophy (Ph.D.) Program	All 600 level courses in: BIOT CENG CHEM CSCE ECNG ENVE MACT MENG NANO PHDE PHDS PHDS/PHDE	Biotechnology Construction Engineering Chemistry Computer Science and Engineering Electronics and Communications Engineering Environmental Engineering Mathematics and Actuarial Science Mechanical Engineering Nanotechnology Ph.D. in Engineering Ph.D. in Applied Sciences Ph.D. in Engineering and Ph.D. in Applied Sciences
Environmental Engineering Program	ENVE	Environmental Engineering
Nanotechnology Program	NANO	Nanotechnology
Robotics, Control and Smart Systems Program	RCSS	Robotics, Control and Smart Systems

Engineering Steering Committee for ENGR Courses	ENGR	Engineering
Libraries and Learning Technologies	LALT	Libraries and Learning Technology

Note Concerning Course Schedules

Most course descriptions indicate the semester that each course is usually offered, but this information is subject to change and some courses are not taught every year. The registrar's office publishes a detailed schedule of courses offered at the beginning of each semester which contains accurate information on which courses are offered, at what time and by whom they are taught. Please check the Registrar's Schedule of Classes webpage.

For long-term planning, students should consult their advisers and/or individual departments for help designing their programs of study. Students coming from the United States, especially year-abroad students, should contact the university's office in New York for current information about specific course offerings.

Courses

For the current year, when searching for courses by code, enter the first digit of the course number followed by an asterisk, for example 3*

ACCT 201/2001 - Financial Accounting (3 cr.)

Description

The course introduces accounting as a discipline and the various uses of accounting information. It covers the accumulation, processing, and communication of accounting information. The measurement of assets, liabilities, equities and income are emphasized.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

ACCT 202/2002 - Managerial Accounting (3 cr.)

Prerequisites

ACCT 2001

Description

Introduction to management accounting in terms of modern cost accounting and budgetary systems. The course

emphasizes management uses of accounting information in the planning and controlling of business operations in the manufacturing and services sectors.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

ACCT 301/3001 - Intermediate Accounting I (3 cr.)

Prerequisites

ACCT 2001 and MACT 2222 .

Description

An in-depth coverage of accounting valuation processes, accounting income measurement, and disclosure issues in financial reports.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

ACCT 302/3002 - Intermediate Accounting II (3 cr.)

Prerequisites

ACCT 3001

Description

A continuation of Intermediate Accounting I (ACCT 3002), focusing on the liabilities and equity sections in various types of ownership.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

ACCT 303/3003 - Advanced Accounting (3 cr.)

Prerequisites

ACCT 3002

Description

This course focuses on accounting aspects of equity investments, mergers and acquisitions, and intercompany transactions. Topics include the preparation and analysis of consolidated financial statements and other advanced accounting issues such as special purpose entities (SPEs) and foreign currency transactions and translations.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

ACCT 304/3004 - Cost Accounting (3 cr.)

Prerequisites

ACCT 2002

Description

Analysis of management accounting reports for decision making purposes. Cost analysis techniques, budgeting and performance evaluation and cost data for quantitative models and control systems.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

ACCT 305/3005 - Auditing (3 cr.)

Prerequisites

ACCT 3002

Description

The course introduces the basics of assurance and attestation services and the role of auditing in enhancing the credibility of financial statements. Topics covered will include factors affecting the auditing profession, auditor's characteristics, types of audit evidence, the audit process and the auditor's report.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

ACCT 306/3006 - Principles of Taxation (3 cr.)

Prerequisites

ACCT 3002 and MGMT 3301 .

Description

Taxation of various business entities and the investors who own them, both in the US and Egypt. Practical cases covering tax planning, tax rules and regulations are highlighted.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

ACCT 401/4001 - Contemporary Issues in Auditing (3 cr.)

Prerequisites

ACCT 3005

Description

This course highlights the governance aspects of the auditing function and its role in promoting financial transparency. Topics covered will include fraud auditing, advanced audit sampling techniques, auditing in IT environments, and the auditor's professional responsibilities.

When Offered

Offered in fall and spring.

ACCT 402/4002 - Special Topics in Tax Accounting (3 cr.)

Prerequisites

ACCT 3006

Description

Practical and theoretical training in the more common and important provisions of the tax codes. Tax case research and preparation are emphasized.

When Offered

Offered in fall and spring.

ACCT 403/4003 - Contemporary Issues in Accounting (3 cr.)

Prerequisites

Graduating Senior.

Description

This is a research and readings capstone course which integrates all branches of Accounting. Emphasis is on developing the research skills to deal with current and prospective issues and problems of accounting.

When Offered

Offered in fall and spring.

ACCT 470/4070 - Special Topics in Accounting (3 cr.)

Prerequisites

Prerequisite: Consent of Instructor.

Description

Considers selected topics of current relevance in Accounting.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

ACCT 475/4075 - Independent Study in Accounting (1-3 cr.)

Prerequisites

Prerequisites: Senior standing and consent of ACCT unit head and chair.

Description

Guided readings, research, and discussions on specific selected topic in Accounting.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

ACCT 501/5201 - Financial Reporting and Analysis (3 cr.)

Description

This is a basic course in financial accounting covering financial reporting by business entities. It develops the framework for the analysis, classification, reporting, and disclosure of business transactions. The preparation and interpretation of financial statements and reports, and ethical issues are emphasized.

When Offered

Offered in fall and spring.

ACCT 502/5301 - Managerial Accounting for Decision Making (3 cr.)

Prerequisites

BADM 5310

Description

This course focuses on corporate decision-making skills for managers by concentrating on the concepts and practices of

managerial accounting. The emphasis is on building a general framework for choosing among alternative cost systems for operational control and product cost and profitability measurement. The course covers recent conceptual and analytical developments in the area of management accounting, including study of modern and relevant planning, control techniques and their underlying concepts as applied to various functional areas within the firm, and performance evaluation.

When Offered

Offered in fall and spring

ACCT 570/5370 - Selected Topics in Accounting (3 cr.)

Prerequisites

BADM 5310

Description

It considers offering contemporary topics of current relevance in Accounting.

When Offered

Offered occasionally.

ACCT 575/5375 - Independent Study in Accounting (1-3 cr.)

Prerequisites

Consent of the Instructor and Director of the program.

Description

Guided readings, research, and discussions on specific selected topic in Accounting.

When Offered

Offered occasionally.

AMST 000/1090 - What is America?

Description

The course examines key themes and major issues in American history and society that gives freshmen students an insight and a deeper understanding of the United States of America. The course also examines a number of themes in American history, including isolationism versus interventionism, conflicts over slavery, consumerism, the end of the cold war and the U.S. rise to a sole superpower.

AMST 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

AMST 299/2096 - Selected Topics for Core Curriculum (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

AMST 310/3010 - American Literature to 1900 (3 cr.)

Description

Selected readings of literary works beginning with pre-Columbian oral traditions and moving from the colonial era to the early national period through to the late nineteenth century.

Cross-listed

Same as ECLT 3010 .

AMST 311/3011 - Modern American Literature (3 cr.)

Description

Works of twentieth-century American writers. The reading list may be chosen to reflect changing ethnic and cultural phenomena and will vary from year to year.

Cross-listed

Same as ECLT 3011 .

AMST 356/3016 - American Philosophy (3 cr.)

Prerequisites

Two philosophy courses or consent of instructor.

Description

The course examines philosophy in North America, focusing on the central themes of democracy and pragmatism. A guiding question of the course will be: How is the democratic process embedded in the philosophic enterprise? The views of major thinkers such as Peirce, James, Royce, Santayana, Dewey, Quine, and Hartshorne will be examined.

Cross-listed

Same as PHIL 3016 .

When Offered

Offered occasionally.

AMST 301/3100 - The US and the World Economy (3 cr.)

Prerequisites

Sophomore Standing or Higher

Description

The course will look at the relationship between the U.S. and the global monetary, financial and trading systems. From a historical perspective, the course will examine how the U.S. power has evolved in the post-World War Two as well as the emergence of the Bretton Woods institutions (IMF and World Bank) and the World Trading Organization (WTO). Current issues include but not restricted to the role and weight of the newly emerging industrialized countries. (BRICS: Brazil, Russia, India, China, and South Africa), the continued reliance on the U.S. dollar as the predominant reserve currency, and the impact of the growing American indebtedness on the world economy.

AMST 400/4001 - Selected Topics in American Studies (3 cr.)

Description

Examination of specific topics and themes related to the field of American Studies. May be repeated for credit if content changes.

AMST 444/4444 - Media Law and Policy (3 cr.)

Prerequisites

JRMC 2203

Description

An explanation of communication law and regulation with its major segments libel, privacy and news-gathering together with journalists' rights and defenses against libel suits. Issues of national and international topics are covered together with media law cases.

Cross-listed

Same as JRMC 4444

ANTH 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all first-year students as part of the Primary Level Core.

ANTH 210/2005 - Arab Society (3 cr.)

Prerequisites

RHET 2010 or concurrent.

Description

Description and analysis of social and cultural characteristics and problems of contemporary Arab Society, taking into consideration the specific historical, economic, and ideological forces that shape it. The social basis for Arab unity and identity. Introduction to basic concepts and principles for understanding social phenomena.

Cross-listed

Same as SOC 2005.

When Offered

Offered in fall and spring.

ANTH 299/2099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

ANTH 202/2101 - Cultural Anthropology (3 cr.)

Description

Cultural anthropology is an exploration of human diversity and what we have in common. It is a journey of questioning, understanding, and respecting the rich and complex tapestry of human practices, beliefs, and expressions we call "culture." In this course we will encounter a wide variety of practices and beliefs, including our own, and we will examine how these are related to global power relations; also, we will explore how anthropologists, with their own particular ideological and theoretical perspectives, attempt to understand these matters.

When Offered

Offered in fall and spring.

ANTH 240/2201 - Introduction to Community Development (3 cr.)

Description

Introduces the students to the different concepts and approaches to community development as well as to community organizing. Utilizes a critically reflective framework as part of the curriculum to overcome the potential division between theory and practice. Identifies the key issues that the students are likely to confront in community development and organizing work.

Cross-listed

Same as SOC 2201/PSYC 2201.

When Offered

Offered in fall.

ANTH 302/3015 - Global Families: Kinship and Relatedness in Late Modernity (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

Transformation of family and kin structures and relations in present-day globalization. Impacts of urbanization, international migration, consumerism, economic and other factors on families and kin groups. Why and how people legitimize their kin relationships in the eyes of their community, their state, and their religion, and how different family

structures are tied to naturalizing certain forms of power. Comparative perspectives from the Middle East and other world areas.

When Offered

Offered in alternate years.

ANTH 303/3020 - Social Movements (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

Basic processes by which societies initiate, consolidate, transform, and change their basic institutions and social structures. Anatomy of reform and revolutionary social movements, especially those affecting Arab and Third World societies.

Cross-listed

Same as SOC 3303.

When Offered

Offered in spring

ANTH 310/3035 - Contemporary Sociological Theory (3 cr.)

Prerequisites

ANTH 3102 or consent of instructor.

Description

The main trends, basic problems, and unresolved issues of post-war sociological thought. Essential aspects of the logic of scientific inquiry; contemporary theories as model building in sociology including new functionalism, critical theory, structuralism and poststructuralism.

Cross-listed

Same as SOC 3104.

When Offered

Offered in spring.

ANTH 320/3040 - States, Capital and Rural Lives (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

Analysis of dynamics of expanding state and capital relations into rural and pastoral communities, with special focus on property and labor relations, the social organization of production and exchange, politics and power relations, and the organization and practice of everyday life. The course draws on comparative ethnographic case studies from around the world.

When Offered

Offered in alternate years.

ANTH 321/3045 - The Urban Experience (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

This course will explore a variety of approaches for the study of life in cities, providing students with tools to think critically about the meaning of urban life in the new century. Are cities the vibrant, vital centers of all that is exciting, new and provocative in modern life or are they the decaying, decadent and dangerous remnants of an industrial age whose time has past? How do we link the lives of corporate elites and pop icons with crack dealers and shanty town dwellers? How do we place migration, world capital flows, transnational media, and global consumption in our studies of city life?

Cross-listed

Same as SOC 3045.

When Offered

Offered in spring.

ANTH 332/3060 - Social Constructions of Difference: Race, Class and Gender (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

The course will first introduce students to the vast theoretical literature on the concepts of race, ethnicity and class from sociology and anthropology. Second, the course will expect students to shift focus away from looking at different cultures to analyzing cultural productions of difference. In the course we will be concerned with how racial, ethnic and class identities are shaped by diverse hegemonic systems, modes of resistance, and the structuring of social relations in different societies.

Cross-listed

Same as SOC 3060.

When Offered

Offered occasionally.

ANTH 341/3070 - Anthropology and Film (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

The history and practice of film in anthropology; film as ethnography; comparison of films and analytical ethnographies. Additional Mandatory Lab Sessions for Film Screening.

Cross-listed

Same as FILM 3041 .

When Offered

Offered occasionally.

ANTH 352/3075 - Language in Culture (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

The role played by language in humankind's symbolic relation to the world. Emphasis on linguistic analysis, ethnosemantics, sociolinguistics, expressive speech and language and socialization as these elucidate patterns of cognitive orientation.

Cross-listed

Same as LING 3075 .

When Offered

Offered occasionally.

ANTH 360/3080 - Gender, Sexuality and Social Change (3 cr.)

Prerequisites

ANTH 2101 or consent of instructor.

Description

An introduction to the study of gender ideologies, including a cross-cultural comparison of how genders are constructed to create different norms of masculine, feminine, and other categories linked to various forms of sexuality. Focus on analyzing how inequalities are maintained and contested over time through gendered discourses and practices at home, at work, and at local, national and international levels. Special emphasis on the uses of gender in justifying and challenging development agendas in the Global South.

When Offered

Offered in alternate years.

ANTH 370/3085 - Environmental Issues in Egypt (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

The technical aspects of environmental issues in Egypt are examined taking into account the cultural, social, and political dimensions upsetting the balance of the environment. Major issues such as water scarcity, global warming, desertification, urban pollution, tourism, and demographic pressures are presented and analyzed.

Cross-listed

Same as SOC 3085.

When Offered

Offered in alternate years.

ANTH 372/3090 - Public Anthropology (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

Cultural dynamics involved in social and economic change with special reference to Egypt and the Middle East. Community development, cooperatives, population studies, resettlement, health and education are some of the problems that may be discussed. Case studies and fieldwork.

When Offered

Offered in alternate years.

ANTH 309/3102 - History of Social Theory (3 cr.)

Prerequisites

Prerequisites: 9 hours of social sciences and junior or senior standing, or consent of instructor.

Description

The nature and function of social theory and its development especially since the Enlightenment. Emphasis on the cumulative insights and ideas which have contributed to modern social theory. The essential aspects of the philosophy of social science, especially epistemological problems in the sciences of sociology and anthropology.

Cross-listed

Same as SOC 3102.

When Offered

Offered in fall.

ANTH 311/3104 - Contemporary Anthropological Theory (3 cr.)

Prerequisites

ANTH 3102 or consent of instructor.

Description

.Introduces major theories and theorists in the recent history of anthropology and provides a broad vision of the development of the discipline and of contemporary anthropological thought. The course also covers the development of the ethnographic method, important paradigms such as structural-functionalism, and recent critical theory.

When Offered

Offered in spring

ANTH 380/3105 - Fieldwork Methods (3 cr.)

Prerequisites

ANTH 2101 and 6 credit hours of social sciences.

Description

Logic and philosophy of qualitative methodology in anthropology and other social sciences. The process of research design, data collection, analysis and interpretation of results and final write-up is elaborated with specific reference to research conducted in Egypt, the wider Arab and Middle Eastern worlds and elsewhere. Discussion of the politics and ethics of fieldwork, including protection of the rights of human participants in research projects.

When Offered

Offered in fall and spring.

ANTH 340/3202 - Participatory Action Research in Community Settings (3 cr.)

Description

This course will introduce students to the appropriate research methodologies when dealing with community organizing and development, particularly the participatory action research approach to community development.

Cross-listed

Same as PSYC 3202 / SOC 3202 .

When Offered

Offered in fall.

ANTH 312/3301 - Peoples and Cultures of the Middle East and North Africa (3 cr.)

Prerequisites

3 hours of Social Sciences.

Description

Basic structure of contemporary societies and cultures of the Middle East and North Africa, with special emphasis on the Arab population. Problems of ecology, economics, social organization, law and politics, religion and patterns of social change.

When Offered

Offered in fall and spring.

ANTH 382/3302 - Peoples and Cultures of Sub-Saharan Africa (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

Basic structure of contemporary societies and cultures of sub-Saharan Africa with special emphasis on problems of ecology, economics, social organization, law and politics, religion, and patterns of social change.

When Offered

Offered in alternate years.

ANTH 384/3303 - Peoples and Cultures of Latin America (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

Basic structure of contemporary societies and cultures of Latin America with special emphasis on problems of ecology, economics, social organization, law and politics, religion, and patterns of social change.

When Offered

Offered in alternate years.

ANTH 386/3304 - Peoples and Cultures of Asia (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

Basic structure of contemporary societies and cultures of South, South-East, and East Asia with special emphasis on problems of ecology, economics, social organization, law and politics, religion and patterns of social change.

When Offered

Offered in alternate years.

ANTH 390/3305 - Selected People and Culture Areas (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

Areas to be chosen according to specific interest and faculty expertise. Examples of possible areas are: peoples and cultures of the ancient world, of the Mediterranean, and of the United States.

When Offered

Offered occasionally.

Repeatable

May be taken for credit more than once if content changes.

ANTH 407/4015 - Psychological Anthropology (3 cr.)

Prerequisites

Three hours of Anthropology, 6 hours of Social Sciences, and junior or senior standing.

Description

Interdisciplinary and cross-cultural approach to the study of the reciprocal relations of culture and personality; special focus on themes of identity, socialization and the emergence of self in various cultural settings.

Cross-listed

Same as PSYC 4015.

When Offered

Offered occasionally.

ANTH 422/4025 - Religion in a Global World (3cr.)

Prerequisites

Prerequisites: 9 hours of social sciences and junior or senior standing.

Description

Comparative study of religion in culture and society. The course will explore a variety of theories and controversies in the anthropological understanding of religion. Emphasis is on how religion may restrict but also empower believers, inform their social identities, and intersect with political and economic practices and institutions in a globalizing world.

Cross-listed

Same as SOC 4025.

When Offered

Offered in fall.

ANTH 425/4030 - Women, Islam and the State (3 cr.)

Prerequisites

9 hours of Social Sciences and Junior or Senior standing.

Description

An anthropological perspective on the politics of gender in Muslim societies, with an emphasis on the Middle East. The relationship between religion and society, especially the cultural construction of gender hierarchies within the discourses of Islam and the realities of Muslim women's lives. The articulation of the impact of modern states on gender hierarchies.

When Offered

Offered annually.

ANTH 450/4050 - Critical Approaches to Development (3 cr.)

Prerequisites

Prerequisites: 9 hours of social sciences and junior or senior standing.

Description

Contemporary theories of development as they apply to and illuminate the problems of development in underdeveloped countries. The approach will be interdisciplinary.

Cross-listed

Same as SOC 4106 .

When Offered

Offered in fall and spring.

ANTH 455/4055 - Seminar in African Studies (3 cr.)

Prerequisites

9 hours of Social Sciences and Junior or Senior standing.

Description

Through the examination of a contemporary topic in African Studies, this interdisciplinary seminar examines epistemological and methodological issues in African Studies such as transformation, resistance, power, technology, and women and development. Original sources will be used to examine the theoretical assumptions, data and methods underlying the literature. Prior course work in African Studies is recommended.

Cross-listed

Same as SOC 4055

When Offered

Offered occasionally.

ANTH 462/4065 - Culture, Economy and the Everyday (3 cr.)

Prerequisites

9 hours of social sciences and junior or senior standing.

Description

Examination of how anthropology has approached the study of economic practices, ideas and institutions in different cultural contexts. By following the main theoretical paradigms in economic anthropology, the course will address the cultural assumptions and power dynamics in defining what an economy is and how people go about producing, consuming and exchanging goods, commodities, gifts, services, as well as social relationships. Ethnographic case studies will explicate the power relations underlying the pursuit of economic lives, the centrality of gender, class, race, kinship and ethnic relations in shaping production, consumption and exchange, and the ramifications of global markets on peoples' livelihoods and identities.

When Offered

Offered in alternate years.

ANTH 492/4070 - Political Anthropology (3 cr.)

Prerequisites

9 hours of Social Sciences and Junior or Senior standing.

Description

This course examines the contribution of anthropology to the comparative study of political organization and the exercise of power. It reviews classical anthropological approaches to politics in non-state and non-Western state societies. The course also examines political organization in postcolonial and global contexts, including such topics as nationalism, migration, transnational mobilization, ethnic identity and flexible citizenship, and the use of media technologies in developing political subjectivities. There is an emphasis on theoretical perspectives.

When Offered

Offered in alternate years.

ANTH 000/4075 - Migrants and Transnationals (3 cr.)

Prerequisites

9 hours of Social Sciences and Junior or Senior standing.

Description

The course examines the experiences and relationships of people who move across states and national boundaries and whose identifying labels range from migrants, transnationals, guest-workers, exiles, refugees, and diaspora, among others. One underlying thread is that of dislocation and movement, while maintaining connections - real, symbolic and imagined - between disparate places and peoples.

ANTH 400/4099 - Selected Topics in Anthropology (3 cr.)

Prerequisites

Prerequisites: 9 hours of social sciences, and junior or senior standing.

Description

.Topics to be chosen according to specific interest, such as: agrarian transformation, desert development, sex roles, cognitive anthropology, anthropology and education; nationalism, colonialism and postcolonialism; tourism in social science; and anthropology of the city.

When Offered

Offered occasionally

Repeatable

May be taken for credit more than once if content changes.

ANTH 495/4107 - Senior Seminar (3 cr.)

Prerequisites

Senior standing and SOC 3105 or ANTH 3105 or 12 hours of Social Sciences.

Description

Emphasis on current methodological trends in anthropology and sociology reflecting the research interests of the faculty and students, and drawing on the experience of the undergraduate career.

Cross-listed

Same as SOC 4107.

When Offered

Offered in spring.

Notes

Content may therefore vary from year to year. The student will be required to write a methodologically sound senior paper, preferably based on field research.

ANTH 440/4203 - Practicum in Community Development (3 cr.)

Prerequisites

Six hours of social sciences or consent of the instructor.

Description

One semester, field experience in an approved international development agency, local NGO or other professional setting approved by faculty supervisor. Supervised by a faculty supervisor.

Cross-listed

Same as PSYC 4203 and SOC 4203.

When Offered

Offered in spring.

ANTH 402/4405 - Independent Study (1-3 cr.)

Prerequisites

Prerequisites: a minimum B average, consent of the instructor, and approval by the unit head and the department chair.

Description

In exceptional circumstances some senior majors with departmental approval may arrange to study beyond the regular course offerings.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit more than once if content changes.

ANTH 445/4499 - Selected Topics in Coptic Studies (3 cr.)

Description

This course allows instructors to offer a topic in Coptic Studies. The topic will be chosen from year to year in coordination with the departments concerned and the dean of the School of HUSS, and according to the individual interests and areas of expertise of the instructors. Topics chosen may include various aspects of Coptic art and history, monasticism, folklore, or other subjects..

Cross-listed

Same as ARIC 5132 , EGPT 5160 , HIST 4905 , SOC 4499 .

When Offered

Offered in fall.

Repeatable

The course may be taken more than once if the topic changes

Notes

Students in these majors may petition preferably before registration to have the course included in their major requirements.

ANTH 460/4560 - Development Studies Seminar (3 cr.)

Prerequisites

12 hours of social science.

Description

Interdisciplinary and comparative analysis of development as a process and as a historical phenomenon. Critical evaluation of economic, political, social and cultural technological and managerial factors that structure developmental change.

Cross-listed

Same as POLS 4560/SOC 4560.

When Offered

Offered occasionally.

APLN 515/5101 - The Phonetics of Arabic (3 cr.)

Description

Phonetics of Arabic as it is spoken at various levels in Egypt, studied in light of modern phonetic theory. Reference is made to the phonetics of both Egyptian colloquial Arabic and the Arabic of the early Islamic era as described by the early Arab phoneticians. Taught in Arabic and/or English.

When Offered

Offered in the fall.

APLN 516/5102 - The Linguistics of Arabic (3 cr.)

Description

History and development of the Arabic Language and Linguistics. Particular attention will be given to topics such as: Major events that shaped Arabic throughout History, the codification of the language, Arab linguistics theory and its contributions to the study of syntax. Morphology, and lexicography, the various schools of thought among Arab philologists in the light of modern linguistic theory and language situation in Arabic society. Taught in Arabic and/or English.

When Offered

Offered in alternate years.

APLN 551/5103 - Advanced Arabic Grammar (3 cr.)

Description

An examination of the basic concepts in traditional Arabic grammar using modern linguistic theories with the aim of suggesting alternative methods of analysis and formalization. Taught in Arabic.

When Offered

Offered in fall and spring.

APLN 501/5201 - Principles of Linguistic Analysis (3 cr.)

Description

Concepts fundamental to linguistic analysis in the areas of syntax, semantics, phonology, historical linguistics, sociolinguistics, and language acquisition.

Cross-listed

Same as APLN 5301 .

When Offered

Offered in fall.

APLN 503/5202 - Second Language Acquisition (3 cr.)

Prerequisites

APLN 5201 or permission of the department. Recommended prerequisite: APLN 5302 .

Description

Relationship between first and second language acquisition. Aspects of acquisition from a psycholinguistic perspective. Cognitive, linguistic, personality and classroom factors influencing SLA. Applications for teaching.

Cross-listed

Same as APLN 5304 .

When Offered

Offered in fall and spring.

APLN 510/5203 - Methods of Teaching a Foreign Language I (3 cr.)

Description

Survey of learning theories, individual learning styles and strategies as they relate to the teaching and learning processes. Examination and critical analysis of major approaches and methods of teaching foreign languages. The course includes classroom observations and limited practice teaching.

Cross-listed

Same as APLN 5300 .

When Offered

Offered consecutively with APLN 5204 .

APLN 511/5204 - Methods of Teaching a Foreign Language II (3 cr.)

Prerequisites

APLN 5203

Description

Survey of approaches to the design and implementation of foreign language curricula and teaching materials and teaching practicum. The practicum includes foreign language classroom observations, supervised practice teaching, and materials development, selection, and adaptation.

When Offered

Offered consecutively with APLN 5203 .

APLN 553/5205 - Sociolinguistics (3 cr.)

Description

The effect of social phenomena on linguistic form. Languages, dialects, and speech communities. Multilingual societies, diglossia, code choice. Regional, social and linguistic variation. Terms of address. Language attitudes. Language and ethnicity. Language maintenance and shift. Language and gender. Language planning and standardization. Sociolinguistic aspects of education.

Cross-listed

Same as APLN 5331 .

When Offered

Offered once a year.

APLN 555/5206 - Seminar on Challenges Facing AFL Teachers (3 cr.)

Prerequisites

APLN 5205 .

Description

The course provides the intellectual basis, as distinct from methods of teaching, for the design of curriculum and the teaching of the different language skills. Special attention is given to four areas: The Alphabet's historical development and variation; vocabulary scope, the root system and Arabic derivational system; syntax, historical development and recent attempts for simplifications; language levels, diglossia, multiglossia and language continuum in Egypt.

APLN 507/5210 - Computer Assisted Language Learning (CALL)/Computer Operations Techniques (3 cr.)

Prerequisites

APLN 5203.

Description

Description, analysis and evaluation of CALL software. Integration of CALL into AFL learning. Guided practical experience in producing AFL software using authoring programs. Using the Internet as a resource for learning AFL.

When Offered

Offered once a year.

APLN 563/5211 - Language Variation and Change (3 cr.)

Prerequisites

APLN 5205

Description

This course investigates Arabic language variation and change within the framework of variation theories and with respect to the particularities of Arabic as a multiglossic language. Both written and spoken discourse will be analyzed with special attention to formal spoken or educated spoken Arabic. The course provides a practical approach to dealing with Arabic language corpora and trains students to analyze linguistic data.

APLN 540/5270 - Selected Topics in Applied Linguistics (1, 2, or 3 cr.)

Description

Special topics and current issues in linguistics and language teaching with special reference to Arabic.

Cross-listed

Same as APLN 5370 .

Repeatable

May be taken more than once if content changes.

APLN 560/5271 - Supervised Study in TAFL (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

Individual research on specific area of interest to the student.

When Offered

Offered in fall and spring.

Repeatable

May be taken a second time if content changes.

APLN 588/5298 - Comprehensives (no cr.)

Description

Individual consultation for students preparing for the comprehensive examination.

When Offered

Offered occasionally.

APLN 599/5299 - Research Guidance and Thesis (no cr.)

Description

Consultation for students on matters related to their thesis.

When Offered

Offered in fall and spring.

APLN 510/5300 - Methods of TESOL I (3 cr.)

Description

Survey of learning theories, individual learning styles and strategies as they relate to the teaching and learning processes. Examination and critical analysis of major approaches and methods of teaching foreign languages. The course includes classroom observations and limited practice teaching.

Cross-listed

Same as APLN 5203 .

APLN 501/5301 - Principles of Linguistic Analysis (3 cr.)

Description

Concepts fundamental to linguistic analysis in the areas of syntax, semantics, phonology, historical linguistics, sociolinguistics, and language acquisition.

Cross-listed

Same as APLN 5201 .

APLN 520/5302 - Research Methods in Applied Linguistics (3 cr.)

Description

Provides TESOL/TAFL MA candidates with the knowledge and skills to read and understand various types of research

in applied linguistics, to have a basic grasp of the issues currently being studied in the field, and be able to critically distinguish between good and poor research. Ability to write in appropriate technical fashion is emphasized.

APLN 500/5303 - English Grammar (3 cr.)

Description

A descriptive overview of the structure of English. Detailed analysis of the major grammatical constructions. Implications for language teaching and learning.

APLN 503/5304 - Second Language Acquisition (3 cr.)

Prerequisites

APLN 5301 or permission of the department. Recommended prerequisite: TAFL/APLN 5302 .

Description

Relationship between first and second language acquisition. Aspects of acquisition from a psycholinguistic perspective. Cognitive, linguistic, personality and classroom factors influencing SLA. Implications for teaching.

Cross-listed

Same as APLN 5202 .

APLN 502/5305 - Assessment in Language Learning (3 cr.)

Description

A practical course that will enable the student to develop valid and reliable assessment procedures, analyze results, and evaluate the procedures.

Cross-listed

Same as TAFL 5305 .

APLN 507/5310 - Computer Assisted Language Learning (CALL) (3 cr.)

Prerequisites

APLN 5300

Description

Description, analysis and evaluation of CALL software. Integration of CALL into EFL syllabus. Guided practical experience in producing EFL software using authoring programs. Using the Internet as a resource for teaching and learning EFL.

APLN 570/5311 - Thesis Proposal Writing (3 cr.)

Prerequisites

APLN 5302

Description

A seminar specially designed for thesis track candidates and others who wish to pursue research in TESOL. Students will explore their specific research interests and are expected to share their ideas and constructive criticism with other members of the class. The aim of this course is to guide the student towards the production of a proposal for a possible thesis or future research.

APLN 531/5312 - Second Language Reading and Writing: Theory and Practice (3 cr.)

Prerequisites

APLN 5300 .

Description

This course will survey research and theory in EFL/ESL reading and writing and explore pedagogical applications. We will consider a number of reader/writer and text factors that play a role in second language (L2) reading and writing. As second language reading encompasses top-down, bottom-up, and interactive approaches, we will investigate how these approaches function interactively. We will further explore how the field of L2 writing has been influenced by L1 writing but has also become a distinct area of inquiry in its own right. We will examine students' writing and observe them in their classes, design activities and evaluate materials and textbooks.

APLN 000/5313 - Second Language Listening and Speaking: Theory and Practice (3 cr.)

Prerequisites

APLN 5300.

Description

Drawing on previous research in second language acquisition, this course will examine pedagogical applications of various theories of language learning to the teaching of ESL listening and speaking. The main topics emphasized in the course are the following: designing and constructing listening and speaking tasks at different levels of difficulty while achieving a balance between accuracy and fluency, criteria for selecting authentic vs. pedagogically- designed listening tasks, teaching macro- and micro- listening strategies, analyzing the linguistic and pragmatic skills required for spoken interaction, and developing assessment criteria and contexts for the language classroom. Ways to integrate listening and speaking activities into other language classes and learning contexts will also be considered.

APLN 521/5320 - English Syntax (3 cr.)

Prerequisites

APLN 5301

Description

A study of contemporary syntactic theories of generative grammar with particular reference to the choice of formalism, universal grammar and the claims they make about the nature of language, linguistic descriptions and implications for language teaching.

APLN 548/5321 - Corpus Linguistics (3 cr.)

Prerequisites

APLN 5301

Description

An introduction to the analysis of large collections of computer-readable texts (corpora) using concordance software. Focus on analytic techniques at the levels of morphology, lexicography, grammar, pragmatics and discourse. Pedagogical applications for English for academic purposes and in data-driven learning.

APLN 550/5322 - Language Pragmatics (3 cr.)

Prerequisites

APLN 5301

Description

Definition of pragmatics. Relation of pragmatics to semantics, syntax and sociolinguistics. Speech act theory. Directness and indirectness. The Cooperative Principle, principles of politeness, Relevance Theory. Cross-linguistic/cultural application. Relevance to language teaching.

APLN 551/5323 - Discourse of Analysis for Language Teachers (3 cr.)

Prerequisites

APLN 5301

Description

Discourse analysis is typically thought of as studying language use above the sentence level. The central focus is on "how real people use real language, as opposed to studying artificially created sentences" (McCarthy, 1991, p.1). This course will provide an overview of the theories and methods of discourse analysis. We will explore various approaches to the analysis of both spoken and written texts and examine practical implications for language teachers and students. The course will be beneficial for students who are interested in conducting discourse based research and who would like to know how to use discourse analysis methods in their language classes.

APLN 525/5330 - Language Transfer, Contrastive Analysis, and Error Analysis (3 cr.)

Prerequisites

APLN 5301

Description

The study of language contact and language transfer phenomena. Contrastive analysis and error analysis within and beyond the sentence level. Models, procedures and theoretical underpinnings. Discourse function and organization. Implications for second/foreign language teaching and learning.

APLN 553/5331 - Sociolinguistics (3 cr.)

Description

The effect of social phenomena on linguistic form. Languages, dialects, and speech communities. Multilingual

societies, diglossia, code choice. Regional, social, and linguistic variation. Terms of address. Language attitudes. Language and ethnicity. Language maintenance and shift. Language and gender. Language planning and standardization. Sociolinguistic aspects of education.

Cross-listed

Same as APLN 5205 .

APLN 000/5332 - Intercultural Communication (3 cr.)

Prerequisites

APLN 5300.

Description

This course will raise language professionals' awareness of their own cultural assumptions, sensitize them to the multiplicity of other world views, and equip them with the means to assess and respond to their students' cultural orientation. The course includes theoretical readings, analysis of critical incidents, values clarification, and experiential intercultural activities and field observations leading to an ethnography of communication which analyzes a given speech community's communicative norms. The course has four main areas of concentration: a theoretically-grounded conceptualization of intercultural communication, an overview of variations in pedagogical traditions across cultures and ways these can affect language learning effectiveness, a practical component focusing on developing teachers' own intercultural communicative competence, and a methodological component which explores ways of promoting intercultural communicative competence among language learners.

Among the concepts covered are macro-level cultural dimensions, cultures within cultures, cross-cultural variability in relationships, transmitting and interpreting verbal and non-verbal messages, managing conflict and face threats, intergroup attitudes, identity negotiation, acculturation, assimilation and ethical considerations in intercultural communication.

APLN 540/5370 - Selected Topics in Applied Linguistics (1, 2, or 3 cr.)

Description

Special topics and current issues in linguistics and language teaching.

Cross-listed

Same as APLN 5270 .

Repeatable

May be taken more than once if content changes.

APLN 530/5371 - Supervised Study in TESOL (3 cr.)

Prerequisites

Consent of instructor.

Description

Individual research on a specific area of interest to the student in consultation with the instructor.

Repeatable

May be taken a second time if content changes.

APLN 511/5397 - Methods of TESOL II (3 cr.)

Prerequisites

APLN 5300

Description

Survey of approaches to the design and implementation of foreign language curricula and teaching materials. This teaching practicum is a capstone course and as such must be taken during a student's final semester in the program. It includes foreign language classroom observations, supervised practice teaching, and materials development, selection, and adaptation.

APLN 588/5398 - Comprehensives (no cr.)

Description

Consultation for students preparing for the comprehensive examination.

APLN 599/5399 - Research Guidance and Thesis (no cr.)

Description

Consultation for individual students on matters related to their theses.

ARIC 199/1099 - Selected Topics for Core Curriculum (3cr.)

Description

Selected topic in Arab and Islamic Civilizations for the core curriculum.

ARIC 101/1101 - Children's Literature and Cultural Representations (3 cr.)

Description

This course introduces students in simplified form and content to contemporary literary and cultural theories pertinent to reading and analyzing children's literature. Topics for discussion will include historical constructions of childhood and the socio-historical contexts for the production of children's literary canon(s). Through readings to familiar classics we will explore how representations in texts for children (both written and visual) have shaped the different ideologies of identity, race, gender, and nation.

ARIC 100/1300 - Arabs and Muslims Encountering the Other (3 cr.)

Description

Surveys Arab-Islamic history from the perspective of the development of the socio-cultural self and its encounters with the Other. Pays special attention to inter-cultural and inter-confessional relations and to how these informed the development of Arab-Islamic identities from the birth of Islam to the colonial period. Major themes include travel and intercultural encounter, polemic, conversion, the treatment of religious minorities, and the colonial subject's view of the West.

ARIC 299/2096 - Selected Topics for the Core Curriculum in International/World Studies (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

ARIC 299/2097 - Selected Topics for the Core Curriculum in Arab World Studies (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

ARIC 299/2099 - Selected Topics for the Core Curriculum in Humanities (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

ARIC 201/2101 - Introduction to Classical Arabic Literature (3 cr.)

Description

An introduction to the classical Arabic literary tradition through readings of major texts. Prerequisites: Thanawiya 'Amma or placement examination.

When Offered

Offered in fall and spring.

Notes

Taught in Arabic.

ARIC 202/2102 - Introduction to Modern Arabic Literature (3 cr.)

Description

.An introduction to the literature of the nineteenth and twentieth centuries through readings of major texts.
Prerequisites: Thanawiya 'Amma or placement examination.

When Offered

Offered in fall and spring

Notes

Taught in Arabic.

ARIC 203/2103 - Classical Arabic Literature in Translation (3 cr.)

Description

An introduction to the classical Arabic literary tradition through readings of major texts.

When Offered

Offered in fall and spring.

Notes

Taught in English, with assigned texts in English translation.

ARIC 204/2104 - Modern Arabic Literature in Translation (3 cr.)

Description

An introduction to the literature of the nineteenth and twentieth centuries through readings of major texts.

When Offered

Offered in fall and spring.

Notes

Taught in English, with assigned texts in English translation.

ARIC 205/2205 - The World of Islamic Architecture, from the Beginnings to the Present Day (3 cr.)

Description

An overview of Islamic architecture from Spain to Indonesia from the 7th century to the present. Major examples of religious and secular architecture, including mosques, madrasas, palaces and caravanserais.

When Offered

Offered in fall and spring.

ARIC 206/2206 - The City of Cairo (3 cr.)

Description

The architectural and urban heritage of Fustat - Cairo from 641 CE to the present.

Hours

Classwork is supplemented by six to eight field trips on Friday or Saturday mornings.

When Offered

Offered in the fall and spring.

Notes

Classwork is supplemented by six to eight field trips on Saturday mornings.

ARIC 270-271/2270-2271 - From Andalusia to Indonesia: Introduction to Islamic Art and Architecture (3 cr. per semester)

Prerequisites

Prerequisite for ARIC 2271: ARIC 2270, or ARIC 2206 .

Description

Important works in architecture and decorative arts from the seventh century AD to the Ottoman period; artistic achievements of Muslim Spain, North Africa, the Middle East, India and Southeast Asia. ARIC 2270 up to 1250 CE; ARIC 2271 1250 CE onwards.

When Offered

ARIC 2270 offered in fall.

ARIC 2271 offered in spring.

ARIC 246/2346 - Survey of Arab History (3 cr.)

Description

This course presents the history of the Arab-speaking Middle East from pre-Islamic times to the modern era, with emphasis on some of the principal political, economic, social, religious, and cultural developments and their relevance to the contemporary Middle East. The course introduces students to historiographical methodology and different interpretive approaches. It attempts to foster a critical attitude toward sources and provides a context in which students can apply skills and concepts acquired in other required-core.

Cross-listed

Same as HIST 2203.

When Offered

Offered in fall and spring.

ARIC 320/3020 - Introduction to Sufism (3 cr.)

Description

An introduction to mysticism in its Islamic context: a survey of the historical development of tasawwuf, the main trends in Sufi thought and practice, the role played by Sufis and Sufi brotherhoods in society and the Sufi contributions to Middle Eastern culture.

When Offered

Offered in alternate years.

ARIC 309/3097 - Selected Themes and Topics in Arabic Literature (3 cr.)

Description

Focuses on one theme in the classical and/or modern period such as love, satire and humor, regional literature, wisdom literature, Sufi literature, tradition and modernity, self and other, alienation and exile. See class schedule for specific theme or topic offered..

When Offered

Offered occasionally.

Repeatable

May be repeated once for credit if content changes

Notes

Taught in Arabic.

ARIC 305/3104 - Arabic Literature and Gender (3 cr.)

Description

Investigates the construction of gender, both masculine and feminine, through readings in a variety of Arabic discourses.

When Offered

Offered in fall or spring.

Notes

Taught in Arabic.

ARIC 306/3106 - Arabic Literature and Film (3 cr.)

Description

Looks at the intersection between literature and film as two modes of representation. Readings of Arabic literary texts, and in class screenings of films.

When Offered

Offered in fall or spring.

Notes

Taught in Arabic.

ARIC 307/3107 - The Writer and the State (3 cr.)

Description

Explores the nature of the relationship between writers and authority, in allegiance or in opposition.

When Offered

Offered in fall or spring.

Notes

Taught in Arabic

ARIC 308/3108 - Colloquial and Folk Literature (3 cr.)

Description

Arabic colloquial and folk literature through the study of various genres.

When Offered

Offered in fall or spring.

Notes

Taught in Arabic.

ARIC 314/3114 - The Arabic Novel (3 cr.)

Description

Study of different trends in the Arabic novel. In-depth reading of major modern Arab novelists.

When Offered

Offered in fall or spring.

Notes

Taught in Arabic.

ARIC 315/3115 - Arabic Drama (3 cr.)

Description

Study of Arabic drama through readings of major texts.

When Offered

Offered in fall or spring.

Notes

Taught in Arabic.

ARIC 316/3116 - The Arabic Short Story (3 cr.)

Description

Study of the short story as a genre in modern Arabic literature. In-depth reading of major short story writers.

When Offered

Offered in fall or spring.

Notes

Taught in Arabic.

ARIC 310/3197 - Selected Themes and Topics in Arabic Literature in Translation (3 cr.)

Description

Focuses on one theme or topic in the classical and/or modern period such as political poetry, village and city, literature of place, Arab women writing. See class schedule for specific theme or topic offered.

When Offered

Offered in fall or spring.

Repeatable

May be repeated once for credit if content changes

Notes

Taught in English, with assigned texts in English translation.

ARIC 368/3268 - The Art of the Book in the Islamic World (3 cr.)

Description

While focusing on Persian book painting from the Mongols to the Safavids, the course will also briefly consider Arab, Turkish and Mughal arts of the book. In addition to the history of painting it explores matters related to patronage, book production, calligraphy and illumination.

When Offered

Offered in alternate years

ARIC 369/3269 - Ceramic Arts of the Islamic World (3 cr.)

Prerequisites

ARIC 2270 or 2271.

Description

This course surveys ceramics of the Islamic world from the 7th to the 18th centuries, tracing the technical and artistic innovations of the medium. Visits to local museums will enhance the student's appreciation of the subject.

When Offered

Offered occasionally

ARIC 370/3270 - The Age of Transition: Early Islamic Art and the Pre-Islamic Past (3 cr.)

Prerequisites

ARIC 2270

Description

This course examines the formation of Islamic art and architecture during the critical period of transition from the seventh to tenth centuries and explores the role played by antecedent cultures in this formation.

When Offered

Offered occasionally.

ARIC 371-372/3271-3272 - Islamic Architecture in Egypt and Syria (3 cr. per semester)

Prerequisites

ARIC 2271.

Description

Development of architecture and decorative styles in Egypt and Syria from the Arab to the Ottoman conquests, including, in the second semester, the Mamluk period; field trips to Cairo monuments.

When Offered

3271 offered in fall, 3272 offered in spring.

ARIC 319/3319 - Islamic Spain and North Africa (711-1492 A.D.) (3 cr.)

Description

This course is an introduction to the political, economic, social, and cultural history of Muslim Spain and North Africa. Its emphasis is on explaining how interactions among different ethnic groups (Arabs, Berbers, and Iberian natives) and different confessional communities (Jews, Christians, and Muslims) created social situations that made the Western Muslim lands unique in Islamic history.

Cross-listed

Same as HIST 3205.

ARIC 321/3321 - Zawayas, harems, coffee shops, everyday life in the pre-modern Mideast (3 cr.)

Description

Examination of major trends in social and cultural trends, movements, and institutions in the medieval and early modern Middle East. Includes the interpretation of cultural identity, the transmission of knowledge and culture, the construction of social status, and the integration or marginalization of specific social groups in family, social and state structures.

When Offered

Offered in alternate years.

ARIC 322/3322 - Land, Trade and Power: a History of Economic Relations in the Middle East, 600-1800 A.D. (3 cr.)

Description

Examination of the major economic structures in the Middle East prior to the modern period: the consideration of land as a major resource, structures for its management and the competition to control it. The organization of trade and commerce, including the role of merchant communities and their place in society.

When Offered

Offered in alternate years.

ARIC 323/3323 - Marriage and the Family in the Medieval and Early Modern Middle East (3 cr.)

Description

Examination of the perspectives and approaches which define marriage, the family, the household and private life in the Middle East; the study of these questions in relation to larger issues such as Islamic law and changing social, political and economic structures, and how these are interlinked with family structure, sexual segregation, definitions of private and public. Sources include travellers' accounts, legal works, architecture, deeds of pious foundations, and court records.

When Offered

Offered in alternate years.

ARIC 324/3324 - Non-Muslim Communities in the Muslim World (3 cr.)

Description

Examination of the history of non-Muslim communities in the Muslim world, with special focus on Egypt. Study of legal status, issues of identity and assimilation, contribution to the cultural life and social life of societies, participation in Mediterranean trade, and interaction and relations between non-Muslim communities and Muslims as well as the non-Muslim world.

When Offered

Offered in alternate years

ARIC 325/3325 - Beggars, Madmen, Prostitutes: the Marginalized in Pre-Modern Mideast History. (3 cr.)

Description

The course will examine the place of marginals both in the sense of those people who are socially marginalized like beggars, people suffering from poverty, insane persons, or people who for any reason are not socially integrated. It may include those who do not have a place in history because they do not make use of the written word, such as peasants or rural communities.

When Offered

Offered in fall.

ARIC 336/3336 - Studies in Ibn Khaldun (3 cr.)

Description

Examination of Ibn Khaldun's work, his place in Arab Muslim thought, and his value as a critic of Muslim culture and institutions.

When Offered

Offered in alternate years.

ARIC 337/3337 - Shi'i Muslims in History (3 cr.)

Description

This course focuses on the historical roles of Shi'i Muslims from the seventh century to the present. The aim of the course is to familiarize the student with the major Shi'i discourses as they evolved in specific historical contexts. While emphasis will be on the historical development of Twelver Shi'ism, other important groups such as the Ismai'liyya and the Zaydiyya will also receive due consideration.

ARIC 343/3343 - Birth of Muslim Community and Rise of the Arab Caliphates (3 cr.)

Description

The rise of Islam and Arab expansion, the classical period of Islamic civilization during its first centuries to the period of Abbasid political disintegration.

Cross-listed

Same as HIST 3210.

When Offered

Offered in fall.

ARIC 344/3344 - Caliphs and Sultans in the Age of Crusades and Mongols (3 cr.)

Description

The later Abbasid caliphate, the rise of Shi'ism and the Fatimids, Sunni consolidation under the Seljuks and Ayyubids, external threats to dar al-Islam; the rise of the Mamluks.

Cross-listed

Same as HIST 3211.

When Offered

Offered in alternate years.

ARIC 345/3345 - Gunpowder Empires: Ottomans, Safavids and Mughols (3 cr.)

Description

The decline of the Mamluks; the Timurids in Persia; the age of gunpowder: the Safavid, Ottoman, and Moghul empires and their decline.

Cross-listed

Same as HIST 3212.

When Offered

Offered in fall.

ARIC 353/3353 - Muslim Political Thought (3 cr.)

Prerequisites

ARIC 2346 or consent of instructor.

Description

The development of political theory in Muslim civilization. Analysis of leading schools and individuals.

When Offered

Offered in Fall and Spring.

Notes

Source readings in Arabic or in translation.

ARIC 355/3355 - State and Society in the Middle East, 1699-1914 (3 cr.)

Description

The Ottoman Empire and Iran: continuities and transformations. Imperial administration and relations with Europe. Challenges to the premodern order: regional and global economies; social and cultural trends.

Cross-listed

Same as HIST 3213.

When Offered

Offered once a year.

ARIC 356/3356 - State and Society in the Middle East, 1906-present (3 cr.)

Description

Beginning with the Young Turk and Iran's Constitutional revolutions, this course follows the fate of Middle Eastern societies and states during the twentieth century, with a special focus on colonialism and nationalism; independence movements and decolonization; the Arab-Israeli conflict; society, politics, and culture.

Cross-listed

Same as HIST 3214.

When Offered

Offered in fall and spring.

ARIC 357/3397 - Selected topic in Middle East History (3 cr.)

Description

Focuses on theme or topic in the history of the Middle East. May be repeated for credit when topic changes.

Cross-listed

Same as HIST 3288.

When Offered

Offered occasionally.

ARIC 354/3405 - Islamic Philosophy (3cr.)

Prerequisites

ARIC 2346 or ARIC 3343 or consent of instructor.

Description

A survey of the rational and spiritual dimension of the Arab-Islamic civilization as shown in the thought and ideas of major theologians, philosophers, and mystics.

Cross-listed

Same as PHIL 3015.

When Offered

Offered occasionally.

ARIC 335/3435 - Introduction to the Study of Islam (3 cr.)

Description

A survey of Islam and its history from the formative period to its manifestations in modern times, with a discussion of sectarian movements such as Kharijism, Shi'ism and Sunnism, various schools of thought in law, theology, philosophy and mysticism, as well as modern interpretations of Islam, especially with regard to political, social and gender issues.

When Offered

Offered in spring.

ARIC 400/5100 - Independent Study (1-3 cr.)

Description

In exceptional circumstances, some senior majors may, with department approval, arrange to study beyond the regular course offerings.

Repeatable

May be repeated for credit if content changes

Notes

Open only to senior majors with a minimum of B average.

ARIC 463/5101 - Selected Topics in the History of Islamic Thought and Institutions (3cr.)

Prerequisites

Prerequisite: consent of instructor.

Cross-listed

Same as HIST 4221.

When Offered

Offered in spring.

Repeatable

May be repeated for credit when content changes.

ARIC 401/5110 - Senior Seminar in Arabic Texts (3 cr.)

Description

A selected theme or topic in classical or modern Arabic texts such as regional literatures of the Arab World, cross-cultural encounters in the Mediterranean, Arabic cultural criticism, avant-garde movements in Arabic literature.

When Offered

Offered in fall or spring.

Repeatable

May be repeated once for credit if content changes

Notes

Taught in Arabic

ARIC 402/5111 - Senior Seminar in Arabic Literature in Translation (3 cr.)

Description

A selected theme or topic in Arabic literature, classical or modern, such as francophone and anglophone Arab writers,

Andalusian literature, writers and the nation..

When Offered

Offered in fall or spring.

Repeatable

May be repeated once for credit if content changes

Notes

Taught in English, with assigned texts in English translation.

ARIC 403/5112 - Arabic Literary Criticism (3 cr.)

Description

Arabic critical theory from the classical to the modern period.

When Offered

Offered in alternate years.

Notes

Taught in Arabic.

ARIC 404/5113 - Sira and Hadith (3 cr.)

Description

The growth of the biographical literature on the Prophet and its relation to the literature of Hadith.

When Offered

Offered in fall.

Notes

Taught in Arabic unless otherwise stated

ARIC 417/5114 - Special Studies in Arabic Texts (3 cr.)

Description

Special readings in Arabic texts for those majors in Arabic Studies who are attending a course taught in English and who must read the assigned texts in Arabic to fulfil the requirements of their specialization.

Repeatable

May be repeated once for credit if content changes.

ARIC 464/5121 - Islamic Art and Architecture in India and Pakistan (3 cr.)

Prerequisites

ARIC 5122-5123 or consent of instructor.

Description

Religious and secular architecture and decoration of Islam in the Indian subcontinent; discussion of the formative impulses from pre-Islamic traditions of India and Pakistan and Islamic influences from Persia, Afghanistan and Central Asia.

When Offered

Offered occasionally.

ARIC 465-466/5122-5123 - Islamic Architecture in Turkey, Persia and Central Asia (3 cr.)

Prerequisites

ARIC 2270.

Description

First semester: Ghaznavids, Seljuks, and Mongols. Second semester: Timurids, Safavids, and Ottomans

When Offered

Offered in alternate years.

ARIC 467/5124 - Islamic Architecture in Spain and North Africa (3 cr.)

Prerequisites

ARIC 2270.

Description

Religious and secular architecture and decoration of Islamic Spain and North Africa; discussion of formative impulses from Byzantium and Umayyad Syria.

When Offered

Offered occasionally.

ARIC 477-478/5125-5126 - Islamic Decorative Arts (3 cr. per semester)

Prerequisites

ARIC 2271.

Description

Wood carving, ivory, metals, textiles, glass, and carpets of the Islamic world; ornamental elements in common; materials, objects and design.

When Offered

Offered in alternate years.

Repeatable

May be repeated for credit when content changes.

ARIC 440/5131 - Arabic Historical Literature (3 cr.)

Description

Study of the inception and development of the idea of history in Arabic literature. Examines issues in the transmission of information, historical memory, and the role of historical writing in mediating social, political and religious views.

When Offered

Offered in alternate years.

ARIC 445/5132 - Selected Topics in Coptic Studies (3 cr.)

Description

This course allows instructors to offer a topic in Coptic Studies. The topic will be chosen from year to year in coordination with the departments concerned and the dean of the School of HUSS, and according to the individual interests and areas of expertise of the instructors. Topics chosen may include various aspects of Coptic art and history, monasticism, folklore, or other subjects..

Cross-listed

Same as ANTH 4499,EGPT 5160,HIST 4905,SOC 4499.

When Offered

Offered in fall.

Repeatable

The course may be taken more than once if the topic changes

Notes

Students in these majors may petition preferably before registration to have the course included in their major requirements.

ARIC 451/5133 - Islamic Institutions (3 cr.)

Prerequisites

ARIC 3343 or ARIC 2346 or consent of instructor.

Description

Examination of the principal social, legal, and political institutions in medieval Islam, especially those subsumed under shari'a.

When Offered

Offered in fall.

ARIC 454/5134 - Modern Movements in Islam (3 cr.)

Prerequisites

HIST 3213 or HIST 3214 or equivalent background

Description

Trends of thought and activism that developed throughout the Muslim world from the eighteenth century onward and identified themselves as Islamic. This course looks at intellectual roots, affiliations, and differences. It investigates modernity, reform, statehood, and social change as addressed by state and non-state actors, in theory and in practice.

Cross-listed

Same as HIST 4219.

When Offered

Offered once a year.

ARIC 460/5135 - Selected Topics in Middle Eastern History, 600-1800 AD (3 cr.)

Prerequisites

Prerequisite: appropriate course(s) from ARIC 3343-3345 series or consent of instructor

Cross-listed

Same as HIST 4220.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit when content changes

ARIC 462/5136 - Selected Topics in the History of the Modern Middle East (3 cr.)

Prerequisites

ARIC 3355 or ARIC 3356 , whichever is appropriate or consent of instructor.

Cross-listed

Same as HIST 4288.

When Offered

Offered occasionally

Repeatable

May be repeated for credit when content changes

ARIC 435/5141 - Studies in the Qur'an (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

The greatest work in Arabic and its influence on Arabic literature and Islamic institutions, with emphasis on methods of interpretation and their development.

When Offered

Offered in fall.

ARIC 439/5142 - Islamic Law (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

A survey of the origins of Jurisprudence in Islam and its development up to the founding of the four schools. The course covers the main sources of fiqh, Qur'an and Sunna, together with ijma' and qiyas, and the study of the growth of the Maliki, Hanafi, Shafi'i and Hanbali schools.

When Offered

Offered in fall and spring.

ARIC 580/5200 - Independent Study and Readings (3 cr.)

Prerequisites

Prerequisite: consent of unit.

Description

Guided readings in selected topics in Islamic Art and Architecture, Middle Eastern History, Arabic Literature and Language or Islamic Studies given on an individual basis.

When Offered

Offered occasionally.

ARIC 514/5201 - Bibliography and Manuscript Study (3 cr.)

Description

Techniques of working with Arabic manuscripts and scripts, editing, bibliographical study.

When Offered

Offered occasionally.

ARIC 521-522/5202-5203 - Special Studies in Islamic Thought and Institutions (3 cr.)

Prerequisites

Consent of instructor.

Description

Special readings and papers by graduate students who are attending a course of undergraduate lectures.

When Offered

5202 offered in fall, 5203 offered in spring.

Repeatable

May be repeated for credit when content changes.

ARIC 504/5210 - Seminar on a Selected Work or Author in Classical Arabic Literature (3 cr.)

When Offered

Offered occasionally.

Repeatable

May be repeated for credit when content changes.

ARIC 507/5211 - Seminar on Modern Arabic Literature: Nineteenth Century (3 cr.)

Description

Aspects of Arabic literature in the nineteenth century.

When Offered

Offered in alternate years.

ARIC 508/5212 - Seminar on Modern Arabic Literature: Twentieth Century (3 cr.)

Description

Aspects of Arabic literature in the Twentieth century.

When Offered

Offered in alternate years.

ARIC 510-511/5213-5214 - Special Studies in Classical Arabic Literature (3 cr.)

Prerequisites

Consent of instructor.

Description

Reading and papers on selected topics; attendance at a course of undergraduate lectures may be required.

When Offered

5213 offered in fall, 5214 offered in spring.

Repeatable

May be repeated for credit when content changes.

ARIC 512-513/5215-5216 - Special Studies in Modern Arabic Literature (3 cr.)

Prerequisites

Consent of instructor.

Description

Reading and papers on selected topics; attendance at a course of undergraduate lectures may be required.

When Offered

5215 offered in fall, 5216 offered in spring.

Repeatable

May be repeated for credit when content changes.

ARIC 501/5217 - Translation: Theory and Practice (3 cr.)

Description

This course focuses on the developments in the field of Translation Studies since the 1970s when translation became increasingly conceptualized as cultural transfer rather than a linguistic operation. It introduces students to the interdisciplinary approaches in the field including the impact of deconstruction, gender studies and post-colonial theory. Students will explore the cultural and political agendas of translation through selected theoretical texts. The course will also introduce students to various translation practices (adaptation, e-writing, etc) and will look at a translator's role in society, and translation as an agent social change. Students will read a selection of texts in literary theory that will inform their practice in translation. Students will situate their own work in translation not only in relation to contemporary cultural forms and practices, but also in relation to the traditions that inform current

translating practices. Selected texts and translation exercises will be in English and in Arabic.

Cross-listed

Same as TRST 5217 .

ARIC 502/5218 - Translation and The Arab "Renaissance" (3 cr.)

Description

Students will read pioneering works of the nineteenth and the twentieth century in the Arab region that dealt with issues of translation and its centrality to modern nation-building. What exactly is the role of the translator? What is the function of translation in society? The course situates at the act of translation within colonial/postcolonial contexts in which questions of power surround the relationship between the original text and its translation. It also explores questions of visibility and invisibility of the translator, translation vs. adaptation, original text and target cultural context. Taught in English. Readings and translation exercises in English and Arabic.

Cross-listed

Same as TRST 5218 .

ARIC 572/5220 - Fieldwork in Islamic Architecture (3 cr.)

Description

Archaeological, museological or conservation methodology; examination of monuments and sites.

When Offered

offered occasionally

Repeatable

May be repeated for credit when content changes.

ARIC 573/5221 - Seminar on the Architecture of a Selected Period (3 cr.)

When Offered

Offered occasionally.

Repeatable

May be repeated for credit when content changes.

ARIC 575-576/5222-5223 - Special Studies in Islamic Art and Architecture (3 cr.)

Prerequisites

Consent of instructor.

Description

Reading and papers on selected topics by graduate students who also attend a course of undergraduate lectures.

When Offered

5222 offered in fall, 5223 offered in spring.

Repeatable

May be repeated for credit when content changes.

ARIC 530/5230 - Seminar on a Selected Topic in Medieval Arab/Islamic History, 600-1800 A.D. (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

When Offered

Offered occasionally

Repeatable

May be repeated for credit when content changes.

Notes

Selected topics in Medieval Arab/Islamic history, 600-1800 A.D.

ARIC 542/5231 - Seminar on the Nineteenth-Century Middle East (3 cr.)

Description

Readings, discussion, and research.

Cross-listed

Same as HIST 5222.

When Offered

Offered in fall.

ARIC 543/5232 - Seminar on the Twentieth-Century Middle East (3 cr.)

Description

Readings, discussion, and research.

Cross-listed

Same as HIST 5223.

When Offered

Offered in spring.

ARIC 560 - 561/5233-5234 - Special Studies in Middle Eastern History (3 cr.)

Prerequisites

Consent of instructor.

Description

Special readings for graduate students who are also attending a course of undergraduate lectures.

When Offered

5233 offered in fall, 5234 offered in spring.

Repeatable

May be repeated for credit when content changes.

ARIC 524/5240 - Seminar on Selected Topics in Qur'anic Studies (3 cr.)

Prerequisites

ARIC 3435 or consent of instructor.

Description

Selected topics in Qur'anic Studies: e.g. history of the text or specific theme in the Qur'an (gender issues, relations with others, ethical or legal issues). The course offers an examination of the principal different Muslim and Western approaches and opinions relevant to the chosen topic, illustrated with reference to an appropriate selection of primary sources in translation and in Arabic.

When Offered

Offered annually.

ARIC 525/5241 - Seminar on Selected Topics in Sira or Hadith (3 cr.)

Prerequisites

ARIC 3435 or consent of instructor.

Description

Selected topics in Sira and Hadith related to basic issues of the field; e.g. the sources, the methodology of oral transmission and its influence on the assessment of authenticity, critical examination of Muslim and Western approaches to Hadith and the relationship between interpretation of the texts of Hadith and society. The course offers an examination of the principal different Muslim and Western approaches and opinions relevant to the chosen topic, illustrated with relevant selections of primary sources in translation and in Arabic.

When Offered

Offered annually.

ARIC 526/5242 - Seminar on Selected Topics in Islamic Law and Legal Theory (3 cr.)

Prerequisites

ARIC 3435 or consent of instructor.

Description

Selected topics in Islamic Law; e.g. Its history, methodologies, specific Islamic Legal or political theories (including international relation, minorities, human rights), administration of the criminal justice, court systems, reforms in the modern times, principles of jurisprudence (Usul al Fiqh) the concept of social interest, legal maxims. The course offers, whenever appropriate, comparisons, between the different Muslim and Western approaches to the selected Topic, illustrated with reference to the main sources in translation and in Arabic.

When Offered

Offered annually.

Notes

May be repeated for credit when content changes.

ARIC 527/5243 - Selected Topics in Islamic Theology, Sufism or Philosophy (3 cr.)

Prerequisites

ARIC 3435 or consent of instructor.

Description

Selected topics focusing on one of the main areas of Islamic thought (theology, Sufism, or philosophy). The course offers themes such as the history and sources of Islamic philosophy, theory of knowledge, ethics, metaphysics, the work of a leading Muslim philosopher or theologian, the relationship between mysticism and shi'ism, modern developments in Islamic thought and reforms, or new interpretations of theological questions. It also examines principle different Muslim and Western approaches and opinions relevant to the chosen topic, illustrated with reference to selections of primary sources in translation and in Arabic.

When Offered

Offered annually.

Notes

Taught in Arabic unless otherwise stated. May be repeated for Credit when content changes.

ARIC 528/5244 - Selected Topics in Islamic Studies (3 cr.)

Prerequisites

Pre-requisite: Consent of instructor.

Description

Selected Topics in Islamic Studies.

When Offered

Offered in spring.

Repeatable

May be repeated for credit when content changes.

ARIC 529/5245 - World Religions and the Study of Religion (3 cr.)

Prerequisites

Prerequisite: Enrollment in Islamic Studies MA Program.

Description

This course will introduce students to the great world religions other than Islam, and will introduce them to current theories and methods in the academic field of Religious Studies.

Cross-listed

Same as CREL 5609.

ARIC 599/5299 - Research Guidance and Thesis (no cr.)

When Offered

Offered in fall and spring.

ALNG 101-102 -103/1101-1102-1103 - Elementary Arabic (3 cr. each per semester)

Description

Develops the fundamentals of modern standard Arabic through reading, writing, and oral connection within a framework of the essentials of syntax, morphology, and a working vocabulary. Three-semester sequence. Each course meets five hours per week. Registration requires the permission of ALNG Director.

When Offered

Offered in fall, winter, spring and summer.

Notes

Noncredit for Thanawiyya Amma holders. Sections with odd numbers are for international students and sections with even numbers are for Egyptian degree seeking students.

ALNG 109-110/1301-1302 - Introduction to Colloquial Arabic (3 cr. each per semester)

Description

Study of the basic inflectional and syntactical patterns of Egyptian colloquial Arabic through every day-life communicative activities. Two- semester sequence. Each course meets five hours per week. Registration requires permission of the ALNG Director.

When Offered

Offered in fall, winter, spring and summer.

Notes

These two courses are only for international students non-native speakers of Arabic.

ALNG 111/1501 - Accelerated Elementary Modern Standard Arabic (6 cr. per semester)

Description

ALNG 1501 covers material of ALNG 1101 and ALNG 1102. This course meets ten hours per week. Registration requires permission of the ALNG Director.

When Offered

Offered in fall and spring.

Notes

Noncredit for Thanawiyya Amma holders. Sections with odd numbers are for international students and sections with even numbers are for Egyptian degree seeking students.

ALNG 112/1502 - Accelerated High Elementary and Lower Intermediate Modern Standard Arabic (6 cr. each per semester)

Prerequisites

ALNG 1501

Description

ALNG 1502 covers the material of ALNG 1103 and ALNG 2101. The course meets ten hours per week. Registration requires permission of the ALNG Director.

When Offered

Offered in fall and spring.

Notes

Noncredit for Thanawiyya Amma holders. Sections with odd numbers are for international students and sections with even numbers are for Egyptian degree seeking students.

ALNG 199/1991 - Selected Topics (3 cr. per semester)

Description

Study of selected topics for elementary students. The course meets five hours per week. Registration requires the permission of ALNG Director.

When Offered

Offered fall, spring, summer and winter.

Notes

May be repeated for credit if content changes. Noncredit for Thanawiyya Amma holders. Sections with odd numbers are for international students and sections with even numbers are for Egyptian degree seeking students.

ALNG 201-202-203/2101-2102-2103 - Intermediate Arabic (3 cr. each per semester)

Prerequisites

ALNG 1103 or placement examination.

Description

Three-semester sequence. Each course meets five hours per week. Registration requires permission of the ALNG Director. Increases the command of grammatical and syntactical structure of modern standard Arabic through reading materials; develops reading and writing skills and comprehension. Critical examination of social and cultural dimensions of reading materials.

When Offered

Offered in fall, spring, summer and winter.

Notes

Noncredit for Thanawiyya Amma holders. Sections with odd numbers are for international students and sections with even numbers are for Egyptian degree seeking students.

ALNG 204-205/2104-2105 - Intermediate Modern Standard Arabic (3 cr. each per semester)

Prerequisites

ALNG 2103 or placement examination.

Description

Increase the command of grammatical and syntactical structure of modern standard Arabic through reading materials; develop reading and writing skills and comprehension. Critical examination of social and cultural dimensions of reading materials. Two-semester sequence. Each course meets five hours per week. Registration requires permission of the ALNG Director.

When Offered

Offered in fall, winter, spring and summer.

Notes

These two courses are only for international students.

ALNG 206/2131 - Arabic of the News Media (3 cr. per semester)

Prerequisites

ALNG 2101.

Description

Introduction to the vocabulary and style of the Arabic press. Readings from the daily newspapers and magazines and other sources. The course meets three hours per week. Registration requires permission of the ALNG Director.

When Offered

Offered in fall and spring.

Notes

Noncredit for Thanawiyya Amma holders. Sections with odd numbers are for international students and sections with even numbers are for Egyptian degree seeking students.

ALNG 210/2301 - Intermediate Egyptian Colloquial Arabic (3 cr. per semester)

Prerequisites

ALNG 1302

Description

Concentrates on developing the students' listening and speaking skills in daily life situations through activities and presentations as well as introducing cultural connotations. The course meets five hours per week. Registration requires permission of the ALNG Director.

When Offered

Offered in fall, winter, spring and summer.

Notes

This course is only for international students non-native speakers of Arabic.

ALNG 211-212/2501-2502 - Accelerated Intermediate Modern Standard Arabic (6 cr. each per semester)

Prerequisites

ALNG 2101 or placement examination.

Description

Increase the command of grammatical and syntactical structures of modern standard Arabic through reading materials; develop reading and writing skills and comprehension. Critical examination of social and cultural dimensions of reading materials. ALNG 2501 covers material of ALNG 2102-2103, while ALNG 2502 covers the materials of ALNG 2104-2105. Two-semester sequence. Registration requires permission of the ALNG Director. Each course meets ten hours per week.

When Offered

Offered in fall and spring.

Notes

These two courses are only for international students.

ALNG 299/2991 - Selected Topics (3 cr. per semester)

Description

Study of selected topics for intermediate students. The course meets five hours per week. Registration requires permission of the ALNG Director.

When Offered

Offered in fall, winter, spring and summer.

Notes

May be repeated for credit if content changes. Noncredit for Thanawiyya Amma holders. Sections with odd numbers are for international students and sections with even numbers are for Egyptian degree seeking students.

ALNG 301-302/3101-3102 - Advanced Modern Standard Arabic I (3 cr. each per semester)

Prerequisites

ALNG 2105

Description

Further develops reading, writing, listening and speaking of Modern Standard Arabic. Prepares advanced non-native speakers for upper-division or graduate-level work in the Arabic language. Two-semester sequence. Each course meets five hours per week. Registration requires permission of the ALNG Director.

When Offered

Offered in fall and spring

Notes

These two courses are only for international students

ALNG 303-304/3103-3104 - Advanced Modern Standard Arabic II (3 cr. each per semester)

Prerequisites

ALNG 3102 or ALNG 3501.

Description

Further develops reading, writing, listening and speaking of Modern Standard Arabic. Prepares advanced non-native speakers for upper-division or graduate-level work in the Arabic language. Two-semester sequence. Each course meets five hours per week. Registration requires permission of the ALNG Director.

When Offered

Offered in fall and spring.

Notes

These two courses are only for international students

ALNG 305/3105 - Independent Study (3 cr. per semester)

Prerequisites

Any 2000 level Arabic language course.

Description

Independent study in various aspects of MSA may be assigned to special groups in different majors. Students study the Arabic language related to their fields of study, such as politics, economics, literature. The course meets five hours per week. Registration requires permission of the ALNG Director.

When Offered

Offered upon request.

Notes

Non-credit for Thanawiyya Amma holders.

ALNG 306/3131 - Advanced Arabic of the News Media (3 cr. per semester)

Prerequisites

ALNG 2131 or placement examination

Description

Introduces more complex and analytical articles and editorials from the Arabic press and trains students to take notes while listening to broadcasts. Expands students' range of vocabulary and develops their ability to listen to lengthier passages. The course meets three hours per week. Registration requires permission of the ALNG Director.

When Offered

Offered in fall and spring.

Notes

This is a three-credit elective course. Sections with odd numbers are for international students and sections with even numbers are for Egyptian degree seeking students.

ALNG 311-312/3501-3502 - Accelerated Advanced Modern Standard Arabic (6 cr. each per semester)

Description

The courses aim at preparing advanced, non-native speaking students for upper-division or graduate-level work in the Arabic language. ALNG 3501 covers material of ALNG 3101-3102, while ALNG 3502 covers the materials of ALNG 3103-3104. Two-semester sequence. Each course meets ten hours per week. Registration requires permission of the ALNG Director.

When Offered

Offered in fall and spring.

Notes

These two courses are only for international students

ALNG 399/3991 - Selected Topics (3 cr. per semester)

Description

Study of selected topics for advanced students. The course meets three hours per week. Registration requires the permission of ALNG Director.

When Offered

Offered in fall and spring.

Notes

May be repeated for credit if content changes. It is a three-credit elective course. Sections with odd numbers are for international students and sections with even numbers are for Egyptian degree seeking students.

ALNG 415/4221 - Arabic Morphology (Sarf) and Prosody ('Arud) (3 cr.)

Description

Examination of the basic features of Arabic morphology (sarf) and prosody ('arud) with particular reference to the treatment of the subjects by Arab grammarians. Reference is also made to the system of terminology adopted for the subject by Western scholars.

When Offered

Offered occasionally.

Notes

The language of instruction is Arabic.

ALNG 413-414/4231-4232 - Arabic Syntax (Nahw) (3 cr. per semester)

Description

Examination of the basic features of Arabic syntax (nahw) with particular reference to the treatment of the subject by Arab grammarians. Reference is also made to the system of terminology adopted for the study of Arabic syntax by Western scholars. The language of instruction is Arabic.

When Offered

413 Offered in fall, 414 Offered in spring.

ALNG 425/4281 - Linguistics of Arabic (3 cr.)

Description

Development of the linguistic structure of Arabic and the Arabic of the early Islamic era as described by the early Arab philologists.

When Offered

Offered in alternate years.

ALNG 426/4291 - The Phonetics of Arabic (3 cr.)

Description

Phonetics of classical Arabic as it is spoken in Egypt; reference to the phonetics of both Egyptian colloquial Arabic and the Arabic of the early Islamic era as described by the early Arab phoneticians.

When Offered

Offered in fall.

**ALIN 101-102-103-104/1101-1102-1103-1104 - Elementary Modern Standard Arabic
(3 cr. each)**

Description

Develops a fundamental working knowledge of the language through interactive exercises and drills within a framework of the essentials of syntax and morphology. Six credits are taken simultaneously in a two semester sequence.

Hours

Each course meets five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 105-106/1151-1152 - Elementary Listening and Speaking (2-3 cr. each)

Description

Develops students' ability to listen and understand Modern Standard Arabic.

Hours

Each course meets three or five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 205-206/1231-1232 - Intermediate Grammar (2-3 cr. each)

Description

Examines the basic features of Arabic grammar with particular attention to the system of i'rab. Reference is also made to the Western system of grammatical terminology.

Hours

Each course meets three or five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

**ALIN 201-202-203-204/2101-2102-2103-2104 - Intermediate Modern Standard Arabic
(3 cr. each)**

Description

Emphasizes the acquisition of vocabulary and increases the command of grammatical and syntactical structures. Further develops reading, writing, listening, and speaking skills. Two semester sequence.

Hours

Each course meets five hours per week.

When Offered

Offered in fall and spring.

Notes

Any two consecutive can be taken simultaneously. Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 207-208/2141-2142 - Intermediate Spoken Modern Standard Arabic (MSA) (2-3 cr. each)

Description

Uses selected written material to prepare students to engage in discussions in Modern Standard Arabic.

Hours

Each course meets three or five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 209-210/2151-2152 - Intermediate Listening and Speaking (2-3 cr. each)

Description

Develops students' listening skills while expanding their vocabulary in wide range topics and increases their ability to speak and comprehend details by using selected authentic video and audio tapes.

Hours

Each course meets three or five hours per week

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 261/2221 - Applied Morphology (2-3 cr. each)

Prerequisites

Prerequisites are not listed for every course. Entry into all intermediate courses presupposes that the student is of

intermediate standing. The instructor's permission may also be required. Placement is determined by written exam for incoming students and if necessary for continuing students.

Description

Explore the morphological framework of the language in detail. A wide variety of drills introduces students to the root and pater system of the language and helps them navigate it more effectively. Targets phonology to highlight the intrinsic link between pattern and meaning, thus improving oral/aural skills. Devotes considerable attention to the derived verb system, addressing such essential concepts as transitivity.

Hours

Each course meets three or five hours per week.

When Offered

Offered occasionally.

ALIN 281-282/2241-2242 - Political Texts (2-3 cr. each)

Hours

Each course meets three or five hours per week.

When Offered

Offered in fall and spring.

Notes

Acquaints students with the terminology and style of selected political texts. Covers elections, the party system, public policy, etc.

ALIN 301-302/3101-3102 - Advanced Modern Standard Arabic (3 cr. each)

Description

Through the reading and analysis of selected texts, the course exposes students to a wide range of vocabulary, idiom, and style, while reviewing the major topics of grammar.

Hours

Each course meets five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 307-308/3141-3142 - Advanced Spoken Modern Standard Arabic (MSA) (2-3 cr. each)

Description

Further develops students' ability to communicate orally in Modern Standard Arabic. Students present lectures, followed by question and answer sessions, and engage in debates and discussions.

Hours

Each course meets three or five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 309-310/3151-3152 - Advanced Listening and Speaking (2-3 cr. each)

Prerequisites

ALIN 2151-2152 or consent of instructor.

Description

Further develops students' listening and speaking skills by using selected authentic video and audio tapes, thus trains students to comprehend, communicate and discuss material in Modern Standard Arabic

Hours

Each course meets three or five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 305-306/3231-3232 - Advanced Arabic Grammar (2-3 cr. each)

Description

Examines the complexities of Arabic grammar through textual analysis.

Hours

Each course meets three or five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 381-382/3241-3242 - Political Texts (3 cr. each)

Description

An issue-oriented course which explores the writings of modern political scientists.

Hours

Each course meets three hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 111-112-113/1301-1302-1303 - Elementary Colloquial Arabic (3-4 cr. each)

Description

Introduces students to the spoken Arabic of Cairo. Concentrates on enabling students to communicate effectively in daily life. Targets high-frequency vocabulary and social situations and emphasizes pronunciation.

Hours

Each course meets five or seven hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 211-212/2301-2302 - Intermediate Colloquial Arabic (3-4 cr. each)

Description

Concentrates on increasing student's vocabulary and command of syntax, with a higher level of fluency. Enables students to communicate with native speakers in a wide variety of social situations.

Hours

Each course meets five or seven hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 311-312/3301-3302 - Advanced Colloquial Arabic (3-4 cr. each)

Description

Develops students' ability to express themselves more precisely and fluently. Uses authentic material, whether recorded or written, to encourage discussion.

Hours

Each course meets five or seven hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 284/2411 - Introduction to Egyptian Culture - Intermediate (2-3 cr.)

Prerequisites

Prerequisite: Intermediate level in Arabic or consent of program director.

Description

Develops language through further understanding of culture. Introduces different aspects of Egyptian culture, with emphasis on customs, traditions, family, the role of religion in society, women and social strata. Medium of instruction is combination of both intermediate Modern Standard and Egyptian Spoken Arabic. Uses authentic material whether recorded or written to encourage discussion.

Hours

Class meets 3 or 5 hours per week.

When Offered

Offered in fall and spring.

ALIN 384/3411 - Introduction to Egyptian Culture - Advanced (2-3 cr.)

Prerequisites

Prerequisite: Advanced level in Arabic or consent of program director.

Description

Further develops language to meet the advanced level of Arabic language students through further understanding of culture. Introduces different aspects of Egyptian culture, emphasis on customs, traditions, family structure, the role of religion in society, women and social strata. Medium of instruction is combination of both advanced Modern Standard and Egyptian Spoken Arabic. Uses authentic material whether recorded or written to encourage discussion.

Hours

Class meets 3 or 5 hours per week.

When Offered

Offered in fall and spring.

ALIN 252/2251 - Readings in Modern Arabic Literature (2-3 cr.)

Description

The course introduces students to a variety of prose and poetry selected from works of significant modern and/or contemporary Arab authors. Focuses on expanding students' vocabulary and strengthening their command of syntax.

Hours

Course meets three or five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 352/3251 - Readings in Modern Arabic Literature (3 cr.)

Description

The course acquaints students with a selection of prose and poetry including at least one novel, by prominent authors from several Arab countries. Sheds light on the socio-cultural backdrop of the works discussed. Both intensive and extensive reading strategies are developed and students demonstrate their comprehensive of the texts and their ability to analyze them through discussion and lengthy writing assignments.

Hours

Course meets three hours per week

When Offered

Offered in spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 353-354/3252-3253 - Readings in the Modern Arabic Novel (3 cr. each)

Description

Introduces students to the genre through the reading of some representative novels or plays written by well known Arab writers.

Hours

Each course meets three hours per week.

When Offered

Offered occasionally.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 131-132/1131-1132 - Elementary Printed Media (2-3 cr. each)

Prerequisites

ALIN 1131

Description

Introduces students to the basic format of the Egyptian newspaper and acquaints them with the vocabulary and syntax of the Arabic press through the reading of simple news items.

Hours

Each course meets three or five hours per week

When Offered

Offered in fall and spring

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 133-134/1133-1134 - Elementary Aural Media (2-3 cr. each)

Prerequisites

ALIN 131

Description

Exposes students with some background in printed media to broadcast news media. Drills students in vocabulary and syntax and helps them develop strategies for listening comprehension.

Hours

Each course meets three or five hours per week

When Offered

Offered in fall and spring

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 231-232/2131-2132 - Intermediate Printed Media (2-3 cr. each)

Description

Exposes students to a wider range of topics selected from the Arabic press. Emphasizes vocabulary and idiom acquisition, and begins to develop students' ability to read for speed.

Hours

Each course meets three or five hours per week

When Offered

Offered in fall and spring

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 233-234/2133-2134 - Intermediate Aural Media (2-3 cr. each)

Description

Further develops students' listening skills while expanding their vocabulary, especially in the areas of politics and economics. Increases their ability to comprehend details.

Hours

Each course meets three or five hours per week

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 331-332/3131-3132 - Advanced Printed Media (2-3 cr. each)

Description

Introduces more complex and analytical articles and editorials from the Arabic press. Further develops students' ability to skim.

Hours

Each course meets three or five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 333-334/3133-3134 - Advanced Aural Media (2-3 cr. each)

Description

Trains students to take notes while listening to broadcasts. Expands their range of vocabulary and develops their ability to listen to lengthier passages.

Hours

Each course meets three or five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 171-172/1211-1212 - Readings in the Qur'an (2-4 cr. each)

Description

Introduces students to the Qur'an, its structure, and a selection of its simpler verses. Addresses basic grammatical issues, while focusing on comprehension, oral repetition, and correct reading.

Hours

Each course meets three to seven hours per week

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 271-272/2211-2212 - Readings in the Qur'an (2-3 cr. each)

Description

Introduces a wide selection of verses, thoroughly addressing grammatical and syntactical issues. Trains students to recite with great precision.

Hours

Each course meets three or five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 371-372/3211-3212 - Qur'anic Studies (3 cr. each)

Description

Permits an in-depth reading and discussion of Qur'anic passages in addition to the tafsir of some verses. Addresses finer grammatical and syntactical issues as necessary, and refines students' reading and recitation.

Hours

Each course meets three hours per week.

When Offered

Offered occasionally.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 191-192/1991-1992 - Supervised Studies (1-4 cr. each)

Description

Study of a selected topic according to the students' level and interests. Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

Hours

Each course meets two to seven hours per week

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit when content changes

ALIN 291-292/2991-2992 - Supervised Studies (1-4 cr. each)

Description

Study of a selected topic according to the students' level and interests. Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

Hours

Each course meets two to seven hours per week

When Offered

Offered in fall, winter and spring.

Repeatable

May be repeated for credit when content changes

ALIN 391-392/3991-3992 - Supervised Studies (1-4 cr. each)

Description

Study of a selected topic according to the students' level and interests. Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

Hours

Each course meets two to seven hours per week

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit when content changes

ALIN 241-242/2201-2202 - Intermediate Translation (2-3 cr. each)

Description

Translation close reading and analysis of Arabic texts covering a wide range of topics, the course employs translation into English as a means to enhance students' knowledge of Arabic vocabulary, idiomatic expressions and complex structures. Translation from English into Arabic is used to train students to produce coherent and correct Arabic texts. Issues and techniques related to the practice of translation are dealt with, but the primary focus is on Arabic language learning

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 341-342/3201-3202 - Advanced Translation (2-3 cr. each)

Description

Focus is more on problems and issues of translation where students are expected to produce coherent, culturally sensitive texts in both languages. Length and level of complexity of source language texts are increased.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 121-122/1111-1112 - Elementary Writing (2-3 cr. each)

Description

Develops basic writing skills useful in daily life. Trains students to summarize short informative passages and complete practical tasks such as filling out forms, writing messages, telegrams, invitations, etc.

Hours

Each course meets three or five hours per week.

When Offered

Offered in fall and spring

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 221-222/2111-2112 - Intermediate Writing (2-3 cr. each)

Description

Develops students' ability to meet short practical writing needs. Trains students to summarize informative and narrative passages, gradually introducing more complex structures..

Hours

Each course meets three or five hours per week

When Offered

Offered in fall and spring

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 225-226/2121-2122 - Intermediate Reading and Writing (3 cr. each)

Description

Develops reading and writing by integrating the two skills in one course and introducing a wide variety of modern Arabic texts to be used for reading and a basis for writing assignments. The course develops the students' reading comprehension, vocabulary acquisition and acquaints them with the style of the Arabic essay. It prepares the student for the more sophisticated course in advanced reading and writing.

Hours

Each course meets five hours per week

When Offered

Offered in Fall and Spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 321-322/3111-3112 - Advanced Writing (2-3 cr. each)

Description

Equips students to write at greater length using a variety of techniques, including description, comparison, contrast, argumentation, etc. Refines students' ability to write cohesive summaries.

Hours

Each course meets three or five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIN 325-326/3121-3122 - Advanced Reading and Writing (3 cr. each)

Prerequisites

ALIN 2121-2122 or consent of instructor.

Description

Further develops reading and writing by integrating the two skills in one course and exposing the students to a wide variety of modern Arabic texts focusing on the different stylistic devices. Emphasis on analytic reading and essay writing.

Hours

Each course meets five hours per week.

When Offered

Offered in fall and spring.

Notes

Prerequisites are not listed for every course. However, entry into all intermediate and advanced presupposes that the student is of intermediate or advanced standing. The instructor's permission may also be required. Standing will be determined by written and/or oral placement tests for incoming students and sometimes for continuing students.

ALIS 101-102-103-104/1101-1102-1103-1104 - Elementary Modern Standard Arabic (2-3 cr. each)

Description

Develops a fundamental working knowledge of the language through interactive exercises and drills within a framework of the essentials of syntax and morphology. Each course meets 7 or 10 hours in summer.

ALIS 121-122/1111-1112 - Elementary Writing (1-3 cr. each)

Description

Develops basic writing skills useful in daily life. Trains students to summarize short informative passages and complete practical tasks such as filling out forms, writing messages, invitations, etc. Each course meets three or five hours per week.

ALIS 131-132/1131-1132 - Elementary Printed Media (1-3 cr. each)

Description

Introduces students to the basic format of the Egyptian newspaper and acquaints them with the vocabulary and syntax of the Arabic press through the reading of simple news items. Each course meets three or five hours per week.

ALIS 171-172/1211-1212 - Readings in the Qur'an (1 cr. each)

Description

Introduces students to the Qur'an, its structure, and a selection of its simpler verses. Addresses basic grammatical issues, while focusing on comprehension, oral repetition, and correct reading. Each course meets three hours per week.

ALIS 111-112-113/1301-1302-1303 - Elementary Colloquial Arabic (2-4 cr. each)

Description

Introduces students to the spoken Arabic of Cairo. Concentrates on enabling students to communicate effectively in daily life. Targets high-frequency vocabulary and social situations and emphasizes pronunciation. Each course meets seven hours per week.

ALIS 191-192/1991-1992 - Supervised Studies (1-4 cr. each)

Description

Study of a selected topic according to the students' level and interests.

Hours

Each course meets two to seven hours per week.

When Offered

Offered in summer.

Repeatable

May be repeated for credit when content changes.

ALIS 201-202-203-204/2101-2102-2103-2104 - Intermediate Modern Standard Arabic (2-3 cr. each)

Description

Emphasis the acquisition of vocabulary and increases the command of grammatical and syntactical structures. Further develops reading, writing, listening and speaking skills. Any two consecutive courses can be taken simultaneously. Each course meets 7 or 10 hours in summer.

ALIS 221-222/2111-2112 - Intermediate Writing (1-3 cr. each)

Description

Develops students' ability to meet short practical writing needs. Trains students to summarize informative and narrative passages, gradually introducing more complex structures. Each course meets three or five hours per week .

ALIS 231-232/2131-2132 - Intermediate Printed Media (1-3 cr. each)

Description

Exposes students to a wider range of topics selected from the Arabic press. Emphasizes vocabulary and idiom acquisition, and begins to develop students' ability to read for speed. Each course meets three or five hours per week.

ALIS 233-234/2133-2134 - Intermediate Aural Media (1-3 cr. each)

Description

Further develops students' listening skills while expanding their vocabulary, especially in the areas of politics and economics. Increases their ability to comprehend details. Each course meets three or five hours per week.

ALIS 241-242/2201-2202 - Intermediate Translation (1 cr. each)

Description

Translation of close reading and analysis of Arabic texts covering a wide range of topics. The course employs translation into English as a means to enhance students' knowledge of Arabic vocabulary, idiomatic expressions and complex structures. Translation from English into Arabic is used to train students to produce coherent and correct Arabic texts. Issues and techniques related to the practice of translation are dealt with, but the primary focus is on Arabic language learning

ALIS 271-272/2211-2212 - Readings in the Qur'an (1-3 cr. each)

Description

Introduces a wide selection of verses, thoroughly addressing grammatical and syntactical issues. Trains students to recite with great precision. Each course meets three or five hours per week.

ALIS 252/2251 - Readings in Modern Arabic Literature (1 cr.)

Description

Selections from a variety of prose writings. Course meets three hours per week.

ALIS 211-212/2301-2302 - Intermediate Colloquial Arabic (2-4 cr. each)

Description

Concentrates on increasing student's vocabulary and command of syntax, with a higher level of fluency. Enables students to communicate with native speakers in a wide variety of social situations. Each course meets five or seven hours per week.

ALIS 291-292/2991-2992 - Supervised Studies (1-4 cr. each)

Description

Study of a selected topic according to the students' level and interests.

Hours

Each course meets two to seven hours per week

When Offered

Offered in summer.

Repeatable

May be repeated for credit when content changes.

ALIS 301-302/3101-3102 - Advanced Modern Standard Arabic (2-3 cr. each)

Description

Through the reading and analysis of selected texts, the course exposes students to a wide range of vocabulary, idiom, and style, while reviewing the major topics of grammar. Each course meets 7 or 10 hours in summer.

ALIS 321-322/3111-3112 - Advanced Writing (1-3 cr. each)

Description

Equips students to write at greater length using a variety of techniques, including description, comparison, contrast, argumentation, etc. Refines students' ability to write cohesive summaries. Each course meets three or five hours per week.

ALIS 331-332/3131-3132 - Advanced Printed Media (1-3 cr. each)

Description

Introduces more complex and analytical articles and editorials from the Arabic press. Further develops students' ability to skim. Each course meets three or five hours per week.

ALIS 333-334/3133-3134 - Advanced Aural Media (1-3 cr. each)

Description

Trains students to take notes while listening to broadcasts. Expands their range of vocabulary and develops their ability to listen to lengthier passages. Each course meets three or five hours per week.

ALIS 341-342/3201-3202 - Advanced Translation (1 cr. each)

Description

Focus in this course is more on problems and issues of translation. Students are expected to produce coherent, culturally sensitive texts in both languages. Graded authentic texts are used.

ALIS 352/3251 - Readings in Modern Arabic Literature (1 cr.)

Description

Selections from a variety of prose writings: short stories, novels, plays, and poetry by writers from different Arab countries. Course meets three hours per week.

ALIS 311-312/3301-3302 - Advanced Colloquial Arabic (2-3 cr. each)

Description

Develops students' ability to express themselves more precisely and fluently. Uses authentic material, whether recorded or written, to encourage discussion. Each course meets five or seven hours per week.

ALIS 391-392/3991-3992 - Supervised Studies (1-4 cr. each)

Description

Study of a selected topic according to the students' level and interests.

Hours

Each course meets two to seven hours per week

When Offered

Offered in summer.

Repeatable

May be repeated for credit when content changes.

ALWT 221/2271 - From Reading to Writing: Intermediate Level: 3 credits

Description

Students scoring less than 70 in the Arabic Writing Placement exam can take this course. This course combines reading and writing skills in various disciplines such as Political Science, Anthropology, Economics, History, Arts, etc. Special attention is given to basic structures, fixing common mistakes, rhetorical devices, clichés, collocations, and vocabulary building.

When Offered

Offered in the fall, winter, spring, summer.

ALWT 321/3271 - From Reading to Writing: High Intermediate Level: 3 credits

Description

Students scoring from 70-84 in the Arabic Writing Placement exam can take this course. This course combines reading and writing skills in various disciplines such as Political Science, Anthropology, Economics, History, Arts, etc. Special attention is given to basic structures, fixing common mistakes, rhetorical devices, clichés, collocations, and vocabulary building.

When Offered

Offered in the fall, winter, spring and summer.

Notes

The level of material taught is higher than those taught in ALWT 2271 but following the same guidelines.

ALWT 462/4201 - Professional Translation in Business: 3 credits

Prerequisites

ALWT 4271 or consent of instructor.

Description

This course is designed to meet the pressing need for high level translation in all work places. Attention is given to

points of contrast, idiomatic usage, semantic fields of corresponding vocabulary in both English and Arabic in business administration and economics.

When Offered

Offered in the fall, winter, spring and summer.

ALWT 463/4202 - Diplomatic Professional Translation: 3 credits

Prerequisites

ALWT 4271 or consent of instructor.

Description

This course is designed to meet the pressing need for high level translation in all work places. Attention is given to points of contrast, idiomatic usage, and semantic fields of corresponding vocabulary in both English and Arabic in the field of diplomacy and political science.

When Offered

Offered in the fall, winter, spring and summer.

ALWT 420/4271 - From Reading to Writing: Advanced Level: 3 credits

Prerequisites

Score 85 or more in the Arabic Writing Placement Exam or have taken either 2271 or 3271.

Description

This course combines reading and writing skills in various disciplines such as Political Science, Anthropology, Economics, History, Arts, etc. It develops further the reading and writing skills. Special attention is given to complex structures, fixing common mistakes, rhetorical devices, clichés, collocations, and vocabulary building.

When Offered

Offered in the fall, winter, spring and summer.

ALWT 421/4272 - Arabic Language Proficiency for Media Writing 3 credits

Prerequisites

Approval of ALNG Director.

Description

This course aims at improving students' proficiency in the Arabic language. It trains students to efficiently use discourse markers and cohesive connectors to successfully conduct interviews and write news reports in modern standard Arabic. Students will also be familiarized with different Arabic media writings.

When Offered

Offered in fall, winter, spring and summer.

ALWT 422/4273 - Professional Business Writing: 3 credits

Prerequisites

Score 85 or more in the Arabic Writing Placement Exam or have taken either 2271 or 3271.

Description

The course bridges the communication gap between language course work and information- transfer needs of business. The course trains the student to write major forms of business writing, including correspondence, memoranda, reports and the like.

When Offered

Offered in the fall, winter, spring and summer.

ALWT 423/4274 - Professional Diplomatic Writing: 3 credits

Prerequisites

Score 85 or more in the Arabic Writing Placement Exam or have taken either 2271 or 3271.

Description

The course bridges the communication gap between language course work and information- transfer needs of diplomacy. The course trains the student to write major forms of diplomatic writing, including correspondence, memoranda, reports and the like.

When Offered

Offered in the fall, winter, spring and summer.

ALWT 521/5271 - Professional Arabic TV Script Writing 3 credits

Prerequisites

ALWT 4272 or Approval of ALNG Director

Description

This course is a continuation of ALWT 4272 . This course makes students practice writing TV scripts in syntactically and semantically eloquent Arabic. It also develops students' Arabic language through further understanding of Arabic and Egyptian culture.

When Offered

Offered in the fall, winter, spring and summer.

AENG 221/1511 - Free-hand Representation for Architects (3 cr.)

Prerequisites

Description

Free-hand manual drawing and manual visual communication for designers. Three primary modules covering

conceptual diagramming and idea sketching; tools for diagrammatic analysis; and rendering and final presentation using manual techniques.

Hours

Three hours studio period.

AENG 273/1521 - Digital Representation Tools for Architects (2 cr.)

Prerequisites

ENGR 1005

Description

An introduction to different forms of digital representation in architecture: architectural drawings, 3D-modeling, rendering, sheet layout design and fundamentals in animation and image editing. Introduction to Building Information Modeling (BIM) and graphical representation software. Such techniques are utilized as design tools for the creative development of projects and communication with clients and consultants from different disciplines in architectural practice.

Hours

One-hour class period and three-hour lab period.

When Offered

Offered in fall and spring.

AENG 222/1561 - Architecture: Art or Engineering (3 cr.)

Description

A study of architecture as a way of contrasting the "Arts" and "Engineering" approaches to design. The course addresses issues of form and space generation, function and interior environment, exterior and site, and materials and construction. Famous buildings and styles will be critically analyzed from the perspectives of both the artist and the engineer.

AENG 314/2211 - History and Philosophy of Modern and Contemporary Architecture (3 cr.)

Prerequisites

Description

A brief history of architecture from Ancient Egyptian to Baroque. Introduction to the historical development of twentieth-century and twenty-first architecture in the western tradition, including its social, technological, and conceptual aspects. Special emphasis on studying different paradigms, individual architects, buildings, and theoretical writings. Traditional, local vernacular, and contemporary vernacular architecture are also studied.

When Offered

Offered in fall and spring.

AENG 234/2221 - Human Aspects in Architectural Design (3 cr.)

Prerequisites

AENG 1521.

Description

Introduction to architectural design related environment-behavior issues. Introduction to architectural programming and post-occupancy evaluation. Human aspects in design: perception, behavioral uses of spaces, users needs, ergonomics, proxemics. Design for the disabled. Effects of cultural processes on architecture and urban design. Use of environment-behavior research methods in architecture and urban design. Design applications of theoretical concepts into design projects.

Hours

One hour class period and 3 hours studio period.

When Offered

Offered in fall and spring.

AENG 326/2231 - Environmental Control Systems and Sustainable Design (3 cr.)

Prerequisites

PHYS 1011 , MACT 1122 and AENG 2551

Description

Basic principles and application of environmental systems: acoustic, lighting, HVAC, energy use, and their integration with the building envelop. Performance of the building envelopes materials and assemblies. Introduction to LEED and similar systems. Sustainable design principles and its applications. Sustainable design project.

Hours

Three-hour studio period and three-hour lab period.

When Offered

Offered in fall and spring.

AENG 268/2411 - Surveying for Architects (1 cr.)

Prerequisites

MACT 1122

Description

Basics of surveying theory, recording field data and representation of data. Digital mapping production and contouring. Surveying applications including field work of detail surveying, stakeout, and parcel boundaries. Survey planning and associated survey computations. Operation of automatic level, total station and GPS. Introduction to 3D scanning of buildings.

Hours

Three-hour lab period.

AENG 250/2512 - Foundations of 3-Dimensional Design (3 cr.)

Description

Basic concepts and fundamentals of visualization, thinking, and design of simple forms in three dimensions. Presentation, communication and basic design skills using simple three dimensional modeling exercises in manual formats. Balance between aesthetic and functional design criteria. No previous modeling or digital experience is required.

Hours

Four-hour studio period.

AENG 251/2551 - Introduction to Architectural Design (3 cr.)

Prerequisites

AENG 1521 .

Description

Architectural design stages. Leadership role of architects in project delivery. Influence of site location on design. Influence of project related factors on design. Design of simple buildings. Introduction to basic building components and assemblies. Introduction to building code requirements.

Hours

One-hour class period and three-hours studio period.

When Offered

Offered in fall and spring.

AENG 351/2552 - Architectural Design Studio I (4 cr.)

Prerequisites

AENG 1511 , AENG 2221, and AENG 2551

Description

Studio on designing in behavioral and socio-cultural contexts. "Inside-out" approach to Architecture. Design through the study of behavioral use of space. Age, sex, culture and individuality as well as complex functional relationships influence on architectural design. Study of the nature of human behavior and how it can be incorporated, facilitated, modified and influenced through architectural design. Design for special needs populations. Introduction to developing project brief through definition of the needs of society, users and clients.

Hours

Six-hour studio period.

When Offered

Offered in fall and spring.

AENG 428/3311 - Detail Design and Finishes in Buildings (3 cr.)

Prerequisites

CENG 4252

Description

Construction details, materials selection, and methods of construction of building finishes: floors, walls, ceiling; stairs, openings, installations, specialty works. Design and detailing of architectural components. Both manual drawings and CAD are used to develop the construction details.

Hours

Four hours studio period.

When Offered

Offered in fall and spring.

AENG 426/3321 - Building Service Systems and Building Systems Integration (3 cr.)

Prerequisites

AENG 2551 .

Description

Basic principles of plumbing, electrical, and mechanical systems in buildings. Integration of building systems. Assessment, selection and integration of structural systems, building envelop, environmental, life safety, and building systems into building design.

Hours

Two-hour class period and three-hour lab period.

AENG 323/3331 - Construction Materials and Quality Control (3 cr.)

Prerequisites

ENGR 2112

Description

Types and properties of construction materials with emphasis on types used by architects. Concepts of quality control and statistical evaluation with corresponding experimental work. Aggregates and inorganic cements. Portland cement concrete mix design and admixtures. Bitumen and other moisture, thermal and sound insulating materials. Building finishes and aesthetics of construction materials. Timber and decorative materials.

Hours

Two one-hour class periods and three-hour lab period.

When Offered

Offered in fall and spring.

AENG 473/3522 - Digital Design Studio and Workshop (3 cr.)

Prerequisites

AENG 2551

Description

In depth application of advanced CAD concepts. Real time computer graphics. Computer applications for performance

animation, virtual reality and interactivity.. Modeling, texture mapping, environments, navigation, lighting, animation and sound. Generative design and Avatars. Digital tools and methods of design with manual tools within the design process. Computational design methodologies, visualization, digital fabrication, cost-estimation, scheduling and facility management. Parametric design and Building Information Modeling (BIM). Applications through design studio and workshop on digital fabrication.

Hours

Three-hour studio period and three-hour lab period.

When Offered

Offered in fall and spring.

AENG 368/3531 - Housing Design and Geographic Information Systems (3 cr.)

Prerequisites

AENG 2411 and AENG 2552

Description

Context, history and framework of regional, city and urban planning. Concepts, features and characteristics of human settlements. Interrelationship between socio-cultural contexts and housing processes. Design of housing areas and housing units. Design of 'appropriate' and 'responsive' residential environments within specific resources. Concepts and system components of GIS. Creation and management of a geodatabase. GIS analysis and applications in housing projects.

Hours

Three-hour studio period and three hour lab period.

When Offered

Offered in fall and spring.

AENG 352/3553 - Architectural Design Studio II (4 cr.)

Prerequisites

AENG 2512 and AENG 2552

Description

Studio on form, space and composition. "Outside-in" approach to architecture. The architectural form and its composition. The compositional aspects of spatial design- expression, language, intent, dynamics etc. and their use as tools of concept and functional accommodation. Three-dimensional models and design development. Spatial approach to design. Meaning, message and symbolism. Work with architectural precedents through analysis of various works of architects. Contemporary design theory as a premise for design.

Hours

Six-hour studio period.

When Offered

Offered in fall and spring.

AENG 453/3554 - Architectural Design Studio III (4 cr.)

Prerequisites

AENG 2231 and AENG 3553.

Description

Studio on Environment and Sustainability. This studio will allow students to investigate various aspects of the environment and 'sustainability' as a force within the architectural profession. Recent increases in global climatic and social pressures have necessitated environmental awareness as well as new architectural design solutions. Using current sustainable design strategies as a foundation, students will analyze and implement their own environmentally responsible analysis and designs. Conservation and recycling of materials and waste management. Field trip to gain hand on experience on the sustainable design and waste management is a requirement.

Hours

Six-hour studio period.

When Offered

Offered in fall and spring.

AENG 321/3562 - Introduction to Architectural Engineering (3 cr.)

Prerequisites

CENG 2251

Description

Role of the architect and other engineers in building construction. Introduction to the factors influencing architectural design. Building components, materials and assemblies. Architectural drawing and detailing.

When Offered

Offered in fall and spring.

Notes

(Two-hours lecture period and three-hour lab period)

AENG 496/3950 - Internship in Construction Projects (0 cr.)

Prerequisites

AENG 2551

Description

Each student is required to spend a minimum of 4 weeks of internship in Egypt or abroad. These should include substantial practical training in construction activities. A complete account of the experience is reported and evaluated.

When Offered

Offered in fall and spring.

AENG 429/4312 - Design Development and Construction Documents (3 cr.)

Prerequisites

AENG 3311

Description

Development of design into technical documents. Production of construction documents. Design of construction assemblies, constructability aspects and choice of materials. Building coordination and integration using Building Information Modeling applications. Drawing conventions and symbols. Building permit package. Basics of technical specifications.

Hours

Six-hour studio period.

When Offered

Offered in fall and spring.

AENG 441/4421 - Professional Practice, Design Management and Codes (2 cr.)

Prerequisites

AENG 2551 .

Description

Types of architecture firms. Design process management. Business management of architecture firms. Procurement of architectural services. Architects' administrative role. Architecture practice stakeholders. Building contracts and legal aspects. Building codes. Introduction to real-estate investment concepts. Applications on design projects.

Hours

One hour class period and 1.5 hours studio period.

When Offered

Offered in fall and spring.

AENG 468/4532 - Urban Design and Landscape Architecture (3 cr.)

Prerequisites

AENG 3531

Description

Study & Analysis of Visual Elements. Urban Form, Grain, Texture, and Fabric. The Phenomenon of Perception. Space, Time, and Function. Space and Path Visual Analysis. Study & Analysis of Historic Urban Squares, Piazzas and similar spaces. Form and space generation in landscape architecture. Elements of Landscape Architecture.

Hours

One-hour class period and three-hour studio period.

When Offered

Offered in fall and spring.

AENG 420/4541 - Design of Interior Spaces (3 cr.)

Prerequisites

CENG 2251 or AENG 1521

Description

Description: Historical background of Interior Design Styles. Concepts and principles of interior design. Space planning and design. Aesthetics of Interior Design. Color and lighting. Materials selection. Function, material and layout of furniture and textiles. Design for the disabled. Ergonomics and design. Mood Board design. Design drawing and detailing.

Hours

One-hour lecture and three-hour Studio.

When Offered

Offered in fall and spring.

AENG 454/4555 - Architectural Design Studio IV (4 cr.)

Prerequisites

AENG 3554 and CENG 3152

Description

Studio on the Art of Structure and Technology. This studio's primary objective is to link the two basic components of architecture- art and engineering. Based on a firm understanding of structural systems and their appropriate application to architectural design, projects will be designed to incorporate both aesthetic beauty and structural thinking. The influence of technology in the form of new materials and methods will be examined through their design potential. Three-Dimensional manual and digital models will play an essential role in the design development processes of this studio.

Hours

Six-hour studio period.

When Offered

Offered in fall and spring.

AENG 455/4556 - Architectural Design Studio V (4 cr.)

Prerequisites

AENG 4555 and AENG 3522.

Description

Studio on smart buildings and high-tech architecture. Expanding on the 1970's theme of High-Tech architecture, this studio aims at redefining the role of cutting edge technology in design- both process and product. Digital technology has revolutionized the way we conceptualized, visualize, present and are eventually able to construct our buildings, making impossible designs of the past a reality. Rapid developments in materials, building systems and construction methods have broadened our design horizons. Issues such as virtual architecture and smart buildings will be explored with regards to their viability and role in the future of architecture.

Hours

Six-hour studio period.

When Offered

Offered in fall and spring.

AENG 456/4557 - Architectural Design Studio VI (4 cr.)

Prerequisites

AENG 4556, AENG 4532 , ARIC 2205 and EGPT 2030

Description

Studio on design in critical Settings- Designing in Historical Contexts. A critical review of works, theories, and polemics in modern architecture. Case studies of buildings within urban settings will be the focus, with an emphasis on adaptive re-use, historic preservation, urban and landscape design practices. Within the context of a historical survey, students will develop a framework to assess and design for contemporary issues in architecture.

Hours

Six-hour studio period.

AENG 480/4920 - Special Problems in Architectural Engineering (1-3 cr.)

Prerequisites

Prerequisite: consent of instructor and department chair on the basis of a well-defined proposal.

Description

Independent study in various problem areas of construction may be assigned to individual students or groups. Readings assigned and frequent consultations held

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit if content changes.

AENG 494/4930 - Selected Topics in Architectural Engineering (3 cr.)

Prerequisites

Prerequisite: senior standing.

Description

Specialized topics in Architectural engineering will be selected and presented.

When Offered

Offered in fall and spring.

AENG 497/4951 - Internship in Technical Drawing and Design (1 cr.)

Prerequisites

AENG 3311

Description

Each student is required to spend a minimum of 8 weeks of internship in Egypt or abroad. The internship should include substantial practical training in technical drawing and design. A complete account of the experience is reported, presented and evaluated. Introduction to professional ethics, professional judgment and the social responsibilities of architects.

When Offered

Offered in fall and spring.

AENG 490/4980 - Senior Project I (2 cr.)

Prerequisites

AENG 4556

Description

A capstone project. Topics are selected by students from a set defined by advisors and according to their area of interest. Project analysis and research. Developing project brief through definition of the needs of society, users and clients. Preparation of space and functional programs. In depth studies of specific design aspects.

Hours

Three-hour studio period.

When Offered

Offered in fall and spring

AENG 491/4981 - Senior Project II (5 cr.)

Prerequisites

AENG 4541 , AENG 4557 , AENG 4980

Description

A continuation of senior project I. Comprehensive architectural design demonstrating an understanding of the different conceptual and technical aspects of architecture. In depth analysis and design study for specific aspects of the project.

Hours

Eight-hour studio period.

When Offered

Offered in fall and spring.

ARTV 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all first-year students as part of the Primary Level Core.

When Offered

Offered occasionally.

ARTV 213/2113 - Introduction to Visual Cultures (3 cr.)

Description

This lecture course provides a primer in visual literacy across media, introducing students to key terms and methods for

critically reading the visual world including iconology, formal analysis, art history, ideological analysis, and semiotics. Students gain fluency in understanding how images work in cultural context to communicate meaning, to express a sense of self, to convey pleasure, to sell things, and to distribute power. Questions of the effect of specific visual technologies are also engaged, particularly their impact on perception and conduct. Examples are drawn from fine art, advertising, film, popular culture, and new media.

Cross-listed

Same as DSGN 2113, FILM 2113.

ARTV 200/2200 - Analogue and Digital Practices (3 cr.)

Description

This introductory studio course introduces students to techniques of visual research as a basis for creative work in various media forms. Students undertake a continuous visual research project as the basis for the course. By means of class lectures and exercises, sketchbook practices, technical workshops, take-home assignments, and group critiques designed to activate the research process, they develop their skills in the expressive use of analogue and digital media for the realization of art, design, or film projects.

Cross-listed

Same as DSGN 2200, FILM 2200.

When Offered

Offered in fall and spring.

ARTV 201/2201 - Introduction to Drawing (3 cr.)

Description

An introduction to the technical and observational skills of drawing in a variety of mediums. Concepts of line, value and composition will be explored in objective, non-objective, still life, and landscape drawing exercises.

ARTV 202/2202 - Introduction to Painting (3 cr.)

Prerequisites

ARTV 2201

Description

An introduction to the technical, aesthetic, and historical aspects of painting in a variety of mediums. Formal concepts of composition, pictorial space and color interaction are applied to subjects such as still life, landscape and the figure.

ARTV 203/2203 - Introduction to sculpture/Installation (3 cr.)

Prerequisites

ARTV 2200

Description

An introduction to the contemporary practices in Sculpture and installation. Offers a focused practice for students that addresses the origins and history of installation art/sculpture including site-specificity, the context of the gallery/museum, and alternate environments.

ARTV 204/2204 - Introduction to Time-Based Media (3 cr.)

Description

Introduces students to the creative practice of video art in a production studio environment, including both concepts and techniques. Classes include workshops on camera, lighting, video effects, and sound recording techniques. Students create individual video projects.

ARTV 205/2205 - Introduction to Alternative Practices (3 cr.)

Description

Introduces students to alternative practices in contemporary art with an emphasis on social art and activism. Helps students to build awareness of critical debates in contemporary art practice within the context of social media particularly. Classes include workshops on open source practices, Facebook, Skype, and Twitter.

ARTV 000/2206 - Experimental Animation Art (3 cr.)

Prerequisites

ARTV 2201.

Description

This studio course introduces students to experimental techniques and theories of animation art, particularly the use of simple frame animation as a means to trace the development and mutation of ideas, narratives, memories and experiences in the imagination. It is designed as an extension of students' foundation experiences in drawing, painting and collage. Emphasis is on integrating those skills into "moving image" making through techniques of addition and subtraction to the surface of the animated frame.

ARTV 230/2230 - Introduction to Digital Photography (3 cr.)

Description

Introduces photographic practices in a digital environment. Explores camera, tools, techniques and conceptual approaches related to image capture and printing. A digital camera is required.

ARTV 315/3115 - Art Theory (3 cr.)

Prerequisites

ARTV 2113

Description

Offers an introduction to art theory from the start of the twentieth-century up until the present. Emphasis is on reading theoretical texts and interpreting their application to modern and contemporary artistic practices. The course is writing intensive.

ARTV 311/3211 - Art Studio I (3 cr.)

Prerequisites

Second-year standing.

Description

Intensive studio course forming the first of a four-part sequence designed to guide potential majors toward a self-directed creative practice. Students work experimentally across diverse forms, concepts and methods with the aim of gaining practical and theoretical experience and understanding of the frameworks of contemporary art. The class is conducted through a combination of lectures, project assignments, and studio practice.

ARTV 312/3212 - Art Studio II (3 cr.)

Prerequisites

ARTV 3211 .

Description

Continuation from Art Studio I. In combination with increasingly ambitious studio practice the student works with diverse creative methodologies to translate artistic concepts into forms. Students take on a broadened understanding of research in the artistic context. Fundamental questions are explored around what an artist is and can be in social and political contexts. The class is conducted through a combination of lectures, project assignments, and studio practice.

ARTV 370/3270 - Selected Topics in Art (3 cr.)

Prerequisites

Determined by instructor.

Description

In-depth examination of specific topics in the studio arts or art history.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit when content is different

ARTV 410/4110 - Contemporary issues in Arab Art (3 cr.)

Description

An examination of contemporary issues in Arab art within its historical-political geographic terrain and its contemporary diaspora communities. We will explore various kinds of visual and built environments including art works, exhibitions, literature and popular culture. Students will develop visual and analytic skills needed to examine contemporary issues in Arab art in relation to the local, regional and global markets and discourse.

ARTV 411/4211 - Art Studio III (3 cr.)

Prerequisites

ARTV 3212

Description

Continuation from Art Studio II. Advanced course that further develops students' studio practices with an initial collaborative working process. Particular focus is given to newer mediums such as immaterial, conceptual, interventionist and performative practices; new media; and collaborative and cross-disciplinary work. Students develop critical thinking skills about context, space and location. Increasingly sophisticated and ambitious studio practice is expected. The class is conducted through a combination of lectures, project assignments, and studio practice.

Cross-listed

ARTV 412/4212 - Art Studio IV (3 cr.)

Prerequisites

ARTV 4211

Description

Continuation from Art Studio III. Students investigate the broader institutional conditions and methodologies of artistic and curatorial practice. Students are introduced to forms of knowledge production that critically reflect on the realities mediated through historical and political reference systems such as museums and archives. Students develop artistic or curatorial projects, and present them at the end of the semester in the form of an exhibition. In addition to class work, all students are expected to undertake short-term internships at local art institutions.

The class is conducted through a combination of lectures, group critiques, excursions, and studio practice.

ARTV 469/4269 - Senior Project (A) (3 cr.)

Prerequisites

ARTV 4212

Description

The first in the advanced Senior Project A and B sequence that is required for the Visual Art major. Course is devoted to the processes of research, experimentation, reflection and critical feedback necessary for successful completion of ARTV 4270. Preparation for subsequent professional life will also be emphasized, including writing and portfolio assignments and studio visits with practicing artists.

When Offered

Offered in fall.

ARTV 470/4270 - Senior Project (B) (3 cr.)

Prerequisites

ARTV 4269

Description

A continuation of ARTV 4269, students develop and exhibit a final body of work that expresses a thorough conceptual and technical process. The course culminates in a group exhibition of senior projects, typically to be installed in the Sharjah Art Gallery. This course is the equivalent of a "thesis" or a "capstone" class.

When Offered

Offered in spring.

ARTV 402/4302 - Independent Study (1-3 cr.)

Prerequisites

ARTV 3211 or ARTV 3212 .

Description

Professional internship, independent research, or studio work conducted by either individual students or small groups of students with the aid of faculty members. A detailed plan and schedule of the work must be approved by the Art Program Director prior to registration. No independent study can substitute for course regularly offered in the program.

When Offered

Offered in fall and spring.

Repeatable

May be repeated up to three times if the content changes.

Notes

Open to seniors only, with a minimum B average.

BIOL 103/1010 - Introduction to Life Sciences (3 cr. + 1 cr. lab)

Prerequisites

Non-science majors only.

Description

This course aims to emphasize the connection between fundamental principles of Biology and other life sciences. Lectures and lab sessions cover topics such as the cell as basic unit of life, biological molecules to understand energy flow and nutrition, tissues and organ systems (with a focus on human health), and ecological and evolutionary processes explaining biodiversity.

When Offered

Offered in fall and spring.

Notes

Students taking BIOL 1010 may not take BIOL 1011 for credit.

BIOL 104/1011 - Introductory Biology I (3 cr. + 1 cr. lab)

Description

Introduction to the basic concepts of biology, molecules of life, cell structure and function, photosynthesis, cell respiration, cell cycle and cancer are presented. Basis and applications of genetics and molecular biology are addressed. The course introduces students to the fundamental concepts, principles and processes upon which the unity of life is based: the relationship of the course material to their day-to-day world: and how to apply scientific methods. Laboratories introduces students to basic principles of plant and animal structure and function and build on the principles of inheritance to the structure and function of tissues and organ systems.

When Offered

Offered in fall, spring and summer.

Notes

BIOL 1011 cannot be taken by students who have taken BIOL 1010 for credit.

BIOL 105/1012 - Introductory Biology II (3 cr. + 1 cr. lab)

Description

Based on the diversity of life: viruses, bacteria, protists, fungi, plants and animals are studied. The course concentrates on development, structure, and function of plants and animals, population genetics, ecology and the environment, and animal behavior. Laboratories introduce students to systematics, evolution, population dynamics, and modeling of populations of organisms and ecosystems. Some field applications are examined.

When Offered

Offered in spring.

Notes

This course is designed for science majors, but can be taken by anyone interested in studying biology in more depth than BIOL 1010 .

BIOL 102/1040 - Essentials of Environmental Biology (3 cr.)

Prerequisites

Non-science majors only.

Description

This course is designed for non-science majors who are interested in learning more about environmental issues through the lens of biological principles. The course covers biological concepts and fundamentals of environmental biology, and introduced students to a range of environmental issues (pollution, degradation of natural resources, overpopulation, etc.) that are currently affecting Egypt and the rest of the planet. The course will highlight man's impact on how our planet functions and examine societal and scientific solutions to these problems. The course is taught through lectures, class projects, reading discussions, and may include mandatory field trips and active participation in a sustainable community development project.

When Offered

Offered in fall.

BIOL 130/1410 - Current Health Issues (4 cr.)

Description

Explores the public and personal health infrastructure with a focus on Egypt. The course has an optional service-learning component in which students become aware of their role in community health issues. Information will be present in the form of classroom discussions, debates, field trips, and videos.

Notes

This course is open to all AUC students.

BIOL 199/1930 - Selected Topic for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

BIOL 241/2090 - Quantitative Biology (3 cr. + 1 cr. lab)

Prerequisites

BIOL 2150 and MACT 1221 .

Description

This course discusses essential concepts in experimental design and testing hypothesis and introduces quantitative skills for processing, analyzing, and visualizing data generated by biological and medical experiments, focusing on analysis of microarray genes expression data. The open-source bioinformatics and computing platform R will be introduced and used throughout the course in the laboratory sessions.

BIOL 221/2150 - Genetics (3 cr. + 1 cr. lab)

Prerequisites

BIOL 1011 .

Description

The course is designed to cover the basic fundamentals of classical and molecular genetics. This includes principal of segregation, DNA structure and genetic variation, chromosome and gene organization, replication, molecular biology of gene expression, and mechanisms of gene regulation. The course also covers genetics of bacteria and their viruses, human genome variation, biotechnology, transgenic organisms, and ethical issues in genetic research. The laboratory consist of exercises to introduce students to classical and contemporary genetic analysis.

BIOL 211/2230 - Molecular and Cell Biology (3 cr. + 1 cr. lab)

Prerequisites

BIOL 2150 and CHEM 2003 or co-requisite.

Description

The course is designed to provide a detailed understanding of the structure and function of the cell. This includes mechanisms of DNA replication and repair in prokaryotic and eukaryotic organisms and regulation of transcription and translational machinery. Protein sorting into functional structural proteins will be addressed with emphasis of post-translational protein modifications. Mechanisms of cell-cell signaling and their role in regulating genomic integrity and cell cycle regulation will be covered in details and consequences of abnormalities in these mechanisms will be discussed. Laboratories include the identification of basic cell structures, laboratory techniques in DNA and protein isolation, characterization and computational tools in molecular biology.

When Offered

Offered in spring.

BIOL 304/2320 - Biophysics (4 cr.)

Prerequisites

PHYS 1011 and PHYS 1012 .

Description

Principles, concepts and advances in the physical analysis of life processes. Fundamental and advanced physical and physicochemical treatment of kinetic processes underlying the normal function of biological systems will be addressed to include mechanics, hydrodynamics, electricity, optics and nuclear physics.

BIOL 214/2340 - General Botany (3 cr. + 1 cr. lab)

Prerequisites

BIOL 1011 and BIOL 1012

Description

This course will explore several aspects of plant biology with emphasis on structure, function, reproduction, systematics, plant metabolism and development. Students will be introduced to basic concepts of plant breeding, plant tissue culture and genetic transformation and the generation of genetically-modified crops. Detailed morphological, physiological study and greenhouse experimentation will be covered in the lab. Upon completion of this course, students will gain an appreciation for plant diversity, learning how plants are essential for supporting life on our planet and the potential impact of plant biotechnology on our life.

When Offered

Offered in spring.

BIOL 302/3040 - Environmental Biology for Engineers (2 cr. + 1 cr. lab)

Prerequisites

Prerequisite: Junior or senior standing.

Description

This course covers aspects of soil, water, food, and mineral resources management, waste disposal, energy alternatives, population ecology, and environmental ethics with special emphasis on problems encountered by engineers. Laboratory

includes field studies of ecosystems, environmental monitoring instrumentation, solar energy techniques, electronic population modeling and techniques used to deal with human consumption of natural resources.

BIOL 310/3130 - Molecular Evolution and Population Genetics (3 cr. + 1 cr. lab)

Prerequisites

BIOL 2230

Description

This course covers a spectrum of evolutionary forces at the molecular level and their impact on allele frequencies in the population. Topics the course will address include the Hardy-Weinberg principles, linkage disequilibrium, genetic drift, neutral theory of molecular evolution, mutation and natural selection, evolution of gene families, lateral gene transfer, basics of molecular phylogenetics, and origin of viruses and origin of the cell. Laboratory sessions will include computational simulations of evolutionary forces in action, population genetics, and maximum likelihood and Bayesian phylogenetic inferences.

BIOL 315/3280 - Biochemistry (3 cr.)

Prerequisites

CHEM 3006

Description

The living cell, structure of biomolecules and their relationship to biological functions; biochemical energetics; metabolism of major cellular components and their relationship to clinical conditions..

Cross-listed

Same asCHEM 3015.

Hours

Two class periods and one three hour lab period.

BIOL 307/3310 - Microbiology (3 cr. + 1 cr. lab)

Prerequisites

BIOL 2230

Description

This course provides a broad understanding of the microbial world, its application and implications. The fundamentals and principles of bacteriology, virology and mycology are addressed. Cellular and molecular aspects that contribute to selected infectious diseases and the role of the immune system in preventing such diseases are discussed. Additionally we examine the recent advances in pharmaceutical and biotechnology application of microbes.

BIOL 312/3326 - Vertebrate Anatomy and Physiology (3 cr. + 1 cr. lab)

Prerequisites

BIOL 2230

Description

The principal objective of this course is to give the student a solid foundation in understanding the anatomy and physiology of the basic vertebrate body from a functional perspective. The course focuses on describing the anatomy of the major organ systems found in vertebrates and explaining how the physiology of these anatomical systems enables vertebrate bodies to function in their environment. The course will survey model organisms to compare variation in anatomy and physiology associated with different behavioral and ecological requirements. The laboratory will consist of computer learning models, physiological and biomedical experiments with living tissue and specimens to investigate the function of various organ systems, and dissection of preserved and fresh vertebrate specimens, to give students in-depth experience with anatomical identification.

When Offered

Offered in fall.

BIOL 313/3340 - Invertebrate Zoology (3 cr. + 1 cr. lab)

Prerequisites

BIOL 1012

Description

Invertebrate Zoology is the study of animals without a backbone. These organisms comprise over 99% of all animal species known. Anatomy, development, behavior, systematics, and phylogeny of diverse invertebrate groups are included in the lectures. The class also covers major groups of protozoa. Discussed examples include both representatives of each phylum and highlights of groups of medical, veterinary, or biotechnological importance. Laboratory sessions emphasize morphology and anatomy through dissections, mounted specimens, and prepared slides.

BIOL 320/3341 - Animal Behavior (3 cr. + 1 cr. lab)

Prerequisites

BIOL 2150

Description

Study of ethology with emphasis on its development, control and function. Laboratory includes observations and descriptions, qualification techniques and experimentation.

BIOL 301/3360 - Animal Physiology (3 cr. + 1 cr. lab)

Prerequisites

BIOL 2230

Description

A comparative approach to the nutrient procurement, temperature, osmotic and ionic regulation, regulation of fluids, respiratory, circulatory, and digestive systems, reproduction, hormonal and nervous control, behavior, and biological rhythms of animals. Laboratory emphasizes the physiology of invertebrates and vertebrates.

BIOL 303/3370 - Developmental Biology (3 cr. + 1 cr. lab)

Prerequisites

BIOL 2230

Description

This course is designed to acquaint students with the mechanisms that direct the development of multicellular organisms from a single cell. The course covers the fundamental processes operating during embryonic development including cellular differentiation, development of specialized tissues, morphogenesis, and organogenesis at the cellular and molecular levels. Special attention will be on the understanding of key experiments that contributed to the current knowledge of the basic principles implicated in the development of the organism. Laboratory includes examination of various developmental biology aspects at the molecular, cellular and morphological levels.

BIOL 341/3510 - Ecology (3 cr. + 1 cr lab)

Prerequisites

BIOL 1012, CHEM 1005 , PHYS 1011 .

Description

Ecology is the study of the distribution and abundance of organisms and the interactions with the environment that determine those distributions and abundances. The class discusses ecological interactions and mechanisms at organismal, population, community, and ecosystem levels. Chemical, physical, evolutionary, and human-driven factors that influence the natural world are explained. A laboratory emphasizing collection, analysis and interpretation of data is included and intended to expose students to a broad array of ecological techniques.

BIOL 305/3540 - Environmental Biology (3 cr. + 1 cr. lab)

Prerequisites

BIOL 3510 or instructor's consent.

Description

Examination of degradation and pollution of natural environments. Aspects of soil, water, food, and mineral resources management, waste disposal, energy alternatives, population ecology, and environmental ethics. Laboratory to include field studies of ecosystems, environmental monitoring instrumentation, solar energy techniques, electronic population modeling, techniques used to deal with human consumption of natural resources.

BIOL 306/3541 - Environmental Biology of the Red Sea (3 cr. + 1 cr. lab)

Prerequisites

Prerequisites: students must be good swimmers and consent of the instructor.

Description

This course is designed to be an interdisciplinary course for students with an interest in coastal and marine environmental issues. Topics covered include marine biology, ecology, geology, paleontology, climatology, and oceanography. Using the Red Sea as a model, students will receive extensive field experience in evaluating the impact of natural phenomena and human activities on coastal and marine environmental planning, management, and monitoring, as well as in the preparation of environmental impact assessments.

Notes

Laboratories and field trips to the Red Sea are essential to the course.

BIOL 345/3542 - GIS For Biologists (4 cr.)

Prerequisites

Prerequisite: Junior or Senior standing

Description

.Geographic Information Systems (GIS) for Biologists is designed to introduce the student to the use and application of computer based mapping and analysis technology to ecological data. The application of GIS technology requires program operation skills, computerization of data and relevant biological information. The course is designed to provide "hands-on" skill development in the use and application of GIS.

BIOL 360/3600 - Introduction to Bioinformatics (3 cr.)

Prerequisites

Any of the following:

BIOL 2150, BIOL 2230 , BIOL 3280 , CHEM 3015

Description

Bioinformatics is the application of computational methods and tools to, retrieve, and analyze large quantities of sequence datasets. The course covers genomic public databases and resources, sequence alignment, protein structure and function prediction, and analysis of microarray gene expression. Concepts of programming for bioinformatics are introduced. The course provides the students with hand-on experience solving practical problems such as characterization of gene interest, identification of differentially expressed genes, prediction of secondary and tertiary structures of proteins, and tracking spatial and temporal dynamics of a virus.

BIOL 361/3601 - Bioinformatics Tools and Techniques (3 cr.)

Prerequisites

BIOL 3600 and CSCE 1101

Description

This interdisciplinary course is designed for students in biology, computer science, and mathematics to build the most essential concepts and practices for Bioinformatics development using Biopython and R.

BIOL 399/3910 - Guided Studies in Environmental Sciences (3 cr.)

Description

Under faculty guidance, students will carry out a project on an environmentally related topic. The students will present their results by submitting a common/individual report or by passing an examination, as determined by the supervisor.

Cross-listed

Same asCHEM 3910

When Offered

Offered in fall and spring.

BIOL 411/4150 - Molecular Biology of the Gene (3 cr. + 1 cr. lab)

Prerequisites

BIOL 2230 and CHEM 2003 or co-requisite.

Description

A comprehensive molecular biology course with emphasis on principles, processes and methodologies leading to the formation of central concepts of molecular genetics. Students are presented to the latest models of describing gene structure, genome organization and regulation of gene and protein expression, in eukaryotes and prokaryotes. Current topics such as epigenetics, RNA interference and transgenics are also exposed. Laboratory sessions cover modern techniques in recombinant DNA technology related to gene cloning, protein expression, and omics.

BIOL 415/4230 - Immunology (3 cr. + 1 cr. lab)

Prerequisites

BIOL 2230 and CHEM 1005

Description

The students are introduced to the basic principles of immunology, including the structure and function of the immune system at the molecular, cellular, tissue, and organ system levels and the processes involved in the host defense against infection. This includes antigen and antibody structure and function, effector mechanisms, complement, major histocompatibility complexes, B-and T-cell receptors, antibody formation and immunity, cytotoxic responses, and regulation of the immune response. Students are also introduced to the applied aspects of immunology, which include immunoassay design, flow cytometry and LUMENIX technology. Special topics are also highlighted and discussed including cancer immunology, immunotherapy, autoimmunity, immunomics and vaccination. Laboratories include practical experience with the anatomy and histology of the lymphoid tissues, cell isolation, identification and serological and cellular immune techniques as well as basic tissue culture techniques.

BIOL 430/4330 - Tumor Biology (3 cr. + 1 cr. lab)

Prerequisites

BIOL 2230 and BIOL 2150

Description

The course provides a broad knowledge on the biological principals underlying tumor and cancer formation. The basic science of tumor at the cellular, molecular and genetic level will be addressed. The course allows students to understand the fundamental mechanisms that underlie eukaryotic cell multiplication, cell senescence and cell death, including the alterations that are involved in the initiation of uncontrolled growth and carcinogenesis. In addition, cell cycle surveillance mechanisms that ensure genomic integrity and the signaling pathways that regulate tumor development and spread will be covered.

BIOL 440/4540 - Marine Ecology (3 cr. + 1 cr. lab)

Prerequisites

BIOL 3510 and CHEM 1005

Description

Examination of the ecology of marine ecosystems. Relationship of physical and chemical processes of marine systems to biological processes in both pelagic and benthic regions. Where possible, examples will be drawn from the Mediterranean and the Red seas.

Notes

Includes an extended field trip to marine research institute for "hands-on" experience in marine biological research.

BIOL 445/4541 - Desert Ecology (3 cr. + 1 cr. lab)

Prerequisites

BIOL 3510

Description

Examination of the ecology of desert ecosystems with particular reference to Middle-Eastern deserts. Emphasis is placed on the strategies employed by desert-living organisms which allow them to survive and prosper under desert conditions. Field trips are an integral part of this course.

BIOL 460/4690 - Bioinformatics Capstone Seminar I (1 cr.)

Prerequisites

Prerequisites or corequisites BIOL 3600 or BIOL 3601

Description

Students complete a capstone proposal and major elements of the capstone project for the Minor in Bioinformatics. Bioinformatics Capstone Seminar I will focus on the development of the problem statement and the research questions that will be answered in the Capstone. Emphasis will be placed on the development of a sound rationale for the project, justified by a thorough literature review.

BIOL 461/4691 - Bioinformatics Capstone Seminar II (2 cr.)

Prerequisites

BIOL 4690

Description

In this project-based course, the students tackle a real-life biological or biomedical problem using a computational approach where they utilize existing bioinformatics resources and/or develop novel tools. The students are required to deliver a written report and an oral presentation describing the problem, methodology/approach, contribution, and results. This course is available only for students enrolled in the Minor in Bioinformatics program.

BIOL 410/4910 - Guided Studies in Biology (1-4 cr.)

Prerequisites

Prerequisite: consent of the instructor.

Description

Under the guidance of a faculty member and with the approval of the Chair, the student undertakes readings or research on a specific topic in biology. The student should demonstrate achievements by presenting results, submitting a report, or passing an examination as determined by the supervisor.

BIOL 408/4930 - Selected Topics in Biology (1-4 cr.)

Prerequisites

Prerequisite: consent of the instructor.

Description

Topics in biology chosen according to the special interests of the student and faculty.

Repeatable

May be repeated for credit more than once if the content changes.

BIOL 495/4980 - Senior Research Thesis (1 cr.)

Prerequisites

Senior standing in biology.

Description

Students select a research topic according to their field of interest and the availability of advisers and facilities. A research proposal is submitted to include a literature review on the topic and the design of a laboratory and/or field investigation.

When Offered

Offered in fall

BIOL 496/4981 - Seminar in Biology (2 cr.)

Prerequisites

BIOL 4980

Description

The senior research thesis project is executed and presented in the form of an oral presentation and a poster session in the annual biology department senior thesis conference. A final report, written similar to an original research manuscript, to include the execution, results and conclusion of the project will be submitted.

When Offered

Offered in spring.

BIOT 501/5201 - Biochemistry (3 cr.)

Description

A basic course introducing the student to chemical bonds, structure of biomolecules, the structure and function of cellular components, protein structure and folding, carbohydrates metabolism, fatty acids oxidation, the kinetics of

enzyme-catalyzed reactions, cellular metabolism, energy production, cellular regulatory processes, signal transduction cascades, and photosynthesis.

Cross-listed

Same as CHEM 5201.

BIOT 502/5202 - Cell and Molecular Biology (3 cr.)

Description

This course is designed to introduce the student to structure and function of the basic unit of life, the cell. This includes organelle biogenesis, cytoskeleton and cell motility, protein and lipid trafficking, membrane and ion transport, energy flow within the cell, cell cycle, division, and programmed cell death. In addition, to the passage of information from gene to protein will be addressed.

BIOT 503/5203 - Biotechnology (3 cr.)

Prerequisites

BIOT 5201 and BIOT 5202

Description

This course, taught by a team of instructors, covers different areas of biotechnology. This course introduces students to the different aspects of the biotechnology revolution including principles of recombinant DNA technology, protein engineering, directed mutagenesis, manipulation of gene expression, microbial synthesis of biologics, biomass utilization, large scale production of proteins, transgenic animals, and the human genome project. In addition, this course introduces students to bioinformatics and bioengineering.

BIOT 504/5204 - Experimental Biotechnology (3 cr.)

Prerequisites

BIOT 5203

Description

This course consists of two class periods and one three-hour lab period. It introduces students to the experimental methods used in investigation and research in biotechnology applications. The laboratory section will provide students with hands-on experimentations in major techniques in molecular biology such as DNA and RNA isolation, protein purification, DNA and protein electrophoresis, nucleic acid hybridization and polymerase chain reaction.

BIOT 505/5205 - Basics of Bioentrepreneurship (3 cr.)

Description

This course covers four modules: business aspects of biotechnology, regulatory issues, patenting biotechnology inventions, and bioethics.

BIOT 521/5206 - Fundamentals of Bioinformatics (3 cr.)

Prerequisites

Prerequisites: Familiarity with molecular biology, calculus, basic probability and statistics.

Description

This course should introduce students to the fundamental theories and practices of bioinformatics. Lectures should focus on the basic knowledge required in this field, including the need for databases, access to genome information, sources of data, and tools for data mining. The course should also cover identification of both lower order and higher order informational patterns in DNA and approaches to linking genome data to information on gene function. Emphasis will be placed on how to use the databases and tools. Students should use the PERL programming language in this course.

BIOT 531/5207 - Molecular Diagnosis (3 cr.)

Description

Topics include diagnosis of genetic disorders, infectious diseases, malignant diseases, and forensic applications such as paternity testing, DNA fingerprinting. Aspects of quality control, quality assurance, regulatory issues, and intellectual properties will be also covered.

BIOT 541/5208 - Molecular Genetics (3 cr.)

Description

The course introduces genetics studies in molecular biotechnology; introduction to Mendalian genetics, eukaryotic gene regulation, genome project and model organisms utilized in research studies, cytogenetics, cellular genomic instability in carcinogenesis and molecular genetic based therapeutic approaches.

BIOT 543/5210 - Microbial Biotechnology (3 cr.)

Description

The course introduces current advances in bacteriology, mycology and virology. This covers from medical applications, environmental application of microbes to microbial quality control and assurance in biotechnology products. In addition topics include the use of microbes in recombinant DNA technology, protein production in prokaryotes, fermentation technology, antimicrobial peptides and its applications in medical microbiology.

BIOT 511/5211 - Bioengineering (3 cr.)

Description

The application of the concepts and methods of the physical sciences and mathematics in an engineering approach to problems in the life sciences.

BIOT 571/5271 - Bionanotechnology (3 cr.)

Description

This course covers the use of various nanostructures for ultrasensitive detection of DNA, bacteria, and viruses. Recent techniques for detection of single biomolecules that offers superior advantages over the conventional bulk measurements will also be presented. This course will also cover the use of different nanoparticles such as nanocrystals and gold nanoparticles for optical imaging, as hyperthermia agents for cancer therapy, and the development of smart drug delivery nanocarriers.

Cross-listed

Same as NANO 5271

BIOT 580/5910 - Independent Study In Biotechnology (3 cr.)

Description

Independent study in various problem areas of biotechnology may be assigned to individual students or to groups. Readings assigned and frequent consultations held.

Notes

Students may sign up for up to 3 credits towards fulfilling M.Sc. requirements.

BIOT 551/5930 - Selected Topics in Biotechnology (3 cr.)

Prerequisites

Pre-requisite: consent of instructor, graduate standing.

Description

Topics chosen according to special interests of faculty and students.

Repeatable

May be repeated for credit more than once if content changes.

BIOT 590/5940 - Graduate Seminar I (2 cr.)

Description

Seminars on research topics, research methodology, and thesis writing and presentations given by invited speakers.

BIOT 591/5941 - Graduate Seminar II (1 cr.)

Prerequisites

BIOT 5940

Description

Seminars on research topics given by invited speakers and on research plans given by students to discuss their thesis topics and the results obtained in their work.

BIOT 599/5980 - Research Guidance and Thesis (3 cr. + 3 cr.)

Description

Consultation on problems related to student thesis.

Notes

Must be taken twice for a total of 6 credits.

BIOT 604/6204 - Model Systems in Cancer Research (2 cr. + 1 cr. lab)

Prerequisites

BIOT 5203 or BIOT 5204 .

Description

This course exposes graduate students to a powerful tool, cell lines, for research. Cell lines are commonly used in many fields of laboratory research mainly as in vitro models in cancer research. Topics covered in class include but not limited to the biology, epidemiology, and molecular mechanisms of cancer including genetic variants, role of microRNA and epigenetic gene deregulation. Students, throughout the semester, will develop an understanding of the molecular events underlying the development of human cancer through examining primary literature related to the current knowledge of cancer biology. The course includes a laboratory component exploring a range of techniques used in the study of cancer biology.

BIOT 620/6206 - Computational Genomics and Transcriptomics (3 cr.)

Prerequisites

BIOT 5206

Description

The course is designed to provide graduate students with the essential concepts and skills for processing, analyzing, and visualizing biological data generated by modern high-throughput transcriptomic and genomic technologies such as microarray and next-generation sequencing. The open-source statistical platform R and the BioConductor package will be used throughout the course for the practical sessions. The course will focus on how to extract meaningful information from microarray and RNA-Seq data (e.g., differentially expressed genes, alternative splice forms, and polymorphism). Different data visualization methods will be covered from simple summarizing graphs to interaction networks of cellular elements. Practical exercises will use publically published data and simulated data with applications crossing from cancer genomics to environmental genomics. Target audience is biomedical and computational sciences graduate students and postdoctoral researchers.

When Offered

Offered in fall.

BIOT 621/6207 - Systems and Computational Biology (3 cr.)

Description

Systems biology is an interdisciplinary study field that focuses on complex interactions in biological systems. A major goal of systems biology is the modeling and discovery of emergent properties, properties of a system whose theoretical description is only possible using techniques, which fall under the remit of systems biology. The course targets graduate students from various scientific backgrounds. This course aims to provide hands-on experience in computational systems biology by combining experimental data and mathematical modeling with emphasis on modeling of cellular pathways. Potential biomedical and biotechnological applications are introduced.

When Offered

Offered in fall.

BIOT 601/6930 - Current Topics in Biotechnology (3 cr.)

Description

This course provides a comprehensive and thorough understanding of recent trends in biotechnology research and development. Frontier areas in biotechnological applications as bioremediation, genetically modified organisms, molecular medicine and nano-biotechnology will be addressed.

BIOT 602/6931 - Reading and Conference Course (3 cr.)

Description

Contemporary biotechnology topics, addressed from current primary literature will be discussed. Dogmas and disputes in biological, medical and/or agricultural sciences will be addressed to generate student discussions.

BIOT 699/6980 - Research Guidance Dissertation (3 cr.)

Description

Consultation on problems related to student thesis. To be taken 11 times for credit.

AIAS 411/4101 - Modern Standard Arabic (4 cr.)

Description

This course integrates the four language skills to help students develop their ability to produce and comprehend both oral and written discourse at the advanced/advanced high level. The material addresses linguistic needs at this level and provides students with opportunities to further develop their understanding of the various aspects of Egyptian culture.

When Offered

Offered in summer.

AIAS 401/4301 - Egyptian Colloquial Arabic (4 cr.)

Description

This course further develops students' skills in Egyptian colloquial Arabic in general while emphasizing the shared features between ECA and MSA. The course concentrates on increasing students' vocabulary and command of syntax, with a higher level of fluency. The material designed to train students to emulate the speech of educated native speakers in a wide range of social situations.

When Offered

Offered in summer.

AIAS 531/5121 - Reading, Writing And Vocabulary Building (5 cr.)

Description

This course fosters and further develops the student's ability to read long, authentic texts on a wide range of topics with minimal dependency on the dictionary. Students are trained to extend their reading strategies and knowledge of different genres and styles. Special emphasis is placed upon vocabulary building and the idiomatic use Arabic. The

writing component is integrated whereby students employ and manipulate syntactic and morphological structures studied in the reading component, in addition to various cohesive devices, to produce complex sentences at the paragraph and text level, according to the mores of connected Arabic written discourse.

When Offered

Offered in fall.

AIAS 521/5151 - Listening And Speaking (3 cr.)

Description

This course further develops students' skill in comprehending large chunks of authentic spoken MSA in different forms of discourse (reports, interviews, debates, etc.). It integrates listening and speaking skills by training students to carry out discussion on various topics of general and personal interest. The course includes a number of live lectures given by specialists in different fields of interests.

When Offered

Offered in fall.

AIAS 522/5152 - Academic Listening and Speaking (3 cr.)

Prerequisites

AIAS 4101 and AIAS 5151

Description

This course fosters and further develops the students' ability to understand the main ideas and most details of connected academic and discourse in a variety of fields. It does so by teaching strategies to sustain both comprehension and delivery of propositionally and linguistically complex extended aural/oral discourse. These include training students to recognize and use cohesive devices signaling the sequence of thought in a given text, enabling them to follow MSA-ECA code-switching and code-mixing patterns, as well as sensitizing them to the socio-cultural nuances embedded in the spoken message.

When Offered

Offered in spring.

AIAS 551/5201 - Advanced Translation (3 cr.)

Description

This course fosters and develops students' skills in translating written texts of different genres. Attention is given to points of contrast, idiomatic usage, and semantic fields of corresponding vocabulary in English and Arabic. Most work is done on translating from Arabic into English, with special attention given to developing the skills necessary for the preservation of the finer nuances of meaning when rendering a text from one language to another.

When Offered

Offered in spring.

AIAS 552/5261 - Advanced Media (3 cr.)

Description

This course further develops the students' critical reading skills of linguistically and conceptually complex texts in Arabic printed media. It does so by exposing the students to different text types on a variety of topics, many outside their respective immediate spheres of interest or specialization. It encourages learners to make inferences based on comprehension of the facts presented in a text through sensitizing them to the socio-cultural nuances embedded in the written message. The course also focuses on vocabulary building and trains learners to recognize the special stylistic properties of media language.

When Offered

Offered in spring.

AIAS 541/5271 - Advanced Writing (3 cr.)

Description

This course fosters and develops students' ability to write, with a high degree of precision and detail, on a variety of academic topics. It also trains them to observe the well-defined rules of Arabic letter-writing. The course teaches the students to write extended research papers, reports and essays, performing various language functions beyond descriptions, comparisons etc., such as argumentation, hypothesizing, refutation etc. Students are trained to appraise samples of authentic written material and model their own written production on them, demonstrating a solid command of grammar (syntax and morphology), vocabulary use, spelling, cohesive devices and general stylistic norms of Arabic discourse.

When Offered

Offered in spring

AIAS 501/5301 - Egyptian Colloquial Arabic (3 cr.)

Description

This course further develops students' skill to communicate in Egyptian colloquial. It concentrates on complex vocabulary and syntax and enables students to communicate with native speakers in a wide range of situations with high level of accuracy and fluency. Special emphasis is placed upon educated Egyptian Arabic as well as appropriateness of speech, and cultural competency.

When Offered

Offered in fall.

AIAS 502/5411 - Advanced Egyptian Colloquial Arabic (3 cr.)

Description

This course further develops students' ability to communicate with native speakers in a wide range of situations with a higher degree of accuracy, fluency, and cultural appropriateness. The course trains students to comprehend and discuss topics of general and personal interest. The materials used reflect the dynamics of Egyptian society and focus on educated Egyptian Arabic.

When Offered

Offered in Spring.

AIAS 555/5601 - CASA Students without Borders (3 cr.)

Description

This course empowers students to engage in significant learning experiences, develop intercultural competence, work on superior level language proficiency skills, and establish social networks by engaging in the target language community through a project related to their academic and/or professional interests. Each student will design and complete a project related to their academic and/or professional interests that requires their engagement with the target language community. The project will span the fall and spring semesters. Each student will work with a supervising teacher with whom they will write a contract specifying the nature of their project. The project may include volunteer service in a local organization. Projects involving service to the community are highly encouraged.

When Offered

Offered in spring.

AIAS 553/5991 - Selected Topics in Arabic (3 cr.)

Description

Each course addresses a different topic of interest to advanced plus/superior Arabic language students. Topics covered are chosen by the students each semester. Some examples of topics include: Arab literature, politics in the Middle East, and religious studies.

When Offered

Offered in spring.

CHEM 103/1003 - Chemistry and Society (3 cr.)

Prerequisites

Not for credit for Science, Engineering and Computer Science Majors

Description

Not for credit for Science, Engineering and Computer Science majors. Introduction to basic chemical principles; examples of chemistry in context of daily life and impact on society : nutrition, polymers, colors and pigments, drug development, energy storage, environmental pollution and control, agro chemicals and other related issues

When Offered

Offered in fall and spring.

Notes

Not for credit for Science, Engineering and Computer Science majors

CHEM 104/1004 - Man and the Environment (3 cr.)

Description

Chemistry of the environment. Principles of ecosystem structures, energy flow and elements cycles. Natural resources, Population and Development. Renewable energy. Pollution control and prevention: air pollution, global warming, the depletion of the ozone layer and water pollution. Hazardous substances. Solid waste and recycling. Pests and pest control. Sustainability.

When Offered

Offered in fall, spring and occasionally in summer.

Notes

Not for credit for science, engineering and computer science majors.

CHEM 105/1005 - General Chemistry I (3 cr.)

Prerequisites

Thanawiya Amma Science or equivalent.

Description

Chemical stoichiometry; atomic structure and periodicity; an overview of chemical bonding with a discussion of models and theories of covalent bonding; introduction to structure and chemistry of organic compounds.

When Offered

Offered in fall, spring and occasionally in summer and winter.

CHEM 106/1006 - General Chemistry II (3 cr.)

Prerequisites

CHEM 1005

Description

Gases; thermochemistry; liquids and solids, properties of solutions; introduction to chemical kinetics, chemical equilibria, environmental pollution.

When Offered

Offered in fall and spring.

CHEM 115L/1015 - General Chemistry Laboratory (1 cr.)

Prerequisites

Thanawiya Amma Science or equivalent

Description

Selected experiments in inorganic and organic chemistry.

Hours

One three-hour lab period

When Offered

Offered in fall and spring and occasionally in summer and winter.

CHEM 116L/1016 - General Chemistry Laboratory (1 cr.)

Prerequisites

CHEM 1015

Description

Semi-micro qualitative analysis of selected salts and mixtures

Hours

One three-hour laboratory period.

When Offered

Offered in fall and spring.

CHEM 199/1930 - Selected Topic for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

CHEM 203/2003 - Organic Chemistry I (3 cr.)

Prerequisites

CHEM 1005

Description

Aliphatic and aromatic hydrocarbons, stereochemistry and conformational analysis, ionic and free-radical substitution and addition reactions.

When Offered

Offered in fall.

CHEM 205/2005 - Environmental Analytical Chemistry (3 cr.)

Prerequisites

CHEM 1006

Description

Introduction; analytical environmental data: assessment and interpretation, titrimetry, chromatography, atomic spectrometry, mass spectrometry, potentiometric techniques, thermal techniques. Specific applications to the environment.

Notes

This course is not available for credit for students who take CHEM 3011 . Some laboratory demonstrations will be provided.

CHEM 206/2006 - Analytical Chemistry I (2 cr.)

Prerequisites

CHEM 1006 and to be taken concurrently with CHEM 2016

Description

Ionic equilibria: solubility, activity and ionic strength. Gravimetry: nucleation and crystal growth, methodology, colloids. Acid-base, complexation, oxidation-reduction and precipitation equilibria and titrations. Introduction to

separations in analytical chemistry.

When Offered

Offered in spring.

CHEM 207/2007 - Chemical Industries (3 cr.)

Prerequisites

CHEM 1006 .

Description

An overview of major chemical industries, global and local production, major products and their production, selected from: metals petrochemicals, agrochemicals, dyes, pharmaceuticals, plastics, glass, ceramics, cement. Quality assurance.

When Offered

Offered in fall.

Notes

Field trips to local industries.

CHEM 216L/2016 - Volumetric and Gravimetric Analysis (2 cr)

Prerequisites

CHEM 1016 and concurrent with CHEM 2006

Description

Acid-base, oxidation-reduction, complexometric and precipitation titrations; gravimetric analysis; potentiometric titrations.

Hours

Two three-hour periods.

When Offered

Offered in spring.

CHEM 220/2020 - Introduction to Food Science and Technology (3 cr.)

Prerequisites

CHEM 1005 .

Description

An overview of the interdisciplinary nature of food science. The chemical and physical properties of foods. An overview of food regulation. Concepts and applications of food chemistry, food analysis, food processing, biotechnology, sensory evaluation, food packaging, food product development and food engineering. Global food situation with an emphasis on the Egyptian context.

CHEM 312/3002 - Archaeological Chemistry I (3 cr.)

Prerequisites

CHEM 1006 .

Description

Characterization of metals, minerals, pigments, glass, stone, dyes. Dating techniques: thermoluminescence, radiocarbon, amino-acid, Obsidian hydration and potassium/argon. Introduction to Mossbauer spectroscopy and neutron activation analysis.

When Offered

Offered occasionally.

CHEM 303/3003 - Thermodynamics (3 cr.)

Prerequisites

MACT 2123 and CHEM 1005.

Description

Gas laws, state variables and equations of state, energy and the first law, thermochemistry; entropy and the second and third laws; spontaneity and equilibrium; physical transformation of pure substances, phase rule, phase equilibria.

When Offered

Offered in fall.

CHEM 304/3004 - Physical Chemistry I (3 cr.)

Prerequisites

CHEM 3003 , PHYS 1021 and concurrent with CHEM 3014 .

Description

Chemical potential and equilibria, solutions and colligative properties, electrochemical systems.

When Offered

Offered in spring.

CHEM 000/3005 - Principles of Chemical Modeling (3 cr.)

Prerequisites

CHEM 3003 and CSCE 1001 .

Description

Introduction to computational chemistry techniques and their applications to chemical and biochemical areas; Principles of Density Functional Theory; Thermochemistry modeling in Chemistry; Generating and Analyzing a Molecular Dynamics Trajectory; Mass transport in material science; Basics of Monte Carlo Sampling Techniques; Binding Energies in Biochemistry; Combined QM/MM Simulation; Enzyme Reaction Mechanism.

CHEM 306/3006 - Organic Chemistry II (3 cr.)

Prerequisites

CHEM 2003

Description

Stereochemistry, aromaticity, electrophilic aromatic substitution; spectroscopy and structure; SN1, SN2, E1, and E2 reactions.

When Offered

Offered in spring.

CHEM 309/3009 - Inorganic Chemistry I (3 cr.)

Prerequisites

CHEM 1006 and junior standing.

Description

Basic principles of quantum mechanics as applied to hydrogenic and polyelectron atoms, atomic orbitals, electron-electron interactions, atomic parameters. Molecular orbital theory as applied to diatomic and polyatomic molecules and to solids, bond properties, molecular shape and symmetry, introduction to applications of molecular symmetry in chemistry. The structures of simple solids; acids & bases; oxidation-reduction.

When Offered

Offered in fall.

CHEM 310L/3010 - Organic Chemistry I Laboratory (1 cr.)

Prerequisites

CHEM 1016 and CHEM 3006 .

Description

Characterization of organic compounds by classification tests.

When Offered

Offered in fall.

CHEM 311/3011 - Analytical Chemistry II (3 cr.)

Prerequisites

CHEM 2006 and CHEM 2016.

Description

Instrumental methods of chemical analysis: visible, ultraviolet, and infrared absorption spectroscopy, atomic absorption and emission spectrometry, fluorimetry, X-ray diffraction and fluorescence; mass spectrometry, gas chromatography, thermometric and electrochemical methods.

Hours

Two class periods and one three-hour lab period.

When Offered

Offered in fall.

CHEM 313L/3013 - Thermodynamics Laboratory (1 cr.)

Prerequisites

CHEM 1006 ,CHEM 2016 and concurrent with CHEM 3003 .

Description

Experiments in physical chemistry, thermodynamics and error analyses.

When Offered

Offered in fall.

CHEM 314L/3014 - Physical Chemistry I Laboratory (1 cr.)

Prerequisites

CHEM 3013 and concurrent with CHEM 3004 .

Description

Experiments in electrochemistry. One three-hour lab period.

When Offered

Offered in spring.

CHEM 315/3015 - Biochemistry (3 cr.)

Prerequisites

CHEM 3006

Description

The living cell, structure of biomolecules and their relationship to biological functions; biochemical energetics; metabolism of major cellular components and their relationship to clinical conditions.

Cross-listed

Same as BIOL 3280.

Hours

Two class periods and one three hour lab period.

When Offered

Offered in fall.

CHEM 316L/3016 - Organic Chemistry II Laboratory (1 cr.)

Prerequisites

CHEM 3010

Description

Systematic identification of organic compounds, analysis of mixtures (qualitative and quantitative).

When Offered

Offered in spring.

CHEM 318L/3018 - Inorganic Chemistry Laboratory (1 cr.)

Prerequisites

CHEM 2016

Description

Preparations, reactions, and characterization of some inorganic compounds; ion-exchange; chromatography; measurements of stability constants.

When Offered

Offered in fall.

CHEM 320/3020 - Food Chemistry (3 cr.)

Prerequisites

CHEM 1005 .

Description

This course covers the chemistry of food constituents, the changes these constituents undergo during processing, the chemistry and technology of meat and meat products, dairy products, fruit and vegetables, cereal products and alcoholic/non-alcoholic beverages. It also covers the basic chemistry of color, odor and taste (sensory properties of foodstuffs).

CHEM 325/3025 - Clinical Chemistry I (3 cr.)

Prerequisites

CHEM 3011 or concurrently, CHEM 3013 or consent of instructor

Description

Module 1: Principles of laboratory techniques: spectrophotometry, chromatography, mass spectrometry, radioisotopes, electrophoresis, immunochemical techniques, electrochemistry, point-of-care devices, and lab automation. Module 2: Chemometrics: statistical procedures, selection and interpretation of lab procedures, reference intervals, clinical decision limits, quality control and method evaluation. Module 3: Laboratory management, quality and informatics.

Hours

Two class periods and one three-hour lab period.

When Offered

Offered in spring.

CHEM 307/3522 - Production Basics for Chemical Industries (3 cr.)

Prerequisites

CHEM 1006 .

Description

An overview of planning scale-up from laboratory to pilot plant, to production plant, with a focus on models for determining profitability of new projects, new products and new processes. Selected topics from: process design, plant layout and flowsheets, material and energy balances, mass and heat transfer, reactor kinetics, chemical economics, process design strategies and waste management.

When Offered

Offered in fall.

CHEM 000/3523 - Chemistry of Petrochemical Processes

Prerequisites

CHEM 3003

Description

Crude oil processing and production of basic, intermediate, and final petrochemicals; ethylene, propylene, butenes, benzene, toluene, xylene; non-hydrocarbon intermediates; higher paraffin-based chemicals; C4 olefins and diolefin-based chemicals; process technologies in petrochemical industries including thermal and catalytic cracking, reforming, dehydrogenation

When Offered

Offered in Spring

CHEM 399/3910 - Guided Studies in Environmental Sciences (3 cr.)

Description

Under faculty guidance, the student(s) will carry out a group individual project on an environmental related topic. The student(s) will present their results by submitting a common/individual report or by passing an examination, as determined by the supervisor.

Cross-listed

Same as BIOL 3910.

When Offered

Offered in fall and spring.

CHEM 301/3940 - Seminar in Science and Technology (1 cr.)

Prerequisites

Junior standing

Description

Weekly one-hour seminars in different areas of science and technology with emphasis on chemistry to be given by faculty and invited speakers from industries and other scientific communities.

When Offered

Offered occasionally

CHEM 402/4003 - Physical Chemistry II (3 cr.)

Prerequisites

CHEM 3004 , MACT 2141 and concurrent with CHEM 4013 .

Description

The kinetic theory of gases, chemical kinetics and dynamics, photochemistry, homogeneous and heterogeneous catalysis, surface chemistry including adsorption.

When Offered

Offered in fall.

CHEM 403/4004 - Physical Chemistry III (3 cr.)

Prerequisites

CHEM 3004 (or concurrent) and PHYS 2221 .

Description

Basic concepts and theory of quantum mechanics, applications to atomic and molecular spectroscopy; introduction to statistical thermodynamics.

When Offered

Offered in spring.

CHEM 406/4006 - Organic Chemistry III (3 cr.)

Prerequisites

CHEM 3006

Description

A continuation of the chemistry of monofunctional and polyfunctional compounds, including the chemistry of carbanions, condensation reactions, nucleophilic addition and multistep syntheses.

When Offered

Offered in spring.

CHEM 407/4007 - Food Processing and Preservation (3 cr.)

Prerequisites

CHEM 1006 .

Description

An overview of fruit, vegetable, cereal, dairy, seafood and meat science and technology. The principles of food processes, including refrigeration, freezing, heat processing, dehydration, fermentation, high pressure, irradiation, pulsed electric field and packaging. Commercial preservation technologies used in the preservation of minimally processed and processed foods.

When Offered

Offered in fall.

CHEM 408/4008 - Inorganic Chemistry II (3 cr.)

Prerequisites

CHEM 3009

Description

Coordination chemistry, transition metals and their complexes, theories of metal-ligand bonding, complexes of pi-acceptor ligands and organometallic compounds, reaction mechanisms of d-block complexes. Selected topics in nanochemistry, solid state chemistry, bioinorganic chemistry and/ or catalysis.

When Offered

Offered in spring.

CHEM 412L/4013 - Physical Chemistry II Laboratory (1 cr.)

Prerequisites

CHEM 3014 and concurrent with CHEM 4003 .

Description

Experiments in physical chemistry emphasizing chemical kinetics.

Hours

One three-hour lab period.

When Offered

Offered in fall.

CHEM 416L/4016 - Organic Syntheses (2 cr.)

Prerequisites

CHEM 3016 and CHEM 4006 .

Description

Organic Synthesis of compounds through one step or multistep, using different techniques for separation and purification. Several spectroscopic tools, (MS, IR, NMR & C¹³) are used to confirm the structure of synthesized compounds.

When Offered

Offered in fall.

CHEM 425/4025 - Clinical Chemistry II (3 cr.)

Prerequisites

CHEM 3025

Description

Module 1. Clinical analytes: amino acids, proteins, nucleic acids, lipids, carbohydrates, electrolytes, clinical enzymology, clinical toxicology, tumor markers, therapeutic drug monitoring, and vitamins. Module 2. Pathophysiology: hepatic, cardiac, renal, gastric, and pancreatic diseases, acid-base disorders, endocrine function, bone disease, organ transplantation, pregnancy and fetal development, and biochemical aspects of hematology.

Hours

Two class periods and one three-hour lab period

When Offered

Offered in fall.

CHEM 430L/4030 - Advanced Practical Organic Chemistry (3 cr.)

Prerequisites

CHEM 4016 and consent of instructor.

Description

Advanced organic multistep syntheses, identification of products by spectroscopy, semimicro quantitative determination of organic compounds.

When Offered

Offered occasionally.

CHEM 435/4035 - Advanced Organic Chemistry (3 cr.)

Prerequisites

CHEM 4006 consent of instructor.

Description

Specialized topics in the field of organic chemistry chosen according to specific interests; e.g. polynuclear aromatic compounds, heterocyclic compounds, carbohydrates, proteins, nucleic acids, physical organic chemistry.

When Offered

Offered occasionally.

CHEM 440/4040 - Molecular Symmetry and Applications (3 cr.)

Prerequisites

CHEM 3009 and consent of instructor.

Description

Molecular symmetry: basic principles and applications, molecular vibrations, construction of hybrid orbitals, delocalized molecular orbitals with emphasis on pi orbitals, ligand field spectra and construction of energy-level diagrams.

When Offered

Offered occasionally.

CHEM 000/4524 - Polymer Chemistry and Technology (3 cr.)

Prerequisites

(CHEM 3003 and CHEM 3522) or equivalent

Description

Mechanisms and kinetics of polymerization reactions of monomers; principles, limitations and advantages of various methods for molecular weight characterization; structure - physical properties relationship; specific catalysis for the control of polymeric stereo-specificity and morphology; polymer production and processing techniques

When Offered

Offered in Fall

CHEM 000/4900 - Industrial Internship (0 credits)

Prerequisites

Senior Standing

Description

Each student is required to spend a minimum of four weeks in Petrochemical Industrial Training in Egypt or abroad. A complete account of the experience is reported, presented and evaluated.

CHEM 444/4910 - Independent Study (1-3cr.)

Prerequisites

Prerequisite: consent of instructor, senior standing.

Description

In exceptional circumstances some senior Chemistry students, with departmental approval, may arrange to study a selected topic outside of the regular course offerings. The student and faculty member will select a topic of mutual interest and the student will be guided in research and readings. The student would demonstrate achievement either by submitting a report or passing an examination, according to the decision of the supervisor.

Repeatable

May be taken more than once if content changes.

Notes

A student may earn up to a total of three credits.

CHEM 414/4930 - Selected Topics in Chemistry (1-3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

Topics chosen according to special interests of faculty and students..

When Offered

Offered occasionally.

Repeatable

May be repeated for credit more than once if content changes

CHEM 495/4980 - Senior Thesis I (1 cr.)

Prerequisites

Senior standing.

Description

A capstone course. Each student selects a topic in his/her field of interest under the supervision of a faculty member. In this course, the student prepares an outline, assembles a bibliography, and develops a study plan under the supervision of the faculty advisor to be followed in preparing his/her project. The students are also expected to compose a theoretical background section that illustrates his/her knowledge of the range of equipment and techniques that will be used in obtaining and reporting the results of research. Each student is expected to deliver a seminar by the end of the semester that provides an overview of the research topic, anticipated outcomes and evaluation criteria.

When Offered

Offered in fall and spring.

Notes

May be substituted by a 400-level course in chemistry or other sciences with the approval of the department.

CHEM 496/4981 - Senior Thesis II (2 cr.)

Prerequisites

CHEM 4980 .

Description

A capstone course. Students will embark in this course on performing the actual work on the project topics selected in CHEM 4980 . After completion of this research study, the students are expected to compose in accordance with the departmental guidelines, a full thesis and give an oral presentation of the main results achieved.

CHEM 000/5200 - Environmental Physical Chemistry (3 cr.)

Description

Catalytic processes of ozone destruction; rates of free-radical reactions; supercritical gas pressure; fossil fuels and CO₂; molecular vibrations and energy absorption by greenhouse gases; petroleum refining and fractional distillation; thermochemical production of fuels; environmental problems of nuclear fuel; acid rain; long-range transport of atmospheric pollutants; toxic metals and compounds; oxidation-reduction chemistry in natural waters; water disinfection; activated carbon; the desalination of salty water

CHEM 501/5201 - Biochemistry (3 cr.)

Description

A basic course introducing the student to chemical bonds, structure of biomolecules, the structure and function of cellular components, protein structure and folding, carbohydrates metabolism, fatty acids oxidation, the kinetics of enzyme-catalyzed reactions, cellular metabolism, energy production, cellular regulatory processes, signal transduction cascades, and photosynthesis.

Cross-listed

Same as BIOT 5201.

CHEM 502/5202 - Organometallics (3 cr.)

Description

Structure and properties of different types of organometallic compounds, types of ligands, bonding, reactivity of organotransition metal compounds, applications in synthesis and catalysis.

CHEM 503/5203 - Advanced Organic Chemistry (3 cr.)

Description

This course discusses important organic classes, concepts, reactions and mechanisms not usually covered in depth in the undergraduate organic courses such as: heterocycles, photochemistry computational chemistry in modern organic chemistry and the art of planning multi-step syntheses.

CHEM 504/5204 - Methods of Structure Determination (3 cr.)

Description

Structure-properties relationships. Methods of structure determinations: diffraction methods, spectroscopic methods, resonance techniques, ionization-based techniques, magnetometry and other miscellaneous techniques. Case histories will be presented.

CHEM 505/5205 - Nanochemistry (3 cr.)

Description

This course introduces students to the basics of chemistry at the nanoscale, and would entail a general introduction to the nano world; physico-chemical considerations for properties at the nanoscale (band structures, typical and useful "nano effects" etc...); basic synthesis and fabrication methods for nano structures (top-down and bottom up approaches).

Cross-listed

NANO 5205

CHEM 000/5206 - Advanced Food Chemistry (3 cr.)

Description

Chemistry of food constituents, the changes these constituents undergo during processing, the chemistry and technology of meat and meat products, dairy products, fruit and vegetables, cereal products and alcoholic/non-alcoholic beverages, basic chemistry of color, odor and taste (sensory properties of foodstuffs).

CHEM 511/5211 - Applied Food Microbiology (3 cr.)

Description

This course consists of two lectures and one laboratory session per week. It is designed to train students on different aspects of food microbiology. It focuses on the biology and practical aspects of both pathogenic microorganisms and useful industrial bacteria associated with foodstuffs. The course also considers topics on food preservation regimes and laboratory methods for the detection of various food-borne bacteria. Much emphasis is being placed on practical training via extensive laboratory classes planned in this course. This training involves practical work on both classical and modern methodologies in food microbiology.

CHEM 512/5212 - Food Safety Assurance (3 cr.)

Prerequisites

CHEM 5211

Description

This course prepares students to participate in food safety monitoring and maintenance in various food industry and governmental health inspection sectors. The course encompasses topics on food-associated hazards and approaches to ensure food safety. In addition to lectures, the course will involve problem-based learning, class discussions and hands-on training on the application of food safety assurance systems. Multiple visits to modern safety units within food processing plants will be organized.

CHEM 513/5213 - Food Packaging (3 cr.)

Description

This course covers the principles of Food Packaging including the chemistry and technology of packaging materials (metal, glass, plastics, and paper/paperboard), It will also cover main packaging technologies (Modified Atmosphere Packaging, Aseptic Packaging, Active and Intelligent Packaging, etc.) and technical processes for the production of packaging materials (extrusion, co-extrusion, lamination, high vacuum metallization, etc.). It will stress the significance of the phenomena of migration and permeation in packaging materials and finally it will review the main applications of packaging to basic food commodities.

CHEM 514/5214 - Nutritional Evaluation of Food during Processing (3 cr.)

Description

The course is designed to provide the students with in-depth information on the principles of food selection and food preparation. This course covers the physical, chemical, and nutritional changes which occur in food during storage, cooking, processing and preservation.

CHEM 515/5215 - Food Additives, Contaminants and Legislation (3 cr.)

Description

The course discusses the principles and various aspects of food additive utilization. It will train students on how to use analytical techniques to distinguish between "natural" and "artificial" additives. Regulation and approval of additives for use in foods will be covered.

CHEM 516/5216 - Food Fermentation (3 cr.)

Description

Food fermentations by microorganisms play central roles in the processing and preservation of foodstuffs. The typical flavor and other sensory characteristics of fermented foods depend on the formation of specific fermentation products. This course covers the study of microorganisms responsible for fermentation, the biochemistry of microbial fermentations and the industrial aspects of the fermentation process. It also seeks to deliver up-to-date knowledge and practical training on various technologies of food fermentation.

CHEM 517/5217 - Sensory Evaluation of Food Products (3 cr.)

Description

This course consists of two lectures and one laboratory session per week. It investigates the nutritional, chemical, physical, and sensory properties of foods in relation to preparation procedures. It will present sensory characteristics of foods and assessment of color, texture, and flavor. The course will give the student the ability to apply sensory testing of foods, practice different types of sensory tests, and understand errors in sensory testing. It will assess the best environment for sensory testing and procedures of sensory testing, measurements and scales. Statistical analysis of sensory data such as discrimination tests, descriptive tests, hedonic tests, affective tests will also be discussed.

CHEM 518/5218 - Functional Foods and Nutraceuticals (3 cr.)

Description

Functional foods & nutraceuticals (FFN) and herbal products present some potential to improve the long-term health of the population through disease prevention. The move of FFN into the mainstream is part of the shift towards a preventative approach to health and disease and a move away from relying on pharmaceuticals to treat disease. This course introduces students to the FFN industry with its diversity of natural health products (NHP). Topics will cover classes of FFN and their connection to foods and drugs. Aspects of the development, production, quality control and assurance of FFN will be discussed. The safety and efficacy of individual FFN products are emphasized. Issues regarding the unique regulatory environment of natural health products and their influence on the development and commercialization of these products in global markets will be presented.

CHEM 519/5219 - Food Analysis (3 cr.)

Description

This course is designed to introduce students to the theory and application of chemical, physical and instrumental methods of food analysis. Modern separation and instrumental analysis techniques that are used for detection of food constituents (e.g. moisture, ash, nitrogen, protein, lipid, carbohydrate, vitamins, minerals, etc) as well as contaminants (e.g. mycotoxins, pesticide residues, antimicrobial agents, heavy metals, etc) are stressed. Topics will include sample handling, preparation and analysis as well as the evaluation and reporting of data. Key analytical and separation techniques such as spectroscopy, titration, potentiometry, atomic absorption, chromatography and mass spectrometry will also be presented.

CHEM 541/5241 - The Chemistry of Nanostructures (3 cr.)

Prerequisites

CHEM 5205

Description

This course addresses the synthesis and chemical properties of the different categories of nanostructures such as carbon

NANOubes/nanorods/ etc..., fullerenes, colloids, Self-assembled monolayer structures (SAMs), dendrimers and other macromolecules, oxide and inorganic nanotubes/fibers/rods/etc. For each category examples of applications would be giving to demonstrate the applicability of the properties discussed.

Cross-listed

NANO 5241

CHEM 542/5242 - Nanoelectrochemistry (3 cr.)

Prerequisites

CHEM 5205

Description

This course addresses the fundamentals of electrochemistry, and their application to the synthesis of nanostructures, together with applications (e.g. sensors, fuel cells, batteries, electrolysis, photovoltaic cells, reduction of carbon dioxide, environmental remediation, water disinfection, ect...). Characterization and analysis techniques would also be addressed.

Cross-listed

NANO 5242

CHEM 552/5910 - Independent Study in Chemistry (3 cr.)

Prerequisites

Consent of instructor.

Description

Independent study in various problem areas of biotechnology may be assigned to individual students or to groups. Readings are assigned and frequent consultation held. Students may sign for up to 3 credits towards fulfilling M.Sc. requirements.

CHEM 551/5930 - Selected Topics in Chemistry (3 cr.)

Prerequisites

Consent of instructor

Description

Topics include: polymer science, quantum chemistry and spectroscopy, and molecular symmetry and applications.

CHEM 590/5940 - Graduate Seminar I (2 cr.)

Description

Seminars on research topics, research methodology, and thesis writing and presentations given by invited speakers.

CHEM 591/5941 - Graduate Seminar II (1 cr.)

Prerequisites

CHEM 5940 .

Description

Seminars on research topics given by invited speakers and on research plans given by students to discuss their thesis topics and the results obtained in their work.

CHEM 599/5980 - Research Guidance and Thesis (3 cr. + 3 cr.)

Description

Consultation on problems related to student thesis. Must be taken twice for a total of 6 credits.

CHEM 603/6103 - Bioseparation Processes for Food and Pharmaceutical Industries (3 cr.)

Prerequisites

Consent of instructor.

Description

This course deals with the separation processes used in food and pharmaceutical industries for the isolation and purification of biological molecules. The focus is on the science and engineering concepts underlying the separation, as well as the process calculations associated with each bioseparation unit operation. Key topics include principles and design calculations of centrifugation and cell disruption, extraction phase separations and equipment design, absorption equilibrium and column dynamics, chromatography plate theory, chromatography equipment and methods, dynamic scale-up, electric-field based methods, engineering analysis of membrane processes, membrane concentration polarization and fouling, modeling of filtration processes, crystallization and drying operations, and overall process development.

When Offered

Offered in fall and spring.

CHEM 615/6105 - Principles and Applications of Mass Spectrometry (3 cr.)

Prerequisites

CHEM 5204 or consent of instructor.

Description

This course addresses the theory of mass spectrometry and develops the technique as a modern analytical tool to solving research problems in chemistry and biochemistry. It also addresses gas-phase ion chemistry. The course will be delivered in three sections: instrumentation, theory and applications. Topics will include ionization techniques, mass separation techniques and mass analyzers, ion dissociation, ion mobility, in addition it will include sophisticated experimental methods, such as tandem in space and tandem in time mass spectrometry. Mass spectral interpretation will also be covered for various applications, including environmental, food chemistry and medical sciences.

CHEM 000/6107 - Chemistry of Natural and Synthetic Polymers (3 cr.)

Prerequisites

Description

Synthesis and characterization of natural and synthetic polymers, their applications in drug delivery systems, food and goods storage and packaging, polymer nanocomposites, polymeric membranes.

CHEM 640/6240 - Nanoporous Materials (3 cr.)

Prerequisites

NANO 5205

Description

Review of the field of nanoporous materials. Synthesis, characterization and surface modification. Adsorption and separation processes, biological and catalytic applications. Nanoporous materials for the removal of pollutants in the gaseous and liquid phases.

CHEM 000/6910 - Independent Study in Chemistry (3 cr. max.)

Description

Independent study in various problem areas of Chemistry may be assigned to individual students or to groups. Readings assigned and frequent consultations held.

CHEM 000/6930 - Advanced Selected Topics in Chemistry (3 cr.)

Description

Topics chosen according to special interests of faculty and students. May be repeated for credit more than once if content changes.

CHEM 699/6980 - Research Guidance Dissertation (3 cr.)

Description

Consultation on problems related to student thesis. To be taken 11 times for credit.

SCI 105/1005 - Science and Technology of Ancient Egypt (3 cr.)

Prerequisites

Prerequisite: Not for credit for Science, Engineering and Computer Science students.

Description

Development of civilization in ancient Egypt. Primitive time reckoning and measurement. Building materials. Outline of the different chemical arts and crafts which developed in Egypt as interpreted from mural paintings and works of art.

Mummification. Aspects of mathematics and medicine in ancient Egypt.

When Offered

Offered in fall and spring.

SCI 109/1009 - Exploration of the Universe (3 cr.)

Prerequisites

Prerequisite: Not for credit for Science, Engineering and Computer Science students.

Description

An introduction to historical and conceptual developments in astronomy. Stars and galaxies: the sun as a case history in stellar evolution; the formation of elements in the stars. A survey of the sky with particular attention to the solar system: the members of the solar system as physical bodies with specific structures and as entities whose motion characteristics can be understood and predicted.

When Offered

Offered in fall and spring.

SCI 150L/1015 - General Science Laboratory (1 cr.)

Prerequisites

SCI 1020 or concurrently and not for credit for Science, Engineering and Computer Science students, except for Actuarial Science students.

Description

Introduction to experimental techniques of measurement in the general fields of physics, chemistry, and other sciences.

Hours

One three-hour lab period.

When Offered

Offered in fall, spring, and occasionally in winter and summer

SCI 120/1020 - Scientific Thinking (3 cr.)

Description

The course emphasizes the unifying aspects of the scientific approach to the study of nature and human behavior. About one-third of the course is devoted to scientific inquiry and investigation. The course focuses on fact identification and concept formation and testing. In the remaining parts, the students are exposed to applications of the approach in various disciplines. The course sets some basic concepts and theories of science into broad historical, philosophical, and cultural context and traces the development of these theories to their present status. This serves the double purpose of acquainting students with the appropriate setting in which a given idea gained relevance and exposing them to the evolution toward the current methods of investigation. Moral and ethical issues in science are examined.

When Offered

Offered in the fall and spring.

SCI 199/1930 - Selected Topic for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

SCI 240/2004 - Chemistry, Art and Archaeology (3 cr.)

Description

The course provides students with some grounding in the application of Natural Sciences to the solution of problems related to Art and Archaeology and instigates in them an appreciation of the complementary contributions of the Humanities and Sciences to the study of particular phenomenon. Students are introduced to analytical scientific techniques on a need to know basis depending on relevant applications. Celebrated cases of fakes and forgeries are discussed. The course aims at enhancing the student's analytical ability and skills to solve problems related to forgery.

When Offered

Offered in fall and spring.

SCI 250/2005 - Introduction to Geology (3 cr.)

Description

The environment of Earth and the natural forces that shape it; Earth's materials, origin and its 4.5 billion years history; geological events and their implications in finding oil and gas and other natural energy resources; economic contributions of geology to the environment; special case studies with emphasis on Egypt are discussed.

When Offered

Offered in fall and spring.

SCI 260/2006 - Environmental Geology (3 cr.)

Description

Environmental geology is applied geology focussing briefly on the entire spectrum of possible interactions between people and the physical environment.

When Offered

Offered occasionally.

SCI 251L/2015 - Introduction to Geology Lab (1 cr.)

Description

Introduction to the physical properties of the earth material. Identification of minerals and all types of rocks; mode of preservation and identification; of fossils; topographic maps and map readings; geological maps and cross sections; remote sensing (aerial photography).

Hours

One three-hour lab period.

When Offered

Offered in fall and spring.

SCI 302/3002 - Science, Technology and the Environment (3 cr.)

Prerequisites

Prerequisites: Junior standing or higher.

Description

An introductory, multidisciplinary approach to studying the relationships between science, technology and the environment. Principles of ecosystem structure, function, balance, communities and populations. Principles of environmental sciences, outline of crises, overpopulation, depletion and pollution. Framework for understanding environmental problems. Group projects, aimed at exploring broad range of environmental issues from an interdisciplinary approach, constitute a major component of the course.

When Offered

Offered occasionally.

SCI 450/4005 - Geology of Raw Materials (3 cr.)

Prerequisites

SCI 2005 or consent of instructor

Description

An interdisciplinary study. The geology of naturally occurring minerals, methods for determining the utility of natural resources, and the environmentally sound industrial conversion of raw materials. Particular attention given to the natural resources of Egypt, especially to their importance in economic development.

When Offered

Offered occasionally.

CREL 299/2096 - Selected Topics for the Core Curriculum in International/World Studies (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

CREL 299/2097 - Selected Topics for the Core Curriculum in Arab World Studies (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

CREL 299/2099 - Selected Topics for Core Curriculum (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

CREL 135/2601 - Dimensions of the Sacred: Exploring Religious Experience (3 cr.)

Description

What defines religion? What might explain the practically universal impulse to recognize the divine? This course investigates a variety of religions, according to common dimensions held by them that run across cultures: the social; the ethical; the doctrinal; the ritual; the mythic; the experiential; and the artistic.

CREL 210/2603 - Religions of the World (3 cr.)

Description

An introduction to the academic study of religion. By looking at the history, beliefs, practices, institutions and cultural expressions of a number of different religions, students will broaden their understanding of religions other than their own, and of the diversity of the human religious experience. Students will learn to appreciate the variety of the religions of the world, and the similarities and differences between them.

CREL 212/2605 - The Quest for the Historical Jesus (3 cr.)

Description

Investigates the life and teachings of Jesus of Nazareth within the context of Second Temple Judaism and Greco-Roman culture. Considers a range of pre-modern and modern interpretations of Jesus and the emergence of Christianity.

Cross-listed

Same as HIST 2604.

When Offered

Offered occasionally

CREL 220/2606 - Hinduism and Buddhism in India (3 cr.)

Description

This course will explore the major dimensions of the two most important religions in India from 1500 BCE to 1000 CE. Along with providing an introduction to these two traditions, the course will give particular attention to the ways in which these religions have interacted historically.

CREL 230/2607 - Pilgrimage Traditions in the World's Religions (3 cr.)

Description

This course examines pilgrimage as a unifying theme in exploration of human religiosity. While we will focus on what are called "ritual pilgrimages", such as the Islamic hajj, we will also explore pilgrimage more metaphorically, by looking at the allegorical, mythological, and visionary journeys. As frameworks for our analyses, we will also look at humanistic and social scientific interpretive and theoretical models concerning pilgrimage.

CREL 333/3209 - Zionism and Modern Judaism (3 cr.)

Description

The Zionist ideology and movement in its own terms, and in the context of modern Judaism. The course places Zionism in its historical and religious contexts, and examines its varieties. The Zionist movement is followed from its origins to the establishment of Israel. Related aspects of Israeli politics are then examined, with especial reference to ideological and religious debates

Cross-listed

Same as HIST 3208.

CREL 320/3608 - Masters, Saints, and Saviors: Sacred Biography in the World's Religions (3 cr.)

Description

This course will explore one of the most important subjects in religious literature, the lives of great spiritual figures. We will investigate a variety of biographical and autobiographical materials from several different religious traditions, examining both form and function and testing whether or not we can make useful cross-cultural comparisons.

CREL 529/5609 - World Religions and the Study of Religion (3 cr.)

Prerequisites

Prerequisite: Enrollment in the Islamic Studies MA program.

Description

This course will introduce students to the great world religions other than Islam, and will introduce them to current theories and methods in the academic field of Religious Studies.

Cross-listed

Same as ARIC 5245.

CSCE 106/1001 - Fundamentals of Computer Science (3 cr.)

Prerequisites

Prerequisite: College level preparation course in Mathematics or MACT 1111 .

Description

Introduction to the discipline of computing. Computer systems, number systems, data representation and basic computer organization. Basic Math concepts, functions and propositional logic. Problem solving, abstraction, design and programming. Selection structures, repetition and loop statements. Modular programming. Basic testing and debugging of programs. Introduction to programming in C++. Professional Ethics for computer professionals.

When Offered

Offered in fall and spring.

CSCE 102/1002 - Introduction to Computers and their Applications (3 cr.)

Description

Introduction to computer-related terms and concepts. Scope limitations of the computer capabilities. Ethics and social impact of using computers. Basic skills related to the familiarity and efficient use of computer input/output devices, operating systems and computer communications. Training on popular computer applications (e.g. word processing, spread sheet, database and presentation graphics). Limited programming experience in a high-level language.

When Offered

Offered in fall and spring.

Notes

This course is intended for arts students.

CSCE 110/1101 - Programming Fundamentals (3 cr.)

Prerequisites

CSCE 1001

Description

Overview of basic programming constructs. Functions, parameter passing and files. Data modeling with arrays, structures and classes. Pointers and linked lists. Recursion. Basic program design and analysis, testing and debugging techniques. Programming in C++. Program development using modern APIs.

When Offered

Offered in fall and spring.

CSCE 210/2201 - Data Structures and Algorithms (3 cr.)

Prerequisites

CSCE 1101

Description

The role of data structures in software engineering and algorithm design. Abstract data types and classes: concepts, data models, and levels of abstraction. Recursion. Analysis of algorithms. Elementary data structures and their

implementation: arrays, strings, structures and files. Specification, implementation and application of stacks, queues, lists, trees and graphs. Searching and sorting algorithms.

When Offered

Offered in fall and spring.

CSCE 230/2301 - Digital Design I (3 cr.)

Prerequisites

PHYS 2211 or Concurrent

Description

Basic logic gates, Boolean algebra, logic minimization algorithms, modular design of combinational circuits, introduction to computer arithmetic, memory elements, sequential circuits, Finite State Machines analysis and design, top-down digital systems design approach, timing aspects of digital systems. Exposure to modern Electronic Design Automation tools, Hardware Description Languages and programmable logic devices. The laboratory component will cover experiments in digital electronics.

When Offered

Offered in fall and spring.

CSCE 239L/2302 - Digital Design I Lab (1 cr.)

Prerequisites

Concurrent with CSCE 2301 .

Description

The laboratory will cover experiments in digital design and experiments illustrating material of course CSCE 2301 .

When Offered

Offered in fall and spring.

CSCE 231/2303 - Computer Organization and Assembly Language Programming (3 cr.)

Prerequisites

CSCE 1101 and either CSCE 2301 * or ECNG 2101

*can be taken concurrently

Description

Explaining the state of the art computer systems focusing on major components: CPU,I/O, and memory. In-depth discussion of the instructions set architecture of the MIPS microprocessors. This includes different types of assembly instructions doing basic arithmetic, data movement, decision making, and jumping. Discussing different performance matrices of microprocessors and how to measure and analyze performance and evaluate speedups. Going through basic computer arithmetic covering integer and floating point operations. Discussing I/O ports, I/O devices and controllers, DMA channels, priority interrupts. Also discussing different I/O technologies, such as magnetic disks, flash disks, and optical storage. It also discusses the latest trends in microprocessors design and programming (such as SIMD and MIMD).

Cross-listed

Same as ECNG 3502.

When Offered

Offered in fall and spring.

CSCE 253/2501 - Fundamentals of Database Systems (3 cr.)

Prerequisites

CSCE 2201 .

Description

Basic concepts, database system environment, DBMS. Components and architecture access structures, indexing and hashing, high-level data models, ER and EER model, the relational model, relational languages, relational algebra, relational calculus, SQL, introduction to functional dependencies and normalization, social and ethical context of databases.

When Offered

Offered in fall and spring.

CSCE 201/2502 - Information Technology (3 cr.)

Prerequisites

Prerequisite: Sophomore standing or higher.

Description

Module 1: The Components of Information Technology: data technology, processing technology, and networking technology. Module 2: Computer Ethics and Social Issues. Module 3: Business, Economic and Development Impacts of Information Technology. Module 4: Computer Applications (in which students will be given the chance to create, modify and interact with sophisticated computer applications.)

When Offered

Offered once every year.

CSCE 315/3101 - Programming Language (1-2 cr.)

Prerequisites

CSCE 2201

Description

A programming language different from those studied in CSCE 1001 and CSCE 1101 will be presented according to the interest of both students and faculty.

When Offered

Offered occasionally.

Repeatable

Students may repeat this course with different languages but only a maximum of four credits can be counted toward the concentration requirements.

CSCE 316/3102 - Programming in Java (3 cr.)

Prerequisites

CSCE 2201

Description

This course offers intermediate programming concepts in the Java programming language to include virtual machines, dynamic type checking, object serialization, inheritance and polymorphism, file manipulation, interfaces and packages. Java Applets, event handling, multithreading and network-based application development in Java are also covered along with a set of selected topics such as remote method invocation and remote database access using the language.

When Offered

Offered occasionally.

CSCE 317/3103 - Object Oriented Programming (3 cr.)

Prerequisites

CSCE 2201

Description

In-depth study of a typical object-oriented programming language (C++) from a software engineering perspective, with emphasis on features supporting the development of large, efficient and reusable object-oriented applications. Principles and practice of three software development paradigms: developing classes from scratch, reuse of existing classes, incremental extension of frameworks. Encapsulation, templates, polymorphism, dynamic binding and virtual methods, operator's overloading, complex associations, dynamic aggregation, inheritance (single and multiple), exception handling, the standard template library. Introduction to UML for describing program designs.

When Offered

Offered Occasionally.

CSCE 325/3104 - Concepts of Programming Languages (3 cr.)

Prerequisites

CSCE 2201

Description

Comparative study of abstraction, syntax, semantics, binding times, data and sequence control, run-time resources, translators, and storage of programming languages. Programming projects using selected programming languages to enhance practical aspects.

When Offered

Offered in fall and spring.

CSCE 321/3201 - Analysis and Design of Algorithms (3 cr.)

Prerequisites

CSCE 2201 and MACT 2131

Description

Design and analysis of basic classes of algorithms: Divide and conquer, greedy methods, tree and graph traversals, and backtracking. Applications to problems such as sorting and searching, traveling salesperson, and knapsack. Theory of complexity.

When Offered

Offered in fall and spring.

CSCE 330/3301 - Computer Architecture (3 cr.)

Prerequisites

CSCE 2301 and CSCE 2303

Description

The objectives of this course are to introduce the principles of Modern Computer Architecture and design. Topics to be discussed include Instruction Set Architectures, Arithmetic Logic Unit design, CPU data path design, CPU pipelining, memory hierarchy, cache and virtual memory, and introduction to I/O.

Cross-listed

Same as ECNG 4505.

When Offered

Offered in fall and spring.

CSCE 339L/3302 - Computer Architecture Lab (1 cr.)

Prerequisites

Prerequisite: Concurrent with CSCE 3301

Description

The laboratory will cover experiments in computer architecture and hardware design and experiments illustrating material of course CSCE 3301 .

Cross-listed

Same as ECNG 4508L

When Offered

Offered in fall and spring.

CSCE 332/3303 - Fundamental Microelectronics (3 cr.)

Prerequisites

PHYS 2211

Description

Devices and Basic Circuits: Introduction to Electronics, Operational Amplifiers, Diodes, Bipolar Junction Transistors (BJT's), Field Effect Transistors (FET's), MOS and bipolar logic families, design parameter analysis, storage elements, interfacing logic families, Operational amplifiers.

When Offered

Offered in fall.

CSCE 337/3304 - Digital Design II (3 cr.)

Prerequisites

CSCE 2301 , CSCE 3303 .

Description

VLSI fabrication, Design of complex CMOS gates, Combinational and Sequential logic structures in VLSI; Semiconductor memories and array structures; Introduction of ASIC design techniques and tools; design and programming of FPGAs using CAD tools; timing in sequential circuits; essential hazards; races in sequential circuits; Digital systems design; Datapath and Control design; Modeling and simulation; Fault models and testing.

When Offered

Offered in spring.

CSCE 333/3311 - Data and Computer Communications (3 cr.)

Prerequisites

CSCE 2201 and PHYS 2211

Description

Data transmissions. Transmission media, data encoding, data link control, and multiplexing. Introduction to wide area networks and local area networks technology and systems.

When Offered

Offered in fall and spring.

CSCE 345/3401 - Operating Systems (3 cr.)

Prerequisites

CSCE 2201 and CSCE 3301

Description

Operating systems concepts and structure. The Kernel, interrupts, system calls. Process concepts, operations, and implementation. Threads. Concurrency, interprocess communication and synchronization. Process scheduling. Resources and deadlocks. Memory management: swapping, paging, segmentation, virtual memory. File system interface, protection. Case studies: Windows, Linux, and MINIX.

When Offered

Offered in fall and spring.

CSCE 342/3421 - Computer Systems (3 cr.)

Prerequisites

CSCE 1001

Description

This course exposes attendees in breadth to the most viable systems relating to Information Technology, and their associated administration. This includes networking fundamentals and related management, operating systems,

computer organization and architecture, hardware, firmware, and enterprise applications.

When Offered

Offered in fall.

Notes

This course is not available for either Computer Science or Computer Engineering students.

CSCE 346/3422 - Introduction to Information Security (3 cr.)

Prerequisites

CSCE 1101 .

Description

This course introduces foundations of information security. It addresses cyber-security issues and common threats, basics of network security, general security principles and practices, basics of cryptology and cryptanalysis, information security management, and other selected topics.

Not allowed for Computer Science or Computer Engineering students.

When Offered

Offered in spring.

CSCE 363/3611 - Digital Signal Processing (3 cr.)

Prerequisites

PHYS 2211 and junior standing.

Description

Characterizations of signals, ADC and DAC, Fourier series and Fourier transform for discrete and continuous time signals, sampling, Digital spectrum analysis, discrete transforms, digital filters, audio and image processing applications.

When Offered

Offered in spring.

CSCE 341/3701 - Software Engineering (3 cr.)

Prerequisites

CSCE 2201

Description

Basic concepts of software engineering project management, ethical and social issues as well as the software development life cycle. Techniques for software specification, design, implementation, validation, verification and documentation. State-of-the art tools for computer-aided software engineering (CASE tools) are used to support term projects.

When Offered

Offered in fall and spring.

CSCE 447/4101 - Compiler Design (3 cr.)

Prerequisites

CSCE 3104 .

Description

Principles and practices in the design of compilers. Lexical analysis. Syntax analysis, top-down and bottom-up parsing. Syntax-directed translation and syntax trees. Declarations, types, and symbol management. Run-time environments, storage organization, parameter passing, dynamic storage allocation. Intermediate languages and intermediate code generation. Code generation and optimization.

When Offered

Offered in fall and spring.

Notes

Project: students construct a simple compiler that generates unoptimized code.

CSCE 422/4201 - Theory of Computing (3 cr.)

Prerequisites

MACT 2131 and Senior standing.

Description

Finite automata and regular expressions, context-free grammars and push-down automata, nondeterminism. Context-sensitive grammars and the Chomsky hierarchy of grammars. Turing machine and the halting problem. Undecidable problems. Church's Conjecture and its implications.

When Offered

Offered in fall and spring.

CSCE 432/4301 - Embedded Systems (3 cr.)

Prerequisites

CSCE 3401 or concurrent.

Description

Embedded processor architecture and programming, I/O and device driver interfaces to embedded processors with networks, video cards and disk drives. Using operating systems primitives for concurrency, timeouts, scheduling, communication and synchronization, Real-time resource management techniques, and application-level embedded system design concepts such as basic signal processing and feedback control.

When Offered

Offered in spring.

CSCE 438L/4302 - Embedded Systems Lab (1 cr.)

Prerequisites

Concurrent with CSCE 4301

Description

The laboratory will cover experiments in embedded systems illustrating material of course CSCE 4301 .

When Offered

Offered in spring.

CSCE 435/4311 - Wide Area Networks (3 cr.)

Prerequisites

CSCE 2201 and PHYS 2211

Description

Communication architecture and protocols. Networks, internetworking and transport protocols. Issues of mobile computing, network security, and network applications.

When Offered

Offered in fall.

CSCE 439L/4312 - Wide Area Networks Lab (1 cr.)

Prerequisites

Concurrent with CSCE 4311

Description

The laboratory will cover experiments in computer networks illustrating material of course CSCE 4311 .

When Offered

Offered in fall.

CSCE 437/4313 - Local and Metropolitan Area Networks (3 cr.)

Prerequisites

CSCE 3311

Description

Introduction to LAN, MAN and WAN. Topologies and transmission media. Protocol Architecture and Logical Link Control. Traditional LANs. High-Speed Ethernet-Like LANs, FDDI. ATM LANs. Wireless LANs. Network performance and management.

When Offered

Offered in spring.

CSCE 436L/4314 - Local Area Networks Lab (1 cr.)

Prerequisites

Concurrent with CSCE 4313

Description

The laboratory will cover experiments in Local Area Networks to support and illustrate the material of the course CSCE 4313 .

When Offered

Offered in spring.

CSCE 445/4411 - Fundamentals of Distributed Systems (3 cr.)

Prerequisites

CSCE 3401

Description

Introduction to distributed systems. Modeling, specifications, consistency, fault tolerance, interprocess communication, network and distributed operating systems, distributed mutual exclusion, distributed deadlock detection, load balancing and process migration.

When Offered

Offered in fall.

CSCE 446/4421 - Computer Security (3 cr.)

Prerequisites

CSCE 3401

Description

Fundamentals of computer security. Identification and authentication. Access control, different approaches for inclusion of a security kernel. Security in UNIX and Windows. How security is broken and how it is evaluated. Distributed systems security, World Wide Web security, and network security. Practical experience to be gained through an assigned project to evaluate the security of a real operational system.

When Offered

Offered occasionally.

CSCE 453/4501 - Database Systems (3 cr.)

Prerequisites

CSCE 2501

Description

Advanced relational database theory: functional dependencies, multivalued dependencies, join dependencies, inclusion dependencies. System catalog implementation, query optimization techniques, transaction processing, concurrency control, database security, backup and recovery strategies. Advanced data modeling (e.g. object-oriented databases), distributed and client server architectures, and further exposure to social and ethical issues in databases.

When Offered

Offered occasionally.

CSCE 456/4502 - Design of Web-based Systems (3 cr.)

Prerequisites

CSCE 2501

Description

Introduction to the Web as a platform, the Web as an n-tier client-server architecture, basic components of a web-based application, developing static and dynamic web pages. Enhancing Web pages using Scripting languages. Developing Web-based applications. Using Server-extension techniques and tools. Introduction to XML and its associated technologies. Emerging technologies and tools on the web. Wireless Web protocols and techniques.

When Offered

Offered in fall and spring.

CSCE 401/4503 - Internet-based Information Systems (3 cr.)

Prerequisites

MOIS 2101

Description

The World Wide Web as a business domain, E-Business and E-Commerce, Network Options and Infrastructure, HTML/XML and WWW Site Design, Emerging technologies, WWW Tools, Internet Issues and Implications (Security issues, social and ethical issues, legal issues), Costs and Resources, Internet Services Providers.

When Offered

Offered in fall and spring.

CSCE 465/4601 - Artificial Intelligence (3 cr.)

Prerequisites

CSCE 3104 and MACT 2131

Description

Problem spaces and application areas in engineering and science. LISP or PROLOG programming. AI architecture, knowledge representation, hierarchical planning. Machine learning and Connectionist models. Parallel and distributed AI. Object-oriented Knowledge representations. Students will use an AI programming language to solve some of the famous AI problems.

When Offered

Normally offered in fall.

CSCE 427/4602 - Introduction to Artificial Neural Networks (3 cr.)

Prerequisites

CSCE 2201 MACT 2123 and MACT 2132

Description

An introduction to basic concepts in the design, analysis, and application for computational neural networks. Mathematical models of biological neurons. Multilayer perceptrons backward error propagation. Hopfield networks and Boltzmann machines. Radial-basis function networks. Kohonen self-organizing feature maps. Adaptive Resonance

Theory networks.

When Offered

Offered Occasionally.

CSCE 455/4621 - Computer Graphics (3 cr.)

Prerequisites

CSCE 2201 and MACT 2132 or concurrent.

Description

Overview of graphic systems and interactive devices. Output primitives and their attributes. Two-dimensional transformations, segments, windowing, and clipping. Introduction to three-dimensional representation and viewing.

When Offered

Offered occasionally.

CSCE 441/4701 - Object-Oriented Analysis and Design (3 cr.)

Prerequisites

CSCE 3701 .

Description

The structure of complex systems. The evolution and elements of the object model. The nature of objects and classes. Relationships among classes and objects. Object-oriented analysis and design. Putting key object-oriented techniques to work in constructing large-scale software systems. Case studies covered to demonstrate the use of an object-oriented development process in the construction of software systems. Object-oriented metrics. Testing object-oriented software. Performance evaluation. Advanced topics including design patterns and component-based software development.

When Offered

Offered occasionally

CSCE 448/4702 - Secure Systems Engineering (3 cr.)

Prerequisites

CSCE 3701 and CSCE 3401

Description

This course introduces the main security problems found in contemporary systems and addresses how such problems are introduced and how we may work towards their eradication. The course enables students to treat security issues as an important and integral part of system design and development. It also provides them with a solid understanding of the basic ideas and techniques used in assessing and addressing security risks.

When Offered

Offered in fall and spring.

CSCE 495/4910 - Guided Studies in Computer Science and Engineering (1-3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

Under the guidance of a faculty member, the student carries on a reading, research, or a project on a specific computer-science topic. The student will present his/her results by submitting a report or passing an examination as determined by the supervisor.

When Offered

Offered in fall and spring.

CSCE 485/4930 - Selected Topics in Computer Science and Engineering (1-3 cr.)

Prerequisites

Permission of instructor.

Description

Topics chosen according to special interests of faculty and major students. May be repeated for credit more than once if content changes.

When Offered

Offered in fall and spring.

CSCE 490/4950 - Industrial Training (1 cr.)

Prerequisites

Prerequisite: junior standing.

Description

Each student is required to spend a minimum of eight weeks in some related computer training in Egypt or abroad. A report followed by discussion is submitted to a departmental committee for evaluation.

When Offered

Offered in fall and spring.

Notes

Graded pass or fail

CSCE 491/4980 - Senior Project I (1 cr.)

Prerequisites

Completion of all required, concentration, 3000-level and must have taken two 4000-level concentration courses or concurrent.

Description

Participating students select project topic according to their subject of interest and the availability of facilities and advisors. Students carry out necessary preliminary work and submit a progress report. Ethical responsibilities of a computing professional are covered by lectures and seminars and emphasized through the student's team work.

When Offered

Offered in fall and spring.

CSCE 492/4981 - Senior Project II (2 cr.)

Prerequisites

CSCE 4980

Description

Participating students carry on the plan of work they developed in CSCE 4980 . Each participant gives an oral presentation of his/her results. On the approval of the supervisor, each group prepares and presents a complete package. Further ethical issues of the computing profession are covered and emphasized all over the course work.

When Offered

Offered in fall and spring.

CSCE 525/5221 - Algorithms and Complexity Theory (3 cr.)

Description

Measures of the complexity of algorithms. Amortized complexity. Greedy algorithms. Dynamic programming. NP-Completeness and lower-bound theory. Cook's Theorem. Techniques for proving problems NP-complete. Complexity of parallel algorithms. Well-parallelizable and hardly-parallelizable problems.

CSCE 529/5222 - Design and Analysis of Parallel Algorithms (3 cr.)

Description

PRAM model and work-time presentation framework. Basic parallel algorithm design techniques: balanced problem decomposition, printer jumping, divide and conquer, partitioning, pipelining, accelerated cascading, symmetry breaking. Parallel searching and sorting. Parallel pattern matching. Randomized parallel algorithms.

CSCE 530/5231 - Advanced Processor Architecture (3 cr.)

Prerequisites

CSCE 3301

Description

Advanced topics in modern microprocessor microarchitecture especially as they relate to systems and applications software. Modern "core" CPU design: Instruction Level Parallelism, (ILP: Instruction Level Parallelism via software), Dynamic Instruction Level Parallelism by hardware (Dynamic scheduling, Superscaling, Reservation stations, Instruction Reordering buffers, Speculative instruction execution, Out-of-order instruction execution and retirement), Static and Dynamic Branch prediction techniques & VLIW technology. CMP (Chip Multiprocessing), Chip multithreading design and applications. Basics of parallel software design issues and how they interact with the architecture. All topics are illustrated by state of the art Microprocessors.

CSCE 535/5232 - High Speed Networks (3 cr.)

Prerequisites

CSCE 4311 or equivalent.

Description

Introduction to the need for Giga-bit networks and the technology support of that demand. Changes required to support this high rate of data, voice, and live video. Over view of IDN, ISDN, and B-ISDN. Fiber Optics Medium. Cell networking. ATM (Asynchronous Transfer Mode). Switching and switches. Traffic control in ATM networks. ATM Local Area Networks.

CSCE 545/5241 - Distributed Systems (3 cr.)

Description

Models of concurrency, specifications of distributed systems, consistent global states, fault tolerance and related problems, interprocess communication, distributed file systems, replication mechanisms, distributed operating systems, real-time distributed systems, transputers, and case studies of distributed systems.

CSCE 532/5242 - Parallel Computer Architecture (3 cr.)

Prerequisites

CSCE 5231

Description

Analysis and design of high-performance computer systems, pipelining techniques, cache design, instruction level parallelism, parallel and vector architectures, shared memory multiprocessors, message passing multicomputers, data flow architectures, scalability and performance, software for parallelism.

CSCE 565/5261 - Advanced Artificial Intelligence (3 cr.)

Description

Problem Solving by Search, Knowledge Representation and Reasoning, Planning, Quantifying Uncertainty, Probabilistic Reasoning, Learning from Examples, Learning Probabilistic Models, and Reinforcement Learning.

Cross-listed

Same as RCSS 5245.

CSCE 527/5262 - Neural Networks and Genetic Algorithms (3 cr.)

Description

Basic concepts on artificial neural networks, non-symbolic vs symbolic information learning systems. Unsupervised learning networks, supervised learning networks, neural network hardware. Evolutionary computations, genetic algorithms, evolutionary programming, genetic programming. Hybrid systems integrating classical AI techniques with biologically-based techniques, and some applications.

CSCE 561/5263 - Knowledge Engineering (3 cr.)

Description

Introduction to knowledge based system development life cycle, acquiring knowledge from domain experts, text, and data, machine learning techniques used to automate the knowledge acquisition process, knowledge modeling approaches, design and implementation of knowledge based systems, knowledge based systems verification and validation techniques.

CSCSE 569/5264 - Natural Language Processing and Machine Translation (3 cr.)

Description

Introduction to syntactic and semantic analysis of natural languages with emphasis on English and Arabic. Issues on word sense disambiguation, parsing formalism, and discourse analysis; machine translation techniques: transfer, knowledge based and statistical approaches.

CSCSE 564/5265 - Web Mining (3 cr.)

Description

Introduction to web data mining including web usage mining, structure mining, and content mining. Web mining techniques: data and text classification, data and text clustering, association, and path analysis. Applications of web mining: personalization, summarization, web page ranking, opinion mining, information extraction, topic tracking and others.

CSCSE 567/5266 - Computer Vision (3 cr.)

Prerequisites

Approval of Instructor.

Description

Image formation, image filtering and features detection, SIFT and HOG, segmentation, object detection with sliding windows, bag of words, OpenCV library, camera 3D to 2D projection, stereo vision, shape from X, object registration, model matching, and virtual reality.

CSCSE 563/5267 - Digital Image Processing (3 cr.)

Description

Image acquisition, color representation, quantization, image transforms, enhancement, filtering, multi-spectral processing, image restoration, image segmentation, morphological transform, compression, and applications.

CSCSE 555/5268 - Computer Graphics and Animation (3 cr.)

Description

Fundamental concepts and basic techniques of computer graphics. Algorithms and recent research in graphics and animation. A thorough survey of object modeling, realism, ray tracing, rendering, and light models. Modeling of animated objects, motion animation, and human animation.

CSCSE 541/5271 - Advanced Software Engineering (3 cr.)

Description

Formal methods in software engineering, first-order logic, basic specification elements and rigorous proofs. Verification and validation. Testing and debugging techniques and tools. Reusability, modularity, top-down and bottom-up development approaches, object classification, support for concurrency and polymorphism.

CSCE 543/5272 - Advanced Software Quality (3 cr.)

Description

Introduction to advanced topics in software quality such as aspects of quality in various development life cycles, software measurement, software quality metrics, testing, quality models, high maturity, better practices in the domain to produce high quality and reliable software, as well as case studies.

CSCE 585/5930 - Selected Topics in Computer Science (3 cr.)

Prerequisites

Prerequisite: permission of instructor.

Description

Topics chosen according to special interests of faculty and students.

Repeatable

May be repeated for credit more than once if content changes.

CSCE 590/5940 - Seminar (1 cr.)

Description

Seminars of research topics given by invited speakers as well as presentation and discussion of results obtained by graduate students during their research work.

Notes

Must be taken twice for credit. Graded pass or fail.

CSCE 591/5980 - Capstone Project in Computing (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

Under the guidance of a faculty member, the student carries out a research project on a specific computer science topic. The student will present his/her results by submitting a report or passing an examination as determined by the supervisor.

Notes

This course cannot be taken for credit by thesis-option M.Sc. students.

CSCE 599/5981 - Graduate Thesis (3 cr.)

Description

Consultation on problems related to student thesis.

Notes

Must be taken twice for credit.

CSCE 642/6231 - Mobile and Pervasive Computing (3 cr.)

Prerequisites

Approval of Instructor.

Description

Fundamentals, challenges, and state of the art research discussions in mobile and pervasive computing. To include topics related to the domain such as location management, data dissemination, context awareness, software engineering, middleware, security and privacy, sensing and actuation, applications, and research paper critique.

CSCE 664/6261 - Advanced Data Mining (3 cr.)

Prerequisites

Consent of instructor.

Description

Theoretical aspects of data mining techniques including classification, association, predication, and cluster analysis. Related fields from which data mining draws, like database technology, artificial intelligence, and machine learning, will be emphasized. Data mining applications will also be introduced based on the interest of the students.

CSCE 692/6930 - Advanced Selected Topics in Computer Science (3 cr.)

Description

Topics chosen according to special interests of faculty and students. May be repeated for credit more than once if content changes.

CSCE 699/6980 - Research Guidance Dissertation (3 cr.)

Description

Consultation on problems related to student thesis. To be taken 11 times for credit.

CENG 215/2251 - Drawing for Construction Engineering and Architecture (1 cr.)

Prerequisites

ENGR 1005

Description

Architectural and structural drawings. Roads and hydraulic works drawings. Construction details. Electro-mechanical drawings for construction.

Hours

One three-hour lab period.

When Offered

Offered in fall and spring.

CENG 280/2311 - Construction Surveying (3 cr.)

Prerequisites

MACT 1122

Description

Principles of plane surveying; methods of measuring distances, angles and differences in heights (levels); traverse computations; setting out horizontal and vertical curves; earthwork computation; setting out engineering structures and construction projects.

Hours

Two class periods and three-hour lab period.

When Offered

Offered in fall and spring.

CENG 325/3010 - Mechanical Engineering in Construction (2 cr.)

Prerequisites

ENGR 2122

Description

Introduction to energy transformation systems. Sizing, matching and installation of mechanical, plumbing, heating, ventilation and air conditioning (HVAC) and machining systems.

Hours

One class period and three-hour lab period.

When Offered

Offered in fall and spring.

CENG 301/3111 - Structural Analysis (4 cr.)

Prerequisites

ENGR 2102 and ENGR 2112 or concurrent

Description

Analysis of statically determinate structures under static loads, member forces in trusses, shear and moment diagrams, live loads and influence lines, deflections, analysis of statically indeterminate structures by three-moment equation, the method of consistent deformation, slope-deflection, and moment distribution. Approximate analysis of statically indeterminate structures. Matrix force and displacement methods with computer applications.

Hours

Three class periods and three-hour tutorial.

When Offered

Offered in fall and spring

CENG 302/3112 - Structural Analysis and Design Principles for Architects (3 cr.)

Prerequisites

ENGR 2112 or concurrent.

Description

Classification and analysis of determinate structures including; trusses, beams, frames, arches and cables. Computation of deflections. Analysis of structure using commercial software. Principles of limit states design. Properties of concrete and construction material. Distribution of loads and arrangement of structural elements in reinforced concrete buildings.

When Offered

Offered in fall and spring

CENG 305/3151 - Structural Design for Architects I (3 cr.)

Prerequisites

CENG 3112

Description

Reinforced Concrete Design: Flexural theory of reinforced concrete beams. Design of singly reinforced sections, design and detailing of: beams, solid slabs and short columns. Structural Steel Design: properties of steel, load and resistance factor design of steel structures, structural systems, and computation of loads and load combinations. Design of: Tension of compression members. Behavior of beams and beam columns. Types of Connections.

When Offered

Offered in fall and spring.

CENG 306/3152 - Structural Design for Architects II (3 cr.)

Prerequisites

CENG 3151

Description

Structural systems for gravity loads: flat slab, hollow block slabs, paneled beams, stairs, frames. Structural systems for lateral loads: frames, shear wall and combined systems. Foundation systems: introduction to soil types and soil exploration, foundation design consideration, types of foundation systems, design of shallow foundations.

When Offered

Offered in fall and spring.

CENG 307/3153 - Structural Design (4 cr.)

Prerequisites

CENG 3111

Description

Properties of plain and reinforced concrete, behavior of composite sections, ultimate strength and working stress design of structural elements, beams, columns, one-way and two-way solid slabs, detailing of reinforcing steel. Concept of elastic design of steel structures, structural systems for steel buildings and bridges, elastic design and analysis of steel tension members, compression members, beams, columns, and connections.

Hours

Three class periods and three-hour tutorials.

When Offered

Offered in fall and spring

CENG 323/3211 - Construction Materials and Quality Control I (4 cr.)

Prerequisites

ENGR 2112

Description

Types and properties of construction materials and components. Concepts of quality control, statistical evaluation and corresponding experimental work. Aggregates types, sources and quality. Inorganic cements. Concrete mix design, admixtures and quality control. Asphalt cement, asphalt concrete mix design and quality control. Steel in construction. Masonry materials, timber, insulation materials and coatings.

Hours

Three class periods and three-hour lab period.

When Offered

Offered in fall and spring.

CENG 331/3312 - Geology for Engineers (2 cr.)

Prerequisites

CENG 2311

Description

Minerals and rock types, superficial deposits, interpretation of geologic maps, structural geology, geologic exploration, ground water cycle, geology of Egypt and greater Cairo.

When Offered

Offered in fall and spring.

CENG 311/3511 - Fundamentals of Hydraulic Engineering (3 cr.)

Prerequisites

ENGR 2122 and ENGR 3202 (or concurrent).

Description

Introduction to water resources projects, pipelines and pipe networks, pumps, open channel flow, hydraulic structures, water flow in soil media, seepage, wells and dewatering systems.

Hours

Two class periods and three hour lab period.

When Offered

Offered in fall and spring.

CENG 454/4113 - Structural Mechanics (3 cr.)

Prerequisites

CENG 3153

Description

Review of states of stresses, shear center, principles of fracture mechanics; energy principles with applications to beam deflection and analysis of beams on elastic foundation; principals of structural dynamics; structural stability principles, buckling analysis, and P-Delta effect; introduction to theory of plates and shells.

CENG 426/4155 - Steel and Concrete Bridges (3 cr.)

Prerequisites

CENG 3153

Description

Types of bridges. Loads; dead, live, impact, wind and other loading. Basic design and construction of various types of bridges; truss, beam and plate girder, slab, box girder. bearings and expansion details.

CENG 427/4156 - Prefabricated, Water and Prestressed Concrete Structures (3 cr.)

Prerequisites

CENG 3153

Description

Prefabricated concrete; design methods, tolerance, floor and roof systems, wall panels and construction joints. Concrete water structures; design considerations and parameters, water tightness, construction of circular and rectangular tanks. Prestressed concrete; basic principles, methods and systems of prestressing, partial loss of prestressing, analysis and design for flexural, shear, bond and bearing.

CENG 428/4157 - Tall Buildings and Large Span Structures (3 cr.)

Prerequisites

CENG 3152 or CENG 3153

Description

Structural systems for modern tall buildings: gravity load systems; transfer floor systems; lateral load systems for resisting wind and earthquake forces; design considerations for tall buildings. Roof systems for large span areas and arenas: shell structures; folded plates; tensile structures and canopies.

When Offered

Offered occasionally.

CENG 452/4158 - Structural Systems and Advanced Design (3 cr.)

Prerequisites

CENG 3152 or CENG 3153

Description

Structural design process, structural performance criteria, choice of structural system, design topics for reinforced concrete and steel structures including: rigid frames, ribbed and flat floor systems, torsion, biaxial bending, deflections, composite construction.

CENG 453/4212 - Construction Materials and Quality Control II (3 cr.)

Prerequisites

CENG 3211

Description

Various types of advanced concrete, metals, and highway materials. Examples are concrete admixtures, special concretes, special construction alloys, soil stabilizers, and bituminous materials and high strength low alloy steels. Advanced mechanics of components incorporating innovative materials. Environmental-friendly use of materials and incorporation of waste materials. Advanced quality control techniques. Laboratory experiments are conducted for demonstration purposes.

CENG 423/4252 - Methods and Equipment for Construction I (3 cr.)

Prerequisites

AENG 2551 or AENG 3562 , CENG 3112 or CENG 3153 or with AENG 3331 or CENG 3211.

Description

Techniques of building construction. Methods, materials, tools and equipment of construction. Traditional, mechanized and prefabrication construction systems. Applications on site management and safety, Selection of construction equipment. Applications on influence of construction methods on design and details. Emphasis in applications will be provided based on student Program.

Hours

Two class periods and one three hour field trip or drawing lab period.

When Offered

Offered in fall and spring.

CENG 424/4253 - Methods and Equipment for Construction II (2 cr.)

Prerequisites

CENG 4252

Description

Civil construction; methods, materials, tools and equipment; traditional and modern construction technologies.

Evaluation and selection of appropriate construction technology. Sizing, operation and maintenance of construction equipment, design of temporary construction elements such as: concrete formwork, scaffolding systems, cofferdams.

Cross-listed

Same as CENG 5226 with special course assignments for graduate students.

When Offered

Offered in fall and spring.

CENG 411/4313 - Soil Mechanics (3 cr.)

Prerequisites

ENGR 2112 and CENG 3511

Description

Index properties and engineering classification, composition and structure of soils; stresses in soil, stress-strain properties of soils; shear strength, and consolidation. Experimental measurements. Lab and field compaction.

Hours

Two class periods and three-hour lab period.

When Offered

Offered in fall and spring.

CENG 461/4314 - Design and Construction of Foundations and Retaining Structures (3 cr.)

Prerequisites

CENG 4313

Description

Earth pressure theories; bases for design of retaining structures; fundamental problems of slope stability; types of foundations systems and design criteria; design of shallow foundations and deep foundations; construction methods; effects of construction of nearby structures.

When Offered

Offered in fall and spring.

CENG 462/4315 - Applications in Geotechnical Engineering (3 cr.)

Prerequisites

CENG 4314 or concurrent.

Description

Geotechnical analysis and design concepts applied to engineering projects: stability of natural and man-made soil and rock slopes, reinforced earth, deep soil stabilization, cofferdams, mat foundation, deep foundation under various loading conditions.

When Offered

Offered occasionally.

CENG 431/4351 - Transportation Engineering (3 cr.)

Prerequisites

ENGR 2104 and CENG 3211

Description

Introduction to transportation planning and engineering; transportation planning tools, concepts of geometric and structural design and construction of highways, and concepts of geometric design of railways.

When Offered

Offered in fall and spring.

CENG 481/4352 - Highway Facilities (3 cr.)

Prerequisites

CENG 4351

Description

Analysis of factors in developing highway transportation facilities, traffic estimates and assignment, problems of highway geometric and design standards, planning and location principles, intersection design factors, structural design of pavement and highway maintenance.

When Offered

Offered occasionally.

CENG 441/4410 - Introduction to Construction Management and Cost Estimating (3 cr.)

Prerequisites

For construction engineering students: ENGR 3222, CENG 3153 and AENG 3562 .

For architectural engineering students: ENGR 3222 and CENG 3151 .

Description

Introduction to construction management: participants involved types of construction project life cycle. Estimating techniques and procedures: approximate estimating, quantity surveying, detailed estimating procedure, costing of labor, material, equipment, overhead costs, cash flow analysis, financing costs, cost recording and cost accounts, Quality Management, and Safety Management; basics of company's organization and HR management.

When Offered

Offered in fall and spring.

CENG 442/4420 - Construction Project Specifications, Bids, and Contracts (3 cr.)

Prerequisites

CENG 4410

Description

Participants in a construction contract. Contract definition. Types of contracts; formation principles of a contract,

performance or breach of contractual obligations. Analysis and comparison of the different kinds of construction contracts. Bidding logistics. Legal organizational structures. Different types and uses of specifications. Different forms of contracts utilized in construction.

When Offered

Offered in fall and spring.

CENG 444/4430 - Risk Management and Bidding Strategies (3 cr.)

Prerequisites

CENG 4410 and CENG 4440

Description

Introduction to Risk and Uncertainty. Process of Risk Management: Risk Identification, Risk Analysis (Qualitative and Quantitative), Risk Response Planning, Risk Monitoring and Control, Tools and Techniques: Decision Tree, modeling, optimization, linear programming, network optimization, and inventory models. Monte Carlo Simulation and Application. Accounting for Project Risks. Introduction to Risk Analysis packages (Crystal Ball, PERT Master). Analyzing the Bidding Behavior of Key Competitors and Estimating Optimum Markup.

When Offered

Offered in fall and spring.

CENG 446/4440 - Techniques of Planning, Scheduling and Control (3 cr.)

Prerequisites

CENG 4410 .

Description

Project definition and work breakdown structure, deterministic and probabilistic scheduling and control models and techniques. Resource allocation and levelling, optimal schedules, documentation and reporting, time and cost control, progress monitoring and evaluation. Computer applications.

Cross-listed

Same as CENG 5246 with special course assignments for graduate students.

When Offered

Offered in fall and spring.

CENG 447/4450 - Design, Modeling and Simulation of Construction Systems (3 cr.)

Prerequisites

CENG 4252

Description

Building Information Modeling, Computer modeling of construction processes, 4D Simulation of construction operations, Productivity modeling, measuring and forecasting, Sequencing and coordination of construction systems, Post-Optimality Analysis of Integer and Linear Programming Models in construction, discrete event simulation of construction processes.

Hours

Two one-hour class periods and three-hour lab period.

CENG 448/4460 - Financial Management and Accounting for Construction (3 cr.)

Prerequisites

CENG 4420

Description

Basic accounting terminology, accounting cycle and process, financial statements and analysis, unique aspects of accounting for the construction industry methods of revenue recognition for construction, percentage of completion computations, unbalanced items in construction: costs in excess and billings in excess.

When Offered

Offered in fall and spring.

CENG 449/4470 - Contract Administration (3 cr.)

Prerequisites

CENG 4420 or concurrent.

Description

Construction project parties' responsibilities pursuant to Civil Code and the Law of Tenders and Auctions (No. 89/1998), tendering procedures, contract negotiation and drafting, document control, international form of contracts (FIDIC), management of the variation process, Claims preparation and evaluation, disputes resolution methods.

When Offered

Offered occasionally.

CENG 471/4551 - Environmental and Sanitary Engineering (3 cr.)

Prerequisites

CENG 3511

Description

Water quality. Material balance relationships and water pollution control. Water demand. Drinking water: collection, treatment, distribution and quality assurance. Domestic and industrial wastewater collection, treatment and disposal. Environmental Impact Assessment.

When Offered

Offered in fall and spring.

CENG 472/4552 - Design of Water Resources Systems (3 cr.)

Prerequisites

CENG 4313

Description

Introduction to water resources engineering. Design of irrigation systems and canals. Hydraulic structures: types, functions, hydraulic design, environmental impact. Urban and rural drainage systems associated with public infrastructure projects: types, design considerations, and hydraulic design.

When Offered

Offered occasionally.

CENG 473/4553 - Unit Operations in Environmental Engineering (3 cr.)

Prerequisites

CENG 4551 concurrent.

Description

Theory and design of unit operations and processes in environmental engineering, emphasizing water and wastewater treatment; namely: physical, chemical and biological unit processes, sludge handling processes.

Cross-listed

Same as ENVE 5251, but with additional requirements for graduate students.

CENG 474/4554 - Computer-aided design and construction of environmental and sanitary systems (3 cr.)

Prerequisites

CENG 3511 and CENG 4410.

Description

Sanitary, storm water and combined sewerage systems: selection, elements, layout, computer-assisted hydraulic modeling and design. Water supply and distribution systems: hydraulic modeling and design. Pipeline asset management, GIS application in pipeline management and Life Cycle Cost Analysis. Pipeline rehabilitation and repair methods. Planning and construction considerations.

When Offered

Offered in fall and spring.

CENG 475/4555 - Solid and Hazardous Wastes Engineering (3 cr.)

Prerequisites

Pre-requisites: Senior standing.

Description

Solid wastes - Nature, generation and collection. Local and regional management strategies including recycling and recovery of useful products, landfilling, and incineration. Hazardous wastes - Nature, generation and collection. Risk assessment. Management strategies including source reduction, treatment, recovery, landfilling, and incineration.

Cross-listed

Same as ENVE 5254, but with additional requirements for graduate students.

Same as GREN 5213.

CENG 494/4911 - Selected Topics in Construction Engineering (3 cr.)

Prerequisites

Prerequisite: senior standing.

Description

Specialized topics in construction engineering will be selected and presented.

When Offered

Offered in fall and spring.

CENG 480/4921 - Special Problems in Construction Engineering (1-3 cr.)

Prerequisites

Prerequisite: consent of instructor and department chair on the basis of a well-defined proposal.

Description

Independent study in various problem areas of construction may be assigned to individual students or groups.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit if content changes.

Notes

Readings assigned and frequent consultations held.

CENG 497/4951 - Practical Training (1 cr.)

Prerequisites

Prerequisite: completion of 96 credit hours.

Description

Each student is required to spend a minimum of eight weeks in industrial training in Egypt or abroad. A complete account of the experience is reported, presented and evaluated. Professional ethics: theories and analysis of ethical case studies.

When Offered

Offered in fall.

CENG 490/4980 - Senior Project I (1 cr.)

Prerequisites

Prerequisite: completion of 78 credits in major.

Description

A capstone project. Topics are selected by groups of students according to their area of interest upon advisors' approval. Projects address solutions to open ended applications using an integrated engineering approach.

When Offered

Offered in fall and spring.

CENG 491/4981 - Senior Project II (2 cr.)

Prerequisites

Prerequisite: .CENG 4980 .

Description

An applied cap stone project. Continuation of senior project I topics is encouraged. Actual construction projects are selected by groups of students upon advisors' approval for analysis. The management and technology aspects of construction are simulated and investigated.

When Offered

Offered in fall and spring.

CENG 579/5121 - Assessment, Protection and Repair of Structures (3 cr.)

Description

Types, mechanisms and analyses of deterioration of concrete and steel structures, approaches and means of damage assessment, assessing structural stability and integrity of existing structures, development of sound strategy for repair and restoration. Protection and repair materials, techniques, design and economic aspects.

CENG 577/5210 - The Finite Element Method in Structural Engineering (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

Fundamentals of the Finite Element Method (Equilibrium Equations, Virtual Work and Potential Energy, Interpolation and Shape Functions, Convergence, and Computer Programming), One-Dimensional Elements (Truss, Beam, and Frame Elements), Two-Dimensional Elements (Plane Stress and Plane Strain Elements, and Isoparametric Formulations), Three-Dimensional Elements (General and Axisymmetric Solids), Surface Elements (Flexure in Plates, General and Axisymmetric Shells), Analyses (Vibration Analysis, Stability Analysis, and Nonlinear Analysis), and Finite Element Surface Packages.

CENG 573/5220 - Advanced Construction and Building Materials (3 cr.)

Description

Recent developments in the areas of concrete, highway materials and metals. Examples are concrete admixtures, light weight aggregates, polymers, prestressed concrete, soil stabilizers, bituminous materials and high strength low alloy steels. Advanced mechanics of components incorporating innovative materials. Environmental-friendly use of materials and recycling of solid waste.

CENG 571/5225 - Advanced Systems Analysis for Construction Engineering (3 cr.)

Prerequisites

Consent of instructor.

Description

Systems analysis approach; systems modeling; systems approach to engineering and management; closed versus open systems; modeling construction organizations as open systems. Decision analysis: Artificial intelligence techniques: evolutionary algorithms, prediction and behavior detection, regression analysis, artificial neural networks, knowledge representation, fuzzy logic and fuzzy sets, fuzzy knowledge based systems.

Notes

Not open for students with MENG 5251 .

CENG 574/5226 - Methods and Equipment for Construction (3 cr.)

Description

Civil construction; methods, materials, tools and equipment; traditional and modern construction technologies. Evaluation and selection of appropriate construction technology. Value engineering. Sizing, operation and maintenance of construction equipment. (Not open for AUC graduates.)

CENG 576/5227 - Advanced Systems for Construction (3 cr.)

Prerequisites

Consent of instructor.

Description

Construction details, materials, equipment, manufacture, fabrication and erection of special building structures: high rise buildings, wide span structures, underground buildings, large scale projects, specialized buildings, etc. Construction organization, advanced construction materials with cost implications; Advanced Delivery Techniques for projects; Company organization and funding of projects.

CENG 565/5241 - Infrastructure Asset Management (3 cr.)

Prerequisites

Consent of instructor.

Description

Urban infrastructure systems. It presents a generic framework for asset management that includes: information management and decision support systems, condition assessment, deterioration prediction, life cycle cost analysis, risk management, performance measures, and budget allocation. Elements of this framework are presented within the context of civil infrastructure systems; Roads, Buildings, Water networks, and Sewer networks.

CENG 566/5242 - Simulation Applications in Construction (3 cr.)

Prerequisites

Consent of instructor

Description

Simulation Paradigms, discrete event simulation, systems dynamics simulation, agent based simulation, elementary queuing theory applications in construction, validating simulation models, visualizing techniques in simulation, sampling from non-uniform distributions, introduction to special purpose simulation languages for construction, simulation modeling techniques and analysis.

CENG 567/5243 - Construction Leadership and Management Skills (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

Successful construction practices are impacted not only by the technical skills but also by the leadership and management personal skills of the project team. This course outlines indispensable leadership and management skills including time management, communication skills, capacity and team building as well as the ethical components in construction. International and local case studies are provided to illustrate these issues and quantify both the positive and negative impacts. A final project is submitted where with situational analyses and lessons learned.

Notes

Not open for credit for M.S. students.

CENG 570/5244 - Advanced Construction Management (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

The course covers advanced topics in the area of construction management including advanced scheduling techniques, cost schedule integration, bidding models applied to the construction industry emphasizing the difference in view points between owners and contractors, risk in construction, contingency and mark-up allocations, risk versus return relationship including models to determine the cost-of-capital for construction firms and projects.

CENG 572/5245 - Claims and Disputes in the Construction Industry (3 cr.)

Description

The course provides an in-depth coverage of the litigious environment within the construction industry and outlines the appropriate techniques to handle such environment. Claims and disputes from both owners and contractors perspectives are covered. The course also outlines the use of techniques such as scheduling as mechanisms for the efficient resolution of claims.

CENG 575/5246 - Techniques of Planning, Scheduling and Control (3 cr.)

Description

Project definition and work breakdown structure, scheduling and control models and techniques. Resource allocation and leveling, optimal schedules, documentation and reporting services, time and cost control, progress monitoring and evaluation. Computer applications. (Not open for AUC graduates.)

CENG 578/5247 - Resource Management for Construction Projects (3 cr.)

Prerequisites

Consent of instructor.

Description

Resource management as an integral part of the construction management process. Management of materials; scheduling, handling, utilization, costing, accountability, procurement, warehousing, supply chain management, and inventory systems. Management of labor; tabulation, productivity, ergonomics, utilization, costing, and human resource management. Management of equipment; acquisition, production rates, utilization, matching and costing.

CENG 530/5261 - Contracts in Construction Industry (3 cr.)

Description

Introduction to the basic construction industry and its problems. Participants in a construction contract, contract definition, types of contracts, formation principles of a contract, performance or breach of contractual obligations. Analysis and comparison of the different kinds of contracts used in construction. Bidding logistics. Legal organizational structures. Different types and uses of specifications.

CENG 531/5262 - Construction Management (3 cr.)

Description

Introduction to construction management: participants involved types of construction project life cycle. Estimating techniques and procedure: approximate estimating, quantity surveying, detailed estimating procedure, costing of labor, material, equipment, overhead costs, financing costs, cost recording and cost accounts, Quality Management, and Safety Management.

CENG 532/5263 - Planning, Scheduling and Control (3 cr.)

Description

Project definition and work breakdown structure, scheduling and control models and techniques. Resource allocation and leveling, optimal schedules, documentation and reporting, time and cost control, progress monitoring and evaluation. Computer applications.

CENG 533/5264 - Management for Multi-National Environments (3 cr.)

Prerequisites

CENG 5262

Description

Complexities of multinational Projects. Challenges in managing multinational Projects; crosscultural differences, communication, standards, approaches to problem solving. Cross-culture differences & engineering firms, avoiding cross-cultural pitfalls, taking advantage of cultural diversity. Distance management. Breaking into foreign markets.

When Offered

Offered in fall and spring.

CENG 534/5265 - Risk Management and Bidding Strategies (3 cr.)

Prerequisites

CENG 5262

Description

Introduction to risk and uncertainty. Process of risk management; risk identification, risk analysis (qualitative and quantitative), risk response planning, risk monitoring and control. Tools and techniques; decision trees, PERT, modeling, optimization, Monte Carlo simulation and application. Introduction to risk analysis packages (Crystal Ball, PERT Master). Analyzing the bidding accounting for project risks. Behavior of key competitors, estimating optimum markup.

When Offered

Offered in fall and spring.

CENG 535/5266 - Claims and Disputes in the Construction Industry (3 cr.)

Prerequisites

CENG 5262 .

Description

The course provides an in-depth coverage of the litigious environment within the construction industry, appropriate techniques to handle such litigations. Claims and disputes from both owners and contractors perspectives. Techniques of scheduling as mechanisms for the efficient resolution of claims.

When Offered

Offered in fall and spring.

CENG 536/5267 - Systems Analysis for Construction (3 cr.)

Prerequisites

CENG 5263

Description

Integration and application of systems science, operations research and systems methodologies. Design, production, and maintenance of efficient and reliable systems. Introduction to mathematical models. The formulation of the linear programming models. Solving of linear programming models using the graphical solution method, simplex technique, transportation and assignment problem. Decision making under uncertainty, minimum cost model, and sensitivity analysis.

CENG 537/5268 - Resource Management for Construction Projects (3 cr.)

Description

Resource management as part of the construction management process. Productivity in construction; conceptual and mathematical formulation of labor, equipment, and materials factors affecting productivity. Management of materials;

scheduling, handling, utilization, procurement and acquisition costing, material management information systems, inventory analysis. Management of labor; productivity, ergonomics, utilization, costing, manpower planning and organization. Management of equipment; acquisition, production rates, utilization, matching, costing. Critical project resources.

CENG 538/5269 - Procurement of Assets & Services for Construction Projects (3 cr.)

Description

Articulation of requirements for new facilities and needs, facility definition and delivery, effective search and definition of resources, management of the process of acquisition, negotiation approaches and strategies, alternative solution and value optimization. International and local case studies.

CENG 599/5290 - Research Guidance Thesis (3 cr.)

Description

Consultation on problems related to student thesis. Must be taken twice for credit.

CENG 580/5291 - Independent Study in Construction Engineering (3 cr.)

Description

Independent study in various problem areas of engineering may be assigned to individual students or to groups. Readings assigned and frequent consultations held.

Notes

(Students may sign for up to 3 credits towards fulfilling M. Sc. requirements).

CENG 592/5292 - Advanced Topics in Construction Engineering (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

Topics to be chosen every year according to specific interests.

Repeatable

May be taken for credit more than once if content changes.

CENG 611/6211 - Structural Stability (3 cr.)

Prerequisites

Consent of instructor.

Description

Fundamental concepts in elastic stability: equilibrium equations, stability criteria and post-buckling behavior. Various aspects of instability: buckling of columns, frames, arches, plates and shells, dynamic buckling, nonlinear problems,

torsion and flexural buckling. Approximate methods for stability analysis. Interactive buckling phenomena in light metallic constructions.

CENG 612/6212 - Structural Dynamics (3 cr.)

Prerequisites

Consent of instructor.

Description

Dynamics of discretized systems; one degree of freedom systems; free and forced vibration; response to base excitation, stochastic excitation, impact. Lumped - mass multidegree systems: free and forced vibration of two degrees of freedom systems in response to harmonic and step functions, pulses, and general type. Matrix formulation for multiple degrees of freedom, natural frequencies, Lagrange equations, modal analysis. Flexural vibrations of beams, plates and frames. Dynamic response to impact and moving loads.

CENG 613/6213 - Earthquake Engineering and Seismic Design (3 cr.)

Prerequisites

Consent of instructor.

Description

Earthquake ground motion and response spectra, dynamic response of buildings and structures to seismic loads, lateral load resisting systems, seismic design considerations, drift and lateral stability, code considerations, design of reinforced concrete, masonry and steel structures, design of nonstructural systems, structures with seismic mitigation systems: active and passive damping and base isolation.

CENG 631/6222 - Specialty Materials for Construction (3 cr.)

Prerequisites

Consent of instructor.

Description

Review of applied mechanics of materials. Asphalt concrete; components, conventional and SUPERPAV characterization of asphalts, asphalt concrete conventional and SUPERPAV mix design, mechanistic and environmental performance. Special types of concrete; e.g. high strength, high durability, corrosion resistant, self compact. Non-conventional construction materials.

CENG 679/6223 - Preserving, Repair and Sustainability of Structures (3 cr.)

Prerequisites

CENG 5121 or Equivalent Course/Experience

Description

Protection of masonry, wood, concrete and steel and composite structures. Preserving historic structures. Condition assessment using innovative techniques. Equations and formulae for condition assessment with lab field visits.

Complex repair of structures subjected to moderate to severe damage. Durability and sustainability of strategic structures. Repair life cycle cost.

CENG 632/6231 - Highways Pavement Systems and Design (3 cr.)

Prerequisites

Consent of instructor.

Description

Pavement systems, structures and design factors. Flexible pavements; materials characterization, traffic loading and volume, stresses and strains models, sensitivity analysis, pavement performance, reliability, design criteria, traditional and contemporary methods of design. Rigid pavements; stresses and deflections in rigid pavements due to curling, loading and friction, design criteria, methods of design, design of joints. Design project.

CENG 699/6290 - Research Guidance Dissertation (3 cr.)

Description

Consultation on problems related to student thesis. To be taken 11 times for credit.

CENG 680/6291 - Independent Study in Structural and Material Engineering (3 cr. max.)

Description

Independent study in various problem areas of structural and material engineering may be assigned to individual students or to groups. Readings assigned and frequent consultations held.

CENG 692/6292 - Advanced Selected Topics in Structural and Material Engineering (3 cr.)

Description

Topics chosen according to special interests of faculty and students. May be repeated for credit more than once if content changes.

CORE 110/1010 - Freshman Seminar (3 cr.)

Prerequisites

Taken concurrently with RHET 1010 .

Description

This course is a cluster of distinct courses (topics may vary semester to semester) with shared goals and learning outcomes. All sections of CORE 1010 aim to introduce students to university-level academic study and the meaning

and values of a liberal arts education. Through varied section topics, readings, films and other media, discussions and assignments, CORE 1010 will help students adapt and succeed in today's university environment, as they develop their skills in critical thinking, information literacy, teamwork, and effective reading and communication. Courses focus on issues of lasting value and current relevance for students, and address questions such as "Who am I?" "What do citizenship and civic responsibility mean?" "How do I know what is true?" and "What is a good life?"

When Offered

Fall and Spring. Summer only for students repeating the course.

CORE 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

CORE 000/2096 - Selected Topics for the Core Curriculum in Global Studies (3 cr.)

Description

Course addressing broad intellectual concerns and open to all students, irrespective of major.

CORE 299/2099 - Selected Topics for Core Curriculum (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

CORE 499/4198 - Selected Topic for Core Curriculum (3 cr.)

Prerequisites

RHET 2010

Description

Interdisciplinary seminar addressing broad current topics and concerns from a variety of intellectual and professional perspectives; open and accessible to all senior students, irrespective of major.

SEMR 111/1011 - The Human Quest: Exploring the "Big Questions" (3 cr.)

Description

This is an interdisciplinary survey course aimed at helping new undergraduate students acquire an attitude of engaged curiosity, a widened worldview, and enhanced self expression as they begin to discover how a university education can help them find their places in the world. Using an interdisciplinary approach combining geography, history, biology, political science, anthropology, sociology, literature, and the arts, it aims to introduce students to the process of raising and exploring life's enduring "Big Questions," through readings, music, debates, films, and technology, and thus they acquire some of the knowledge, skills, and attitudes needed by a university student in the 21st century.

SEMR 112/1012 - "Who Am I?": Explorations in Consciousness and Self Across the Disciplines" (3 cr.)

Description

Self-awareness allows us to perceive both limits and possibilities. This course will be a practical and theoretical exploration of different approaches to consciousness and the self in the sciences, psychology, philosophy and religion, among others.

SEMR 123/1023 - Celebrating Ideas: A Voyage Through Books, film, Art and Theater (3 cr.)

Description

This course aims at exposing students to a wide range of key landmarks in human intellectual and cultural development. This is achieved through reading a number of texts, each important, simulating, often groundbreaking and discussing the ideas and concepts embodied in these texts. The topics and themes raised through the readings will be further explored and enhanced through exposure not just to the written word but through film, art and theater, all modes in which humankind has been able to express its intellectual development and creative energy.

SEMR 199/1099 - Selected Topics in Core Curriculum (3 cr.)

SEMR 000/1110 - Creative Thinking & Problem Solving (3 cr.)

Description

Pathways 2 freshmen level course inter-disciplinary course taught by 5 instructors over 2 sections using a modular approach to themes and content.

The course examines the nature of creative thinking, problem solving and innovation, across a variety of contexts and disciplines, and seeks to awaken and foster students' creativity, as something innate in all of us. Students will participate in a variety of assignments and mini-projects over the course of the semester with both individual and group work, focusing on relevant and engaging real-life problems. The course brings a multi-disciplinary, modular approach to an examination of creativity as a 21st century skill vital for students in all fields of study.

SEMR 200/2010 - Core Seminar (3 cr.)

SEMR 299/2099 - Selected Topics in the Humanities (3 cr.)

SEMR 300/3099 - Core Honors Seminar (3 cr.)

SEMR 410/4018 - East-West Dialogue: Cross-Cultural Perceptions and Reflections (3 cr.)

Description

This course provides a unique opportunity for students at AUC to share their educational experience with students in the west. The medium for this shared experience will be videoconferences held over the Internet with university classes in the United States and other Western countries. For each videoconference, we will be reading the same texts as the

students at our partner institutions. The videoconferences provide not only the medium for the shared component of this course; they also suggest its substantive theme. For, while we encounter the apparent cultural other over the Internet, we will be exploring with them the question of our relationship to the other- especially how our perceptions of the other have developed over time and how they continue to influence the political interaction between "East" and "West" today.

Cross-listed

Same as POLS 4018

Notes

SEMR 4018 cannot be taken as a capstone class "within the major" by political science students.

SEMR 411/4028 - The Arab Spring in Arab Eyes: Perceptions and Reflections from the Arab World (3 cr.)

Description

This videoconference dialogue course offers a comparative view of the 2011 Egyptian Revolution in relation to the Arab revolts that have swept the region since the beginning of 2011, in what became known as the Arab Spring. This course shall use an interdisciplinary approach to explore the social, economic, political and cultural contexts that led up to these popular uprisings. In this light, AUC will be holding videoconferences with various partner universities and institutions in order for the class to share perspectives and first-hand experiences relating to the Arab Spring with the partners. Specific readings will be assigned by AUC and the partnering universities, offering a general introduction of the countries that will be studied and a specific background with regards to the linkage these countries/geographical areas have with the Arab Spring. This is an interdisciplinary course that can be relevant to students from different backgrounds and disciplines, especially those that have an interest in contemporary Middle East issues.

SEMR 412/4038 - South-South Dialogue: Perceptions and Reflections from the Global South (3 cr.)

Description

This videoconference dialogue course aims at offering a comparative view of and a fresh perspective on the 'Global South.' The course shall use an interdisciplinary approach to explore the social, economic, political and cultural contexts of some of the countries/regions that constitute what is known today as the 'Global South' in an attempt to outline the commonalities as well as the differences that exist within this global conglomerate of nation-states. In this light, AUC will be holding videoconferences with various partner universities and institutions in order for the class to share perspectives and first-hand experiences relating to the themes and topics of discussion with the partners. Specific readings will be assigned by AUC and the partnering universities to have a general introduction to the countries that will be studied and a specific background on the linkage these countries/geographical areas have with the Global South as an economic and a political amalgam. This is an interdisciplinary course that can be relevant to students from different backgrounds and disciplines, especially those that have an interest in contemporary development issues.

ECON 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Prerequisites

RHET 1000

Description

This course introduces the concept of economic rationality while exploring applications of this logic to historical and contemporary problems facing individuals, firms, and societies. The course will explore the fundamentally economic

nature of the human condition specifically addressing issues such as scarcity, public goods, poverty and inequality, environmental conservation, underground markets, and health care.

When Offered

Offered in fall and spring.

Notes

This course does not count as part of Economics major or minor requirements.

ECON 202/2011 - Introduction to Microeconomics (3 cr.)

Description

Fundamental economic concepts and methods of economic analysis with emphasis on microeconomic issues. Analyzes basic principles of market economics including resource allocation, opportunity cost, core elements of demand and supply, market equilibrium, elasticity, pricing, market structure, and trade exchange. Labor and capital markets, market efficiency, regulation, and social welfare implications.

When Offered

Offered in fall and spring.

ECON 201/2021 - Introduction to Macroeconomics (3 cr.)

Description

Fundamental economic concepts and methods of economic analysis with emphasis on macroeconomic issues. Analyzes aggregate economic activity in relation to the level, stability and growth of national income. Topics analyzed include the determination and effects of national income, consumption, investment, unemployment, inflation, interest rates, and how these may be influenced by monetary, fiscal and other policies.

When Offered

Offered in fall and spring.

ECON 215/2051 - Economic History of the Modern Middle East (3 cr.)

Description

Historical survey of the economic conditions, systems, and institutions of the Middle East with special emphasis on the period 1800-1945.

When Offered

Offered in fall and spring.

ECON 216/2061 - Mathematics for Economists I (3 cr.)

Prerequisites

MACT 1111 or equivalent.

Description

Algebraic methods. Calculus of a single variable. Composite functions, limits and asymptotes, continuity, simple and implicit differentiation, Taylor's theorem, maxima and minima and points of inflection, logarithmic and exponential

functions. Introduction to integral calculus. Applications to economic theory and business finance.

When Offered

Offered in fall and spring.

Notes

MACT 1121 and ECON 2061 are not equivalent.

ECON 218/2081 - Statistics for Economists (3 cr.)

Prerequisites

MACT 2222 .

Description

The course covers descriptive and sample inferential statistical techniques, including main descriptive statistics and data sources and types. Topics include point estimation and statistical estimators' desirable properties, hypothesis testing, correlation, and analysis of variance (ANOVA). Applications in Economics and Business are emphasized.

When Offered

Offered in fall and spring.

ECON 224/2091 - Economic History (3 cr.)

Description

Theories of economic evolution with a special focus on Europe. Includes analyses of technological change, property rights systems and economic growth, and income distribution. Examines the transition from feudalism to capitalism, first and second industrial revolutions, the 20th century Great Depression and the reconstruction of the world economies after World War II.

When Offered

Offered in fall and spring.

ECON 302/3011 - Intermediate Microeconomic Theory (3 cr.)

Prerequisites

ECON 2011 and ECON 3061

Description

Preferences, utility theory, and derivation of consumer demand. Convergence conditions in consumer choice. Slutsky decomposition. Supply, cost structure, factor inputs, and technology. Properties of production functions including the Euler Theorem. Monopoly, duopoly (Bertrand and Cournot), oligopoly, monopolistic, and competitive markets. The extent of market entry. Labor choice, the capital asset pricing model, and technological innovation. Introduction to game theory. General equilibrium and welfare economics.

When Offered

Offered in fall and spring.

ECON 310/3013 - Public Finance (3 cr.)

Prerequisites

ECON 2021 and ECON 2011

Description

Application of efficiency criteria to political decision making: allocation of resources to social goods, tax and subsidy correctives for externalities, minimizing excess burden of financing government activity. Equity criteria for tax systems and income distribution. Analysis of Egypt's public finances and evaluation of Egyptian public policy.

When Offered

Offered in fall and spring.

ECON 301/3021 - Intermediate Macroeconomic Theory (3 cr.)

Prerequisites

ECON 2021 and (ECON 2061 or MACT 1122).

Description

This course covers aggregate economic behavior using Keynesian and Neoclassical macroeconomic analysis. Various theories of how a nation's income, employment and price level behave under static and dynamic conditions are examined. Topics covered include: income determination, unemployment, price stability, budget deficits, balance of payments equilibrium and economic growth, in addition to the impact of fiscal, monetary and exchange rate policy on macroeconomic performance.

When Offered

Offered in fall and spring.

ECON 303/3041 - Money and Banking (3 cr.)

Prerequisites

Prerequisite: FINC 2101 plus ECON 2021 and ECON 2011

Description

This course emphasizes the role of central banks, monetary tools, the banking sector and financial markets in impacting domestic macroeconomic performance and the global economy. Topics include: monetary theory; central banking; management of the banking system; financial regulations; and the interaction between monetary policy, financial markets and macroeconomic performance. The course combines theoretical formalization with empirical investigations.

When Offered

Offered in fall and spring.

ECON 348/3052 - Agricultural Economics (3 cr.)

Prerequisites

ECON 2021 and ECON 2011

Description

This course is concerned with the application of economic theory to agricultural markets and food security with special reference to Egypt and other developing countries. Analysis will focus upon agricultural resource allocation, price determination, market structures, water scarcity, commodity trading, and other topics within the context of an increasingly globalized framework of trade and financial institutions.

When Offered

Offered occasionally.

ECON 312/3053 - Economic Development (3 cr.)

Prerequisites

ECON 2021 and ECON 2011

Description

Major economic problems of developing countries. Alternative explanations of underdevelopment and theories of development. Major domestic and international aspects of development including population growth, capital accumulation and international economic relations. Sustainable development.

When Offered

Offered in fall and spring.

ECON 320/3055 - The Digital Economy: Information Technology, Knowledge and Intellectual Property (3 cr.)

Prerequisites

ECON 2021 and ECON 2011 .

Description

The course offers analysis of the economics of information technology, knowledge and intellectual property. Topics include: electronic readiness, knowledge measurement indices, the digital divide; economics of content: knowledge as a public good, static and dynamic costs and benefits of intellectual property rights; competition and intellectual property; open business models, innovation and entrepreneurship in the digital economy.

When Offered

Offered in fall and spring.

ECON 316/3061 - Mathematics for Economists II (3 cr.)

Prerequisites

ECON 2061

Description

The first part of the course is matrix algebra which covers the following: determinant, rank, matrix inverse, Cramer's rule, eigenvalues and eigenvectors. The second part discusses multivariate functions and partial derivatives as well as

unconstrained and constrained optimization. Homogeneous and homothetic properties of multivariate functions are also discussed. The third part of the course is advanced integral calculus. Economic applications are emphasized throughout the course.

When Offered

Offered in fall and spring.

ECON 308/3071 - Labor Economics (3 cr.)

Prerequisites

ECON 2021 and ECON 2011

Description

The course offers a general treatment of modern theoretical and empirical labor economics. Topics to be covered include: operation of labor markets; wage determination; firm, industry and public sector labor demand; human capital investment; race and gender employment and wage discrimination; public policy effects. The relation of labor market outcomes and attendant public policy to poverty, income distribution and economic growth is covered. (The course includes community-based learning components)

When Offered

Offered in fall and spring.

ECON 318/3081 - Introduction to Econometrics (3 cr.)

Prerequisites

ECON 2081 and ECON 3061

Description

The course covers regression methods for analyzing data in economics, including multiple regression with indicator variables, regression with heteroskedastic and correlated errors, hypothesis and diagnostic testing. The course emphasizes practical applications using econometrics software.

When Offered

Offered in fall and spring.

ECON 420/4000 - Independent Study (1-3 cr.)

Prerequisites

Consent of instructor and unit head, senior standing.

Description

Guided reading, research, and discussion based on a subject of mutual interest to a student and faculty member.

When Offered

Offered in fall and spring.

ECON 413/4012 - Cost-Benefit Analysis (3 cr.)

Prerequisites

ECON 3011

Description

This course develops the theoretical tools and applied case study analysis to financial and economic project evaluation. Criteria for project feasibility, net worth of investment projects, cash flow discounting, and financial rates of return. Valuation, shadow pricing, and economic appraisal. Applications to real life projects.

When Offered

Offered in fall and spring.

ECON 403/4031 - International Trade (3 cr.)

Prerequisites

ECON 3021 and ECON 3011

Description

International Trade Theory: Mercantilist Theory, comparative costs, and post- Ricardian theories including economies of scale and imperfect competition. Protection Theory; Effective Protection. Terms of trade, national income and the balance of payments. Fluctuations in trade. Foreign exchange markets, exchange rates and adjustment in the balance of payments. International resource movements.

When Offered

Offered in fall and spring.

ECON 404/4041 - Financial Economics (3 cr.)

Prerequisites

ECON 2081, ECON 3011 and FINC 2101 .

Description

This course provides a rigorous introduction to modern financial economics. It is designed to equip students with theoretical tools and practical case studies necessary to understand the dynamics of financial markets and their interaction with other spheres of the economy including asset pricing, risk management, and financial regulation schemes.

When Offered

Offered occasionally.

ECON 415/4051 - Seminar on Economic Development in the Middle East (3 cr.)

Prerequisites

ECON 2021

Description

This course explores the application of key concepts relating to economic development and policy analysis to contemporary problems facing countries in the Middle East and North Africa. The course focus is upon thematic policy

issues such as growth and structural change; macroeconomic adjustment, industrial development, food and agriculture policy, and trade and financial sector reform.

When Offered

Offered occasionally.

ECON 416/4061 - Mathematical Economics (3 cr.)

Prerequisites

ECON 3061

Description

The course starts with a discussion of quasiconcave programming (Kuhn-Tucker theorem), then moves on to linear (first- and second-order) and nonlinear difference equations. This is followed by linear and nonlinear differential equations, including stability analysis, steady-state equilibrium, convergence and phase diagrams. In addition, systems of differential equations (the saddle path) are also studied. The final component of the course is dynamic optimization covering finite- and infinite-horizon problems as well as discounting. Economic applications are emphasized throughout the course.

When Offered

Offered in fall.

ECON 418/4081 - Econometric Methods (3 cr.)

Prerequisites

ECON 3081

Description

The first part of the course covers extensions of the classical linear model including departures from the basic assumptions of the general model: multicollinearity, autocorrelation, heteroskedasticity, endogenous regressors and GMM estimation. The second part discusses models with limited dependent variables (e.g. logit and probit models) and their applications. The third part explores panel data, covering issues related to estimation and inference in panel datasets as well as applications.

When Offered

Offered in fall.

ECON 418P/4082 - Practicum (1 cr.)

Description

This practicum is structured to run parallel with ECON 4081. It is conducted as an application of the tools studied in ECON 4081 to solve practical problems using econometrics software.

When Offered

Offered in fall.

ECON 405/4091 - History of Economic Thought (3 cr.)

Prerequisites

ECON 2021 and ECON 2011

Description

This course investigates the historical evolution of economic theory by examining the development of Mercantilism, Physiocracy, Classical, Marxian, Neoclassical theory, Austrian-Keynesian and post-Keynesian economics.

When Offered

Offered in fall and spring.

ECON 414/4094 - Economics of Egypt (3 cr.)

Prerequisites

ECON 2021 and ECON 2011 . Junior standing or higher.

Description

This course is an application of economic tools to explore the performance, analyze major problems and propose reform agendas for the contemporary Egyptian economy. Among the topics discussed are the path of economic development, macroeconomic performance, sectoral behavior, and institutional restructuring since the Nasser era and up to the present time. The course gives the students a chance to conduct applied research for the most recent challenges facing the Egyptian economy.

When Offered

Offered in fall and spring.

ECON 411/4099 - Seminar: Special Topics in Economics (3 cr.)

Description

Guided reading, research, and discussion of specific topics chosen by the instructor in theoretical policy or applied economics.

When Offered

Offered occasionally.

Repeatable

May be taken for credit more than once if content changes.

ECON 521/5200 - Independent Study (3 cr.)

Description

Guided reading, research, and discussion based on a subject of mutual interest to a student and faculty member. Must obtain the approval of the Director of Graduate Program and Chair of the Department.

ECON 525/5201 - Research Workshop (3 cr.)

Prerequisites

ECON 5211, ECON 5221 and ECON 5281.

Description

This course offers an overview of different research methods and processes, resulting in the completion and presentation of a major research paper by each student.

When Offered

Offered Fall and Summer

ECON 599/5202 - Research Guidance and Thesis (6 cr.)

ECON 502/5211 - Advanced Microeconomic Theory (3 cr.)

Prerequisites

ECON 4061

Description

Axioms of consumer preferences and rational utility representation. Derivation of Marshallian, Hicksian and Engel demands. Consumer theory under uncertainty. Advanced theory of the firm. Market structure and competition including Cournot, Bertrand, and Stackelberg competition for homogeneous and differentiated products. The Envelope Theorem and its applications including Roy, Sheppard, and Hotelling Lemmas. The equilibrium number of firms and business cycle behavior. General equilibrium theory.

When Offered

Offered in fall.

ECON 519/5213 - Project Evaluation (3 cr.)

Prerequisites

ECON 5251 or ECON 3011 or FINC 5201.

Description

Analysis of economic criteria (cost benefit analysis) applied in evaluating development projects for economic policy and planning, following a review of the project cycle from inception to impact evaluation.

When Offered

Offered in fall.

ECON 520/5215 - Competitive Strategy and Game Theory (3 cr.)

Prerequisites

ECON 3011 or FINC 5201 or Consent of Instructor.

Description

Analysis of competitive strategy and game theory including Nash equilibrium and its refinements. Subgame perfection, Bayesian equilibrium, and information uncertainty. Repeated games. Game theory applications to various economic themes such as in trade, labor, industry, education, stock markets, insurance, and R & D.

When Offered

Offered in Spring.

ECON 530/5217 - Health Economics in Developing Countries (3 cr.)

Prerequisites

ECON 4061 or ECON 5282 .

Description

This course explores health economics and its unique features in relation to the developing world. Students will learn about the supply and demand for services provided by the health care sector and gain an understanding of the markets for health professionals and health care provider firms specifically extant in the developing world. The course will also explore the roles of insurance, managed care and HMO's, professional licensure, for-profit and not-for-profit provider firms, and asymmetric information problems in health care markets. Finally, the course will explore issues within the developing world pertaining to regulation, government financing of health care, and health care reform.

When Offered

Offered occasionally.

ECON 531/5219 - Health Care Financing (3 cr.)

Prerequisites

ECON 5282 or (ECON 3021 and ECON 3011)

Description

This course explores how health care systems in the developing world raise revenue, the advantages and disadvantages of varying methods of doing so, and how health systems strike a balance between public and private revenue sources. The course also explores how policy makers choose which services to include in publicly-financed health systems, the allocation of resources to those 'purchasing' health care, and the degree to which there is a role for competition in this realm. This course will also explore how resources are allocated to health care providers and the incentives associated with different payment methods.

When Offered

Offered occasionally.

ECON 501/5221 - Advanced Macroeconomic Theory (3 cr.)

Prerequisites

ECON 4061

Description

Analysis of the equilibrium and disequilibrium macroeconomic activity of an open, monetized economy with a government sector. Theories of aggregate consumption and investment behavior.

When Offered

Offered in fall.

ECON 505/5231 - Advanced International Trade (3 cr.)

Prerequisites

ECON 5251 or (ECON 3021 and ECON 3011).

Description

Analysis of topics in the pure theory of international trade. International aspects of monetary mechanisms, nature and effects of foreign investment, significance of trade theory and monetary movements for developing countries.

When Offered

Offered in spring.

ECON 517/5233 - International Finance (3 cr.)

Prerequisites

ECON 5221

Description

This course focuses on the fundamental open macroeconomic issues whether theoretical or empirical. Topics covered include the economics of exchange rates, models of speculative attacks, Mundell-Fleming model, regime credibility, predicting currency and financial crises, international capital flows, and international contagion.

When Offered

Offered in spring.

ECON 504/5241 - Financial Economics (3 cr.)

Prerequisites

ECON 4061

Description

Analysis of financial assets and institutions. The course emphasizes modern asset valuation theory and the role of financial intermediaries, and their regulation, in the financial system. State-preference theory and optimal portfolio decision mean-variance portfolio theory, measuring portfolio risk and return, Capital Asset Pricing model (CAPM), Arbitrage Pricing Theory (APT), Option Pricing Theory, the Black-Scholes formula, Asymmetric information and rational expectations, term structure of interest rates.

When Offered

Offered in fall.

ECON 528/5242 - Financial Econometrics (3 cr.)

Prerequisites

ECON 4081 and ECON 5241 .

Description

This course aims to advance students' understanding of modern econometric techniques related to financial issues. This course will cover frontier tools of financial econometrics and empirical finance. The interaction between financial

theory and econometric analysis is emphasized. Topics include: non-normality of financial data, volatility clustering and asymmetric volatility, time series models, Vector Autoregressive (VAR) models and continuous time and threshold models. The course is also designed to train students in formulating, estimating and testing models for financial time series using EViews software.

When Offered

Offered in spring.

ECON 500/5251 - The Economic Setting for Development (3 cr.)

Description

Does not count for credit in the M.A. degree in Economics. Foundation course dealing with macroeconomic variables and issues concerned with the functioning of an economy, in addition to selected microeconomic aspects pertinent to development. Special attention is given to concepts and tools applicable to challenges facing developing countries whose economies often lack the maturity of more developed countries in terms of institutional and policy settings.

When Offered

Offered in fall.

ECON 511/5252 - Economic Development in Middle East Countries (3 cr.)

Description

This course explores the economic structures, institutions, and policy challenges in the Middle East and North Africa (MENA). Topics investigated include: the demographic transition, the participation of women in the workforce, regional migration, growth and structural change, poverty, inequality, and regional integration.

When Offered

Offered in spring.

ECON 512/5254 - Economic Growth & Development (3 cr.)

Prerequisites

(ECON 5251 and ECON 5282) or (ECON 3021 and ECON 3011)

Description

Growth models and their limitations in developing countries, role of capital, investment, and inflation in economic development, non-economic factors, criteria, and choices of techniques in the process of development.

When Offered

Offered in fall.

ECON 514/5256 - Ethical Issues in Development (3 cr.)

Prerequisites

ECON 5251 or ECON 3021 .

Description

This course issues of an ethical nature that are related to the development process, decision-making and implementation of development projects. The course will first consider ethical and moral concepts and their philosophical underpinnings and review different schools of thought. Against this background, selected issues specific to development strategies and practices will be dealt with. The course will make use of case studies to illustrate and help analyze issues of concern.

When Offered

Offered occasionally.

ECON 522/5257 - Economic Strategies for Sustainable Development (3 cr.)

Prerequisites

(ECON 5251 and ECON 5282) or (ECON 3021 and ECON 3011)

Description

This course explores economic strategies achieving balanced and sustainable development from Keynesian, Structuralist, and Neoclassical perspectives. Development policy concerned with short term resource allocation, medium term economic adjustments, and sustainable long term economic growth with technical progress will be studied. Comparative country studies will conclude the course.

When Offered

Offered in spring.

ECON 590/5259 - Research Practicum (3 cr.)

Prerequisites

Completion of at least 3 core courses.

Description

This course is a 200-hour assignment requiring that students gain extensive experience with a relevant development-related institution either locally or abroad. It is to be completed over a 4-6 week period providing students exposure and work experience in a development setting. Students are then required to prepare, under faculty supervision, a substantial research-based paper drawing on their practicum experience.

When Offered

Offered in spring.

ECON 516/5261 - Mathematical Economics (3 cr.)

Prerequisites

ECON 4061

Description

Introduction to economic models: models of the single sector, the trade cycle, growth with employment, medium- and long-term planning, and cyclical growth. Economic regulation, the treatment of technical progress, input-output models.

When Offered

Offered occasionally.

ECON 508/5271 - Labor Economics (3 cr.)

Description

The course delivers an advanced treatment of mainstream and alternative approaches to labor economics emphasizing an integration of theoretical and empirical models. Topics to be covered include the life cycle human capital models, search theoretic models, internal markets, reservation wages, migration, inequality, and poverty.

When Offered

Offered occasionally.

ECON 518/5281 - Econometrics (3 cr.)

Prerequisites

ECON 4081

Description

The course covers the theory and practice of time series econometrics, including ARMA and VAR models and their applications. Non-stationary time series is analyzed such as unit roots, co-integration and error correction model. Further topics are volatility models (GARCH models) that model the conditional variances and covariances of time series data. Forecast evaluation and model selection methods are also discussed.

When Offered

Offered in spring.

ECON 507/5282 - Quantitative Methods (3 cr.)

Description

The course aims to ensure that students understand, master and apply quantitative techniques used in modeling and decision-making related to development. More specifically, the course introduces the basic concepts of quantitative approaches to decision making. It also utilizes wide applications of quantitative techniques to analyze a variety of economic and social problems. Topics include: regression analyses, factor and cluster analysis, panel data and qualitative models.

ECON 509/5291 - An Advanced History of Economic Thought (3 cr.)

Description

This course will explore, using both primary and secondary sources, the ideas put forth by the great economic thinkers. Class discussion will center on the immediate social impact of these ideas and the factors influencing the course of their evolutionary or revolutionary change over time. Further, this class will encourage students to think critically about the writings of the great economists and explore the possibility that ideological bias is an inexorable feature of science.

When Offered

Offered occasionally.

ECON 506/5299 - Advanced Topics in Economics (3 cr.)

Prerequisites

Consent of instructor

Description

Guided readings, research, and discussion in special topics in Economics. May be taken for credit more than once if content changes.

When Offered

Offered occasionally.

EDUC 511/5201 - Foundations of Educational Research (3 cr.)

Description

The fundamental aim of this course is to assist MA candidates to develop the knowledge and skills essential to the identification and critical evaluation of educational research relevant to their professional interests and contexts. In the process, learners will become familiar with key issues in qualitative and quantitative research in the field of international and comparative education, and be able to distinguish between good and poor research.

Notes

This pre-requisite course must be taken in the first or second semester of study.

EDUC 521/5202 - Social Foundations of Education (3 cr.)

Description

Using a multidisciplinary approach, the course will examine the underlying issues within contemporary educational policies, practices and theories. The course will draw on humanities and social science disciplines to foster the development of MA student's interpretive, normative and critical perspectives on education both inside and outside of schools. It will also assist students as they explore the relationship of education (formal and informal) to societal, regional and global issues.

Notes

This pre-requisite course must be taken in the first or second semester of study.

EDUC 531/5203 - Introduction to International & Comparative Education (3 cr.)

Description

This course introduces MA students to the origins and development of the field of international and comparative education. The course addresses current educational concerns both on local and international levels, such as purposes of schooling, educational access and opportunity, education accountability and authority, teacher professionalism, and impact of globalization on education. The course also explores the relationship between education and national development, and deepens student's understanding of methodological approaches to comparative and international education research.

EDUC 541/5204 - Human Development & Learning Theory (3 cr.)

Description

This course provides an introduction to human growth and development from infancy to adulthood. Emphasis is placed on the integration of various aspects of development, including cognitive, linguistic, social-emotional, and motor. Students will study theoretical and empirical advances in learning, including neuro-cognitive research, to understand learning from formal (school, university) perspectives, as well as social, informal perspectives.

EDUC 551/5205 - Foundations of Instructional Practice (3 cr.)

Description

This course provides an introduction to methods of instruction at primary, secondary, and higher education levels. While pragmatic concerns such as classroom management, lesson planning, differentiation, modes of learning, and standards-based instruction will all be covered, the course will emphasize theories and empirical evidence regarding various strategies, techniques, and philosophies of instruction. Curriculum development, assessment, and student-centered learning approaches will be covered.

EDUC 532/5211 - Globalization, Development, and Educational Reform in the Arab World (3 cr.)

Description

This course surveys policy and reform issues of education in the Arab World, with focus on specific initiatives and how they fit into the context of policy, culture, and economics. The course will examine traditional and non-traditional methods of teaching, school organization, and educational policy-making and will seek to understand how globalized reform initiatives, often instigated through development projects, have impacted those methods. Resulting modes of governance, policy and practice will be analyzed.

EDUC 533/5212 - Comparative Gender, Adolescent, Youth, and Human Development Policy (3 cr.)

Description

This course will explore gender, adolescent youth, and human development policy from a global perspective. The course will examine issues of gender with regard to social and education disparities, as well as women's rights in comparative and international perspectives. It will also target the changing roles of youth and adolescents in society and the rights and responsibilities of young people. Particular attention will be given to the relationships between educational practices, systems, and policies and their relationship to life-work outcomes.

EDUC 535/5213 - Educational Evaluation & Assessment (3 cr.)

Description

Contemporary educators are expected to know how to assess and evaluate the knowledge and performance of students, teachers, staff members, and themselves. In today's reform-minded, information-based society, practitioners must be able to frame problems accurately, collect appropriate data, and analyze the information using acceptable approaches. This course will use a comparative approach, to help MA students learn to: (a) frame a problem using various approaches; (b) identify appropriate data; (c) analyze data; and (d) develop and evaluate alternative solutions to a defined problem. Students will also learn how to utilize current models and methods of assessment in educational contexts.

EDUC 536/5214 - Human Rights-based Education (3 cr.)

Description

This course surveys issues and specialized topics in human rights-based education policy, practice, and research. The course focuses on issues of educational availability and access in terms of gender, location, and fees; additionally, it focuses on access to education in conflict areas. The course also focuses on the rights of children in both formal educational environments and within communities. The course will explore these issues through cases and empirical research.

EDUC 575/5215 - Educational Policy Analysis (3 cr.)

Description

This course explores the policy cycle and contextual factors that influence decisions, by enabling and refining student's analytic skills. Topics will include the analysis of how policy is created; the ideal and actual forms of the policy cycle; how to create sustainable feedback systems; how to use appropriate analytic approaches to the study of data; and how to use appropriate analytic techniques to analyze policy choices.

EDUC 588/5216 - Research-Based Comparative Approaches to Educational Reform (3 cr.)

Description

Following an interdisciplinary approach, the course focuses on the reform of educational policy and practices at national, regional, and international levels. The course aims at acquainting students with educational reform trends and approaches including sector reform and school-based reform; developing students' analytical skills of reform initiatives and outcomes in different countries; developing students' research skills related to the monitoring and evaluation of reform projects; and promoting the approach of lifelong learning among students as researchers and reflective practitioners.

EDUC 534/5217 - Strategic Educational Planning and Development (3 cr.)

Description

Education and development are often considered strategically together. This course will examine, from an educational lens, the implications of educational planning in a country's development. In particular, the course will examine the role of educational policy on the economy, cultural hegemony, and politics. Students will study human capital theory in relationship to various educational strategies. Students will also understand the economic tradeoffs in education as a strategy for development.

EDUC 585/5219 - Current Issues in International Education Development and Policy (3 cr.)

Description

This course presents major education debates, practices, and challenges which policy planners throughout the world must deal with. The course addresses persistent and emerging themes, such as planning for nationwide educational reform; financing quality education (public and private); ensuring equitable quality education for all learners; gender

and educational equity; lack of infrastructure; adult illiteracy; and the role of multilateral organizations in educational reform in developing countries. The course can be repeated up to two times under distinct topics.

Notes

Students may take the course more than once if the topic is different.

EDUC 542/5221 - Transformational Leadership (3 cr.)

Description

In this course students will investigate leadership theories, with an emphasis on the elements of transformational leadership and how transformational leaders create successful school change and innovation. Students will analyze case studies and leadership styles. The course content and activities will encourage and enable students to be educational change agents. Students will study leadership traits, styles and strategies in their own leadership and consider the effectiveness of these characteristics in different circumstances and/or cultural settings. Attention will also be directed to using facilitative power to make second order changes.

EDUC 544/5222 - School Governance and Management (3 cr.)

Description

This course examines the allocation of resources to support both student and faculty learning and the effective management of school operations to insure a safe and secure environment, conducive to learning. The course will cover the application of research on effective schools, models of supervision and leadership theory and implementation; it will also investigate the interconnectedness of instructional supervision, educational leadership and school governance and management.

EDUC 546/5223 - Organizational Theory and Educational Institutions (3 cr.)

Description

Educational organizations - schools in particular - are complex environments that are considered to have competing demands. This course seeks to identify the organizational facets of educational institutions that either enhance or obstruct meaningful educational reform. By examining sociological, political, economic, and technical features of educational organizations, this course will expose opportunities for leadership-based change in these organizations.

EDUC 573/5224 - Research-based Instructional Leadership (3 cr.)

Description

The task of improving teaching and learning in the classroom is one that all school administrators face. This course explores the theory and practice of instructional supervision within a school culture and its critical importance to student achievement. It focuses on the principal as the instructional leader in the school.

EDUC 583/5229 - Issues in Comparative Education for Educational Leaders (3 cr.)

Description

This course presents MA candidates in the Educational Leadership concentration with major education debates, practices, and challenges which school administrators throughout the world face on a daily basis. The course addresses persistent and emerging themes, including: school administration and financing; quality control of educational program planning and implementation; ensuring provision of equitable education for all learners; developing a learning community at the school, especially through engaging all members in the school's vision; and involving the wider community in school activities, for mutual benefit.

Notes

This course may be repeated up to two times under different special topics

EDUC 552/5231 - Online and Blended Learning Design and Instruction in Developing Countries (3 cr.)

Description

Online and blended learning have become commonplace instructional modalities all over the world. Integrating them into developing countries and Arab contexts presents its own challenges and opportunities. The first part of the course will focus on research related to the latter. The main part of the course will focus on design, assessment, and teaching principles for online and blended learning. Students will engage in real-world projects that involve the application of these principles to their own contexts. The final part will discuss the implications of some trends such as MOOCs and social media for instruction in the region. The course is relevant for educators and designers in both K-12 and higher education settings.

EDUC 554/5232 - Literacy, Learning and Education (3 cr.)

Description

The primary goal of this course is to introduce new views of what literacy and learning are, and the consequent changes in their relationship to education. Topics will include: differentiating elite from mass literacy; the role of literacy in schooling; the application of these concepts to instruction in classroom settings (Pre-K-12 and higher education); and how the continuing evolution of these concepts may change their relationship to education yet again in future.

EDUC 556/5233 - Action Research (3 cr.)

Prerequisites

EDUC 5201

Description

This course will lead students into action research, a form of self-reflective systematic inquiry by practitioners on their own practice. The process of action research will assist students in assessing needs, documenting the steps of inquiry, analyzing data, and making informed decisions that can lead to desired educational outcomes. The course will equip students with research tools that can be used to contribute to school renewal and instructional improvement. Students will also learn about the four types of action research: collaborative, critical, classroom, and participatory. Finally, the course will critically examine a selected number of case studies from various regions.

EDUC 557/5234 - Reaching Diverse and Underserved Learners (3 cr.)

Description

Traditional methods of teaching have been unable to meet the needs of all learners. Students with physical and learning

disabilities, students for whom the language of instruction is not their first language, and students who come from impoverished backgrounds all tend to struggle to learn and demonstrate academic proficiency in traditional models of education. This course explores the methods of differentiation and the theoretical foundations of special education, second language instruction, and education of impoverished students. It provides an introduction to each of these areas by providing explicit classroom strategies while providing the underlying theoretical conditions for these strategies.

EDUC 581/5239 - Current Issues in Teaching & Learning (3 cr.)

Description

This course presents major education debates, practices, and challenges which teachers throughout the world face. The course addresses persistent and emerging themes, such as professionalization of teachers and on-going career preparation; integrating technology into instructional practice; formal and informal learning; the role of assessment in instruction; standards-based instruction; and the on-going process of building school-home relationships which can help enhance student learning. The course can be repeated up to two times under various distinct topics.

Notes

Students may take the course more than once if the topic is different.

EDUC 562/5241 - Pedagogy & Theory of Modern Teaching & Learning in Higher Education (3 cr.)

Description

This course provides students with an overview of trends, theories, principles, and practices in higher education instruction, including online learning and associated instructional models. Beginning with a focus on adult learning theory, as well as learning theories especially associated with traditional university-aged students, the course will provide both general and disciplinary-specific trends in content delivery and skill development. The course will examine new models of delivery in contexts of both learning theories and institutional missions. Students will conduct research projects that involve classroom observation, student outcome data analysis, and teacher and learner interviews, all with the purpose of providing specific guidance on instructional improvement from both an organizational and a classroom perspectives.

EDUC 563/5242 - Theories of Student Development in Higher Education (3 cr.)

Description

This course examines patterns of intellectual, identity, and social development among older adolescents and adults, and how these relate to learning and development of desired outcomes of postsecondary education. It is designed to introduce graduate students to major theoretical perspectives, the research based on these theories, and how this body of theory and research can be used to guide the design of educational policies and practices in colleges and universities to promote college student learning and development.

EDUC 564/5243 - Policy and Administration in Higher Education (3 cr.)

Description

This course provides an overview of both the organizational theories associated with higher education and the trends and practices in policy and administration of higher education. The course includes the role of governance and how it influences organizational structure, policy and leadership. In addition, the course provides comparative knowledge on

the impact of policies and organizational structures on recourse allocation, learning outcomes, student satisfaction, labor market satisfaction and other characteristics.

EDUC 561/5249 - Current Issues in Higher Education (3 cr.)

Description

This course provides an introduction to the higher education sector in a comparative international context, focusing on policy, institutional replication, global rankings, organizational structures, equity, and finance. Students will apply frameworks of comparative research on higher education, as well as a variety of approaches to the analysis of reform, policy, practice and outcomes. This course can be repeated up to two times under various special topics.

EDUC 595/5281 - Supervised Fieldwork (3 cr.)

Description

This practical course provides participants with opportunities to interact in fieldwork settings, whether as classroom teachers or school-level educational leaders. Students complete 30 hours of supervised fieldwork, with the distribution of activities based on the student's background and interests, and with the agreement of the student's advisor. Each student must participate in at least three different types of fieldwork activities, which could include peer observation, group-based interaction, observation by a qualified supervisor or mentor, or other parallel activity. Required of MA students who have never taken a documented fieldwork course with extensive classroom and/or school-based experience.

Notes

This course will be graded Pass-Fail.

EDUC 580/5282 - Independent Study in International & Comparative Education (3 cr.)

Description

Independent study in various areas of International & Comparative Education. To be assigned to individual students or to groups. Readings and assignments are required, and frequent consultations are held.

EDUC 000/5288 - Comprehensive Exam (1 cr.)

Prerequisites

Final semester before graduation

Description

Students prepare for comprehensive examinations, in lieu of a thesis.

EDUC 593/5293 - Capstone Project (3 cr.)

Prerequisites

EDUC 5201 and EDUC 5202 .

Description

Students undertake a capstone project related to their concentration, approved by student's advisor and two faculty readers. The capstone should be an applied project, firmly grounded in a theoretical framework and a rigorous literature review.

EDUC 599/5299 - Research Guidance and Thesis (2 cr.)

Description

Guidance and approval of thesis research.

EGPT 199/1099 - Selected Topics for the Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all first-year students as part of the Primary Level Core.

EGPT 202/2020 - Ancient Egypt: An Introduction (3 cr.)

Description

An introduction to history, society, religion, art and architecture of Ancient Egypt, including a description of the nature and character of the field of Egyptology. The continuing impact of Ancient Egypt on subsequent societies and cultures including that of modern Egypt will be examined.

When Offered

Offered each semester.

EGPT 203/2030 - Introduction to Egyptian Architecture (3 cr.)

Prerequisites

Only open to declared architecture majors and Egyptology majors.

Description

A basic class on Egyptian architecture, comprised of a brief introduction to the culture of the ancient Egyptians, followed by a series of lectures dealing with Egyptian architecture, the typology of Egyptian architecture, and the role it played in Egyptian society and culture. The raw materials and tools used by the Egyptians will be covered, as well as some of the motifs used in the buildings, and their ideas about architecture, including their use of light, water, and space in the buildings. The course includes sections on temples, tombs, and, with a brief discussion of urban planning. The course will conclude with a section on Egypt's legacy to architecture, and how the use of the grammar of architecture changes over time. Field-trips will also constitute an important part of the course and will, in some cases, take the place of class-time.

EGPT 299/2099 - Selected Topics for Core Curriculum (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

EGPT 204/2210 - Introduction to Archaeology (3 cr.)

Description

The methods and theories of archaeological excavation and interpretation; archaeological evidence of human cultural development; archaeology as a social science.

When Offered

Offered occasionally.

EGPT 250/2250 - Ancient Egyptian Literature in Translation (3 cr.)

Description

The course will analyze Ancient Egyptian literary texts -including folk tales, myths, wisdom literature and poetry- in order to present Ancient Egyptian culture through its literature.

When Offered

Offered occasionally.

EGPT 253/2251 - Hieroglyphics I (3 cr.)

Description

The course introduces the student to the study of classical Egyptian script, grammar and hieroglyphic texts of the Middle Kingdom.

When Offered

Offered in fall.

EGPT 254/2252 - Hieroglyphics II (3 cr.)

Prerequisites

EGPT 2251

Description

The course is a continuation of EGPT 2251 . Students will concentrate on the verbal forms of classical Egyptian.

When Offered

Offered in spring.

EGPT 301/3010 - Temples, Tombs and Hieroglyphs (3 cr.)

Prerequisites

Instructor's consent

Description

The class examines Egypt's history and geography and devotes special attention to the effect of geography and natural resources upon the development of Ancient Egyptian history, art, and civilization.

Prerequisites instructors consent

When Offered

Offered occasionally.

EGPT 361/3201 - Art and Architecture of Ancient Egypt I (3 cr.)

Prerequisites

EGPT 2020 or consent of instructor.

Description

The course covers the period between the Predynastic and the Middle Kingdom and includes: reliefs, statuary, architecture, and minor arts, illustrated with images. The class focuses on learning how to look at and to analyze Egyptian art and to place it in its context. This course involves a significant amount of memorization that enables the student to create a mental data-bank that is useful when putting excavated material in context and in analyzing Egyptian art. There will be field-trips to the museum and to Giza and Saqqara during the semester.

When Offered

Offered in fall.

EGPT 362/3202 - Art and Architecture of Ancient Egypt II (3 cr.)

Prerequisites

EGPT 2020 or consent of instructor.

Description

The course covers the period between the Middle Kingdom and the Ptolemaic Period. It includes: reliefs, statuary, architecture, and minor arts, illustrated with images. The class focuses on identifying the basic principles of Egyptian art and architecture, learning how to look at and to analyze Egyptian art and to place it in its context. There will be field-trips to the museum and to other sites, possibly including Luxor, during the semester.

When Offered

Offered in spring.

EGPT 343/3211 - History of Ancient Egypt I: Pre-Dynastic Through Middle Kingdom Egypt (3 cr.)

Description

This course covers the history of Egypt from the Predynastic period to the Middle Kingdom. The course focuses on the 'official' history of Egypt rather than the cultural/social history which is covered in a separate course. The scope of 'official' history includes: the rise of the Egyptian state, the different rulers of Egypt and their contributions to the state in terms of buildings, religious changes and foreign policy, the economy, social organization, and Egypt's foreign relations. Literary sources will be augmented by archaeological evidence. Field trips to archaeological sites in the Cairo area are an obligatory aspect of the course.

When Offered

Offered in fall.

EGPT 344/3212 - History of Ancient Egypt II: Middle Kingdom through Ptolemaic Egypt (3 cr.)

Description

This course covers the history of Egypt from the Middle Kingdom to the end of Pharaonic history. The course focuses on the 'official' history of Egypt rather than the cultural/social history that is covered in a separate course. The scope of 'official' history includes: the different rulers of Egypt and their contributions to the state in terms of buildings, religious changes and foreign policy, the economy, social organization, and Egypt's foreign relations. Literary sources will be augmented by archaeological evidence. Field trips to archaeological sites are an important component of the course.

When Offered

Offered in spring.

EGPT 403/4030 - Independent Study in Egyptology (1-3 cr.)

Description

Independent research projects in Egyptology, with consent of instructor and student's adviser.

When Offered

Offered every semester.

EGPT 440/4040 - Ancient Egyptian Religion and Ethics (3 cr.)

Prerequisites

Prerequisite: instructor's permission.

Description

The course will examine in detail the beliefs and religious institutions of the Ancient Egyptians. Special attention will be devoted to official and popular religions, and to their manifestation in architecture as well as in the literature of Ancient Egypt.

When Offered

Offered occasionally.

EGPT 000/5030 - Independent Study and Guided Readings (3 cr.)

Prerequisites

Department approval.

Description

Guided individual readings and/or research on a subject of mutual interest to student and faculty member that is beyond the scope of what is offered.

When Offered

Offered in fall and spring.

Repeatable

May be taken only twice.

EGPT 304/5100 - Culture and Society of Ancient Egypt (3 cr.)

Prerequisites

HIST 2901 and HIST 2902 .

Description

The course identifies the basic structure of ancient Egyptian society and culture, and places special emphasis upon the interaction of economics, social organization, environment, law, politics, and religion.

When Offered

Offered occasionally.

EGPT 510/5100 - Culture and Society of Ancient Egypt (3 cr.)

Prerequisites

Consent of instructor.

Description

The course will cover the cultural, technological, and social history of ancient Egypt, with an emphasis on using primary sources and, if appropriate, experimental work. The subject matter covered includes the social organization of Egypt, the economy, agriculture, food, medicine, crafts, building methods, family structure, etc.

EGPT 341/5110 - Egypt in the First Millennium BC (3 cr.)

Prerequisites

EGPT 3211 and EGPT 3212 , or instructor's consent.

Description

The course covers the history of Egypt during the first millennium BC (1069-332 BC), a period characterized by much internal conflict and long periods of foreign domination. It examines the factors that led to the demise of Egypt's New Kingdom, traces the rise of the Libyan and Nubian dynasties, and the subsequent annexation of Egypt by the Persian Empire. Special Attention will be devoted to the last dynasties of the Pharaonic tradition, Dynasties XXI-XXX.

When Offered

Offered occasionally.

EGPT 000/5111 - Egyptomania (3 cr.)

Prerequisites

Consent of instructor.

Description

This course will enable students to recognize Egyptianizing art and architecture in Egypt and around the world and to understand its religious, social, and ideological origins. Students will also gain an understanding of Ancient Egypt's cultural impact on the world.

EGPT 530/5120 - Graeco-Roman Egypt (3 cr.)

Prerequisites

Consent of instructor.

Description

This course will explore the history of Egypt in the Graeco-Roman period and the momentous confrontation between Greek and Egyptian culture between 300 BC and 700 AD.

EGPT 342/5120 - History of Egypt in the Graeco-Roman Era (3 cr.)

Prerequisites

EGPT 3211 and EGPT 3212 , or instructor's consent.

Description

The course will study the history of Egypt in the Graeco-Roman period and the momentous confrontation between Greek and Egyptian culture between 300 BC and 700 AD. It will also examine the social consequences of the spread of Christianity in Egypt and the rise of Coptic culture.

Cross-listed

Same as HIST 3903.

When Offered

Offered occasionally.

EGPT 512/5130 - Art, Societies, and Cultures of the Ancient Near East (3 cr.)

Prerequisites

Consent of instructor.

Description

This course provides students with an overview of the prehistory and early historical periods of the ancient Near East. Considerable attention is given to the fundamental transitions which occurred in this region. In particular, we will

examine: (1) the first emergence of settled village life, hierarchical social organization and the domestication of plants and animals during the Neolithic period; (2) the rise of urban centers, temple and palace elites and writing; (3) the emergence and spread of the states and subsequent militaristic empires which became the dominant political force in the ancient Near East for several millennia. This course examines both archaeological and historical evidence with a heavy emphasis on material culture, primary archaeological and historical data and the process of scholarly interpretation.

EGPT 346/5130 - Societies and Culture of the Ancient Near East (3 cr.)

Prerequisites

EGPT 5120 and EGPT 3211 , or instructor's consent.

Description

The course constitutes a historical overview of the societies and cultures of Egypt, the Mediterranean world and the Middle East, from the emergence of urban society in Iraq in the fourth millennium BC to the rise and fall of the great empires of Babylon, Assyria, the Hittites, Achaemenid Persia, Greece and Rome. Special attention will be paid to the position of Ancient Egyptian civilization within the wider context of Ancient Near Eastern history.

Cross-listed

Same as HIST 3904.

When Offered

Offered occasionally.

EGPT 348/5140 - Societies and Cultures of Ancient Nubia (3 cr.)

Prerequisites

Prerequisite: consent or of instructor.

Description

The course will survey the emergence of food-producing societies in Nubia and the Sudan from 6000 BC, and will examine the development of Nubian civilization from the Kerma culture and the kingdoms of Kush and Meröe to the advent of Islam. Special attention will be devoted to the interaction between Egyptian and Nubian civilizations.

When Offered

Offered occasionally.

EGPT 521/5140 - Societies and Cultures of Ancient Nubia (3 cr.)

Prerequisites

Consent of instructor.

Description

This course is intended to serve as a broad survey of the development of history, culture and society in Nubia and the Northern Sudan from the earliest era of food production (ca. 6000-4000 BCE/BC) to the development of the medieval kingdoms of Nubia (ca. 600-700 CE/AD). Special attention will be devoted to the question of the relations - cultural, commercial, technological, political - between Ancient Egypt and Ancient Nubia. For the purposes of this class, the term "Nubia" will mean the long stretch of the Nile Valley that extends between the Nile's First Cataract (located in

Southern Egypt just south of the city of Aswan) and its Sixth Cataract (located in the Sudan some distance north of the city of Khartoum). The term "Nubian" will describe the people of this specific area as well as all the distinctive languages and cultures that flourished here from the beginning of recorded history to the early modern period.

EGPT 400/5150 - Introduction to Coptic (3 cr.)

Prerequisites

EGPT 2252

Description

Coptic represents the last stage of the ancient Egyptian language. The course will include reading of selected texts in two Coptic dialects.

When Offered

Offered occasionally.

EGPT 505/5150 - Introduction to Coptic (3 cr.)

Prerequisites

EGPT 2252 or basic hieroglyphs.

Description

Coptic represents the last stage of the ancient Egyptian language. The course will include reading of selected texts in two Coptic dialects.

Cross-listed

Same as EGPT 5150.

When Offered

Offered occasionally.

EGPT 353/5151 - Hieroglyphics III (3 cr.)

Prerequisites

EGPT 2252

Description

Students will read a number of Egyptian texts and learn how to translate and interpret written documents.

When Offered

Offered every fall.

EGPT 500/5151 - Hieroglyphics III (3 cr.)

Prerequisites

EGPT 2252 or equivalent.

Description

Students will read a number of Egyptian texts and learn how to translate and interpret written documents.

When Offered

Offered every fall.

EGPT 401/5152 - Introduction to Hieratic (3 cr.)

Prerequisites

EGPT 2252

Description

Hieratic is a script derived from hieroglyphics used mainly on papyrus. The course is a study of this script through reading selected texts literary, religious, or administrative- related to daily life in ancient Egypt .

When Offered

Offered occasionally.

EGPT 402/5153 - Hieroglyphics IV (3 cr.)

Prerequisites

EGPT 5151 .

Description

The course consists of further reading of Egyptian texts with an introduction to the new Egyptian language of the later periods of Pharaonic history. In order to introduce students to epigraphy, they are required to copy and study texts from the Cairo Museum.

Cross-listed

Same as EGPT 5153.

When Offered

Offered in spring.

EGPT 501/5153 - Hieroglyphics IV (3 cr.)

Prerequisites

Hieroglyphics I-III or equivalent

Description

The course consists of further reading of Egyptian texts with an introduction to the new Egyptian language of the later periods of Pharaonic history. In order to introduce students to epigraphy, they are required to copy and study texts from Cairo Museum.

Cross-listed

Same as EGPT 5153.

When Offered

Offered in spring.

EGPT 000/5154 - Late Egyptian (3 cr.)

Description

This class introduces students to the language and literature of Egypt's New Kingdom. Late Egyptian is a unique stage of Egyptian in which the vernacular found its way into the textual record. By the end of this course, students will be able to read a variety of literary and non-literary texts.

EGPT 445/5160 - Selected Topics in Coptic Studies (3 cr.)

Description

This course allows instructors to offer a topic in Coptic Studies. The topic will be chosen from year to year in coordination with the departments concerned and the dean of the School of HUSS, and according to the individual interests and areas of expertise of the instructors. Topics chosen may include various aspects of Coptic art and history, monasticism, folklore, or other subjects.

Cross-listed

Same as ARIC 5132, ANTH 4499, HIST 4905, SOC 4499, and EGPT 5160.

When Offered

Offered in fall.

Repeatable

The course may be taken more than once if the topic changes.

Notes

Students in these majors may petition preferably before registration to have the course included in their major requirements.

EGPT 539/5160 - Selected Topics in Coptic Studies (3 cr.)

Description

This course allows instructors to offer a topic in Coptic Studies. The topic will be chosen from year to year in coordination with the departments concerned and the dean of the School of HUSS, and according to the individual interests and areas of expertise of the instructors. Topics chosen may include various aspects of Coptic art and history, monasticism, folklore, or other subjects.

The course may be taken more than once if the topic changes.

Students in these majors may petition preferably before registration to have the course included in their major requirements.

Cross-listed

Same as ARIC 5132, ANTH 4499, HIST 4905, SOC 4499, EGPT 5160.

EGPT 459/5170 - Selected Topics in Cultural Resource Management and Museology (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

The course deals with different types of cultural heritage present in Egypt and their physical and cultural environment, and with the various methods of managing them in order to ensure their proper preservation while making them accessible to tourists and scholars. At the instructor's discretion, the course may also provide an understanding of the role of museums in the modern world and the basic methodology and practice of museum management.

Cross-listed

Same as EGPT 5170.

When Offered

Offered occasionally.

EGPT 545/5170 - Selected Topics in Cultural Resource Management and Museology (3 cr.)

Prerequisites

Consent of instructor.

Description

The course deals with different types of cultural heritage present in Egypt and their physical and cultural environment, and with the various methods of managing them in order to ensure their proper preservation while making them accessible to tourists and scholars. At the instructor's discretion, the course may also provide an understanding of the role of museums in the modern world and the basic methodology and practice of museum management.

Cross-listed

Same as EGPT 5170.

When Offered

Offered occasionally.

EGPT 540/5180 - Advanced Method and Theory: Archaeological and Historical (3 cr.)

Prerequisites

Consent of instructor.

Description

This seminar is geared to providing a methodological basis and theoretical approach for both the disciplines of archaeology and history. More time and emphasis will be put on the archaeological, however, as it is the more basic discipline in Egyptology.

EGPT 591/5191 - Field Work (3 cr.)

Prerequisites

Permission of instructor.

Description

Preference will be given to majors in Egyptology. Field-work may take the form of epigraphy, excavation, survey, or museum work. Inquiries concerning the course must be made no fewer than seven months prior to the start of the summer semester.

Cross-listed

same as EGPT 5191.

EGPT 491/5191 - Field Work in Egyptological Method and Theory (3 cr.)

Prerequisites

Permission of instructor.

Description

Preference will be given to majors in Egyptology, anthropology, archaeology. Inquiries concerning the course must be made no fewer than seven months prior to the start of the summer semester for participation in archaeological and/or epigraphic fieldwork in Egypt. Sites and projects will vary.

Cross-listed

Same as EGPT 5191.

EGPT 519/5199 - Selected Topics in Ancient Egyptian Art and Culture (3 cr.)

Prerequisites

Consent of instructor.

Description

The topic of this course changes regularly and can be taken more than once. The subject matter chosen for the course can be any aspect of ancient Egyptian art, architecture, archaeology and culture.

EGPT 499/5199 - Selected Topics in Egyptology (3 cr.)

Prerequisites

Prerequisites: junior standing and/or consent of instructor.

When Offered

Offered occasionally.

Repeatable

May be repeated for credit when content changes.

EGPT 522/5220 - Ancient Egyptian Religion and Ethics (3 cr.)

Prerequisites

Consent of instructor.

Description

This course will investigate ancient Egyptian religious beliefs and practices, their origin, and development. The great mythic Solar Cycle of creation and Osirian Cycle of betrayal and revenge, death and rebirth are discussed, as well as the place of the myriad local and minor Gods and Goddesses within Egyptian mythology. The interaction of sacred and secular in Egyptian society is considered through the nature of divine kingship, large temple institutions, and funerary foundations. The relationship between the state cults and private worship by noble and commoner is explored, and the nature and potency of ancient Egyptian magic and curses investigated. The nature and development of Egyptian funerary beliefs are also detailed.

EGPT 525/5230 - Settlement and Daily Life in Ancient Egypt (3 cr.)

Description

This seminar introduces students to the material culture of the ancient Egyptians, specifically that of their settlements and daily life. The seminar concentrates on the archaeological evidence from settlements of the three most important periods of ancient Egyptian civilization: the Old, Middle and New Kingdoms. The seminar will first discuss urban settlement patterns in ancient Egypt, and secondly the processes by which material assemblages form in settlements. The plans and structure of dwellings will also be considered along with the material evidence found inside of them.

EGPT 526/5240 - Death and Burial in Ancient Egypt (3 cr.)

Prerequisites

Consent of instructor.

Description

This course will cover the funerary practices and beliefs of ancient Egypt from the Old Kingdom to the Graeco-Roman period. The subject matter covered will include the process of mummification and the spells used during the operation; the development of coffins, sarcophagi, amulets, canopic jars, canopic chests, shabtis, and other tomb furnishings; the evolution of the tomb, both royal and private, and any symbolic values that might be attached to the decoration and architecture; funerals, the cult of the dead, economic foundations supporting the tomb, and the religious rituals associated with funerals, the afterlife, and the mortuary cult. Experimental archaeology (mummification) might be involved in this class.

EGPT 532/5310 - Classical Art and Archaeology (3 cr.)

Description

This course examines the techniques and methods of Classical Archaeology as revealed through an examination of the major monuments and artefacts of the Greek and Roman world from Prehistory to the Late Empire. Architecture, sculpture, fresco painting, and the minor arts are examined at such sights as Mycenae, Olympia, Athens, Pompeii, and Rome.

EGPT 531/5320 - The Romano-Byzantine World and Egypt (3 cr.)

Prerequisites

Consent of the instructor.

Description

This course is designed to familiarise students with the material and historical culture of the Late Antique and Byzantine periods, with an emphasis on the geographical area of the eastern Mediterranean and Egypt. This course includes direct experience with actual works of Late Antique and Byzantine visual culture.

EGPT 533/5330 - Coptic Art and Architecture (3 cr.)

Prerequisites

Consent of the instructor.

Description

A course designed to introduce students to Coptic art and architecture, with an emphasis on monasticism. Field trips are required.

EGPT 541/5420 - Material Culture: Looking at Artifacts in Context (3 cr.)

Prerequisites

Consent of instructor.

Description

The course will provide an overview of different types of objects from funerary, ritual, and quotidian contexts, with special museum sessions. It is designed to familiarize students with different types of material culture of ancient Egypt so that they can identify and work with objects confidently, in museums or on excavations.

EGPT 542/5430 - Site Analysis (3 cr.)

Prerequisites

Consent of instructor.

Description

This course is intended for students to learn about the history of a site in preparation for working at it, or on excavated material from it. They will choose sites and research its excavation history, as well as tracing back any documentation culled from the accounts of Eastern and Western travellers and historians. Understanding, using, and critiquing site reports will form part of the course, as well as learning to ask questions of the data. Site visits, local accounts, and modern imaging techniques should be used in order to understand and explore the past and present of the chosen site.

EGPT 560/5440 - The Iconography of Ancient Egypt (3 cr.)

Prerequisites

A course In Egyptian art.

Description

The civilization of ancient Egypt left behind a vast material culture, both inscribed and decorated. An important part of a student's understanding of ancient Egypt is to be able to recognize and understand the attributes and symbols recorded and depicted on ancient Egyptian monuments. This class is designed to draw upon students' understanding of hieroglyphs, art and religion, and apply their knowledge to the comprehension of the iconography in tombs, temples, and in the minor arts.

EGPT 504/5510 - Advanced Hieratic (3 cr.)

Prerequisites

EGPT 5152 or equivalent.

Description

The class consists of more advanced readings from the different stages of the hieratic writing, the different hands encountered, and the different categories of texts. Although this course will focus primarily on Palaeography, the translation of these texts will also familiarize students with aspects of the culture they may not necessarily have come across as undergraduates. They will also enhance their training in grammar and improve their knowledge of the Ancient Egyptian Language in general.

EGPT 502/5520 - Introduction to Demotic (3 cr.)

Prerequisites

Equivalency to advanced hieroglyphs.

Description

Demotic is a cursive script derived from Hieratic, and rooted in Hieroglyphics. It emerged in the 7th century B.C. and remained in use in parallel with Hieroglyphics and Hieratic, and later also with Coptic until the Byzantine Period, when the latter language took over. The Egyptian Language in its Demotic manifestation has further developed and new grammatical forms and vocabulary have appeared. In this class students will learn Demotic and work on a series of different texts.

EGPT 503/5530 - Ptolemaic Hieroglyphs (3 cr.)

Prerequisites

EGPT 2251 EGPT 2252 or equivalent.

Description

Ptolemaic Hieroglyphs are mostly used for historic or religious texts of the Greco-Roman Period. Although the hieroglyphic signs are mostly known, the scribes assign different phonetic values to them based on a different system that needs to be understood and practiced. Religious texts in the Greco Roman Period are written in a more elaborate manner, with more details and explanatory glosses and are, therefore very important for a better understanding of Ancient Egyptian religion and its development across time.

EGPT 506/5540 - Advanced Coptic Texts (3 cr.)

Prerequisites

Basic Coptic.

Description

An advanced course in Coptic that permits students to read a variety of texts. The subject matter changes regularly, and the course can be taken more than once as long as the material is different.

EGPT 561/5550 - Advanced Readings in Ancient Egyptian Religion Texts (3 cr.)

Prerequisites

EGPT 2251 EGPT 2252 EGPT 5151 EGPT 5153

Description

This course is designed to study ancient Egyptian religious texts in depth, including their form, their content, their various usages, whether in temple rituals, in funerary religion, or in magical compositions etc. and the development of the religious expression across history. By the end of the course students should have learned about religion as well as modes of expression of certain beliefs, as well as grammatical structures unique to sacred forms of expression.

EGPT 562/5560 - Advanced Readings in Historical Literature from the Old Kingdom to the Late Period (3 cr.)

Prerequisites

EGPT 2251 EGPT 2252 EGPT 5151 EGPT 5153

Description

This course is designed to cover readings from all period of Egyptian history to expose students to different types of historical literature, and to allow them to be able to select the period they prefer for further research.

EGPT 598/5991 - Research Seminar: Research Design and Writing (3 cr.)

Prerequisites

Consent of instructor.

Description

The course is intended to give students an opportunity to clarify and structure their thesis planning, particularly by way of identifying the major problem they wish to explore, its possible scope and dimensions, and justifying the theoretical perspectives and methodology appropriate for the purpose. This course will also ensure that students are taught the expectations and the culture of their specific academic discipline so that they can participate successfully in it.

EGPT 599/5992 - Thesis (3 cr.)

Prerequisites

Completion of required coursework.

Description

For the MA degree in Egyptology a thesis of 25,000 words, exclusive of Bibliography and appendices is required on a topic that has been approved by the thesis committee. The committee should be made of the chief and second advisor. Additional advisors will be added if extra specialties are needed.

ECNG 210/2101 - Digital Logic Design (3 cr.)

Prerequisites

CSCE 1001 . Concurrent with ECNG 2108L

Description

The nature of digital logic and numbering systems. Boolean algebra, Karnaugh map, decision-making elements, memory elements, latches, flip-flops, design of combinational and sequential circuits, integrated circuits and logic families, shift registers, counters and combinational circuits, adders, subtracters, multiplication and division circuits, memory types. Exposure to logic design automation software. Introduction to FPGAs and HDL.

When Offered

Offered in fall, spring and summer.

ECNG 215/2105 - Circuit Analysis I (3 cr.)

Prerequisites

PHYS 1021

Description

Ohm's law, Kirshoff's law, Mesh current method, node-voltage method, superposition theorem, reciprocity theorem, Thevenin's theorem, Norton's theorem, maximum power transfer theorem, compensation theorem, T and II networks, transformation equations II to T and T to II. Transients in RC and RL circuits, time constants, mutual inductance and transformers. Time domain behavior of inductance and capacitance, energy storage.

When Offered

Offered in fall and spring.

ECNG 216/2106 - Circuit Analysis II (3 cr.)

Prerequisites

ECNG 2105 and concurrent with MACT 2141 and ECNG 2109L

Description

Alternating current circuit analysis using complex numbers (phasors), complex impedance and complex admittance. Series resonance and parallel resonance, half power points, sharpness of resonance, the Q-factor, maximum power to an alternating current load, Decibels, power level measurements. The s-plane and poles and zeroes of the transfer function. Forced and natural response of circuits using complex frequency analysis. Three-phase circuits. Two-port networks and the y, z, h and ABCD parameters. Reciprocal networks. Laplace transform techniques.

When Offered

Offered in fall and spring.

ECNG 218L/2108L - Digital Logic Design Lab (1 cr.)

Prerequisites

Concurrent with ECNG 2101

Description

The laboratory component will cover experiments in digital design and experiments illustrating material of course ECNG 2101 including an FPGA-based project.

When Offered

Offered in fall, spring and summer.

ECNG 219L/2109L - Circuit Analysis Lab (1 cr.)

Prerequisites

Concurrent with ECNG 2106

Description

Experiments illustrating material of course ECNG 2106 .

When Offered

Offered in fall and spring.

ECNG 315/3105 - Electronics I: Basic Electronic Devices & Circuits (3 cr.)

Prerequisites

ECNG 2106

Description

Devices and Basic Circuits: Introduction to Electronics, Operational Amplifiers, Active Filters, Diodes, Bipolar Junction Transistors (BJT's) (DC and small signal analysis), MOS Field Effect Transistors (MOSFET's) (DC and small signal analysis).

When Offered

Offered in fall and spring.

ECNG 316/3106 - Electronics II: Analog Circuits (3 cr.)

Prerequisites

ECNG 3105 , concurrent with ECNG 3109L .

Description

Differential and Multistage Amplifiers, Frequency Response, Feedback, Output Stages and Power Amplifiers, Analog Integrated Circuits, Filters and Tuned Amplifiers, Signal Generators and Waveform Shaping Circuits.

When Offered

Offered in fall and spring.

ECNG 318/3108 - VLSI Design (3 cr.)

Prerequisites

ECNG 2101 and ECNG 3105

Description

Introduction to fabrication techniques for silicon very large integrated circuits (VLSI), Introduction to MOS transistor. Details of CMOS inverter, transmission gates. Design of Complex CMOS gates; combinational and sequential design techniques in VLSI. CMOS technology and rationale behind various design rules. Design and synthesis using hardware description languages (HDL) such as Verilog. Use CAD tools to design, layout, check and simulate some basic circuits. Design, layout and simulation of a project.

Hours

Two class periods and one three-hour lab period.

When Offered

Offered in fall and spring.

ECNG 319L/3109L - Electronics Lab (1 cr.)

Prerequisites

Concurrent with ECNG 3106 .

Description

Experiments illustrating material of course ECNG 3106 .

When Offered

Offered in fall and spring.

ECNG 320/3201 - Signals and Systems (3 cr.)

Prerequisites

ECNG 2106, MACT 2141 and CSCE 1101

Description

Basic properties of signals and systems, linearity, stability, step and impulse response, superposition integral, block diagrams, Fourier series and Fourier transform for discrete and continuous time signals, sampling theorem, Z-transform.

When Offered

Offered in fall and spring.

ECNG 321/3202 - Automatic Control Systems (3 cr.)

Prerequisites

ECNG 3201

Description

Principles of closed-loop feedback control systems, control systems design criteria, block diagrams, signal flow graphs, state space representation of linear systems, general feedback theory, transfer functions of control systems, Routh criterion, root locus theory and methods. Several experiments are conducted in the Control Lab to illustrate material covered in the course.

When Offered

Offered in Fall and Spring.

ECNG 341/3401 - Electromagnetic Theory (3 cr.)

Prerequisites

PHYS 2221 and MACT 2124

Description

Electric field and potential. Gauss's law; divergence. Conductors, dielectrics and capacitance. Poisson's and Laplace's equations. Electrostatic analogs. Magnetic field and vector potential. Time varying fields; displacement current. Maxwell's equations in differential form, Poynting's theorem and Electromagnetic waves in vacuum and in matter.

Cross-listed

Same as PHYS 3023.

When Offered

Offered in fall and spring.

ECNG 352/3502 - Computer Organization and Assembly Language Programming (3 cr.)

Prerequisites

CSCE 1101 and either CSCE 2301* or ECNG 2101

*Can be taken concurrently

Description

Explaining the state of the art computer systems focusing on major components: CPU,I/O, and memory. In-depth discussion of the instructions set architecture of the MIPS microprocessors. This includes different types of assembly instructions doing basic arithmetic, data movement, decision making, and jumping. Discussing different performance matrices of microprocessors and how to measure and analyze performance and evaluate speedups. Going through basic computer arithmetic covering integer and floating point operations. Discussing I/O ports, I/O devices and controllers, DMA channels, priority interrupts. Also discussing different I/O technologies, such as magnetic disks, flash disks, and optical storage. It also discusses the latest trends in microprocessors design and programming (such as SIMD and MIMD).

Cross-listed

Same as CSCE 2303.

When Offered

Offered in fall and spring.

ECNG 360/3601 - Power and Machines (3 cr.)

Prerequisites

ECNG 2106 and ECNG 3401

Description

Power system components, basic concepts and operating characteristics of transformers, DC and AC machine fundamentals, theory of operation and basic concepts of induction motors, transmission line construction and operation, renewable energy sources, fault analysis and protection system elements, Electrical Installations in Buildings, Elements of Power Electronics, Switching, Converters, Applications of PE in Power systems (FACT, SVC), Harmonics in Power Systems.

When Offered

Offered in fall and spring.

ECNG 410/4101 - Solid-State Devices (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

Theory of semiconductor surfaces, field effect transistors, application in static logic design, semiconductor sensors and transducers.

When Offered

Offered occasionally.

ECNG 413/4103 - Testing of Digital Circuits (3 cr.)

Prerequisites

ECNG 2101

Description

Basic concepts behind testing digital circuits. Causes of permanent and temporary failures. Test pattern generation techniques including exhaustive, Pseudo-exhaustive, Path sensitization, Critical path, Random and Pseudo-random Testing. Design for testability methods for testing Integrated Circuits. Techniques for testing Printed circuit boards.

When Offered

Offered occasionally.

ECNG 414/4104 - High Level Digital ASIC Design Using CAD (3 cr.)

Prerequisites

ECNG 3105

Description

Design of digital application-specific integrated circuits (ASICS) using synthesis CAD tools. Topics include the following: design flow, hierarchical design, hardware description languages such as VHDL, synthesis, design verification, IC test, chip-scale synchronous design, field programmable gate arrays, mask programmable gate arrays, CMOS circuits and IC process technology. For the project, students will design and implement a significant digital

system using field programmable gate arrays.

Hours

Two class periods and one three-hour lab period.

When Offered

Offered occasionally.

ECNG 415/4105 - Integrated Circuit Fabrication: Materials and Processes (3 cr.)

Prerequisites

ECNG 3106

Description

Microfabrication techniques for silicon very large integrated circuits (VLSI), unit processes including lithography, native film growth, diffusion, ion implantation, thin film deposition and etching. Metal interconnects. Process integration for CMOS, BiCMOS, ECL and MEMS.

When Offered

Offered occasionally.

ECNG 416/4106 - Advanced ASIC Design (3 cr.)

Prerequisites

ECNG 4104

Description

This course covers advanced topics related to netlist synthesis, place & route, timing verification, clock tree insertion, power grid distribution, floorplanning of cell-based ASIC design. Other advanced verification techniques topics related to the design automation flow will be covered. Students will design a standard cell library using Verilog for their project.

When Offered

Offered occasionally.

ECNG 420/4301 - Fundamentals of Communications I (3 cr.)

Prerequisites

ECNG 3201 , MACT 3224 and ENGR 3202 , concurrent with ECNG 4314L .

Description

Review of signal representation and classification, time and frequency domains, Fourier transform; Energy and power spectral density. Basics of analog communication: amplitude, angle, and pulse modulation; modulators and demodulators; frequency division multiplexing. Introduction to digital communication: Review of sampling and quantization; pulse code modulation (PCM), Delta Modulation, Differential PCM, time division multiplexing, line codes; the matched filter. Introduction to Random Processes. Noise in communication systems.

When Offered

Offered in fall and spring.

ECNG 421/4302 - Fundamentals of Communications II (3 cr.)

Prerequisites

ECNG 4301

Description

Fundamentals of Digital Communications. Geometric Representation of Signals; Binary and M-ary Modulation and their Performance Analysis and Spectral Efficiency M-ary Baseband Transmission. Introduction to Information Theory and Source and Channel Coding; Channel Capacity; Block and Convolutional Codes. Introduction to Spread-Spectrum Communications and Discrete Multitone (DMT). Several experiments are conducted in the Communication Lab to illustrate the material covered in the course.

When Offered

Offered in fall and spring.

ECNG 404L/4304L - Photonics and Optical Communication Laboratory (1 cr.)

Prerequisites

Concurrent with ECNG 4310 .

Description

Experiments in fiber optics illustrating concepts pertaining to fiber dispersion, attenuation measurements, characterization of light sources (LEDs and Laser diodes) and detectors (photodiodes), optical multiplexing and demultiplexing, optical and interferometric sensors.

When Offered

Offered occasionally.

ECNG 432/4306 - Computer Communication Networks (3 cr.)

Prerequisites

ECNG 4301 .

Description

Introduction to communication networks including basic networking concepts, OSI and TCP/IP models; Transport layer protocols, Data link layer, multiple access, wireless LANs; Network layer including logical addressing, Internet Protocol (IP), data forwarding and routing.

When Offered

Offered in fall and spring.

ECNG 433/4308 - Telecommunications Systems (3 cr.)

Prerequisites

ECNG 4301 and ECNG 4306

Description

Telephone system fundamentals including infrastructure, transmission, switching, capacity planning and DSL systems;

Voice over IP network basics including major techniques such as H.323 and SIP; Satellite communications including configurations and characteristics of satellite communication systems, Services, Orbits and Satellite networks.

When Offered

Offered occasionally.

ECNG 434/4310 - Optical Communication Systems (3 cr.)

Prerequisites

ECNG 3401 and PHYS 2221 , concurrent with ECNG 4304L .

Description

Operating principles of optical communication systems and fiber optic communication technology. Characteristics of optical fibers, laser diodes, and laser modulation, laser and fiber amplifiers, detection and demodulation, dispersion compensation, and network topologies. System topology, star networks, bus networks, layered architectures, all-optical networks.

When Offered

Offered occasionally.

ECNG 436/4312 - Mobile Communication Systems (3 cr.)

Prerequisites

ECNG 4302 and ECNG 4306

Description

The development, structure, and techniques of mobile communications systems. Propagation models in mobile communications. Cellular Networks and their capacity. Coding and diversity for wireless communications. Wireless communication standards; control signaling; MAC-related concepts. Wireless LAN's.

When Offered

Offered occasionally.

ECNG 439L/4314L - Communications Lab (1 cr.)

Prerequisites

Concurrent with ECNG 4301

Description

Experiments illustrating material of course ECNG 4301 .

When Offered

Offered in fall and spring.

ECNG 442/4402 - Electromagnetic Waves (3 cr.)

Prerequisites

ENGR 1005 , CHEM 1005 and ECNG 3401 .

Description

Review of Maxwell's equations. Transmission lines. Signal matching, Smith chart, Stub matching. Parallel plate, rectangular, and optical waveguides. Antennas and radiation of electromagnetic energy. Boundary Value problems. Several experiments are conducted in the Microwave Lab to illustrate material covered in the course.

When Offered

Offered in fall and spring.

ECNG 447/4407 - Microwave Systems (3 cr.)

Prerequisites

ECNG 4402

Description

Introduction to microwave engineering and wave equation review. Wave propagation and cutoff considerations. Transmission line power and mode limits. Planar and microstrip lines. Obstacles in transmission lines. Impedance matching and tuning. Quarter-wave transformer design. Microstrip transitions. Transmission line and cavity resonators. Sattering-parameters and applications. Microwave transistor amplifier gain and stability design. Microwave filter design by insertion loss method.

When Offered

Offered occasionally.

ECNG 453/4503 - Microcontroller System Design (3 cr.)

Prerequisites

ECNG 2101 ,ECNG 3106 ,ECNG 3502 and concurrent with ECNG 4509L .

Description

Microcontroller architecture (ARM, Motorola 68HC11). Interrupts, serial and parallel Input/Output, Timers, Analog-to-Digital and Digital-to-Analog conversion, Watchdog timers, I/O expansion, Interfacing to keypads and display devices, AC control, Introduction to RISC and CISC.

When Offered

Offered in fall and spring.

ECNG 455/4505 - Computer Architecture (3 cr.)

Prerequisites

ECNG 2101 ,ECNG 3502 concurrent with ECNG 4508L .

Description

The objectives of this course are to introduce the principles of Modern Computer Architecture and design. Topics to be discussed include Instruction Set Architectures, Arithmetic Logic Unit design, CPU data path design, CPU pipelining, memory hierarchy, cache and virtual memory, and introduction to I/O.

Cross-listed

Same as CSCE 3301.

When Offered

Offered in fall and spring.

ECNG 456/4506 - Industrial control systems (3 cr.)

Prerequisites

ECNG 2101 and ECNG 3202 (for ECNG students); MENG 4756 (for MENG students).

Description

PLCs and DCS in industrial automation, Basic components of a PLC and DCS, Programming of PLCs by ladder logic, Internal markers, Timers, Counters, PLC program development for control applications, Interlocking and sequential logic, Advanced Sequential Control Techniques, Data handling instructions, A/D and D/A PLC modules, Industrial communication busses.

When Offered

Offered occasionally.

ECNG 458L/4508L - Computer Architecture Lab (1 cr.)

Prerequisites

Concurrent with ECNG 4505

Description

The laboratory will cover experiments in computer architecture and hardware design and experiments illustrating material of Course ECNG 4505 .

Cross-listed

Same as CSCE 3302.

When Offered

Offered in fall and spring.

ECNG 459L/4509L - Microcontroller System Design Lab (1 cr.)

Prerequisites

Concurrent with ECNG 4503

Description

Experiments illustrating material of course ECNG 4503 .

When Offered

Offered in fall and spring.

ECNG 460/4601 - Product Design and Development (3 cr.)

Prerequisites

Senior level standing.

Description

The focus of the course is integration of the marketing, design, and manufacturing functions to create a new product. The course is intended to provide you with the following benefits:

- Competence with a set of tools and methods for product design and development.
- Confidence in your own abilities to create a new product.
- Awareness of the role of multiple functions in creating a new product (e.g. marketing, industrial design, engineering, production).
- Ability to coordinate multiple, interdisciplinary tasks in order to achieve a common objective.
- Reinforcement of specific knowledge from other courses through practice and reflection in an action-oriented setting.
- Enhanced team working skills.

ECNG 480/4920 - Special Problems in Electronics and Communications Engineering (1-3 cr.)

Prerequisites

Consent of instructor and departmental approval

Description

Independent study in various problem areas of electronics engineering may be assigned to individual students or to groups. Readings assigned and frequent consultations held.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit if content changes.

ECNG 494/4930 - Selected Topics in Electronics and Communications Engineering (3 cr.)

Prerequisites

Senior standing.

Description

Course content will be selected each semester from current developments in the field of electronics engineering.

When Offered

Offered occasionally

ECNG 497/4950 - Industrial Internship (1 cr.)

Prerequisites

Prerequisite: completion of 100 credit hours.

Description

Each student is required to be trained for 15 hours in the Mechanical Engineering workshops to study the fundamentals of manufacturing processes (forming, welding and machining). Each student is also required to spend a minimum of eight weeks in industrial training in Egypt or abroad. A complete account of the experience is reported, presented and

evaluated.

When Offered

Offered in fall and spring.

ECNG 490/4980 - Senior Project I (1 cr.)

Prerequisites

Prerequisite: senior standing.

Description

A capstone project. Topics are selected by groups of students according to their area of interest and the advisor's approval. Projects address solutions to open-ended applications using an integrated engineering approach.

When Offered

Offered in fall and spring.

ECNG 491/4981 - Senior Project II (2 cr.)

Prerequisites

ECNG 4980

Description

A continuation of the capstone project.

When Offered

Offered in fall and spring.

ECNG 510/5210 - Advanced Solid-State Devices (3 cr.)

Prerequisites

Graduate standing in engineering and physics. Electromagnetics, vector algebra, differential equations, and MATLAB programming.

Description

This course covers crystal structures, band gap theory, ionic equilibrium theory, fundamentals of carrier transport, compound semiconductors III-V. This course will make special emphasis on the properties of various types of junctions (p-n junctions, heterojunctions, metal-semiconductor junctions) leading to various electronic devices such as field effect transistors (FETs), metal oxide-semiconductor FETS (MOSFETs), high electron mobility transistors (HEMTs), etc. Short Channel effects and nanoscale phenomena will be emphasized throughout the course and their impact on device modeling in analog and digital circuits.

Cross-listed

Same as NANO 5261.

ECNG 516/5216 - Analog Integrated Circuit Design (3 cr.)

Prerequisites

ECNG 3106

Description

Design techniques for analog and mixed-signal VLSI circuits. Amplifiers: operational amplifiers, transconductance amplifiers, finite gain amplifiers and current amplifiers. Linear building block: differential amplifiers, current mirrors, references, cascoding and buffering. Performance characterization of linear integrated circuits: offset, noise, sensitivity and stability. Layout considerations, simulation, yield and modeling for high-performance linear integrated circuits. CAD tools: Cadence.

ECNG 517/5217 - Digital Integrated Circuit Design (3 cr.)

Prerequisites

ECNG 3105 and ECNG 3106

Description

This course provides an introduction to the design of digital integrated circuits. Topics covered include: (1) The Diode (DC and Dynamic Behavior), (2) The MOSFET (DC and Dynamic Behavior as well as short channel effects), (3) The CMOS inverter (Static and Dynamic Behavior - Power/Speed Tradeoffs), (4) Combinational Logic Gates (Static CMOS Design, Transistor Sizing, Static vs. Dynamic logic styles, Power/Speed Tradeoffs), Sequential Logic Circuits (Static and Dynamic circuits/flipflops, Power/Speed Tradeoffs) and Low Power Circuit Techniques.

ECNG 518/5218 - Advanced Integrated Circuit Design (3 cr.)

Prerequisites

ECNG 3108

Description

The objective of this course is to provide the students with the knowledge of designing emerging nanoelectronic devices and using these devices to build future computing systems. After an introduction to CMOS devices and circuits, the course will cover CMOS design and simulation topics. More attention will be paid to the applications of these devices in the implementation of future computers. The memory and logic architectures that take advantage of the properties of the emerging devices will be discussed. Particularly, signal integrity and timing issues, as well as power consumption will be emphasized.

Cross-listed

Same as NANO 5262.

ECNG 000/5219 - High-Performance Integrated Circuit Modeling (3 cr.)

Prerequisites

ECNG 3108 or equivalent.

Description

Nano-meter CMOS devices (short channel effects, velocity saturation, device leakage, thermal effects, degradation effects NBTI, etc), Dynamic, short-circuit, and leakage power consumption of CMOS circuits, low power design,

Classic I/O Modeling and design, The interconnect bottle-neck (modeling and analysis), Noise in integrated circuits, Approximate temporal information in RC and RLC trees (Elmore, Wyatt, Penfield-Rubinstien delay models, and equivalent Elmore delay for RLC trees), Model order reduction (AWE, PRIMA, numerical issues, stability, etc), 3-D Modeling, Thermal effects in integrated circuits, Power distribution network models, electromigration, Ldi/dt noise, and RI drops, High-speed clock distribution network issues: Retiming, register allocation, skew control, and clock scheduling.

ECNG 553/5223 - Fault-Tolerant Computing and Reliability Modeling (3 cr.)

Prerequisites

ECNG 4503

Description

Faults, errors, fault modeling, redundancy techniques, error detecting and correcting codes, self-checking circuits, reliability and availability modeling, performability.

ECNG 525/5225 - Digital Signal Processing (3 cr.)

Prerequisites

ECNG 3201 or equivalent.

Description

Fundamentals of digital signal processing and filter design. Topics covered include Z-transform, Discrete Fourier transform (DFT), fast Fourier transform (FFT), finite impulse response (FIR) filter design, infinite impulse response (IIR) filter design, multirate signal processing, polyphase structures, short-time Fourier analysis, applications to communication systems and speech processing.

ECNG 556/5226 - Networked Control Systems Design & Applications (3 cr.)

Prerequisites

ECNG 3202 and ECNG 4306

Description

Introduction to Networked Control Systems, real-time systems, network architecture, wired and wireless network protocols, international standards, NCS in industrial control, NCS in terrestrial transportation systems, Study of different software packages and simulation tools for NCS.

Cross-listed

Same as RCSS 5234.

ECNG 522/5230 - Stochastic Processes for Engineers (3 cr.)

Prerequisites

MACT 3224 or equivalent.

Description

Probability and stochastic processes with engineering applications. Topics include review of probability and sampling methods; modeling of random experiments; linear and nonlinear transformations of random vectors; discrete-time and

continuous-time random processes including Markov processes; spectral analysis of random signals; estimation theory including Wiener and Kalman filtering;. A simulation project on selected applications will be given.

ECNG 520/5231 - Advanced Digital Communications (3 cr.)

Prerequisites

ECNG 4302 and ECNG 5230 or equivalent.

Description

Digital communications over noisy and dispersive channels. Topics covered include digital modulation over band-limited channels and Inter-Symbol Interference (ISI); partial-response signaling; continuous-phase modulation; pulse shaping; flat fading channels; time- and frequency domain equalization. Implementation complexity will be discussed and a simulation project is included.

ECNG 521/5233 - Wireless Communication Systems (3 cr.)

Prerequisites

ECNG 4302 or equivalent.

Description

Communication over wireless channels. Topics include indoor and outdoor propagation models and path loss analysis; time- and frequency-selective fading channels; Fading countermeasures including diversity, Rake, adaptive modulation and coding, and interleaving; spread-spectrum communications; synchronization; current topics will be discussed and wireless communications standards will be cited. Simulation projects and literature readings are included.

ECNG 524/5234 - Enabling Technologies for High Date Rate Communications (3 cr.)

Prerequisites

ECNG 5230 or equivalent.

Description

MIMO and space-time coding; multicarrier modulation, OFDM, OFDMA, and SC-FDMA; interference suppression; current and emerging topics will be discussed. Wireless standards will be cited including 4G, WLAN/MAN/RAN. Practical receiver techniques will be discussed. Simulation projects and literature readings are included.

ECNG 526/5236 - Information Theory and Coding (3 cr.)

Prerequisites

ECNG 4302 or equivalent.

Description

Introduction to information theory and source and channel codes and their decoders. Topics include measures of information, entropy, and channel capacity in single and multiple antenna systems; Shannon's source and channel coding theorems; Rate distortion theory; Linear block codes including Reed-Solomon codes; convolutional codes;

Turbo codes and LDPC codes. Emphasis on decoder implementation and reference to usage of different codes in communications standards.

ECNG 530/5238 - Advanced Computer Networks (3 cr.)

Prerequisites

ECNG 4306 or equivalent.

Description

An overview of the internet layered architecture and functionality, network architecture classifications, advanced routing strategies with emphasis on state-of-the-art routing techniques, multimedia networking, quality of service (QoS) issues, securing network access via techniques such as VPN, some wireless building blocks of the internet-of-things e.g. MANET and WSN.

ECNG 541/5241 - Microwave Circuit Analysis and Design (3 cr.)

Prerequisites

ECNG 4402 or equivalent.

Description

Microwave circuit theory and techniques. Emphasis on microwave integrated circuits (MIC). Maxwell's equations, planar transmission lines, transmission line theory, impedance, scattering and transmission parameters, Smith chart, impedance matching, power dividers and directional couplers, active two port networks, devices for microwave amplification. Low noise amplifier design, power amplifier design, stability of microwave circuits.

ECNG 547/5247 - RF and Microwave Systems (3 cr.)

Prerequisites

ECNG 5241 or equivalent.

Description

The general hardware components, system parameters, and architectures of RF and microwave wireless systems. Practical examples of components and system configurations. Communication systems are used to illustrate the applications. Design of basic RF transceiver systems. Requirements allocation to RF units.

ECNG 548/5248 - RF Integrated Circuit Design (3 cr.)

Prerequisites

ECNG 5241 or equivalent.

Description

Introduction to RF terminology, technology tradeoffs in RFIC design. Architecture and design of radio receivers and transmitters. Low noise amplifiers, power amplifiers, mixers, oscillators, and frequency synthesizers.

ECNG 549/5249 - Antennas Design and Applications (3 cr.)

Prerequisites

ECNG 5241 or equivalent.

Description

Introduction to frequency spectrum, Maxwell's equations, propagation in free space, infinitesimal dipole antennas, antennas parameters. Aspects of wired antenna will be covered: small dipole, finite length dipole, image theory, monopole, folded dipole, matching techniques, infinitesimal loop antenna, small loop antennas, and helical antennas. Review on rectangular waveguides, rectangular horn, equivalence theory, Love's equivalence theory, H-plane sectoral horn, E-plane sectoral horn, pyramidal horn, parabolic reflectors. Two element array, uniform array, array factor, broadside and end fire arrays, phase scanning arrays, non uniform array, Binomial array, Dolph-Chebyshev array in addition to broadband antennas such as Yagi-Uda, log-periodic antennas. The course will introduce the fundamentals of microstrip antennas.

ECNG 570/5271 - New Product Design and Development (3 cr.)

Description

The course covers the following topics: Development Processes and Organizations, Identifying Customer Needs, Product Specifications, Concept Generation, Concept Selection, Concept Testing, Product Architecture, Industrial Design, Design for Manufacturing, Prototyping, Robust Design, Patents and Intellectual Property, Product Development Economics, Managing Projects. The focus of the course is integration of the marketing, design, and manufacturing functions to create a new product.

ECNG 571/5272 - Technology and Innovation Management (3 cr.)

Description

This is a case based course drawing on best practices in industry and the most up to date and important general management technology and innovation management academic material. Students should be prepared to discuss major technology issues covered in the readings each class. This course is designed to develop strong technology management skills to help managers make good decisions in regard to technology strategy and implementation of technology within their firms. This course is designed to develop general managers with strong abilities to lead in various technological environments and manage the innovation process and projects across and within their own function effectively.

Cross-listed

Same as MGMT 5309.

ECNG 572/5273 - Strategic Management of Innovation (3 cr.)

Description

Innovation is regarded as a critical source of competitive advantage in an increasingly changing environment. Innovation is production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. This course will study the theory and practice of innovation as a process and an outcome based on a comprehensive model of innovation which consists of three determinants: innovation leadership, managerial levers and business processes. The course will examine the impact of accelerating innovation on cost, product quality and marketability; organizational changes required to couple R&D with marketing and

commercialization; and the managerial skills and professional expertise needed to develop a sustainable innovation practice within an organization.

Cross-listed

Same as MGMT 5308 and GREN 5222 .

ECNG 573/5274 - Entrepreneurship and Innovation (3 cr.)

Description

Innovation lies at the heart of economic growth in the modern world. Entrepreneurs with the ability and resourcefulness to establish their own business are critical to the process of innovation. Innovation is not just about starting a new business but it is also about creating and developing innovative ways of management. Whether you are thinking of starting a new venture or developing innovative mechanisms of management in a large organization, you will need to understand Entrepreneurship and Innovation.

This course takes students through the various aspects of starting, managing, and growing a business. Whether you want to start a new venture, a new project, or develop an innovative way of management. You will need to write a business plan? This course will teach you how to write a business plan, its benefits and how does it differ from a feasibility study.

Opportunity identification, clear business and market definition, segmentation, and entry, building a team and creating a suitable organizational form, avoiding common pitfalls, and various strategies for starting or growing a business , are among the numerous facets of entrepreneurship covered in the course.

Methods employed include individual and group case analysis, writing a business plan, interviews with, and talks by, entrepreneurs, and profiling of successes and failures

Cross-listed

Same as GREN 5204 and MGMT 5307 .

ECNG 580/5910 - Graduate Independent Study (1-3 cr.)

ECNG 594/5930 - Advanced Topics in Electronics and Communications Engineering (3 cr.)

Description

Students are allowed to register for this course for a maximum of two times, if content changes.

ECNG 599/5980 - Thesis

ECNG 661/6211 - Nanoscale CMOS (3 cr.)

Description

The increasing complexity of nanoscale CMOS technology imposes important constraints on the design of analog integrated circuits: while circuit performance using downscaled CMOS is largely improved in terms of speed, other analog figures of merit, such as transistor gain, are degraded. Reduced voltage headroom often requires the adoption of ultra-low-voltage techniques particularly in moderate inversion. Furthermore, variability is an important bottleneck impairing design in scaled technologies. The course covers issues ranging from technology and compact modeling aspects, to analog circuit design retargeting and methodologies for variability reduction using digital tuning, and

optimization aspects on the system level.

ECNG 619/6219 - Design and Analysis of High-Performance Integrated Circuits (3 cr.)

Prerequisites

Consent of instructor.

Description

Issues that arise in the design and analysis of VLSI circuits at high speeds. Examples are: impact of variations, power management, static and statistical timing analysis, clock distribution and Model Order Reduction. The course will stress intuition in VLSI circuits rather than using blind trial and error approaches. Historic development in key topics and the current state-of-the-art status of these topics, enforcing scientific thinking and problem solving approaches using these real life examples.

ECNG 625/6235 - Detection, Classification, and Estimation Theory (3 cr.)

Prerequisites

ECNG 5230

Description

Bayesian parameter estimation; linear least squares Estimation; Cramer-Rao lower bound; minimum variance unbiased estimator (MVUE); maximum likelihood estimation (MLE); Kalman filtering; statistical decision theory: Bayes, min-max, Neyman/Pearson, simple and composite hypotheses; optimum (map) demodulation; application to coherent communications, signal processing, and classification including coherent and non-coherent signal detection; M-ary hypotheses testing.

ECNG 694/6930 - Advanced Selected Topics in Electronics and Communications Engineering (3 cr.)

Prerequisites

Consent of instructor.

Description

Advanced topics selected from current developments in electronics engineering.

ECNG 622/6931 - Advanced Topics in Wireless Communications (3 cr.)

Prerequisites

ECNG 5233

Description

The course covers advanced and current topics in wireless technology: Practical issues in wireless receiver design including receiver gain optimization, noise figure and intermodulation products, and automatic gain control; Non-idealities in OFDM technology including phase noise, and frequency and phase offset. Selected current and emerging

technologies are also covered. Simulation projects and literature readings are required.

ECNG 699/6980 - Research Guidance Dissertation (3 cr.)

Description

Consultation on problems related to student thesis. To be taken 11 times for credit.

ENGR 101/1001 - Introduction to Engineering (1 cr.)

Description

History of engineering. Engineering fields of specialization and curricula. The engineering profession: team work, professionalism, ethics, licensing, communication and societal obligations. Engineering support personnel and activities. Engineering approach to problem solving. Examples of major engineering projects. Course project.

When Offered

Offered in fall and spring.

Notes

The course must be taken in the year of admission to the engineering program.

ENGR 115/1005 - Descriptive Geometry and Engineering Drawing (2 cr.)

Description

Introductory descriptive geometry. Orthographic and pictorial drawing. Sectional views, auxiliary views, and conventions. Dimensioning. Free hand sketching, and both manual and computer-aided drafting.

Hours

One class period and one three-hour lab period.

When Offered

Offered in fall and spring.

ENGR 212/2102 - Engineering Mechanics I (Statics) (3 cr.)

Prerequisites

MACT 1122 and PHYS 1011

Description

Fundamentals of mechanics. Equilibrium of particles, forces in space, equivalent systems, equilibrium of rigid bodies, distributed forces, center of gravity, internal actions, analysis of simple structures and machine parts. Friction. Moment of inertia.

When Offered

Offered in fall and spring.

ENGR 214/2104 - Engineering Mechanics II (Dynamics) (3 cr.)

Prerequisites

MACT 2123 and ENGR 2102

Description

Kinematics and kinetics of a particle, system of particles, and rigid bodies. Energy and momentum methods. Engineering applications.

When Offered

Offered in fall and spring.

ENGR 229/2112 - Strength and Testing of Materials (4 cr.)

Prerequisites

ENGR 2102

Description

Concept of stress and strain in components, mechanical behavior of materials under tensile, compressive, and shear loads, hardness, impact loading, fracture and fatigue. Analysis of stresses and the corresponding deformations in components, axial loading, torsion, bending, and transverse loading. Statically indeterminate problems. Transformation of plane stresses, and Mohr's circle..

Hours

Three class periods and one three-hour lab period

When Offered

Offered in fall and spring.

ENGR 261/2122 - Fundamentals of Fluid Mechanics (3 cr.)

Prerequisites

PHYS 1021 and ENGR 2104

Description

Fluid properties, fluid statics, fluid flow. Conservation of momentum, energy, continuity and Bernoulli's equations. Viscous efforts for laminar and turbulent flow. Steady state closed conduit and open channel flow.

Hours

Two class periods and one three-hour lab period.

When Offered

Offered in fall and spring.

ENGR 313/3202 - Engineering Analysis and Computation I (3 cr.)

Prerequisites

CSCE 1001 and MACT 2141

Description

Solution of sets of linear equations, roots of equations, curve fitting (interpolation), numerical integration and differentiation, numerical solution of ordinary differential equations, boundary value problems and introduction to the

finite difference method of computer programs for problem solving. It includes a programming based project.

When Offered

Offered in fall and spring.

ENGR 318/3212 - General Electrical Engineering (3 cr.)

Prerequisites

PHYS 1021 and MACT 2123

Description

Active, reactive and apparent power, three-phase systems, electrical measurements, transformers, motors: types, performance and selection generation, transmission and distribution of Electrical Energy, protective and earthing systems, energy management and cost.

When Offered

Offered in fall and spring.

ENGR 345/3222 - Engineering Economy (3 cr.)

Prerequisites

MACT 1122

Description

Economic and cost concepts, the time value of money, single, multiple and series of cash flows, gradients, functional notation, nominal and effective interest rates, continuous compounding, rates of return. Computation and applications, economic feasibility of projects and worth of investments, comparison of alternatives. Replacement, depreciation and B.E. analysis. Introduction to risk analysis.

When Offered

Offered in fall and spring.

ENGR 364/3322 - Fundamentals of Thermofluids (3 cr.)

Prerequisites

PHYS 1011 . Open for Electronics Engineering major only.

Description

Introduction to thermodynamics concepts and definitions; pure substance and ideal gases; the first law of thermodynamics, the concepts of the second law of thermodynamics, continuity; momentum and energy equations; introduction to laminar and turbulent flows; flow in conduits; introduction to turbomachinery; conduction heat transfer: one-dimensional and fins; forced and natural convection heat transfer.

When Offered

Offered in fall.

ENGR 494/4990 - Entrepreneurial Development and Innovation (3 cr.)

Description

This capstone course provides a general introduction to Entrepreneurship and New Venture Creation. It develops a perception of being an "entrepreneur" in the mind of the student. Students analyze the concepts, elements, processes and behaviors associated with successful entrepreneurship, and develop an insight into how to evaluate and launch ventures and enterprises in all sectors, including business, culture, and society. The course is structured around lectures, interactive sessions, visiting speakers, case study analysis, and community-based learning. The skills of critical and creative thinking, communication, presentation, analysis, synthesis and persuasion are emphasized.

ENGR 511/5202 - Computational Methods in Engineering (3 cr.)

Description

Numerical solution of sets of algebraic and transcendental equations, eigen system analysis, numerical integration and differentiation. Numerical solution of ordinary differential equations, numerical solution of partial differential equations, optimization methods. Applications using MATLAB.

ENGR 518/5204 - Engineering Statistics (3 cr.)

Description

Probability distributions, sampling distributions, estimation, test of hypotheses, regression, correlation, and nonparametric statistics.

ENGR 512/5210 - Experimental Methods in Engineering (3 cr.)

Description

Types of experiments. Physical models: type, scale, material selection. Experimental setups. Measurements: electrical measurements and sensing devices; pressure and flow measurements; temperature and thermal measurements; force, strain and motion measurements; computer data storage. Design of experiments: review of statistical inference, single factor experiments, randomized block and Latin square designs, factorial designs. Regression.

ENGR 516/5240 - Engineering for a Sustainable Environment (3 cr.)

Description

Solid, industrial and hazardous waste generation and control, with an emphasis on sustainable engineering practices such as environmental impact assessment and performance, waste management, pollution prevention, waste minimization, cleaner production, energy recovery, recycling and reuse.

Cross-listed

Same as GREN 5202 .

ENGR 590/5940 - Graduate Thesis Seminar I (2 cr.)

Description

Seminars on research topics, research methodology and thesis writing, and presentations given by invited speakers.

Cross-listed

Same as RCSS 5940.

ENGR 591/5941 - Graduate Thesis Seminar II (1 cr.)

Prerequisites

ENGR 5940

Description

Seminars on research topics given by invited speakers and on research plans given by students to discuss their thesis topics and the results they obtained in their work.

Cross-listed

Same as RCSS 5941.

ELIN 98/0101 - Intermediate English (0 cr.)

ELIN 99/0102 - Advanced English (0 cr.)

ELIN 120/0301 - Intermediate English (for Graduates) (0 cr.)

ENGL 100/0210 - Academic English for the Liberal Arts (0 cr.)

Description

ENGL 0210 is a non-credit, concurrent, conference-centered course in which classes meet four days a week for a total of 12 (in-class) instructional hours, in addition to weekly conferences with the teacher. A student who for any reason misses more than 10 days (or the equivalent of 36 contact hours) will be dropped from the course. A student who is dropped will be allowed to retake the course the following semester. Sessions are devoted to the comprehension and summary of university-level texts, the introduction to basic research tools, the writing of essays on science and humanities topics and remedial grammar, within the context of individual teacher-student conferences. Freshmen taking ENGL 0210 may enroll in no more than two academic courses with a maximum of 7 academic course credits. Any student who withdraws from ENGL 0210 must also withdraw from the two other academic courses.

For new students, placement in Academic English for Freshmen is determined by their score on the International English Language Testing System (IELTS) or Test of English as a Foreign Language Internet-Based Test (TOEFL-iBT) For students enrolled in the intensive English program, placement in Academic English for Freshmen is determined by their scores on the IEP exit test. All students who have been admitted into ENGL 0210 must satisfactorily complete the course work within a time period not to exceed two full semesters and a summer session. Students taking ENGL 0210 in summer may not enroll in any other academic course.

ENGL 123/0310 - Effective Writing (for Graduates) (0 cr.)

ENGL 124/0311 - Academic Reading (for Graduates) (0 cr.)

ENGL 125/0312 - Listening and Speaking (for Graduates) (0 cr.)

ENGL 199/0399 - Selected Topic for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all first-year students as part of the Primary Level Core.

Notes

May be taken concurrently with ENGL 0210 .

ECLT 123/1023 - Experiencing Creativity: Texts and Images

Description

The course introduces short literary works juxtaposed to texts and visual material from different fields of knowledge in order to train students to read, differentiate, and interpret texts and images.

ECLT 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all first-year students as part of the Primary Level Core.

ECLT 200/2010 - Introduction to Literature (3 cr.)

Description

For students interested in literature but not necessarily intending to major in the field, this course will enable the student to acquire the tools and learn the methods which would help him/her understand poetry, fiction and drama and develop a deeper appreciation of great literary texts from various places and times.

ECLT 201/2011 - Survey of British Literature (3 cr.)

Description

The course introduces students to a selection of major works in British Literature from its beginnings to the present. It instructs students to analyze and interpret influential novels, plays, poems, and essays. The course presents the development of British literature historically while emphasizing the cultural and aesthetic dimensions of the texts.

ECLT 202/2012 - Global Literature in English (3 cr.)

Description

The course explores modern literature written in English by native and non-native speakers (African, Arab, American, British, European, Indian, and Asian writers). This course emphasizes the stylistic analysis, theoretical examination, and historical context of shorter texts to develop an appreciation for the globalization of English-language literary production, and for the role of postcolonial writers.

ECLT 209/2019 - Introduction to American Studies (3 cr.)

Description

This interdisciplinary course is designed to introduce students to key events and texts in the history and culture of the United States. Using films, literature and historical texts, the course will examine American culture within a historical context.

Cross-listed

Same as HIST 2019.

ECLT 299/2096 - Selected Topics for the Core Curriculum in International/World Studies (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

ECLT 299/2097 - Selected Topics for the Core Curriculum in Arab World Studies (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

ECLT 299/2099 - Selected Topics for the Core Curriculum in Humanities (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

ECLT 301/3001 - Medieval Literature (3 cr.)

Description

The course introduces the student to the literary culture and counter-culture of the Middle Ages through reading selected autobiographical and fictional texts from St. Augustine, Abelard, Heloise, Dante, Chaucer, Attar and *The Arabian Nights*.

ECLT 302/3002 - Literature of the Renaissance (3 cr.)

Description

A survey of Renaissance authors, beginning with Petrarch and the origins of the Renaissance in Italy. The course traces this cultural revolution as it spread from Italy to other parts of the European continent and finally to Tudor England.

ECLT 303/3003 - Seventeenth-Century Literature (3 cr.)

Description

The literary developments that followed the Renaissance are explored, culminating in discussion of John Milton and his epic masterpiece, *Paradise Lost*.

ECLT 304/3004 - Eighteenth-Century Literature (3 cr.)

Description

Dominant modes in European literature and thought between 1660 and 1760. Works not originally written in English will be read in English translations.

ECLT 305/3005 - Romanticism (3 cr.)

Description

Major European and American ideas and literary works of the period 1760-1848. Works not originally written in English will be read in English translations.

ECLT 306/3006 - Nineteenth-Century European Literature (3 cr.)

Description

Major European works of fiction, poetry and drama from the period between 1789-1914. Works not originally written in English will be read in English translations.

ECLT 308/3008 - Modern European and American Literature (3 cr.)

Description

Selected readings of American and European authors representing literary trends from 1900 to the present

ECLT 310/3010 - American Literature to 1900 (3 cr.)

Description

Selected readings of literary works beginning with pre-Columbian oral traditions and moving from the colonial era to the early national period through to the late nineteenth century.

Cross-listed

Same as AMST 3010.

ECLT 311/3011 - Modern American Literature (3 cr.)

Description

Works of twentieth-century American writers. The reading list may be chosen to reflect changing ethnic and cultural phenomena and will vary from year to year.

Cross-listed

Same as AMST 3011.

ECLT 344/3014 - Literature and Philosophy (3 cr.)

Description

The course concentrates on the intersection of the literary mode with the philosophical quest in Eastern and Western writing. Students are trained to analyze philosophical myths, tales, poems and dialogues as well as grasp the symbolic structures and expository techniques of philosophers.

Cross-listed

Same as PHIL 3014.

ECLT 330/3030 - Literature and Cinema (3 cr.)

Description

The course investigates the relationship between literature and cinema and how they complement each other in representing textually and visually a broad theme, a historical period, or a national concern.

ECLT 332/3032 - World Literature (3 cr.)

Description

The course covers seminal literary works in both Western and non-Western canons, assigned in editions of excellent English translations.

ECLT 333/3033 - African Literature (3 cr.)

Description

The course concentrates on modern literature of the African continent with special emphasis on sub-Saharan literary works, including their correspondence to North African literature. Texts by prominent writers from Africa (men and women/ black and white) will be analyzed in relation to the indigenous culture and oral creativity, as well as in relation to the colonial and post-colonial experience.

ECLT 345/3045 - Literature and Gender (3 cr.)

Description

The course investigates gender roles in literary texts and the image of women in different historical periods and cultural settings. Readings include Feminist and anti-Feminist literary and theoretical texts drawn from the North and the South.

ECLT 346/3046 - Third World Literature (3 cr.)

Description

The course analyzes Third World literary texts from Asia, Africa and South America in their historical context and their contribution to post-colonial discourse.

ECLT 348/3048 - Contemporary Literature (3 cr.)

Description

The course explores literary texts which marked the period following World War II as well as very recent European and American works in a comparative context.

ECLT 352/3052 - Recurrent Themes in Literature (3 cr.)

Description

The course revolves around a selected literary theme (such as Romance, Friendship, or Loss among others), recurring in different cultures and regions of the world or/and recurring through the ages. The literary theme might be in one genre (drama, fiction, or poetry) or in a combination of genres.

ECLT 353/3053 - Modern Drama (3 cr.)

Description

A study of mainly European drama in the period from Ibsen to the present, including plays by Shaw, Chekhov, Strindberg, Pirandello, Brecht, Sartre, Beckett, Pinter and others, and dealing with related developments in theatre, cultures and society.

ECLT 360/3060 - Shakespeare (3 cr.)

Description

Analysis of Shakespearean drama, including tragedy, comedy, history and romance. The course begins with an examination of the theatrical and historical content in which Shakespeare lived and wrote. It then focuses on individual plays, paying attention to the details of Shakespearean language, as well as to the broader issues of power, politics and gender.

ECLT 370/3070 - Creative Writing (3 cr.)

Description

A course on literary writing designed to accommodate the needs of diverse students. Emphasis is on developing one's own story-telling, play-writing, and/or poetic skills by studying the craft of influential authors from different regions and traditions. The students will meet and interact with Cairo-based emerging and established creative writers as part of their course work.

ECLT 347/3099 - Selected Topics (3 cr.)

Description

Examination of specific topics in genre and other areas of special interest and expertise of the faculty. May be repeated

for credit if content changes. In recent years, the following have been offered under this heading: *The Arabian Nights*, The Lyrical Mode (in English, Arabic and French), Autobiographies, Literature and Cultural History, Literature and the Visual Arts, Literature and Urban Culture, Theory of Narrative, The European Novel, Figures of the Scared, T. S. Eliot, The Bloomsbury Group and Albert Camus.

ECLT 409/4009 - Greek Classics in Translation (3 cr.)

Description

Major works of Greek literature since 700 B.C., chosen on the basis of merit and influence and studied in the most artistic translations.

Cross-listed

Same as ECLT 5106.

ECLT 410/4010 - Classics of the Ancient World (3 cr.)

Description

Major works in ancient Near Eastern and Latin literatures studied in the most artistic translations.

Cross-listed

Same as ECLT 5107.

ECLT 411/4011 - History of Literary Criticism (3 cr.)

Description

Study of central documents in the tradition of Western literary criticism, from Plato to the Romantics.

Cross-listed

Same as ECLT 5108.

ECLT 412/4012 - Modern Literary Criticism (3 cr.)

Description

Analysis of the major trends in modern literary theory, such as Russian formalism, new criticism and post-structuralism.

Cross-listed

Same as ECLT 5109.

ECLT 447/4099 - Capstone Seminar: Selected Topics (3 cr.)

Description

Examination of specific themes and other topics of special interest. This course is designed to meet the requirements of a capstone seminar for the core curriculum. May be repeated for credit if content changes.

ECLT 506/5106 - Greek Classics in Translation (3 cr.)

Description

Major works of Greek literature since 700 B.C., chosen on the basis of merit and influence and studied in the most artistic translations.

Cross-listed

Same as ECLT 4009.

ECLT 507/5107 - Classics of the Ancient World (3 cr.)

Description

Major works in ancient Near Eastern and Latin literatures studied in the most artistic translations.

Cross-listed

Same as ECLT 4010.

ECLT 508/5108 - History of Literary Criticism (3 cr.)

Description

Study of central documents in the history of literary criticism, from Plato to the Romantics.

Cross-listed

Same as ECLT 4011.

ECLT 509/5109 - Modern Literary Criticism (3 cr.)

Description

Analysis of the major trends in modern literary theory, such as Russian formalism, new criticism and post-structuralism.

Cross-listed

Same as ECLT 4012.

ECLT 510/5110 - Renaissance Writers (3 cr.)

Description

Detailed study of the works of selected British or European writers from Petrarch to Shakespeare.

ECLT 512/5112 - Seventeenth-Century Writers (3 cr.)

Description

Detailed study of the works of selected seventeenth-century European and British writers.

ECLT 514/5114 - Eighteenth-Century Writers (3 cr.)

Description

Selected works of major eighteenth-century writers.

ECLT 516/5116 - The Romantic Movement (3 cr.)

Description

Selected critical problems in the Romantic movement..

ECLT 517/5117 - Nineteenth-Century Writers (3 cr.)

Description

Works of selected major nineteenth-century novelists and poets.

ECLT 523/5123 - Modern Poets (3 cr.)

Description

Readings and analyses of works of major British, European, and American poets from the beginnings of the Symbolist and Imagist movements to the present.

ECLT 531/5131 - The Modern Novel (3 cr.)

Description

Works of selected novelists of the twentieth century.

ECLT 540/5140 - Readings in American Literature (3 cr.)

Description

Guided reading.

ECLT 542/5142 - Readings in French Literature (3 cr.)

Description

Guided reading.

ECLT 543/5143 - Readings in British Literature (3 cr.)

Description

Guided reading.

ECLT 545-546/5199-5299 - Selected Topics (3 cr.)

Description

Guided reading, research, and discussion. In recent years, the following courses have been offered under this heading: The Arabian Nights, The Lyrical Mode (in English, Arabic and French), Autobiographies, Literature and Cultural History, Literature and the Visual Arts, Literature and Urban Culture, Theory of Narrative, The European Novel, Figures of the Scared, T. S. Eliot, The Bloomsbury Group and Albert Camus.

When Offered

5199 offered in fall, 5299 in spring.

Repeatable

May be repeated for credit if content changes.

ECLT 555/5255 - Research Methods in Literature (3 cr.)

Description

The course introduces scholarship, debates, methods, and professional trends in the field of literary studies, considering questions of theory, application, interdisciplinary, and textuality. The goal of this course is to train students in the methods that they will use to conduct literary research in their papers and theses, giving careful attention to library resources and academic style.

ECLT 000/5256 - Approaches to Gender and Women's Studies in the Middle East/North Africa (3 cr.)

Description

This course immerses students in the literary, historical, and theoretical debates within the academic field of Middle East gender and women's studies. Interdisciplinary approaches as well as varieties of theoretical positions are exposed and discussed critically. Acknowledging the entanglements of regions, scholarly debates and political struggles, this course locates the Middle East/ North Africa region within its worldly context.

Cross-listed

GWST 5101

When Offered

Spring 2016

Repeatable

Not repeatable

ECLT 588/5288 - Comprehensives (no cr.)

Description

Individual consultation for students preparing for the comprehensive examination.

ECLT 599/5298 - Research Guidance and Thesis (no cr.)

ENTR 303/3201 - Principles of Entrepreneurial Finance (3 cr.)

Description

This course teaches about financing of new entrepreneurial ventures. The course will examine both the entrepreneur's and investor's perspective with special emphasis on the venture capital process.

ENTR 413/4102 - Entrepreneurship and Innovation (3 cr.)

Prerequisites

BADM 2001

Description

This is an interdisciplinary course combining skills from all areas of business. It focuses on the creation of new business ventures with an emphasis on personal rather than corporate goals. Special focus is placed on problems encountered by the entrepreneurs in the Middle East and development of solutions to those problems. The course also prepares students for intrapreneur or entrepreneur business careers in startups and small and large corporations. It offers and understanding of the stages of business formation and what activities are appropriate at each stage of business development to meet financial goals including preparations of feasibility studies for business start-ups.

ENTR 417/4301 - Entrepreneurship Lab: Developing and Launching a New Venture (3 cr.)

Prerequisites

MKTG 2101 , ENTR 3201 and ENTR 4102.

Description

This course is specially intended for non-business students, minors in entrepreneurship, and students writing business plans for new ventures. It concentrates on the mechanics of constructing a creative, realistic and effective business plans for a new concept that the student team has generated and developed. Thus, it is intended as a "hands-on" experience that explores the process that a person must go through to put together a proper business plan for a start-up venture.

ENTR 418/4302 - Corporate Entrepreneurship (3 cr.)

Prerequisites

MGMT 4202, ENTR 4102

Description

The course aims at understanding the DNA of entrepreneurial firms through answering the questions of what are the characteristics of renowned corporates, why there is a need for developing corporate venturing and how to construct the elements of an entrepreneurial ecosystem. The course will stress on the related issues to creating intrapreneurship through strategic, culture, human resources as well as other managerial functions. The course will also tackle strategies for sustaining competitive advantage within the business world.

ENTR 419/4303 - Social Entrepreneurship (3 cr.)

Prerequisites

ENTR 4102

Description

This course introduces students to the social entrepreneurship phenomenon which combines the passion of a social mission with an image of business-like discipline, innovation, and determination. The course discusses how social entrepreneurial practices blur the traditional lines between nonprofit enterprise, government and private sector contributes to the generation of a unique set of opportunities and challenges that characterize this new landscape of entrepreneurship.

ENTR 420/4501 - Family Business (3 cr.)

Prerequisites

MGMT 4202, ENTR 4102

Description

This course will examine the causes and consequences of the creation of family fortunes, with a focus on the practical implications for family decision-making and how to create an institutional organization. The course will address challenges facing the family business with an insight on the succession planning and governance. The course will present several case studies of successful family business as well as failures with a stress on the cultural aspects associated with the local Egyptian one. The course also discusses the organizational behavior issues related to family businesses and what are their impacts on the business sustainability.

ENTR 421/4502 - Innovation and Technology (3 cr.)

Prerequisites

MGMT 4202, ENTR 4102

Description

The course is designed for business students; in a quest to understand the role of innovation and technology in entrepreneurial organizations as well as in society. The course will cover the different types of innovation in an organization with a special focus on business model innovation. The concept of technology will be addressed through understanding the fundamentals of product/service and process innovation as well as technology management in prominent organizations. Also the concept of intellectual property rights management and protection as well as new product/service development will be covered as contemporary concepts affecting the organizational effectiveness.

ENTR 470/4970 - Special Topics in Entrepreneurship (3 cr.)

Prerequisites

Consent of Instructor.

Description

Considers selected topics of current relevance in Entrepreneurship.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree.

ENVE 561/5250 - Water Quality Control (3 cr.)

Description

Water quality parameters: standards and analysis; theory and basic processes for modeling fate and transport of pollutants in surface water bodies; integrated water pollution control strategies.

ENVE 562/5251 - Unit Operations in Environmental Engineering (3 cr.)

Description

Theory and design of unit operations and processes in environmental engineering, emphasizing water and wastewater treatment; namely: physical, chemical and biological unit processes, sludge handling processes.

Cross-listed

Same as CENG 4553 but with additional requirements for graduate students.

ENVE 564/5252 - Air Pollution Control Engineering (3 cr.)

Description

Air pollutants sources, sinks, and residence time. Costs of air pollution. Control strategies and systems design. Mathematical models of air pollution. Monitoring and control instruments.

ENVE 565/5253 - Air Pollution and Combustion (3 cr.)

Description

Air pollution and combustion, combustion generated pollutants, greenhouse effect, fuel alternatives, effects of air pollution on health and vegetation, other forms of energy sources, technologies for emission reduction and control.

ENVE 566/5254 - Solid and Hazardous Wastes Engineering (3 cr.)

Description

Solid wastes - Nature, generation and collection. Local and regional management strategies including recycling and recovery of useful products, landfilling, and incineration. Hazardous wastes - Nature, generation and collection. Risk assessment. Management strategies including source reduction, treatment, recovery, landfilling, and incineration.

Cross-listed

Same as CENG 4555 but with additional requirements for graduate students.
Same as GREN 5213 .

ENVE 567/5255 - Environmental Chemistry (3 cr.)

Description

Chemical principles for quantitative solution of environmental engineering problems with a focus on aqueous systems. Concept of chemical equilibrium is developed to determine mass distribution of environmentally significant substances. Applications of acid-base, coordination, oxidation-reduction, and organic distribution reactions are developed for water and wastewater systems.

ENVE 568/5256 - Noise Pollution Fundamentals, Measurements and Control (3 cr.)

Description

Properties of sound waves in free fields and enclosures; effects of noise on people; quantitative measurement of noise characteristics and impact; noise reduction indoors and outdoors; noise control regulations.

ENVE 569/5258 - Groundwater Hydrology and Contamination (3 cr.)

Description

Groundwater and well hydraulics with applications to water supply and control of contaminants; groundwater contamination; development, solution and application of contaminant transport equations; groundwater remediation; introduction to unsaturated flow.

ENVE 580/5910 - Independent Study in Engineering (3 cr.)

Description

Independent study in various problem areas of engineering may be assigned to individual students or to groups. Readings assigned and frequent consultations held.

Notes

(Students may sign for up to 3 credits towards fulfilling M. Sc. requirements).

ENVE 592/5930 - Advanced Topics in Engineering (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

Topics to be chosen every year according to specific interests.

Repeatable

May be taken for credit more than once if content changes.

ENVE 599/5980 - Research Guidance Thesis (3 cr.)

Description

Consultation on problems related to student thesis.

Repeatable

Must be taken twice for credit.

ENVE 662/6250 - Advanced Treatment Processes (3 cr.)

Description

Description, design, and applications of advanced technologies for removal of contaminants from environmental media; membrane technologies - nanofiltration, ultrafiltration, reverse osmosis, membrane bioreactors; adsorption; biological activated carbon; biofilters; pulsators; tube settlers; advanced oxidation processes - ozonation, UV radiation,

photo-oxidation, chemical oxidation and reduction; cryogenic and thermal processes.

ENVE 680/6910 - Independent Study in Environmental Engineering (3 cr. Max.)

Description

Independent study in various problem areas of environmental engineering may be assigned to individual students or to groups. Readings assigned and frequent consultations held.

ENVE 692/6930 - Advanced Selected Topics in Environmental Engineering (3 cr.)

Description

Topics chosen according to special interests of faculty and students. May be repeated for credit more than once if content changes.

ENVE 699/6980 - Research Guidance Dissertation (3 cr.)

Description

Consultation on problems related to student thesis. To be taken 11 times for credit.

EMBA 601/5601 - Change Management and Global Transformation (1.75 cr.)

Description

This module focuses on planning, implementing and managing change in a fast-changing dynamic environment of today. It assists executives to understand challenges, tools, and burdens associated with initializing and implementing major changes in the organization. It addresses change efforts, reconstructing and reengineering and organizational adaptation decisions and developing action plans for making smooth transformation process and preventing resistance to change from employees and providing effective leadership of people in the organization.

EMBA 602/5602 - Team-work & Communication (1.75 cr.)

Description

The module focuses on team building and growth, performance, effective strategies for better group decision making, team leadership, resolving conflict within and across teams, evaluating and rewarding teams performance and developing a team-focused organizational culture. It aims at improving participants' ability to lead high-performing teams through effective design and development. They will gain in-depth knowledge of practices of successful teamwork and will examine why other teams fail to deliver their expected results. They will learn how organizations can encourage innovation, strategic decision-making, and co-operation with other organizations through the use of teams and effective communication.

EMBA 603/5603 - Data Analysis and Analytical Decision Modeling for Optimizing Decisions (2 cr.)

Description

This module focuses on exploring the use of sample data, survey, regression analysis, decision models and statistical methods for estimating, predicting, and forecasting and making business decision. It will also include applications to total quality management, polling, employee attitude surveys, market research, operation and finance. It improves participants modeling skills, which are the key to success. Participants learn about weaknesses and strengths of quantitative models. It provides them with a reality check on the forecasts, enables 'what if' analysis and provides an integrated view of business, and is a key step in valuation.

EMBA 604/5604 - Managerial Economics (1.75 cr.)

Description

This module covers the basics of microeconomics (supply, demand, market price and output, production, cost and market equilibrium) and the international macroeconomics and monetary environment within which business operate. It provides intensive overview of economic analysis of firms, industries, markets, forms of competition, role of industry structure, the influence of government policies. It provides framework that participants use to understand the performance of international economies and financial markets, linkage among countries through trade, exchange rates and the balance of payment, business cycles and recessions, inflation and deflation, and the effects of the governments' macroeconomic policies.

EMBA 605/5605 - Strategic Accounting (1.75 cr.)

Description

The module addresses corporate financial reports as an important means of communication with investors and with managers in making tactical and strategic decisions. It focuses on the development, analysis and use of these reports and what assumptions and concepts accountants use to prepare them, and why they use those assumptions and concepts. It introduces basic costs concepts and develops techniques such as cost drivers, activity-based accounting, customer profitability, value-add and values chain analysis, and target costing. Other topics may include mergers and acquisitions, purchase and pooling, free cash flow and financial statement analysis, studies the nature, design and decision-facilitating role of cost systems and focuses on the effects of strategy, technology and the environment on cost system designs. Tools such as budgets, variance analysis, benchmarking, transfer pricing and balanced scorecard are used to illustrate planning, control and performance measurement systems that facilitate successful implementation of organization's strategies

EMBA 606/5606 - Financial Management (2 cr.)

Description

It introduces the basic principles of finance. It addresses topics as discounting techniques and applications, evaluation of capital expenditure, estimating cost of capital, bond and stock valuation and investment decisions under uncertainty. Participants are expected by the end of this module to apply basic valuation formulas to standard financial instruments.

EMBA 607/5607 - Corporate Financial Management (1.75 cr.)

Description

It analyzes corporate financial decisions. It introduces the structure of markets, the evaluation of assets and concepts of risk-adjusted returns. It addresses essential topics as market efficiency, capital structure, dividend and stock repurchase policy, and firms' use of options and convertible securities. By the end of this module, participants should be able to understand the underlying analytical framework for corporate finance.

EMBA 608/5608 - Talent Management, Coaching & Mentoring (1.75 cr.)

Description

The act of management is all about amplifying the human capability of an organization. This module addresses the people side of business from a general management perspective. Within the context of newer thinking in "Talent management and Organizational Performance", the module integrates concepts from strategy, organizational behavior, talent management, motivation, incentives, empowerment, leadership, organizational design, and transformation. It assist the participants in developing a deeper understanding of how human capability (talent) can be amplified or dampened by the enabling or disabling attributes of the intangible assets of a company (structure, leadership, culture, information, networks, beliefs, values, and reward systems); and it equips the participants with management practices, approaches and coaching and mentoring skills, that can be employed to optimize the various inter-related levers of talent and organizational performance.

EMBA 609/5609 - Managerial Decision Making and Operation Management (2 cr.)

Description

This module introduces operation from the general managers' point of view rather than operation specialist. It approaches the integration, efficiency and effectiveness of managerial functions in support of development of the organization's strategic goals, improving business decisions and achieving competitive advantage. It discusses operating systems: production process, process design and flow analysis, inventory concepts and models, time-to-market and responsiveness, project management, effects of uncertainty and waiting lines in producing an organization's products and services. It focuses on quality management and statistical quality controls, as well as recent process-improvement ideas. Case studies are used to highlight central issues.

EMBA 610/5610 - Global Marketing Management (International Live-in Module) (2.75 cr.)

Description

The module examines strategies over the product lifecycle including growth strategies for mature and declining markets, and defensive strategies. It addresses the importance of companies being market-driven and customer focused and presents current theories and practices of marketing management. Participants will be able to have an integrative strategic view of marketing, including the impact of globalization, information technologies and challenges to implement them.

**EMBA 611/5611 - Competitive & Corporate Strategy (International Live-in Module)
(2.75 cr.)**

Description

Corporate Strategy focuses on business policy by a firm and the development and implementation of a business strategy that will allow the firm to achieve its goals and objectives. Achieving these goals and objectives usually occurs within a competitive context, in which other rival organizations seek similar if not the same ends (e.g. market share, profits, control of scarce resources, etc.). How a firm stands against its rivals' attempts and how it develops and implements a competitive strategy. Topics include industry analysis and competitive advantage as it derives from the firm's strategic investments, resources allocation, and organizational coalitions.

EMBA 612/5612 - E- Business & Managers' Toolkit (2 cr.)

Description

The module examines application of information resources and technology in organizations. The objective is to familiarize participants with key concepts in the use and management of Information Technology (IT). Topics covered include selected aspects of hardware, software, organizing data and information, telecommunication, electronic commerce, transaction processing systems, decision support systems, business intelligence systems and systems development. Participants will learn how do information technologies create value and affect the structure of competition.

EMBA 613/5613 - Leadership & Management (1.75 cr.)

Description

The leadership module moves participants to a deeper understanding of their leadership competencies and personality style through further analysis of assessments with Center for Creative Learning (CCL) coach. Participants will be able to integrate managerial skills and effective concepts of leadership (Traits, Competencies and Ethics) of the work place. They will learn how to understand to better coach others when in leadership role and how to flex their styles as needed to lead others more effectively. They will be able to refine and update their personal development goals, as needed in response to circumstances on the job and further feedback in providing leadership solutions.

EMBA 614/5614 - Innovation and Creating the Best Practices of Tomorrow (1.75 cr.)

Description

It explores a broader, more inclusive view of innovation, enabling the manager to employ innovation as a more effective competitive weapon, leading to an understanding of state-of-the-art "Innovation Process Management" within and between firms and across geographies. It addresses how to make creative energy the goal of the organization and energizes the staff to be creative and see problems not as obstacles but as opportunities for innovation.

EMBA 615/5615 - Global Supply Chain Management and Operational Excellence (2 cr.)

Description

This module is about supply chain management from suppliers to customers to clients, how to link it with marketing and business strategy and develop Global Business Networks. It addresses operational excellence as a competitive strategy, customer service versus operational efficiency from "built-to-forecast" to "build-to-order" and behavioral operational management

EMBA 616/5616 - Negotiation & Conflict Management (1.75 cr.)

Description

It focuses on negotiation as an important process in resolving conflicts that may arise from differences in interests such as goal, priorities or competition from limited resources. It examines stakes, power, interdependence, trust, coalitions, communication, and personal negotiation styles. Participants practice cross-cultural negotiations, dispute resolution, coalition formulation. It addresses multiparty negotiations, extremely competitive negotiations and negotiations via Information Technology (IT).

EMBA 617/5617 - Entrepreneurial Management (1.75 cr.)

Description

It covers the challenges involved in managing entrepreneurial ventures, whether they are start-ups, small entrepreneurial firm or units within larger, well-established companies. It focuses on the behaviors and attributes required to operate successfully within entrepreneurial environment. The module addresses the concepts, theory of practice of entrepreneurship in a dynamic international environment. It helps participants to understand the risks and rewards that accompany entrepreneurial activities and develop the skills of leadership while enhancing their own practice.

EMBA 618/5618 - Doing Business With The East (International Live-in Module) (2.75 cr.)

Description

The module is live-in week in Hong Kong. Participants will be prepared for new challenges and opportunities that they will face in the business world, especially in China and Asia. The modules include introduction to Asia/China Business, Economic, social and political environments. Emphasis will be on China's current Economy Development, Change in Business environment and managing in a Chinese context.

EMBA 619/5619 - Doing Business With The East (International Live-in Module) (2.75 cr.)

Description

The module will be a continuation of above topic. There will be an overview about the Legal and Regulatory issues, managing Joint-Venture Partnerships, Entry strategies, Marketing and Human Resources challenges in China. Practical cases on Legal and Regulatory issues and on Successful Negotiation in China will be studies. Participants will be able

to visit companies during their study.

EMBA 620/5620 - Corporate Governance & Social Responsibility (2 cr.)

Description

This module focuses on how corporate governance, as a set of processes, customs, policies, laws and institutions, affects the way the organization is directed and controlled. It examines how the quality of corporate governance system influences prices shares of the company and the cost of raising capital and how it complies with the legal and regulatory requirements. It addresses some important topics as the separation of ownership and control, property rights, reconciling conflicts between stakeholders and the role of the board of directors in ensuring accountability, fairness and transparency in the firm's relationship with all its stakeholders.

EMBA 621/5621 - Business & Legal Environment (1.75 cr.)

Description

This module relates business to its legal environment. It provides broad analysis of how laws influence management decisions and strategies, how to review the characteristics of various legal structures and how to set the legal framework for doing business. It focuses on how business decisions and transactions should comply with the law. It familiarizes participants with certain basic legal concepts relating to doing business on national and international levels.

EMBA 622/5622 - Development & Rationale for Competitive Law (1.75 cr.)

Description

This module looks at how competition law fits in a larger context of economic policy. It covers the development and rationale for international competition law for firms, with reference to developing countries' competition law as well as relevant provisions in the Egyptian competition policy and covers agreements between firms (cartels, joint ventures, mergers), monopolization, and public enforcement of law by competition authorities, private enforcement in the courts and the coordination of private and public enforcement.

EMBA 623/5623 - Adapting to Global Environment - Integration Consultation Project (4 cr.)

Description

Participants undertake a successful "consulting" project within their own organization, identifying a challenge or an opportunity they seek to address and undertaking the appropriate analysis leading to a recommended course of action. Participants are encouraged to apply and integrate several analytical tools and organizational skills learned in various courses of the program. It provides concrete tools and concepts for projects management. The module is taught in an interactive case-based format. Participants are expected to actively participate while providing insights from their own experiences with project management. Participants will understand why many projects fail, know the critical success factors, be able to define and analyze work breakdown structures and critical paths for projects, and understand the impact of uncertainty on project management.

FILM 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concern and accessible to all first-year students as part of the Primary Level Core.

When Offered

Offered occasionally.

FILM 299/2099 - Selected Topics for Core Curriculum (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

FILM 213/2113 - Introduction to Visual Cultures (3 cr.)

Description

This lecture course provides a primer in visual literacy across media, introducing students to key terms and methods for critically reading the visual world including iconology, formal analysis, art history, ideological analysis, and semiotics. Students gain fluency in understanding how images work in cultural context to communicate meaning, to express a sense of self, to convey pleasure, to sell things, and to distribute power. Questions of the effect of specific visual technologies are also engaged, particularly their impact on perception and conduct. Examples are drawn from fine art, advertising, film, popular culture, and new media.

Cross-listed

Same as ARTV 2113 ,DSGN 2113 .

FILM 220/2120 - Introduction to Film (3 cr.)

Description

An introduction to the art of cinema, covering basic film history, theory, aesthetics, and production. Dramatic narrative (fiction), documentary (non-fiction), and avant-grade subjects are analyzed in detail, and relevant films are screened in class to stimulate discussion.

When Offered

Offered in fall and spring.

Notes

Required for the Major and Minor in Film.

FILM 000/2122 - Introduction to Film Criticism (3 cr.)

Prerequisites

FILM 2120 or consent of the instructor

Description

This course is an extension of the introduction to film (FILM 2120). While the first introductory course focuses on the basics of cinematic language and textual analysis, Introduction to Film Criticism focuses on the basic schools of film criticism and analysis. This course is foundational for film majors, providing them with basic knowledge necessary for satisfactory performance in more advanced film courses. The course is also open, with permission of the instructor, to non-film majors/ minors interested in a more comprehensive introduction to the field (e.g., students of media/journalism and comparative literature).

FILM 200/2200 - Analogue and Digital Practices (3 cr.)

Description

This introductory studio course introduces students to techniques of visual research as a basis for creative work in various media forms. Students undertake a continuous visual research project as the basis for the course. By means of class lectures and exercises, sketchbook practices, technical workshops, take-home assignments, and group critiques designed to activate the research process, they develop their skills in the expressive use of analogue and digital media for the realization of art, design, or film projects.

Cross-listed

Same as DSGN 2200 ,ARTV 2200 .

When Offered

Offered in fall and spring.

FILM 000/2201 - Acting I (3 cr.)

Description

A basic course in the fundamentals of acting, designed for majors, minors, and those with some previous experience. In-class exercises and improvisations, combined with rehearsed scenes and monologues from simple realistic texts, will help students gain proficiency in objective/obstacles, creation of character, basic voice and breath control, and basic body alignment and awareness.

Cross-listed

Same as THTR 2201 .

When Offered

Offered in fall and spring, and occasionally in the summer.

FILM 000/2211 - Acting in Arabic I (3 cr.)

Description

The art and craft of acting as a systematic process applied to the specific demands of Arabic Drama. Scene work and monologues from modern and contemporary Arabic plays.

Cross-listed

Same as THTR 2211

When Offered

Offered in fall or spring, and occasionally in the summer.

FILM 341/3041 - Anthropology and Film (3 cr.)

Prerequisites

ANTH 2101

Description

The history and practice of film in anthropology; film as ethnography; comparison of films and analytical ethnographies.

Cross-listed

Same as ANTH 3070 .

When Offered

Offered occasionally.

FILM 370/3070 - Selected Topics in Film (3 cr.)

Description

In-depth examination of specific topics in film determined by the special interests and expertise of the faculty..

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes

FILM 310/3110 - History of World Cinema (3 cr.)

Description

A survey of international narrative cinema, from the silent period to the present. Individual films, film movements and film genres will be studied, and important films from the respective periods will be screened in whole or in part.

When Offered

Offered in the fall or spring.

FILM 000/3115 - History of American Cinema 1895 - 1945 (3 cr.)

Description

The course provides a history of the most influential cinema in the world: Hollywood. The course focuses on the first half of the twentieth century, and the second half of the twenty-first century along with the first decade of the twenty-first century. Students will acquire broad knowledge of Hollywood cinema, its early precursors and experimental innovators as well as its later, independent challengers and critical deviations. History of American Cinema is designed for students from across the disciplines and carries no prerequisites for non-film majors or minors.

FILM 000/3117 - History of American Cinema 1945 - Present (3 cr.)

Description

The course provides a history of the most influential cinema in the world: Hollywood. The course focuses on the first half of the twentieth century, and the second half of twentieth century along with the first decade of the twenty-first century. Students will acquire broad knowledge of Hollywood cinema, its early precursors and experimental innovators as well as its later, independent challengers and critical deviations. The course is designed for students from across the disciplines and carries no prerequisites for non-film majors or minors.

FILM 320/3120 - Cinema in Egypt and the Arab World (3 cr.)

Description

This course examines various aspects of cinema in Egypt and the Arab World in order to understand its history, and determine the themes, the styles, and the character of this cinema which has been historically among the most influential in national world cinemas. Topics could include areas such as New Arab Cinemas, classical Egyptian cinema, the Arab film industry, independent Arab cinema, among others.

FILM 000/3125 - Topics in National Cinemas (3 cr.)

Description

This course variably focuses on a specific national and, where appropriate, regional cinema, such as that of Germany, France, Argentina, Brazil, Japan, Italy, England, Sub-Saharan Africa, India, China, Canada, Mexico, Cuba, Eastern Europe, Iran, Turkey, Russia or Scandinavia. The course considers recent shifts in the study of national cinemas that accounts for understanding the notion of "identity" in a global context. The course is open to students from across disciplines.

FILM 330/3130 - Film Theory and Criticism (3 cr.)

Prerequisites

FILM 2120 or consent of the Director of the Film Program.

Description

A historical study of the major theoretical approaches to motion picture art, including early analysis of film aesthetics, structure, and form, as well as modernist political critiques of cinema. Films will be screened class to facilitate understanding of the readings.

When Offered

Offered in the fall or spring.

FILM 340/3140 - Documentary Film (3 cr.)

Prerequisites

FILM 2120 or consent of the Director of the Film Program.

Description

A Study of the non-fiction film, its international history, theoretical approaches to its structure and effects, and current issues in documentary production. Class screenings will be used to expose students to important and relevant examples of documentary cinema.

When Offered

Offered occasionally.

FILM 000/3150 - Women and Film (3 cr.)

Description

This course provides a basic history and theorization of the representation of women in cinema, filmmaking, and the field of film studies. The course engages in a historiographic analysis of feminist film theory while mapping aspects of women's representation in cinema and her role behind the camera. The course is open to students from across disciplines, and should be of strong appeal to students majoring in psychology, sociology, anthropology, and comparative literature.

FILM 360/3160 - The Filmmaker (3 cr.)

Description

A detailed study of the themes, the characteristic style, development, and influence of the director within the world of cinema. The course will assess, compare, and/or contrast combinations of two to three filmmakers. Themes could include emphasis on filmmakers such as Quentin Tarantino, Martin Scorsese, the Coen Brothers, Youssef Chahine, George Romero, George Lucas, Francis Ford Coppola, Ingmar Bergman, Salah Abou-Seif, Pier Paolo Pasolini, among others.

FILM 390/3190 - Film Genres (3 cr.)

Description

This course examines questions relating to one or several generic forms and conventions, drawing examples from Hollywood as well as a variety of world cinemas. Topics could include the Musical, Comedy, Horror, Film Noir, Western, Historical Epic genres, etc.

FILM 351/3251 - Digital Editing (3 cr.)

Prerequisites

FILM 2120 and FILM 2200

Description

This course focuses on developing practical as well as aesthetic skills for digital forms of film editing. Students will engage in several assignments and exercises manifesting their capacity to work on various applications of editing techniques.

When Offered

Offered at least once every year.

Notes

Priority of registration in this course is given to declared Film Major and Minor students.

FILM 353/3253 - Digital Cinematography (3 cr.)

Prerequisites

FILM 2120 and FILM 2200

Description

This course focuses on developing the practical as well as aesthetic skills necessary for digital cinematography. As part of a fast emerging and increasingly dominant form of filmmaking, digital cinematography has become key in contemporary mainstream, alternative and independent filmmaking. Students will perform assignments and exercises manifesting their capacity to work with various applications of cinematographic techniques and their integration with lighting design and camera movement.

When Offered

Offered at least once every year.

Notes

Priority of registration in this course is given to declared Film Major and Minor students.

FILM 357/3257 - Screenwriting (3 cr.)

Prerequisites

FILM 2120

Description

Provides an overview of the role of storytelling in filmmaking practice, introducing students to the techniques used by screenwriters to craft stories in both fiction and non-fiction and television programs and other moving picture media.

FILM 336/3306 - Sound for Picture Production (3 cr.)

Prerequisites

FILM 2200 and MUSC 2301 .

Description

This course provides an in-depth, interactive study of sound and its relationship to picture. Topics will include post production areas relative to time code, synchronization, workflow, data interchange, sound recording and editing, lip-syncing and voice over tracks using ADR (Automatic Dialog Replacement), creating special effects with Foley, routing structures, sound mixing, and delivery methods. All of the above will be first described in class lectures and then applied practically in projects.

Cross-listed

Same as MUSC 3306 .

FILM 352/3352 - The Film Industry (3 cr.)

Description

The organization of the production, distribution and exhibition practices of various film industries. May include an examination of the relationship between a national film industry and other visual media; changing technologies and their impact on the medium; connections and intersections between the film industry and other economic industries and

dynamics.

FILM 354/3354 - Film Audience and Reception (3 cr.)

Prerequisites

FILM 2120 or consent of Visual Cultures Director.

Description

The course maps aspects of spectatorship, audience, and reception approaches as they intersect with experiences and study of cinema. The course provides students with tools to appreciate film as an interactive medium of communication. It explored these approaches with emphasis on spectatorial agency. Resistant and subversive reading, and hegemonic and counter-hegemonic readership and production.

FILM 450/4250 - Senior Film Project (3 cr.)

Prerequisites

FILM 3251 , FILM 3253 and MUSC 3306 .

Description

Senior students work on making their own film projects with the participation of other film students. Under the supervision of the instructor, students will develop their project through pre-production, production, post-production phases. Attention will be given to quality excellence rather than quantity and length films.

When Offered

Offered once a year in the spring semester.

Notes

Enrollment in this course is restricted to students with a declared Film Major.

FILM 452/4352 - The Arab and Egyptian Film Industries: National and Global Perspectives (3 cr.)

Prerequisites

Fourth year level in the Film major or the consent of the Program Director.

Description

A study of the nature of the Arab and Egyptian Film industry. Emphasis will be on the evolution of the Arab motion picture industry in the twentieth century and how it is situated in contemporary popular culture. Other topics include Egyptian cinema's relationship to Hollywood, the audience for Egyptian and Arab films, the role of the state cinematic funding, distribution and production systems, the impact of new technologies, and how the structure of the Egyptian and Arab film industries compares with those of other countries.

Notes

This course may be repeated for credit.

FILM 456/4356 - Experiential Learning in Film (3 cr.)

Prerequisites

Fourth year level in the Film major or the consent of the Program Director.

Description

This course designed to provide students with the opportunity to gain practical experience and to work and learn within the film community (production, festivals, administration, archives, research) as interns, paid employment, or volunteers.

Students interested in enrolling in this course should submit a proposal to the Film Program. The proposal should be submitted for approval at least one month in advance to beginning the work. Students should also include an official letter from the host institution that has agreed to supervise their project indicating approval of the proposed student project. The host institution should also agree to provide an evaluation of the quality of the student performance within two weeks after the end of the student project.

FILM 470/4370 - Advanced Seminar in Film Study and Research (3 cr.)

Prerequisites

Fourth year level in the Film Major or Minor, or consent of the Director of Film.

Description

The course is designed to provide students with an opportunity to survey and investigate various and specialized areas of film studies. Topics may include history, theory, filmmakers, national cinemas, women in film, etc. Seminars may also discuss film industry and distribution, film media, festivals, production systems, etc. Within the framework of the seminar's general topic, each student develops his/her more focused research project. This project builds upon and develops the material discussed in class and in the required readings.

Notes

Students may choose to take this course twice provided the specific area of each of the seminars falls in a different area of study, and pending approval.

FILM 402/4402 - Independent Study (1-3 cr.)

Prerequisites

This course is restricted to senior level students in the Film Major or Minor. Departmental approval required.

Description

With departmental approval, advanced students may arrange an individualized course topic to be completed under faculty supervision.

When Offered

Offered in fall and spring.

FINC 303/2101 - Business Finance I (3 cr.)

Prerequisites

ACCT 2001 , (ECON 2021 or ECON 2011) and MACT 1221 or MACT 2222 .

Description

The study of the principles of finance and their application to business enterprises. Special emphasis on financial analysis, management of working capital, cost of capital, capital budgeting, long term financing, dividend policy and internal finance.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

FINC 404/3201 - Investment Analysis (3 cr.)

Prerequisites

FINC 2101

Description

Introduction to the theory of investments. Topics include risk and return, the theory of portfolio selection, asset pricing models, valuation for stocks, bond pricing and the term structure of interest rates and options.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

FINC 405/3401 - Applied Banking (3 cr.)

Prerequisites

FINC 2101 .

Description

Measuring returns and risks in banking, evaluation of a bank's performance, introduction to lending techniques and risk rating methods. Analyzing creditworthiness of business firms and financial institutions. Credit-management techniques such as asset protection, asset conversion and cash-flow analysis are introduced.

When Offered

Offered twice a year.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

FINC 408/3501 - International Finance (3 cr.)

Prerequisites

FINC 2101

Description

The effect of the international financial environment on the major financial decisions of business. The international financial institution and their effect on firms operating in the international environment.

Cross-listed

Same as INTB 3501 .

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

FINC 410/4202 - Capital Markets (3 cr.)

Prerequisites

FINC 2101 .

Description

The objective of this course is to provide students with a thorough understanding of the structure and mechanics of financial markets coupled with a practical perspective of the use of financial tools and their applications. It will introduce students to capital markets with global applications to various financial instruments including debt, equity and derivative securities, such as forwards, futures, and options. The course, as well, aims to widen students understanding of the various risks encountered by financial institutions and the means by which they are mitigated and managed.

When Offered

Offered in fall and spring.

Notes

Enrollment in courses is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in courses specified as collateral requirements in other majors, and students who have declared business administration as a minor.

FINC 412/4203 - Options and Derivatives (3 cr.)

Prerequisites

FINC 3201

Description

Overview of basic derivative securities; forwards, futures and options. The focus is on the valuation of these securities and the use of derivatives for hedging risks. More complex derivatives may be covered.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the

Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

FINC 415/4204 - Portfolio Theory and its Applications (3 cr.)

Prerequisites

FINC 3201

Description

Portfolio Theory provides students with basic concepts and models of financial theory and introduces them to the evaluation of quantity risk and return decisions. Subjects that are offered in this course: Capital assets Pricing Theory; Arbitrage Pricing Theory; Derivatives and Portfolio Selection and Management.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

FINC 414/4301 - Corporate Finance (3 cr.)

Prerequisites

FINC 3201

Description

The course introduces students to basic concepts of corporate finance in the Egyptian environment. The course will cover the theory and application of capital budgeting techniques and capital structure choice of firms.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

FINC 470/4970 - Special Topics in Financial Management (3 cr.)

Prerequisites

Prerequisite: Consent of Instructor.

Description

Considers selected topics of current relevance in Financial Management.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the

Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

FINC 475/4975 - Independent Study in Financial Management (1-3 cr.)

Prerequisites

Prerequisites: Senior standing and consent of FINC unit head and chair.

Description

Guided readings, research, and discussions on specific selected topic in Financial Management.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

FINC 527/5201 - Managerial Economics (3 cr.)

Description

This course aims at applying economic principles to managerial decision making. The course covers topics such as demand, costs and market structure and their relation to pricing, product choice and resource allocation. This course also covers Macroeconomic topics such as saving, investment and the rate of interest; the theory of inflation; and economic growth.

FINC 540/5202 - Financial Management (3 cr.)

Prerequisites

ACCT 5201

Description

It is a basic business finance course, dealing with various aspects of financial decision making. It provides an introduction to time value of money; bond and stock valuation; ratio analysis; financing decisions; capital budgeting; cost of capital; capital structure; risk and return; dividend policy; operating and financial leverage; and working capital management.

Cross-listed

Same as GREN 5224 .

When Offered

Offered in fall and spring.

FINC 541/5203 - Investments and Portfolio Management (3 cr.)

Prerequisites

ACCT 5201 and FINC 5202 .

Description

This course will examine four different types of asset markets: equity markets, fixed income markets, futures markets and options markets. It will focus on the valuation of assets in these markets, the empirical evidence on asset valuation models, and strategies that can be employed to achieve various investment goals.

When Offered

Offered in spring.

FINC 535/5204 - Applied Financial Econometrics (3 cr.)

Prerequisites

ACCT 5201 and FINC 5202 .

Description

This course introduces the main econometric methods and techniques used in the analysis of issues related to finance. The course will cover econometric models and their application to various financial problems such as: the testing of market efficiency, empirical testing of the various asset pricing models (CAPM, Fama French, APT), measuring and forecasting volatility of bond and stock returns (ARCH and GARCH models) and tests for market contagion amongst others.

FINC 542/5311 - International Financial Management (3 cr.)

Prerequisites

ACCT 5201 and FINC 5202 .

Description

This is a course on international financial markets and exchange rates. Topics include pricing in the foreign currency and use of forward exchange for hedging short-term returns and market efficiency in the international money markets, foreign currency options, international capital asset pricing, pricing of foreign currency bonds, currency swaps, syndicated loans, foreign currency financing and exposure management

When Offered

Offered in fall.

FINC 543/5312 - Financial Institutions and Markets (3 cr.)

Prerequisites

ACCT 5201 and FINC 5202 .

Description

This course will analyze the role of financial markets and financial institutions in allocating capital. The major focus will be on debt contracts and securities and on innovations in the bond and money markets. The functions of

commercial banks, investment banks, and other financial intermediaries will be covered. Aspects of the regulation of these institutions will also be examined.

When Offered

Offered occasionally.

FINC 512/5313 - Options and Derivatives (3 cr.)

Prerequisites

ACCT 5201 , FINC 5202 and FINC 5203 .

Description

This course covers a list of advanced topics in derivative securities. It assumes that students have taken an introductory course in derivatives as well as an introduction to fixed-income markets. The first part of the course develops numerical techniques which are used to implement pricing methodologies. The techniques are applied to exotic options and real options. The second part of the course develops term structure models and options based on fixed income securities.

FINC 516/5314 - Real Estate Finance (3 cr.)

Prerequisites

ACCT 5201 and FINC 5202

Description

The course introduces main elements of real estate Finance. It begins with a comprehensive introduction of mortgage from the perspective of capital market investors. The mortgage basics are then used in investment analysis of income producing properties. The public debt and equity are introduced in the third part of this course.

FINC 518/5315 - Islamic Finance (3 cr.)

Prerequisites

ACCT 5201 and FINC 5202

Description

Islamic Finance is one of the fastest growing and most innovative financial disciplines in the international financial markets. It is growing at a rate of 15-20 % each year. It is one of the least understood both by the western financial community and indeed by those in Islamic communities. This course offers a clear and understandable examination of this dynamic area of finance. It will help participants to fully understand the fundamental principles underlying modern Islamic finance, as well as modern practices prevailing in this industry.

FINC 513/5331 - Fixed Income Securities (3 cr.)

Prerequisites

ACCT 5201 and FINC 5202

Description

This is a course on fixed-income securities and related derivatives. It covers basic analytical tools in fixed-income markets. Topics include relative pricing of fixed-income securities, forward rates, yield-to-maturity, yield-curve trading strategies and immunization techniques. It also discusses term structure models, fixed-income securities with embedded options, and derivatives with fixed-income underlying securities. Instruments to be discussed are forward rate agreements, bond and interest rate futures, interest rate swaps, fixed-income options, mortgage-backed securities, and credit derivatives. The course emphasizes analytical techniques, rather than institutional details.

FINC 545/5333 - Private Equity and Venture Capital (3 cr.)

Prerequisites

ACCT 5201 , FINC 5201 ,FINC 5202, MGMT 5307 MGMT 5202, MKTG 5201, MOIS 5201, OPMG 5201 and OPMG 5202.

Description

The course focuses on private equity and venture capital cycles. Emphasis is placed on the valuation concepts and their application to privately held companies. Case studies are an integral part of the course.

When Offered

Offered occasionally.

FINC 544/5351 - Advanced Corporate Finance (3 cr.)

Prerequisites

ACCT 5201 and FINC 5202 .

Description

This is an advanced corporate finance course with an emphasis on debt and equity management, security issuance, and distribution policy. Topics include descriptions of types of debt and equity, tradeoffs in the choice of an optimal capital structure; the role of capital structure in competitive strategy; the design of capital structure and securities to control information problems and limit conflicts of interest between different classes of security holders; procedures and costs of issuing securities including initial public offerings, and the determinants of optimal payout policy. The course is intended for those with career objectives in financial management, the corporate finance aspects of investment banking, or general management.

When Offered

Offered in fall.

FINC 517/5352 - Financial Modeling (3 cr.)

Prerequisites

ACCT 5201 and FINC 5202

Description

This is a hands on course that introduces financial concepts through analytic frameworks and financial models that can be used to identify and solve financial management issues. The course guides students through various intermediate methods and techniques of financial modeling in Microsoft Excel emphasizing the use of (1) Excel Solver for Optimization, (2) Monte Carlo Simulation and (3) Excel's Visual Basic for Applications (VBA) programming language.

FINC 514/5353 - Financial Risk Analysis (3 cr.)

Prerequisites

ACCT 5201 and FINC 5202 .

Description

This course deals with the ways in which risks are quantified and managed by financial institutions. Among the topics covered are the nature of financial institutions and their regulation, market risk, credit risk, operational risk, liquidity risk, and the credit crisis of 2007.

FINC 570/5370 - Selected Topics in Financial Management (3 cr.)

Prerequisites

ACCT 5201 and FINC 5202 .

Description

It considers selected topics of current relevance in Financial Management.

When Offered

Offered occasionally.

FINC 575/5375 - Independent Study in Financial Management (1-3 cr.)

Prerequisites

Prerequisite: Consent of FINC unit head and chair.

Description

Guided readings, research, and discussions on specific selected topic in Financial Management.

When Offered

Offered occasionally.

FINC 599/5401 - Thesis (9 cr.)

Description

The Master thesis will ensure that students can demonstrate the ability to address a timely and original research

question through relevant research methodology. The thesis should include the following components: a novel and feasible research question, a comprehensive literature review, a detailed presentation of data and methods for conducting the research and collection and analysis of data. The final outcome is a formal write-up of the thesis and a public defense in front of a panel.

Hours

Nine credit hours to be taken in three consecutive semesters

FINC 590/5402 - Research Methodology (3 cr.)

Description

This course offers an overview of different research methods and processes in the area of finance. The course outcome will be the completion and presentation of a comprehensive research proposal for a research study.

GWST 500/5100 - Theorizing Gender (3 cr.)

Description

This seminar introduces students to the core theoretical literature and debates in the field of gender and women studies. In addition to laying the intellectual foundation for further academic work in gender and women's studies, the seminar also engages contemporary debates on traveling theory with a particular focus on the Global South. All GWST MA students are required to take this course in their first semester.

When Offered

Offered in fall.

GWST 501/5101 - Approaches to Gender and Women's Studies in the Middle East/ North Africa (3 cr.)

Description

This course immerses students in the literary, historical, and theoretical debates within the academic field of Middle East Gender and Women's Studies. Interdisciplinary approaches as well as varieties of theoretical positions are exposed and discussed critically. Acknowledging the entanglements of regions, scholarly debates and political struggles, this course locates the Middle East/ North Africa region within its worldly context. Must be taken in the second semester.

Cross-listed

ECLT 5256

When Offered

Offered in spring.

Repeatable

May be taken more than once if content changes.

GWST 502/5102 - Justice: Histories and Theories (3 cr.)

Description

This course introduces students to justice as a problem in contemporary cultural, legal and philosophical debates. The course explores the different domains through which justice becomes a universal language of rights, and the resultant compartmentalization of human experiences along parameters in which culture is presumed to be non-existent, rendering different forms of justice, such as gender justice, appendixes to the already known. The course will engage with questions of distribution of justice - economic, social, political, historical - in the contemporary world with special focus on locating theories of justice in the practice thereof. It is conceived as laying the intellectual foundation for the GWST gender and justice graduate concentration, for graduate work in IHRL and other related fields.

Cross-listed

Same as LAW 5220.

When Offered

Offered every fall.

GWST 503/5103 - Histories and Theories of Gender and Development (3 cr.)

Description

The aim of this foundation seminar is to introduce students to the historical, theoretical and empirical perspectives and experiences that inform current programs and policies in the field of gender and development. The course is divided into four sub-modules each of which will present key concepts in the analysis of social relations between men and women in the context of development thinking. Each module will present these theoretical perspectives with reference to concrete empirical applications.

When Offered

Offered every fall.

GWST 504/5104 - Gender and Migration (3 cr.)

Description

This seminar provides an in depth engagement with the growing sub-field of Gender and Migration. Themes covered include: international gendered labor markets, migration to and from the Middle East, domestic labor, trafficking, displacement through conflict and development, remittances, and human rights. This is a joint course offered by the Center for Migration Studies and Refugee Studies and the Institute for Gender and Women's Studies.

Cross-listed

Same as MRS 5104 .

GWST 506/5106 - Reading Capital (3 cr.)

Description

The primary goal of this course is to develop adequate tools for understanding the gendering of political economies in the contemporary world. The course provides a reading in the genealogies of capital in order to critically engage emergent political, economic and social forms.

GWST 507/5107 - Critical Geographies: Reading the Global South (3 cr.)

Description

This seminar explores the spatial and its social, political and gendered effects with a particular focus on dispossession. It introduces students to critical work about space in the social sciences aimed towards social transformation.

GWST 508/5108 - Women and Human Rights (3 cr.)

Description

This seminar explores the historical development of the notion of the human from the 1950's to the present. It introduces students to women's struggles for incorporation into human rights discourses, the consolidation of dominant regulatory processes, and their contemporary critical feminist engagements.

GWST 570/5170 - Special Topics in Gender and Women's Studies (3 cr.)

Description

Alternating selected topics.

Repeatable

May be taken more than once if content changes.

GWST 580/5180 - Independent Study and Readings (3 cr.)

Prerequisites

Prerequisite: Approval of IGWS Graduate Advisory Committee.

When Offered

Offered occasionally.

GWST 505/5205 - Gender and Feminist Research Methodologies (3 cr.)

Prerequisites

GWST 5100

Description

This course provides an introduction to gender and feminist approaches to dominant theories of knowledge and research methodologies in the social sciences.

When Offered

Offered in spring.

GWST 000/5298 - Thesis Writing Seminar (3 cr.)

Prerequisites

GWST 5205

Description

This course serves as an intermediary phase between the research proposal and the Master's thesis. It is designed to help students transition from fieldwork and data collection to data analysis and writing.

GWST 599/5299 - Research Guidance and Thesis (no cr.)

Description

Consultation for students in problems related to their thesis.

When Offered

Offered in fall and spring.

DSGN 213/2113 - Introduction to Visual Cultures (3 cr.)

Description

This lecture course provides a primer in visual literacy across media, introducing students to key terms and methods for critically reading the visual world including iconology, formal analysis, art history, ideological analysis, and semiotics. Students gain fluency in understanding how images work in cultural context to communicate meaning, to express a sense of self, to convey pleasure, to sell things, and to distribute power. Questions of the effect of specific visual technologies are also engaged, particularly their impact on perception and conduct. Examples are drawn from fine art, advertising, film, popular culture, and new media.

Cross-listed

Same as ARTV 2113, FILM 2113.

DSGN 215/2115 - History of Graphic Design (3 cr.)

Prerequisites

DSGN 2113

Description

This course introduces students to the conceptual and critical aspects of graphic design through the discourse of history and theory of visual communication. It addresses how international graphic design went hand in hand with social, political and technological developments around it. It is a chronological survey of graphic design through slide lectures and research.

DSGN 200/2200 - Analogue and Digital Practices (3 cr.)

Description

This introductory studio course introduces students to techniques of visual research as a basis for creative work in various media forms. Students undertake a continuous visual research project as the basis for the course. By means of class lectures and exercises, sketchbook practices, technical workshops, take home assignments, and group critiques designed to activate the research process, they develop their skills in the expressive use of analogue and digital media for the realization of art, design, or film projects.

Cross-listed

Same as ARTV 2200, FILM 2200.

When Offered

Offered in fall and spring.

DSGN 201/2201 - Design I (3 cr.)

Prerequisites

DSGN 2200 and DSGN 2113

Description

Based on a series of experimental visual exercises, this course investigates basic design principles like concepts development and its application in different mediums. Students will explore the fundamentals of graphic form, communicating visually, and integration of type through drawing, collage, and other experimental media.

DSGN 202/2202 - Design II: Logo and Corporate Identity (3 cr.)

Prerequisites

DSGN 2210 and DSGN 2250

Description

The development of an identity of brand through its logo and corporate identity is the aim of this course. It teaches students to think strategically about a company's image and mission. In this studio course students will work with real client briefs and experimental ideas.

DSGN 210/2210 - Typography I (3 cr.)

Prerequisites

DSGN 2200 and DSGN 2113

Description

This course is an introduction to and experimentation with different aspects of Latin and Arabic typography. It addresses letterforms and their legibility, visual organization, classification and text applications. Projects will explore the fundamentals of Latin and Arabic typography in terms of history, theory and practice.

DSGN 240/2240 - Color (3 cr.)

Description

A series of experiences devoted to the development of the perception of color and its use as a tool for the graphic designer. The physics of color, colored light, colored pigments and the color wheel. The study of Johannes Litten's color theory and Labert Munsell's color solid, the psychology of color and application of its relations to different design fields. There will be an emphasis on using gouache paint and matching paint colors with digital color and printing as well as exploring digital color on the computer.

DSGN 245/2245 - Illustration (3 cr.)

Description

Students explore the different media of illustration for different end products in this studio course.

DSGN 250/2250 - Digital Practice I (3 cr.)

Prerequisites

DSGN 2200

Description

Introduction to the basic operation of computers for designers and developing their skills on desktop programs like Illustrator and Photoshop.

DSGN 315/3115 - History of Graphic Design in the Arab world (3 cr.)

Prerequisites

DSGN 2113

Description

Exploring a relatively new field in the region, this course will explore the history of graphic design in the Arab world by looking at the rise of different newspapers, magazines and packaging design from the turn of the century until today.

DSGN 317/3117 - History of Advertising in the Arab World (3 cr.)

Prerequisites

DSGN 2113

Description

A course on the history of advertising in the Arab world that studies visual communication in the region from the rise of the printing press to the introduction of multinational brands.

DSGN 318/3118 - History of Arabic Calligraphy (3 cr.)

Description

A Slide-lecture based course that will introduce students to the history of Arabic calligraphy from the early Quran scripts, through highlights of the creative output of different Islamic dynasties until the introduction of the printing press. It will discuss the aesthetics of the calligraphic Arabic word and different stages of development of the script on paper and different media.

DSGN 303/3203 - Design III: Publication (3 cr.)

Prerequisites

DSGN 2210 and DSGN 3250

Description

This course focuses on the different formats that a printed word can appear in on different items like brochures, catalogues, newspapers, magazines and books. Students are given briefs that push for exploration of type on different grids, as well as layouts, editing photos, structure, and space.

DSGN 304/3204 - Design IV: Packaging (3 cr.)

Prerequisites

DSGN 2210 and DSGN 2250

Description

Understanding shelf-life and presence, this studio course is based on designing and understanding communication graphics for packaged products. Students experiment with structures of products and the application of type, color, and image on different media like paper, plastic, nylon etc. Projects may be based on real market client briefs and/or experimental ideas.

DSGN 305/3205 - Design V: Retail Design (3 cr.)

Prerequisites

DSGN 2210 and DSGN 2250 .

Description

In this course students develop one whole project in all of its applications. From a logo to in-store signage, students explore the application of a unified visual system across several media from print to on-line.

DSGN 313/3213 - Web Design (3 cr.)

Prerequisites

DSGN 2250 and DSGN 3250

Description

In studio we will explore concepts and the design of branding in the web environment. After presentation of the basic programs and related means of web production, as well as the importation of sound, motion and image, each student will create and design the interface of a brand that exclusively exists on the web. Students will develop a branding strategy, identity design, the components of on-line standards and its digital manual format. The instructors will provide information on strategy, information narratives, hypertext, interactivity, accessibility and system. Students will experiments with type, form color, layout, grid, hierarchy, sequence etc. and explore how these behave in an interactive interface. By the end of the course, students will have produced a working prototype and interface web site for their brand.

When Offered

Offered in Fall and Spring.

DSGN 320/3220 - Typography II (3 cr.)

Prerequisites

DSGN 2210

Description

This course continues exploring the world of typography through the study of essential typographic elements and principles while discussing typographic functions and critical theoretical issues. Studies will include grid layout and page systems and typographic matching between Arabic and Latin typography.

DSGN 330/3230 - Typography III (3 cr.)

Prerequisites

DSGN 3220

Description

Technology and typography is explored in this course. Students will explore and understand type applications on different media from cell phones to home appliances to websites. The aim of this course is to equip students in applying typography in any media such as music, videos, web applications, film titles, etc.

DSGN 335/3235 - Animation (3 cr.)

Prerequisites

DSGN 3250

Description

Students are taught how to deal with shapes in motion, character and background animation using director or flash.

DSGN 350/3250 - Digital Practices II (3 cr.)

Prerequisites

DSGN 2250

Description

This course continues students learning in desktop software with a focus on in-design and the cross usage of the Adobe CS package with software like Illustrator Photoshop and Bridge.

DSGN 360/3260 - Photography for Designers (3 cr.)

Prerequisites

ARTV 2230

Description

How to write a photography brief, what is a product shot, how to cast the right model for your concept, food styling and photography, and working with different photographers. How and when to work with photo banks. Students will learn how to work as designers with different specialized photographers and understand the different needs of each photo assignment.

DSGN 365/3265 - Advertising and Branding (3 cr.)

Prerequisites

DSGN 2210 and DSGN 2250 .

Description

A theory and practice course on the world of art direction for advertising. Students will be exposed to classic advertising concepts like total branding and new ones like CRM and activation. The course is studio based and might include real market briefs or experimental ones.

DSGN 400/4200 - Professional Practice (3 cr.)

Prerequisites

Completion of all Major Courses.

Description

Off-campus experiential learning in Graphic Design. Students are encouraged to explore the market by interning for eight weeks at different international and Pan-Arab design houses, advertising agencies, web design companies, publishing houses, calligrapher studios, TV stations, printing presses, post production houses and animation firms.

DSGN 410/4210 - Portfolio (3 cr.)

Prerequisites

Completion of all major courses.

Description

This course helps students create and promote their image in the market through discussions on career pathways. It will prepare students for the professional world guiding them on how to design a digital and printed portfolio, a resume and a personal corporate identity.

DSGN 420/4220 - Production for Designers (3 cr.)

Prerequisites

Completion of all major courses.

Description

Design production is explored in all its phases and aspects in this course. From preparing files for different design products to color separation and advanced techniques in printing. Students will be exposed to different highlights in the history of printing and will be acquainted with printing terminology, and the visual and tactile aspects of paper, printing and binding.

DSGN 469/4269 - Senior Project Thesis (3 cr.)

Prerequisites

Completion of all major courses.

Description

An independent research with a topic approved by the department. Students are requested to work independently and submit a comprehensive paper on their chosen topic.

DSGN 470/4270 - Senior Project Practice (3 cr.)

Prerequisites

DSGN 4269

Description

Independent design project as a continuation of researched topics approved previously by the department. Visiting critics will be invited to review and assess the final project.

HIST 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all first-year students.

HIST 110/1101 - World Cultures (3 cr.)

Description

An examination of the development and diffusion of culture throughout the world from the great ancient civilizations to the present. The focus will be on making connections across time and space and developing a deeper understanding of the human community in all its aspects: political, social, economic, cultural and environmental.

HIST 111/1102 - Big History for Freshmen (3 cr.)

Description

A study of the earth, the universe and human civilizations that tries to understand how human beings are connected to their environments and the billions of years of historical evolution that preceded their appearance on the planet. Beginning with big bang cosmology and continuing all the way through to the future, it is an attempt to put everything - and everyone - into perspective.

HIST 122/1103 - Words That Made History: Great Speeches of the 20th Century (3 cr.)

Description

Readings and recordings of historic speeches. Studies the lives of the speakers, the contexts in which the speeches were delivered, the rhetoric of the speeches, and the impact the speeches had, both on events and on the English language.

HIST 123/1201 - Family History in the Modern Middle East (3 cr.)

Description

Focuses on research and fieldwork. Acquaints students with interview techniques and methods in oral and family history. By integrating their own family stories into various conceptual and chronological frameworks, students will discover how history relates to them.

HIST 209/2019 - Introduction to American Studies (3 cr.)

Description

This interdisciplinary course is designed to introduce students to key events and texts in the history and culture of the United States. Using films, literature and historical texts, the course will examine American culture within a historical context.

Cross-listed

Same as ECLT 2019.

HIST 299/2096 - Selected Topics for the Core Curriculum in International/World Studies (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

Notes

May be repeated for credit when content changes.

HIST 299/2097 - Selected Topics for the Core Curriculum in Arab World Studies (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

Notes

May be repeated for credit when content changes.

HIST 299/2099 - Selected Topics for the Core Curriculum in Humanities (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

Notes

May be repeated for credit when content changes.

HIST 207/2104 - World History (3 cr.)

Description

The development of human society from 11,000 BCE to the present. Using archaeology, anthropology, ethno-biology and traditional history, this course examines the civilizations of Polynesia, China, India, Africa, Meso-America, South America, the United States, Europe and the Middle East in order to explain why some societies today are politically, economically and technologically more powerful than others.

HIST 211/2202 - History In The Making (3 cr.)

Description

This course offers introductory history topics, each taught in a separate section. Topics focus on major historical events or movements and will be traced through contemporary literary or visual documentary records and representations of those closely involved. Topics will also examine the way interpretation of such materials may alter over time. Topics will change according to instructor and students should consult current course schedules.

HIST 246/2203 - Survey of Arab History (3 cr.)

Description

This course presents the history of the Arabic-speaking Middle East from pre-Islamic times to the modern era, with emphasis on the principal political, economic, social, religious, and cultural developments and their relevance to the contemporary Middle East. The course introduces students to historical methodology and different interpretive approaches. It attempts to foster a critical attitude toward sources and provides a context in which students can apply skills and concepts acquired in other.

Cross-listed

Same as ARIC 2346.

HIST 247/2204 - The Making of the Modern Arab World (3 cr.)

Description

A historical tour of how we got where we are today. The course starts with the late pre-modern Arab world and Ottoman empire, and moves through various forms of threat, influence, change, and modernization to the present. Events in the Arab world are examined in their wider, global context.

HIST 250/2301 - Colonial and Postcolonial Africa

Description

This course will examine the history of sub-Saharan Africa from the eve of the European colonization to the present day. In combining a thematic and chronological approach students will discover the complex history of various people and regions in Africa during this period. Topics range from the imperial scramble to colonize Africa to the integration of African societies into the colonial and global economy; from Western perceptions of Africa and Africans to the social, political and economical impacts of colonial policies; and from Africans' struggles for freedom during decolonization to Africa's post independence experience.

HIST 203/2401 - Western Civilization from Antiquity to Medieval Europe (3 cr.)

Description

An introduction to the history of western society from ancient Greece and Rome to the Middle Ages with emphasis on the ideas and institutions that led to the growth and expansion of European civilization.

HIST 204/2402 - Europe from the Middle Ages to the Enlightenment (1337-1789) (3 cr.)

Description

This course explores the history of Europe from the start of the Hundred Years War to the French Revolution. It examines the major developments of European politics, society and culture as it moved from the late Middle Ages to the Early Modern Period (including the Renaissance and the Age of Enlightenment) to the beginning of the Age of Revolution.

HIST 205/2403 - Europe in the Age of Revolution and Reform (1789-1914) (3 cr.)

Description

This Course explores Europe's so-called "Long 19th century" from the French Revolution to World War I including many of the phenomena that came to define the century such as capitalism, nationalism, socialism, feminism and imperialism.

Cross-listed

Same as POLS 2403.

HIST 206/2404 - Europe in International Politics in the Twentieth Century (3 cr.)

Description

This Course explores major development in European and international socio-economic politics from the end of the 1800s to the present day. It introduces the key events and trends of this tumultuous century including wars, revolutions, and ideological movements.

Cross-listed

Same as POLS 2404.

HIST 201/2501 - History of American Civilization to the Nineteenth Century (3 cr.)

Description

A survey of American cultural roots from the period of exploration through the foundation of a federal American republic, social and industrial challenges, the question of slavery, and the crisis of civil war.

HIST 202/2502 - History of Modern American Civilization (3 cr.)

Description

A survey of events leading to the creation of a distinct American culture as the United States meets the challenges of moral crisis, the industrial revolution, and world leadership from the nineteenth century to the present.

HIST 210/2602 - Religions of the World (3 cr.)

Description

An introduction to the academic study of religion. By looking at the history, beliefs, practices, institutions and cultural expressions of a number of different religions, students will broaden their understanding of religions other than their own, and of the diversity of the human religious experience. Students will learn to appreciate the variety of religions in the world, and the similarities and differences between them.

HIST 212/2604 - The Quest for the Historical Jesus (3 cr.)

Description

Investigates the life and teachings of Jesus of Nazareth within the context of Second Temple Judaism and Greco-Roman culture. Considers a range of pre-modern and modern interpretations of Jesus and the emergence of Christianity.

Cross-listed

Same as CREL 2605.

HIST 243/2901 - History I: Pre-Dynastic Through Middle Kingdom Egypt (3 cr.)

Description

The history of Pharaonic Egypt from predynastic times to the end of the Middle Kingdom will be covered. Literary sources will be augmented by archeological evidence

When Offered

Offered in fall.

Notes

Field trips to archeological sites in the Cairo area are an obligatory aspect of the course.

HIST 244/2902 - History II: Middle Kingdom Through New Kingdom Egypt (3 cr.)

Prerequisites

HIST 2901 or consent of the instructor.

Description

The course will focus on the history of Pharaonic Egypt from the Middle Kingdom to the decline of the New Kingdom and will examine the texts, monuments and artifacts that underline our understanding of this era.

When Offered

Offered in spring.

Notes

Field trips to the Cairo Museum and other relevant sites are a required part of the course.

HIST 320/3105 - Big History (3 cr.)

Prerequisites

The course will not be open to students who have already taken HIST 1102 .

Description

A study of the earth, the universe and human civilizations that tries to understand how human beings are connected to their environments and the billions of years of historical evolution that preceded their appearance on the planet. Beginning with big bang cosmology and continuing all the way through to the future, it is an attempt to put everything - and everyone - into perspective.

HIST 319/3205 - Islamic Spain and North Africa (711-1492 A.D.) (3 cr.)

Description

This course is an introduction to the political, economic, social, and cultural history of Muslim Spain and North Africa. Its emphasis is on explaining how interactions among different ethnic groups (Arabs, Berbers, and Iberian natives) and different confessional communities (Jews, Christians, and Muslims) created social situations that made the Western Muslim lands unique in Islamic history.

Cross-listed

Same as ARIC 3319.

HIST 330/3206 - Urban Landscapes in the Modern Middle East/North Africa (3 cr.)

Description

This course presents diverse histories of cities in the Middle East in the nineteenth and twentieth centuries, from the impact of French and British colonialism to Arab nationalism. It introduces students to central themes in modern urban history with emphasis on the city and the production of modern lives, rural migration and the transformation of the city, women and men in the city, and urban crisis and social movements.

HIST 331/3207 - History of Palestine/Israel (3 cr.)

Description

This survey course covers the history of modern Palestine and Israel. It is based on a comparative approach that allows students to engage with primary materials, secondary historical texts, literary narratives, and cinematic representations. This course provides students with the historical and theoretical tools to learn about and engage formations of nation and history in Palestine/Israel.

HIST 333/3208 - Zionism and Modern Judaism (3 cr.)

Description

The Zionist ideology and movement in its own terms, and in the context of modern Judaism. The course places Zionism in its historical and religious contexts, and examines its varieties. The Zionist movement is followed from its origins to the establishment of Israel. Related aspects of Israeli politics are then examined, with especial reference to ideological and religious debates.

Cross-listed

Same as CREL 3209.

HIST 343/3210 - Birth of Muslim Community and Rise of the Arab Caliphates (3 cr.)

Description

The rise of Islam and Arab expansion, the classical period of Islamic civilization during its first centuries to the period of Abbasid political disintegration.

Cross-listed

Same as ARIC 3343.

When Offered

Offered in fall.

HIST 344/3211 - Caliphs and Sultans in the Age of Crusades and Mongols (3 cr.)

Description

The later Abbasid caliphate, the rise of Shi'ism and the Fatimids, Sunni consolidation under the Seljuks and Ayyubids, external threats to dar al-Islam; the rise of Mamluks .

Cross-listed

Same as ARIC 3344.

When Offered

Offered in spring.

HIST 345/3212 - Gunpowder Empires: Ottomans, Safavids and Mughols (3 cr.)

Description

The decline of the Mamluks; the Timurids in Persia; the age of gunpowder: the Safavid Ottoman, and Moghul empires and their decline.

Cross-listed

Same as ARIC 3345.

When Offered

Offered in fall.

HIST 355/3213 - State and Society in the Middle East, 1699-1914 (3 cr.)

Description

The Ottoman Empire and Iran: continuities and transformations. Imperial administration and relations with Europe. Challenges to the premodern order: regional and global economies; social and cultural trends

Cross-listed

Same as ARIC 3355.

HIST 356/3214 - State and Society in the Middle East, 1906-present (3 cr.)

Description

Beginning with the Young Turk and Iran's Constitutional revolutions, this course follows the fate of Middle Eastern societies and states during the twentieth century, with a special focus on colonialism and nationalism; independence movements and decolonization; the Arab-Israeli conflict; society, politics, and culture.

Cross-listed

Same as ARIC 3356.

HIST 357/3288 - Selected topics in Middle East History (3 cr.)

Description

Focuses on theme or topic in the history of the Middle East. May be repeated for credit when topic changes.

Cross-listed

Same as ARIC 3397.

When Offered

Offered occasionally.

HIST 350/3302 - Violence, War, and Conflict in Modern Africa (3 cr.)

Description

This course will explore the complexities of violent conflicts on the African continent in the past 125 years. As violence, conflicts and wars seem to be crucial elements of Africa's modern history; students will for example investigate if this means that Africans are inherently more violent than the rest of the world - or if such an assumption only disguises the complex historical roots of war and conflicts? Moreover, students will also discover that Africans have historically resisted violence and oppression just as often as they have promoted it. Students can expect to engage with a variety of interdisciplinary material and will be introduced to different African regions to get a deeper understanding of contexts of violence in Africa's past and present. By the end of the course students will be able to critically analyze common narratives about "the violent continent" reproduced by mass media.

HIST 307/3405 - The Middle Ages, the Renaissance and the Reformation (3 cr.)

Description

An investigation of the development of European culture in the High Middle Ages and an examination of the ways in which European society was transformed by the intellectual and religious movements known as the Renaissance and the Reformation.

HIST 308/3406 - Europe in the Age of Reason (3 cr.)

Description

An examination of the ways in which European intellectual developments during the Enlightenment were connected with socio-political changes in the seventeenth, eighteenth and early nineteenth centuries.

HIST 342/3903 - History of Egypt in the Graeco-Roman Era (3 cr.)

Prerequisites

HIST 2901 and HIST 2902 or instructor's consent.

Description

This course will study the history of Egypt in the Graeco-Roman period and the momentous confrontation between Greek and Egyptian culture between 300 BC and 700 AD. It will also examine the social consequences of the spread of Christianity in Egypt and the rise of Coptic culture.

Cross-listed

Same as EGPT 5120.

When Offered

Offered occasionally.

HIST 346/3904 - Societies and Cultures of the Ancient Near East (3 cr.)

Prerequisites

HIST 2901 and HIST 2902 , or instructor's consent

Description

The course constitutes a historical overview of the societies and cultures of Egypt, the Mediterranean World and the Middle East, from the emergence of urban society in Iraq in the fourth millennium BCE to the rise and fall of the great empires of Babylon, Assyria, the Hittites, Archaemenid Persia, Greece and Rome. Special attention will be paid to the position of Ancient Egyptian civilization within the wider context of Ancient Near Eastern History.

Cross-listed

Same as EGPT 5130.

When Offered

Offered occasionally.

HIST 000/4000 - Honors Thesis (3 cr.)

Prerequisites

HIST 4801 and admission to the Honors Program.

Description

The course is part of a two-semester sequence, with the Honors section of HIST 4801 forming the first part of the sequence. This course provides students enrolled in the department's Honors Program the opportunity to conduct original historical research, write a scholarly article under faculty supervision, and either submit the article for publication or make a public presentation of it at the annual EURECA conference. Preliminary work on the project will

begin in HIST 4801 and will be completed in HIST 4000.

HIST 425/4106 - Food in World History (3 cr.)

Description

An inter-disciplinary examination of the role of food in human history beginning with the agricultural revolution and including such topics as the Columbian exchange, industrialization, the rise of the restaurant, food as cultural identity, food policy and the state, fast food, gender roles, health and nutrition, and the emergence of modern attitudes towards food and the body.

HIST 430/4107 - The Environment in World History (3 cr.)

Description

An examination of the relationship between humans and the environment from the Agricultural Revolution (c. 10,000 BCE) to the present with an emphasis on the Industrial Revolution and the modern world.

HIST 405/4188 - Selected Topics in World History (3 cr.)

Repeatable

May be repeated for credit when content changes.

HIST 415/4215 - The Marriage Crisis and the Middle East (3 cr.)

Description

This course examines how men and women imagine their nations through marriage and understand their rights and duties in the twentieth-century Middle East. It shows how marriage is a lens that reflects and critiques larger socioeconomic and political issues. It also contributes to our historical understanding of the "marriage crisis", which continues to dominate public debates today.

HIST 435/4216 - Social and Political History of Modern Cairo (3 cr.)

Description

The History of Cairo with an emphasis on social, political and economic developments in the twentieth century.

HIST 440/4217 - Colonialism and Imperialism in the Middle East and South Asia (3 cr.)

Description

This course deals with the history of colonialism and imperialism in the Middle East and South Asia. Its basic premise is that the colonial encounter was a formative one for both colonizer and colonized. We will be studying not only the political and military aspects of that encounter, but also its ideological and cultural ones. Topics touched upon include: Orientalism, imperialism and culture, medicine, law, urban planning, and gender.

HIST 454/4219 - Modern Movements in Islam (3 cr.)

Prerequisites

HIST 3213 or HIST 3214 or equivalent background.

Description

Trends of thought and activism that developed throughout the Muslim world from the eighteenth century onward and identified themselves as Islamic. This course looks at intellectual roots, affiliations, and differences. It investigates modernity, reform, statehood, and social change as addressed by state and non-state actors, in theory and in practice.

Cross-listed

Same as ARIC 5134 .

HIST 460/4220 - Selected Topics in Middle Eastern History, 600-1250 A. D. (3 cr.)

Cross-listed

Same as ARIC 5135 .

When Offered

Offered occasionally.

Repeatable

May be repeated for credit when content changes.

HIST 463/4221 - Selected Topics in the History of Islamic Thought and Institutions (3 cr.)

Prerequisites

Prerequisite: consent of instructor

Cross-listed

Same as ARIC 5101.

Repeatable

May be repeated for credit when content changes.

HIST 000/4222 - Egypt under Nasser (3 cr.)

Prerequisites

- (1) Working Knowledge of colloquial Arabic
- (2) Junior standing in any field

Description

This course examines the Nasserite historical experience: its historiography, primary documents, legacy, milestone events, institutional frameworks, and trajectory-all within the regional and global contexts of that period.

HIST 000/4224 - Egypt in the Modern World Market (3 cr.)

Description

An examination of the processes initiated with Egypt's integration in the modern world market in the early nineteenth century. The course uses a general social history approach and places the examined processes in their regional and global contexts.

HIST 462/4288 - Selected Topics in the History of the Modern Middle East (3 cr.)

Cross-listed

Same as ARIC 5136.

Repeatable

May be repeated for credit when content changes.

HIST 461/4289 - Selected Topics in Middle Eastern History, 1250-1800 A. D. (3 cr.)

When Offered

Offered occasionally.

Repeatable

May be repeated for credit when content changes.

HIST 412/4290 - Selected Topics in Modern Egyptian History (3 cr.)

Description

Topics to be chosen according to specific interest, such as: the making of the modern Egyptian nation; cities, towns and villages in modern Egyptian history; social and cultural history of modern Egypt.

Repeatable

May be repeated for credit when content changes.

HIST 450/4303 - Global Capitalism and Africa: An Economic History (3 cr.)

Description

In this seminar students will explore the relationship between the rise of capitalism and the integration of Sub-Saharan Africa's labor and natural resources into the global economy in the nineteenth and twentieth century. We will be especially interested in two distinct but related issues: First, we want to explore the role of African labor, minerals, and agricultural products for the economic growth of the Global North. Second, we want to examine how oversea markets and foreign influences shaped local economies and "working lives" in different regions in Africa, and explore how Africans confronted these changes.

HIST 400/4400 - Independent Study (1-3 cr.)

Description

In exceptional circumstances, students may, with department approval, arrange to study beyond the regular course offerings. Open only to juniors and seniors with a minimum B average. May be repeated for credit if content changes.

HIST 402/4488 - Selected Topics in European History (3 cr.)

Repeatable

May be repeated for credit when content changes

HIST 401/4588 - Selected Topics in the History of the United States (3 cr.)

Repeatable

May be repeated for credit when content changes.

HIST 420/4801 - Historical Theory and Methodology (3 cr.)

Prerequisites

Prerequisite: To be taken in senior year

Description

Seminar on historical thought from its emergence in the classical world to the present, including consideration of the Arab historical tradition. Covers schools of historical interpretation and methodological approaches. Major Capstone.

HIST 445/4905 - Selected Topics in Coptic Studies (3 cr.)

Description

This course allows instructors to offer a topic in Coptic Studies. The topic will be chosen from year to year in coordination with the departments concerned and the dean of the School of HUSS, and according to the individual interests and areas of expertise of the instructors. Topics chosen may include various aspects of Coptic art and history, monasticism, folklore, or other subjects. The course may be taken more than once if the topic changes.

Cross-listed

Same as ARIC 5132, EGPT 5160, ANTH 4499, SOC 4499.

When Offered

Offered in fall.

Notes

Students in these majors may petition preferably before registration to have the course included in their major requirements.

HIST 542/5222 - Seminar on the Nineteenth-Century Middle East (3 cr.)

Description

Readings, discussion, and research.

Cross-listed

Same as ARIC 5231.

HIST 543/5223 - Seminar on the Twentieth-Century Middle East (3 cr.)

Description

Readings, discussion, and research.

Cross-listed

Same as ARIC 5232.

ELIN 121/0302 - Advanced English (for Graduates) (0 cr.)

INTB 408/3501 - International Finance (3 cr.)

Prerequisites

FINC 2101

Description

The effect of the international financial environment on the major financial decisions of business. The international financial institution and their effect on firms operating in the international environment.

Cross-listed

Same as FINC 3501.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

INTB 412/4601 - International Marketing (3 cr.)

Prerequisites

MKTG 2101

Description

The marketing problems and opportunities of the exporter, licensor, or manufacturer in a foreign country. Topics include factors in assessing world marketing opportunities and the international market mix.

Cross-listed

Same as MKTG 4601.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

LAW 510/5210 - Introduction to International Human Rights and Humanitarian Law (3 cr.)

Description

This gateway course provides an overview of the substance and some of the mechanisms of international human rights and humanitarian law. The course covers the doctrinal, institutional, methodological and theoretical bases of human rights law and international humanitarian law and offers an introduction to the substantive development of the corpus

of human rights and humanitarian law, through the case-law of the international, regional, and domestic monitoring and judicial authorities on selected issues of substance or procedure (varying interpretations of given substantive political, social and economic rights, standards of evidence in human rights law, universal jurisdiction, definition of terrorism in human rights and humanitarian law, etc).

LAW 511/5211 - International Humanitarian Law (3 cr.)

Prerequisites

LAW 5209 and LAW 5210 (prerequisites can be waived by special permission of the Law Department).

Description

This course provides basic introduction to the field of international humanitarian law (IHL), otherwise known as the laws of war, the law or armed conflict, or *jus in bello*. It will consist in an overview of the existing substantive body of international law relating to the regulation of armed conflict, as well as an exploration of its internal structure and dynamics. It will discuss in a first part the relationship between humanitarian law and both general international law and international human rights Law, with regard to applicability implementation, and enforcement. In a second part, the course and materials will approach the "principle of distinction" and its implementation in the so-called "Geneva Law", relating to protected persons, as well as the so-called "Hague Law", relating to the means and methods of combat. Final sessions will discuss questions of implementation and criminal responsibility.

LAW 512/5212 - Human Rights and the United Nations (3 cr.)

Prerequisites

LAW 5209 and LAW 5210 . (Prerequisites can be waived by special permission of the Law department).

Description

The framework and evolution of international human rights law within the system established by the United Nations Organization examined in relation to its antecedents, establishing documents, processes of norm creation and application, and present methods and activities of monitoring within the UN system.

LAW 513/5213 - The European System of Human Rights Protection (3 cr.)

Prerequisites

LAW 5209 and LAW 5210 . (Prerequisites can be waived by special permission of the Law department).

Description

The procedures and substantive law contained in conventions, treaties, reports, judgments, and other documents will be examined for a comprehensive understanding of the development of human rights law in Europe.' These human rights systems are considered in relation to their origins in social and political movements and their subsequent effects on politics and society.

LAW 514/5214 - Human Rights in the Middle East (3 cr.)

Prerequisites

LAW 5209 and LAW 5210 . (Prerequisites can be waived by permission of the department).

Description

An overview of the dynamics of international human rights law in the Middle-East, through national, regional and universal mechanisms dealing with current human rights issues in the region. The course will cover a series of substantive themes of interest to the countries and people of the region with the help of legal cases and documents coming from the UN system, the African System, the Arab League, and national courts and institutions. The course will also examine the norms and institutions of international humanitarian law in their specific relationship to conflicts in the region.

LAW 516/5216 - Economic, Social, and Cultural Rights (3 cr.)

Prerequisites

LAW 5209 and LAW 5210 . (Prerequisites can be waived by special permission of the Law department).

Description

Consideration of the historical development of the recognition of economic, social and cultural rights together with present covenants and other instruments operating at the international level. Specific rights such as the right to work, trade union rights, right to social security, right to adequate standards of living, health and education are considered as well as their philosophical underpinnings and social modalities.

LAW 517/5217 - Human Rights and Identity Groups (3 cr.)

Prerequisites

LAW 5209 and LAW 5210 . (Prerequisites can be waived by special permission of the Law department).

Description

This course focuses attention on the use of identity groups as legal objects of special protection in international human rights law. Various concepts related to the protection of the rights of groups that have been identified as either "vulnerable" or historically discriminated against, such as women and children, are examined. Instruments and mechanisms as well as the conceptual framework for the protection of these groups (and other non-protected "vulnerable" groups) are considered in relation to their perceived vulnerabilities.

LAW 518/5218 - International Refugee Law (3 cr.)

Prerequisites

LAW 5209 and LAW 5210 . (Prerequisites can be waived by special permission of the Law department).

Description

This course introduces the international refugee law regime and the background and historical context from which foundational concepts emerged. The bulk of the course is spent on the 1951 Refugee Convention and its Protocol, as well as the expanding mandate of UNHCR. The course considers some of the contradictions and dilemmas of international refugee law and takes into account developments in related areas of international human rights law, international humanitarian law and migration law. This course is required for all students seeking the MA or Diploma in Migration and Refugee Studies.

Cross-listed

Same as MRS 5201.

LAW 519/5219 - Human Rights in Africa (3 cr.)

Prerequisites

LAW 5209 and LAW 5210 (Prerequisites may be waived by permission of the department)

Description

An overview of the contribution of the African continent to human rights law. The course will cover the specificities of Africa from the perspective of the development, interpretation, and enforcement of international human rights law from four perspectives: (1) the development and contributions of the African regional system of human rights, (2) the treatment of human rights issues in Africa by the universal system of human rights, (3) the place and application of human rights standards in selected African countries, and (4) the application of international humanitarian law in contemporary African conflict situations. As an advanced course dealing with the role of regional approaches and issues in the contemporary history of international human rights law, the substantive focus will be on the relevance of cultural and political specificity to human rights when seen from the perspective of the varied social contexts of the African continent. In light of the rich complexity of the African social, cultural and political background, some attention will be given to the particular situation of certain African States in the development of African human rights law, such as Egypt, Nigeria or South Africa.

LAW 575/5275 - Special Topics in International Human Rights Law (3 cr.)

Prerequisites

Prerequisite: consent of the instructor.

Description

Specialized areas of International Human Rights Law.

Repeatable

May be taken a second time for credit if content changes.

LAW 584/5284 - Human Rights in Practice (3 cr.)

Prerequisites

Consent of the instructor.

Description

Internship for four to six months in an organization pursuing human rights activities, or active involvement on an institutional research project having a human rights emphasis. The work is assessed on the basis of a written report and discussion.

JRMC 200/2200 - Introduction to Mass Communication (3 cr.)

Description

An introductory survey of the theory, history, structure, and function of mass communication in the Middle East and globally.

Notes

Open to all university students.

JRMC 201/2201 - Mass Media Writing (3 cr.)

Description

Study and practice of basic writing, editing, and reporting techniques used in the international print media; newsroom practices to develop listening, reading, writing and editing skills.

JRMC 202/2202 - Multimedia Writing (3 cr.)

Prerequisites

JRMC 2201

Description

Cross-media study and practice of writing and reporting for print, broadcast, Internet.

JRMC 203/2203 - Mass Media Ethics and Responsibility (3 cr.)

Description

Critical analyses of media laws and professional philosophies, standards, and practices in journalism, public relations, advertising, and other fields of mass communication. Discussion of ethical and practical considerations and dilemmas in different professional and social contexts.

JRMC 230/2230 - Photography Foundations 1 (3 cr.)

Description

History of photography, digital camera skills, visual composition, digital production, developing assignment ideas, interpreting images.

JRMC 250/2250 - Global Media Systems (3 cr.)

Description

Comparative study of global communication systems and theory in relation to national and international development.

Notes

Open to all university students.

JRMC 270/2270 - Online Communication (3 cr.)

Description

An introduction to the Internet as a medium of communication, as well as to its nature, development, and future. Students will examine how the Internet is being used, and how it is affecting communities and societies at large. Ethical aspects of the online experience will also be covered.

JRMC 299/2299 - Selected Topic for Core Curriculum (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

Notes

Enrollment is limited and priority is given to students with declared JMC majors.

JRMC 301/3301 - Journalism Editing and Design (3 cr.)

Prerequisites

JRMC 2202

Description

Principles of, and laboratory practice in, copyediting and proofreading; headline writing; scaling and cropping photographs; and layout and design.

JRMC 305/3305 - Introduction to Visual Communication (3 cr.)

Prerequisites

JRMC 2201

Description

Introductory laboratory in basics of typography, desktop publishing, digital design of publications and advertising. Taught by lecture with practical application.

JRMC 310/3310 - Public Opinion, Persuasion and Propaganda (3 cr.)

Description

Theoretical and practical study of the social role of international and national mass media, policymakers and the public in formation of public opinion.

When Offered

Offered occasionally.

Notes

Open to all university students.

JRMC 312/3312 - Multimedia Journalism Lab: The Caravan (3 cr.)

Prerequisites

JRMC 2202 ,JRMC 2203 and JRMC 3301 or consent of instructor.

Description

Supervised newsroom experience in reporting, writing, editing, designing and layout for print, broadcast and online version of The Caravan and AUC TV.

JRMC 315/3315 - Introduction to Advertising (3 cr.)

Prerequisites

JRMC 3305

Description

Survey of professional principles and practices in advertising and their relationship to business and government, with special emphasis on the United States and Egypt.

JRMC 320/3320 - Mass Communication Research (3 cr.)

Prerequisites

Junior standing.

Description

Methods and theories used in mass communication research. Emphasis on the various methods and measurement tools used in message, communicator and audience measurements. They will learn to work with statistics, databases, specialized websites and other resources.

JRMC 330/3330 - Photojournalism and Documentary Practices (3 cr.)

Prerequisites

JRMC 2230

Description

History of photojournalism, advanced camera skills, photographic lighting skills, visual story-telling strategies, editing and sequencing, research subjects, building a portfolio.

JRMC 333/3333 - Research for Journalists (3 cr.)

Prerequisites

JRMC 3312

Description

A research course designed specifically for journalists, providing students with a broad understanding of how to find and analyze various forms of information. They will learn to use databases, specialized websites and other Internet resources and how to organize and apply their findings for news and feature reporting.

JRMC 337/3337 - TV Scriptwriting and Production (3 cr.)

Prerequisites

JRMC 2202

Description

Classroom and field training in basic television scriptwriting and story production. Instruction in theoretical principles

that differentiate television from print journalism, ethical aspects of picture use and editing and related topics. Requires weekly practice hours outside class time.

JRMC 339/3339 - Studio Production: AUC TV (3 cr.)

Prerequisites

JRMC 3337

Description

Techniques of television production and presentation from planning and writing to directing and producing. Topics of study include elements of various forms of television writing, production, design, lighting, graphics, program planning and production practices in a studio or workshop setting. Requires weekly practice time outside class to provide AUC TV's daily news bulletin.

JRMC 355/3355 - Creative Strategy and Advertising Copywriting (3 cr.)

Prerequisites

JRMC 3305 and JRMC 3315

Description

Development of creative strategy, writing advertising and promotional copy, designing and preparing layouts for various media, planning and executing written and oral presentations.

JRMC 402/4402 - Reporting and Writing in Arabic (3 cr.)

Prerequisites

Completion of university general requirements in Arabic and JRMC 2202 .

Description

Advanced principles and practice in reporting and writing in and from Arabic.

When Offered

Offered occasionally.

JRMC 403/4403 - Feature and Magazine Writing (3 cr.)

Prerequisites

JRMC 2202

Description

Principles and intensive practice in researching, organizing, and writing feature articles for international newspapers and magazines.

When Offered

Offered occasionally.

Notes

Enrollment is limited and priority is given to students with declared MMJ majors.

JRMC 405/4405 - Advanced Visual Communication (3 cr.)

Prerequisites

JRMC 3305

Description

Advanced practical integration of digital text and photographs in desktop publishing of printed material using state-of-the-art production hardware and software.

When Offered

Offered occasionally.

JRMC 406/4406 - Internship (3 cr.)

Prerequisites

Junior standing.

Description

Field experience in an approved professional setting in journalism, advertising, public relations, public information, broadcast or online media outlet. Supervised by a professional and an AUC full-time faculty member.

JRMC 412/4412 - Newsroom Editing and Management (3 cr.)

Prerequisites

JRMC 3312

Description

Supervised advanced newsroom experience in writing, editing, layout and management of *Caravan*, the AUC newspaper.

JRMC 415/4415 - Public Relations Theory and Techniques (3 cr.)

Prerequisites

JRMC 2202 and JRMC 3315

Description

Principles and practical use of public relations and public information techniques, with emphasis on media use for business and non-profit organizations.

JRMC 420/4420 - Media Management (3 cr.)

Prerequisites

Junior standing.

Description

Management theories and practices as applied to media organization, unique characteristics of media outlets, various operating philosophies, legal issues, regulations and related topics will also be covered including programming strategies.

JRMC 425/4425 - Integrated Marketing Communication Campaigns Capstone (3 cr.)

Prerequisites

JRMC 3315, JRMC 3320 and JRMC 4415

Description

Examination, development, and critique of advertising and marketing communication campaigns, with emphasis given to creative and media factors.

Notes

IMC seniors only.

JRMC 441/4441 - Camera and Editing Workshop (3 cr.)

Prerequisites

JRMC 2202

Description

Intensive field and lab training with digital video camera. Computer-driven digital editing program enables video journalist to shoot and edit news events to a finished professional product. Requires weekly practice hours outside class time.

JRMC 444/4444 - Media Law and Policy (3 cr.)

Prerequisites

JRMC 2203

Description

An explanation of communication law and regulation with its major segments libel, privacy and news-gathering together with journalists' rights and defenses against libel suits. Issues of national and international topics are covered together with media law cases.

Cross-listed

AMST 4444

JRMC 460/4460 - Audio Production (3 cr.)

Prerequisites

JRMC 2202 and junior standing.

Description

Studio experience in Audio production.

JRMC 471/4471 - Online Journalism (3 cr.)

Prerequisites

JRMC 2202

Description

Examination of the emerging forms of information delivery by computer and related convergence of print and broadcast media. Emphasis on learning multi-media reporting skills needed to publish quality work on the Internet.

JRMC 480/4480 - Multimedia Reporting Capstone (3 cr.)

Prerequisites

JRMC 3333, JRMC 3339 and JRMC 4460

Description

Advanced principles and practice in news gathering and reporting, effective organization and presentation, and writing. Students produce a capstone reporting project that demonstrates their ability to operate on all media platforms and produce professional, responsible and ethical journalism.

Notes

For seniors only.

JRMC 482/4482 - Media Convergence Capstone (3 cr.)

Prerequisites

JRMC 3320, JRMC 4420 and JRMC 4444

Description

Explores the intersection of mass communication technologies. Students examine the digital future of media and the impact of media convergence on politics, business, civil and global society.

Notes

For seniors only.

JRMC 490/4490 - Special Topics in Mass Communication (1-3 cr.)

Description

Special topics in journalism and mass communication will vary depending on instructor.

When Offered

Offered occasionally.

Repeatable

May be repeated by student for credit if content changes

JRMC 499/4499 - Directed Individual Study in Mass Communication (1-3 cr.)

Prerequisites

Junior standing and written project proposal endorsed by fulltime faculty with project review by department.

Description

Individual projects in mass communication completed under the supervision of a full-time mass communication faculty member. Students propose projects not covered by coursework that will complement their academic programs.

Repeatable

May be repeated once for credit if content changes.

Notes

Enrollment is limited and priority is given to students with declared JRMC majors.

JRMC 500/5200 - Seminar in Mass Communication Theory and Literature (3 cr.)

Description

Survey of mass communication theory and the philosophical, sociological and political effects of mass media on audiences and societies.

When Offered

Offered in fall.

JRMC 501/5201 - Advanced Reporting and Writing (3 cr.)

Prerequisites

appropriate professional experience or undergraduate coursework (JRMC 2201 and JRMC 3301 or equivalent).

Description

Intensive reporting, research, and writing of in-depth articles for magazines and newspapers with intent to publish.

When Offered

Offered occasionally.

JRMC 502/5202 - Seminar: Current Issues in Mass Communication (3 cr.)

Description

Overview of major issues in mass communication and how they impact audiences and society.

When Offered

Offered in spring.

JRMC 504/5204 - Seminar: Research Methods in Mass Communication (3 cr.)

Description

Introduction to scientific method and mass media research methods: field surveys, quantitative and qualitative research.

When Offered

Offered in fall.

JRMC 506/5206 - Internship (3 cr.)

Description

Field experience in an approved professional setting in journalism, advertising, public relations or public information. Supervised by a professional and an AUC full-time faculty member.

When Offered

Offered occasionally.

JRMC 540/5240 - Reporting Civil Society (3 cr.)

Prerequisites

JRMC 5201 .

Description

Provides the knowledge and skills that enable students to report on Arab civil society organizations. Combines seminar-style instruction on structure and role of civil society groups with hands-on print and radio reporting about Egyptian civil society for a new civil society portal based at the Adham Center.

When Offered

Offered in fall.

JRMC 550/5250 - Seminar in International Communication (3 cr.)

Description

World news communication systems, including news-gathering agencies; the role of foreign correspondents, the foreign press, information flow, propaganda and comparative press laws.

When Offered

Offered in fall.

JRMC 560/5260 - Seminar on Electronic Journalism and Arab Society (3 cr.)

Description

A comprehensive seminar examining the role of journalists in society. Covers both historic role and rights and responsibilities today. Issues include ethics, journalist-government relations, fairness and balance, freedom of the press, impact on domestic and international policy, role of the media in conflict and related topics. Discussion will cover comparative approaches in the West, developing countries and the Arab world, with particular emphasis on role of media in regional politics and international relations in the post-9/11 era.

When Offered

Offered in spring.

JRMC 570/5270 - Seminar in Mass Communication and National Development (3 cr.)

Description

The role of mass communication in developing nations and its relationship to economic growth, education, socialization, persuasion, and diffusion of innovation.

When Offered

Offered in spring.

JRMC 571/5271 - Digital Journalism (3 cr.)

Description

Examination of the ways in which all forms of journalism are converging in the digital realm. Emphasis will include writing and reporting for the internet and other multi-media platforms, such as podcasts and digital phones, and the practical ways in which broadcast and print are merging on the internet.

When Offered

Offered in spring.

JRMC 580/5280 - Impact of Television: Issues and Developments (3 cr.)

Description

Media-specific issues and developments in television related to programming and production; production and delivery; technological bias and special problems such as piracy, television and religion, regulation and "equal time."

When Offered

Offered in fall.

JRMC 588/5288 - Comprehensives (no cr.)

Description

Individual consultation for students preparing for the comprehensive examination.

When Offered

Offered in fall and spring.

JRMC 590/5290 - Special Topics (3 cr.)

Description

Content varies with the instructor. Can be repeated once for credit if content changes.

When Offered

Offered occasionally.

JRMC 599/5299 - Research Guidance and Thesis (no cr.)

Description

Consultation with students as they prepare their theses.

When Offered

Offered in fall and spring.

LALT 101/1010 - Libraries and Learning Technologies (0 cr.)

Prerequisites

Description

This course is designed to help undergraduate students improve their research skills through exposure to information literacy concepts. Students are taught to locate, evaluate and use information properly, through a variety of hands on activities and assignments.

LING 252/2200 - Introduction to Linguistics (3 cr.)

Description

Major aspects and procedures of the systematic study of human language in its biological and social contexts. Principles and techniques of linguistic analysis as they relate to cognition, symbolization and other aspects of culture.

LING 200/2201 - Languages of the World (3 cr.)

Description

This course aims to acquaint students with basic knowledge of the world's natural languages. We will look at the diversity and fundamental similarities among the languages of the world and, in doing so, explore the following topics: language families and historic relationships, linguistic typology and language universals, language policy and politics, writing systems, and language obsolescence.

LING 268/2210 - Principles and Practice of Teaching English (3 cr.)

Prerequisites

RHET 2010 .

Description

This course introduces the latest theories, principles and techniques of teaching English. It is a community based learning course and gives students practice by peer teaching, observing others teach and actual teaching in the community in order to learn to reflect and evaluate critically.

LING 299/2299 - Selected Topic for Core Curriculum (3 cr.)

Prerequisites

RHET 1000 .

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major..

Repeatable

May be taken more than once if content changes

LING 352/3075 - Language in Culture (3 cr.)

Description

The role played by language in humankind's symbolic relation to the world. Emphasis on linguistic analysis, ethnosemantics, sociolinguistics, expressive speech, and language and socialization as these elucidate patterns of cognitive orientation.

Cross-listed

Same as ANTH 3075.

LING 322/3220 - Introduction to Phonetics (3 cr.)

Description

Study of the articulatory and acoustic properties of speech sounds and features of language with particular reference to English and Arabic. Includes introductory work in transcription and technological developments in phonetic research.

LING 400/4099 - Selected Topics in Linguistics

Prerequisites

9 hours of humanities and/or social sciences, and junior or senior standing.

Description

This is a special topics course in which topics will be chosen according to specific interests of the students and areas of specialization of faculty. Topics could include, but would not be limited to, *sociolinguistic*, *language in the media*, *language and politics*, and *advanced ESOL methodology*.

LING 422/4212 - Language and Human Development (3 cr.)

Description

Linguistic and psychological concepts in first- and second-language learning; human perceptual and productive language processes; biological foundations of language, bilingualism and multilingualism; and inferences from animal communication.

LAW 471/4371 - Introduction to Public International Law (3 cr.)

Description

Introduces students to the practice and theoretical foundations of public international law, covering such topics as sources doctrine (customary international law, treaty law etc.), international personality, jurisdiction, state

responsibility, self-determination and the use of force. This course may be counted towards the Dual Degree Option combining a BA in Political Science and an MA in International Human Rights Law.

Cross-listed

Same as POLS 4371 .

When Offered

Offered in fall and spring.

LAW 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.)

Description

The Egyptian legal system will be considered according to its present structure and historical development, including institutions, processes, laws, and the courts. There will be special emphasis on developments in constitutional law and the role played by the constitution in the political context of present day Egypt. The course also offers an introduction to Islamic jurisprudence in the classical doctrine, in the pre-modern Egyptian legal system and in contemporary Egypt. This course may be counted towards the Dual Degree Option combining a BA in Political Science and an MA in International Human Rights Law.

Cross-listed

Same as POLS 4375 .

When Offered

Offered once a year.

LAW 478/4378 - Introduction to International Human Rights Law (3 cr.)

Description

The course provides an overview of the major human rights treaties, customary norms, international institutions and mechanisms of enforcement while at the same time, encouraging a critical stance, which questions the role and effect of human rights in a world of distress and inequality. This course may be counted towards the Dual Degree Option combining a BA in Political Science and an MA in International Human Rights Law.

Cross-listed

Same as POLS 4378 .

When Offered

Offered once a year.

LAW 500/5200 - Legal Research and Writing (3 cr.)

Description

A workshop designed to develop the lawyering skills in research, drafting, legal argument and oral presentation, especially with respect to practice in transnational legal problems and settings. Required of all students in the LL.M program during the first semester of study.

LAW 501/5201 - Jurisprudence (3 cr.)

Prerequisites

LAW 5200 (prerequisites can be waived by special permission of the Law department)

Description

The course will look at the major schools of legal theory in the United States including Sociological Jurisprudence, Legal Realism, Legal Process, Critical Legal Studies, Liberal Legalism, Critical Race Theory, Feminist Legal Theory and Law and Economics. The course aims at introducing students to different and innovative legal methodologies.

LAW 502/5202 - Comparative Law (3 cr.)

Description

Introduction to the main differences between Civil Law and Common Law systems with respect to selected problems regulated under public and private law regimes. The comparative study will concentrate on the American, German, and French legal systems.

LAW 503/5203 - Law and Economic Development (3 cr.)

Description

Exploration of the relationship between different strategies of economic development and legal reforms in the public and private spheres from a comparative law perspective.

LAW 504/5204 - European Union Law (3 cr.)

Prerequisites

LAW 5202 or LAW 5209 (Prerequisites can be waived by special permission of the Law department).

Description

Introduction to the major institutions and decision making procedures of the European Union's constitutional structure as well as the foundational doctrines and processes developed by the EU judicial system.

LAW 505/5205 - Islamic Law Reform (3 cr.)

Prerequisites

LAW 5202 or LAW 5209 (Prerequisites can be waived by special permission of the Law department).

Description

Exploration of different approaches to reforming Islamic law in the Arab World from the mid-nineteenth century to the present, paying special attention to contemporary developments in Arab legal systems.

LAW 506/5206 - Egyptian Legal History (3 cr.)

Description

This course explores Egypt's various waves of "legal reform" over the past two centuries, paying close attention to the

fields of constitutional law and human rights, as well as family, commercial, and criminal law. We also examine the emergence of the modern Egyptian legal elite, its rise to political and intellectual prominence, its fall during the Nasser years, and its potential for public policy impact today. Egypt's modern legal history is set in a larger "law and development" policy frame, exploring ramifications on the rule of law, economic and political liberalization, and calls for a "return to shari'a" by Islamist political actors today.

LAW 507/5207 - The Law and Practice of the Settlement of International Disputes Between States (3 cr.)

Prerequisites

LAW 5209 and LAW 5210 (prerequisites can be waived by special permission of the Law Department).

Description

The course combines the fundamentals of the law governing the settlement of international disputes between states and a Moot Court exercise. The two components of the course are intertwined. The course thus aspires to combine theoretical and practical dimensions of the experience of international dispute settlement. The doctrinal part of the course includes a general overview of the methods for dispute settlement in public international law, and basic procedural norms and principles governing international legal proceedings. The course looks in detail at specific institutions, such as the International Court of Justice, the Permanent Court of Arbitration, the Iran-United States Claims Tribunal, the International Tribunal for the Law of the Sea, and others. Students will have the opportunity to study recent developments in the theory, practice and in policy debates underlying the system of international dispute settlement.

LAW 508/5208 - International Criminal Law (3 cr.)

Prerequisites

LAW 5209 and LAW 5210 (prerequisites can be waived by special permission of the Law Department).

Description

The course will cover the central doctrines, procedures and institutions of International Criminal Law with emphasis on contemporary debates. It will consist in an overview of the main doctrines that "frame" international criminal law and set the conditions for its existence as a distinct field of legal practice, as well as substantive international crimes (Elements of crimes, War crimes, Crimes against humanity, Genocide, Aggression and Crimes against peace) and international criminal courts and tribunals.

LAW 509/5209 - International Law (3 cr.)

Description

An in-depth overview of the international legal system. The course will cover the fundamental concepts, institutions, processes and mechanisms of international law. Some of the topics that will be covered include: the relationships between public and private international law, the question of sovereignty, the sources of international law, and the place of non-State actors.

LAW 515/5215 - Comparative Constitutional Law and Human Rights (3 cr.)

Description

How constitutional rights, concepts and practices have merged and developed within contemporary

governments. Emphasis will be on the analysis of civil, political, economic, social and cultural rights together with freedoms and liberties protected by various constitutions, considered within their social and political contexts.

LAW 520/5220 - Justice: Histories and Theories (3 cr.)

Description

This course introduces students to justice as a problem in contemporary cultural, legal and philosophical debates. The course explores the different domains through which justice becomes a universal language of rights, and the resultant compartmentalization of human experiences along parameters in which culture is presumed to be non-existent, rendering different forms of justice, such as gender justice, appendixes to the already known. This course will engage with questions of distribution of justice - economic, social, political, historical- in the contemporary world with special focus on locating theories of justice in the practice thereof. It is conceived as laying the intellectual foundation for the GWST gender and justice graduate concentration, for graduate work in IHRL and other related fields. This is a joint course offered by the Institute for Gender and Women's Studies and the Department of Law.

Cross-listed

Same as GWST 5102.

LAW 522/5222 - International Economic and Trade Law (3 cr.)

Description

Rules of law and policy of economic relations under the GATT/WTO system, as well as regional agreements on trade partnerships between the European Union and the Arab Mediterranean.

LAW 523/5223 - International Commercial Arbitration (3 cr.)

Prerequisites

LAW 5202 or LAW 5209 (Prerequisites can be waived by special permission of the Law department).

Description

The law of international commercial arbitration considered from a comparative perspective in major Civil and Common Law jurisdictions, as well as its practice in the context of international transactions.

LAW 524/5224 - Comparative Corporate Governance (3 cr.)

Prerequisites

LAW 5202

Description

Comparison of how select questions of corporate governance, control, and finance are regulated under American, French, German, and Egyptian corporate law.

LAW 525/5225 - Securities Regulation Law (3 cr.)

Prerequisites

LAW 5202

Description

Legal and institutional framework for the offering, purchase and sale of investment securities under US, EU and Egyptian law, with special attention to national and transnational aspects of securities fraud.

LAW 526/5226 - Antitrust Law (3 cr.)

Prerequisites

LAW 5202 (Prerequisites can be waived by special permission of the Law department).

Description

Basic principles of antitrust regulation in the US from the Sherman Act to the present, compared with recent developments in EU law, and with the Egyptian Competition Law.

LAW 527/5227 - Graduate Law Seminar (3 cr.)

Prerequisites

Permission of the Department. Prerequisites can be waived by special permission of the Law Department.

Description

Reading, discussion and intensive writing about theory and methodology in law, political theory, and relevant social sciences. This course is a pre-requisite to the Thesis requirement for all students in the LL.M. in International and Comparative Law, and MA in International Human Rights Law. The course targets students who have completed at least nine credits hours toward the degree.

LAW 528/5228 - Migration in International Law (3 cr.)

Prerequisites

LAW 5209 and LAW 5210

Description

The Arab region experiences mass voluntary and involuntary population movements, driven by various factors including economic reasons, conflict and insecurity, and increasing resource scarcity and environmental change. These movements pose a challenge to regional stability and security unless there are appropriate and integrated national, regional and international responses. A course on Migration in International Law allows students to engage with issues of growing regional and international importance. While the Center for Migration and Refugee Studies offers courses in International Refugee Law and Comparative Migration Law, there is presently no course that introduces the complex and growing area of international law dealing with migration.

Cross-listed

Same as MRS 5228.

LAW 570/5270 - Special Topics in Comparative Law (up to 3 cr.)

Prerequisites

Permission of the Department. Prerequisites can be waived by special permission of the Law Department.

Description

In addition to allowing the resident faculty to give special topics seminars as regular 3 credit courses, this course as well as LAW 5271 and LAW 5272 are used to accommodate the short courses that distinguished visiting lecturers give, with varying credit values depending on the number of hours covered.

Repeatable

May be taken more than once for credit if content changes.

LAW 571/5271 - Special Topics in International Law (up to 3 cr.)

Prerequisites

Permission of the Department. Prerequisites can be waived by special permission of the Law Department.

Repeatable

May be taken more than once for credit if content changes.

LAW 572/5272 - Special Topics in Public Law (up to 3 cr.)

Prerequisites

Permission of the Department. Prerequisites can be waived by special permission of the Law Department.

Repeatable

May be taken more than once for credit if content changes.

LAW 585/5285 - Legal Practice (3 cr.)

Prerequisites

Consent of the instructor.

Description

Internship for four to six months in a corporation, law firm practicing in the Middle East, international organization, an NGO pursuing Development activities. The work is assessed on the basis of a written report and discussion.

LAW 586/5286 - Independent Study

Prerequisites

Consent of the instructor and approval of the Degree Program Director.

Description

Guided individual reading and/or research on a subject of mutual interest to the student and the faculty member.

LAW 599/5299 - Research Guidance/Thesis (no cr., graded)

Prerequisites

LAW 5227

Description

To register for the thesis, students normally are expected to have finished all or almost all coursework. Students are expected to be in residence during thesis supervision. Residency requirement can be waived by permission of the thesis supervisor in accordance with Department's policies.

MGMT 307/3201 - Management Fundamentals (3 cr.)

Description

Aims at acquainting the student with the basic management functions and processes with a focus on planning, organizing, leading and controlling. Stresses how communication, motivation, and teamwork affect the organization, how organizations are managed, and how managers apply their skills and knowledge to meet the organizational objectives. Emphasis on the environmental constraints imposed on the Egyptian manager and applying principles of management in Egyptian enterprises.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MGMT 311/3301 - Business Law (Commercial & Fiscal) (3 cr.)

Prerequisites

MGMT 3201

Description

The nature, formation, and application of the law. Topics include: law and the Egyptian business environment, contracts, agency, forms of business organization, fiscal policy, taxation, commercial transaction, and governmental regulation of business.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MGMT 404/4202 - Managing the Human Capital (3 cr.)

Prerequisites

BADM 2001

Description

This course focuses on dynamics of personality, group dynamics, team building, organization culture, motivation, leadership, and communication, what is the human capital, strategic human resource management, HR planning, job analysis, recruitment, selection, training, development, performance management and compensation.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MGMT 427/4203 - Organization Development (3 cr.)

Prerequisites

MGMT 3201

Description

Inter-group dynamics, organizations as systems, process of organizational development, intervention strategies, organizational diagnosis, team building, structural intervention, behavioral change, resistance to change, and implementation strategies.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MGMT 470/4402 - Business Consultancy (3 cr.)

Prerequisites

Junior standing & instructor consent.

Description

This course aims to equip Business, Accounting and Economics students with the necessary tools to work in the business consulting field. The approach is practical, involving a series of case solving assignments and projects. Additionally, students will be trained on how to communicate their solutions effectively. The key objectives of the course are:

- Learn up-to-date problem solving techniques
- Understand how to use key business fundamentals effectively
- Be able to communicate business consultancy solutions professionally
- Write and publish high-quality case studies
- Learn how to crack cases in a case interview

MGMT 470/4970 - Special Topics in Management (3 cr.)

Prerequisites

Prerequisite: Consent of Instructor.

Description

Considers selected topics of current relevance in management.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MGMT 475/4975 - Independent Study in Management (1-3 cr.)

Prerequisites

Prerequisites: Senior standing and consent of MGMT unit head and chair.

Description

Guided readings, research, and discussions on specific selected topic in Management.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MGMT 502/5202 - Managing Organizations in a Dynamic Environment (3 cr.)

Description

The course aims at acquainting the student with how a leader could manage an organization in a dynamic environment. The course focuses on the main functions of a manager such as planning, organizing, controlling, motivation, team building and with special emphasis on leadership. It emphasizes contemporary and applied management in a global and dynamic environment. It also aims at developing an understanding of the tasks that managers must perform to keep the organization running both effectively and efficiently. In addition, the course emphasizes the environmental constraints imposed on the Egyptian manager and attempts to explore ways of applying the principles of management in Egyptian enterprises.

Cross-listed

Same as GREN 5223 .

When Offered

Offered in fall and spring.

MGMT 504/5302 - Managing Human Capital (3 cr.)

Prerequisites

MGMT 5202.

Description

This course concentrates on how the human capital in a company can be best managed and utilized. Strategic human resource management is presented. This includes topics such as human resources strategies, human capital, social capital, job analysis, recruitment, selection, human resource development, talent management, strategies for effective performance appraisal systems, compensation, labor law, and positive psychological capital. In addition, positive organizational behavior of employees is discussed. The course also includes a critical analysis of how the concepts in the literature can be applied in the Egyptian context.

When Offered

Offered in spring

MGMT 505/5303 - Organizational Design (3 cr.)

Prerequisites

MGMT 5202 or equivalent.

Description

The course covers topics like strategy and structure, vertical and horizontal integration, structural options, process of organizational design, the concept of fit, designing jobs and organizational units and control elements in the design of organizations.

When Offered

Offered occasionally.

MGMT 506/5304 - Management of International Business Organizations (3 cr.)

Prerequisites

BADM 5310

Description

In this course, attention is given to principles, practices, and problems of managing international business activities, entry decision, supply strategy, ownership and control, labor and legal issues, and the financial and management implications of conducting business in foreign countries. The course covers topics such as world politics and how they come to bear on international business decisions, cultural differences and communication, trade regimes and institutions and global technological trends and diffusion.

When Offered

Offered occasionally.

MGMT 509/5306 - Leadership (3 cr.)

Prerequisites

BADM 5310

Description

This course reviews the procedures, styles and methods of leadership in both theory and practice. Students will review

the personal, relationship and organizational side of leadership as well as the leader as a social architect. At the completion of this course students will develop and acquire the necessary skills to become effective leaders through examples of real world leadership.

When Offered

Offered occasionally.

MGMT 510/5307 - Entrepreneurship and Innovation (3 cr.)

Prerequisites

MGMT 5202

Description

Innovation lies at the heart of economic growth in the modern world. Entrepreneurs with the ability and resourcefulness to establish their own business are critical to the process of innovation. Innovation is not just about starting a new business but it is also about creating and developing innovative ways of management. Whether you are thinking of starting a new venture or developing innovative mechanisms of management in a large organization, you will need to understand Entrepreneurship and Innovation.

This course takes students through the various aspects of starting, managing, and growing a business. Whether you want to start a new venture, a new project, or develop an innovative way of management. You will need to write a business plan? This course will teach you how to write a business plan, its benefits and how does it differ from a feasibility study.

Opportunity identification, clear business and market definition, segmentation, and entry, building a team and creating a suitable organizational form, avoiding common pitfalls, and various strategies for starting or growing a business, are among the numerous facets of entrepreneurship covered in the course.

Methods employed include individual and group case analysis, writing a business plan, interviews with, and talks by, entrepreneurs, and profiling of successes and failures.

Cross-listed

Same as ECNG 5274 /GREN 5204 .

When Offered

Offered in fall and spring.

MGMT 511/5308 - Strategic Management of Innovation (3 cr.)

Prerequisites

BADM 5310

Description

Innovation is regarded as a critical source of competitive advantage in an increasingly changing environment. Innovation is production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. This course will study the theory and practice of innovation as a process and an outcome based on a comprehensive model of innovation which consists of three determinants: innovation leadership, managerial levers and business processes. The course will examine the impact of accelerating innovation on cost, product quality and marketability; organizational changes required to couple R&D with marketing and commercialization; and the managerial skills and professional expertise needed to develop a sustainable innovation practice within an organization.

Cross-listed

Same as GREN 5222 and ECNG 5273 .

MGMT 517/5309 - Technology and Innovation Management (3 cr.)

Prerequisites

Core requirements met and consent of instructor.

Description

This is a case based course drawing on best practices in industry and the most up to date and important general management technology and innovation management academic material. Students should be prepared to discuss major technology issues covered in the readings each class. This course is designed to develop strong technology management skills to help managers make good decisions in regard to technology strategy and implementation of technology within their firms. This course is designed to develop general managers with strong abilities to lead in various technological environments and manage the innovation process and projects across and within their own function effectively.

Cross-listed

Same as ECNG 5272 .

MGMT 570/5370 - Selected Topics in Management (3 cr.)

Prerequisites

BADM 5310

Description

It considers selected topics of current relevance in Management.

When Offered

Offered occasionally.

MGMT 575/5375 - Independent Study in Management (1-3 cr.)

Prerequisites

Prerequisite: Consent of MGMT unit head and chair.

Description

Guided readings, research, and discussions on specific selected topic in Management.

When Offered

Offered occasionally.

MOIS 305/2101 - Introduction to Information Systems/Technology (3 cr.)

Description

This course is an introduction to information systems/technology and its applications for business students. The course

explores the computer base applications in the major functional areas of business including accounting, finance, marketing, production, and personnel. It aims at the development of computer end-users and systems managers through a comprehensive coverage of business processes, systems concepts, systems types, applications software, database concepts, electronic commerce and competitive advantage.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MOIS 406/3201 - Management Information Systems and Database Management (3 cr.)

Prerequisites

MOIS 2101 .

Description

The course aims at defining a framework of management information systems with emphasis on the organization. It relates to a number of important organizational aspects such as the human and technological infrastructure and the needs and requirements of an organizational information system. The course also covers the relational database model, with special emphasis on the design and querying of relational databases and exploration of the relationship of database to the rest of the system.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MOIS 435/3301 - Entrepreneurial IT and Electronic Business (3 cr.)

Prerequisites

MOIS 2101

Description

This course provides an introduction to the basics of modern business in a networked environment which is changing the landscape of business operation. The course focuses on the important electronic business issues with a broad understanding of the concepts, technologies, tools, techniques and strategies associated with electronic business, students learn how to exploit the business development potentials of the new information based society and how to develop simple IT solutions to some of the most significant business problems. Hence, students get to exercise needs finding methods, brainstorming and concept creation, understanding and interpreting IT business needs, analysis and feasibility, basic prototyping and market assessment.

When Offered

Offered in fall & spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the

Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MOIS 466/3401 - Human Computer Interaction (HCI) (3 cr.)

Prerequisites

MOIS 2101

Description

This course provides a business-oriented approach to Human Computer Interaction (HCI). It merges theories and concepts with methods of design, evaluation, and implementation of any interactive business system such as enterprise resource planning (ERP), organizational decision support, project management, and other business applications. HCI combines educational and cognitive psychology, business administration, as well as ergonomics and computer science in designing the business system that can greatly increase productivity, help in decision making and gain marketing advantages. Students do not only study the theory and principles of HCI design, but also design an interactive system that enables the users to do tasks quickly and work in an environment of proficiency and satisfaction.

MOIS 423/3501 - Geographic Information Systems (GIS) (3 cr.)

Prerequisites

MOIS 2101

Description

This course provides an introduction to the use of the geographic information systems (GIS) and its applications for business decision support. It builds working knowledge and skills in applying and managing GIS by focusing on business and people related issues. Students learn to set up geo-referenced databases, to design maps, to analyze data, to extract information. This course exposes students to the functional areas in the technology management stream and gives them a practical hands-on experience for business applications. By the end of the class students will have mastered sufficient introductory concepts and practical skills to use GIS for business decision making improvement.

MOIS 432/3601 - Decision Support Systems and Business Intelligence (3 cr.)

Prerequisites

MOIS 2101

Description

This course will demonstrate in the real environment managerial applications such as the basics of the MS SQL data mining and will provide the knowledge about the possibilities of Business Intelligence (BI) use. It will examine the BI tasks management, critical success factors of BI, planning and analysis design and modeling design, development and implementation of information technology based systems that support managerial and professional work, including Communications-Driven and Group Decision Support Systems (GDSS), Data-Driven DSS, Model-Driven DSS and Knowledge-Driven DSS.

When Offered

Offered in fall & spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MOIS 433/3701 - Marketing Information Systems (3 cr.)

Prerequisites

MOIS 2101

Description

This course focuses on the issues relating to the management and use of information systems in order to support marketing management decision-making with emphasis on the areas of products, pricing, distribution, promotion, systems analysis, and functional information systems. Students learn the importance of: (1) developing an effective data base; (2) conducting marketing research studies; (3) creating a marketing plan; (4) using data mining techniques to extract data from data warehouses and build prognostic models and (5) incorporating technology tools to develop marketing information systems and decision support systems.

When Offered

Offered in fall & spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MOIS 434/3702 - Financial Information Systems (3 cr.)

Prerequisites

MOIS 2101

Description

The content of this course will vary to keep pace with changing business needs and information technologies that is an integral part of any business aspect in Finance. Topics to be covered will apply the theoretical concepts taught in Finance by practically using advanced information systems approaches.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MOIS 444/3703 - Accounting Information Systems (3 cr.)

Prerequisites

MOIS 2101

Description

This course focuses on application of information systems/information technology in the fields of accounting. It starts with the conceptual foundations of accounting information systems and information technology in general and covers control and audit. It also focuses on accounting information systems applications and explores the computerization of the traditional transaction processing cycles in detail. It requires the students to use their knowledge in accounting to analyze and design an accounting information systems.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MOIS 450/3801 - Strategic Information Systems (3 cr.)

Prerequisites

MOIS 2101

Description

The course aims to provide students with an understanding of the links between the strategic issues of the organization and the role and implications of management information systems. The course focuses on the strategic impacts different information systems can have on productivity, performance, competitiveness and organizational growth.

When Offered

Offered occasionally.

MOIS 430/4202 - Business Information Systems Analysis and Development (3 cr.)

Prerequisites

MOIS 2101

Description

The Course emphasizes various elements related to business information systems analysis and development in the new digital economy. Doing business is not as usual as before with the use of innovative information and communication technology tools and techniques and this course intends to introduce students to the opportunities enabled by various business information systems within the information economy.

When Offered

Offered in spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MOIS 477/4704 - Systems Integration (3 cr.)

Prerequisites

MOIS 2101

Description

This course emphasizes the value of integration between information systems in modern organizations. This is achieved by having different computing systems and software applications are linked in seamless physical and/or functional integration. The main objective of the course is to provide students with clear understanding of the issues involved in systems integration. In this course, the concepts of developing information systems will be stressed while keeping the focus on strategies and methods for merging a set of interdependent systems together. The course will explore variety of tools and techniques for systems integration while at the same time tackling management best practices for system integration.

MOIS 470/4970 - Special Topics in Management of Information Systems (3 cr.)

Prerequisites

Prerequisite: Consent of Instructor.

Description

Considers selected topics of current relevance in management of information systems.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MOIS 475/4975 - Independent Study in Management of Information Systems (1-3 cr.)

Prerequisites

Prerequisites: Senior standing and consent of MOIS unit head and chair.

Description

Guided readings, research, and discussions on specific selected topic in Management of Information Systems.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MOIS 499/4999 - Internship and Graduation Project (3 cr.)

Prerequisites

Completion of all MOIS core courses.

Description

The course offers the students the opportunity to participate in real-life work experience in the IS/IT field. Students in collaboration with the MOIS unit will be responsible for their own placement in an internship approved by the advisor. Participating students will be required to select a project topic in MOIS according to their subject of interest and the availability of advisors. Subject areas include but are not limited to human resources, finance, marketing, electronic commerce and accounting. Students should submit a plan followed by progress reports and finally deliver the project document and presentation of the findings.

When Offered

Offered in fall and spring.

Notes

Enrollment in courses is limited, and priority is given to students seeking the Bachelor of Business Administration

degree or the Bachelor of Accounting degree, students enrolling in courses specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MOIS 508/5201 - Information and Communication Technology in Business (3 cr.)

Description

Today's electronic means, computing, networks and software applications have become an integral part of business. The premise of the course is that adequate knowledge of technology is now a prerequisite for a successful business owner or manager. This course is intended to provide a basic technical literacy, with an emphasis on implications for organizations. The technical component of the course includes data and voice communication networks, database structures as a significant tool for managing information, data modeling, data integration, data warehousing and data mining, as well as information support systems design, and computer security.

When Offered

Offered in fall and spring.

MOIS 549/5301 - Systems Analysis, Design, and Implementation (3 cr.)

Prerequisites

BADM 5310

Description

The objective of the course is to improve understanding of how information technologies can help in the transformation of business models within existing organizations as well as the development of completely new business models and new organizational practices. Hence, the purpose of the course is twofold. The course is first and foremost an intensive, integrative, project course in which student teams create one or more real business models. Second, the course provides students with the experience of Working with different tools and techniques in systems analysis and design. The students study the systems development life-cycle emphasizing current techniques for documenting users' requirements and producing maintainable, cost effective systems. The project experience helps the team members learn key tools and fundamentals useful in modeling, problem solving, and design.

When Offered

Offered in fall and spring.

MOIS 550/5302 - Decision Support Systems (3 cr.)

Prerequisites

BADM 5310

Description

The primary goal of this course is to allow the student to comprehend and explore the significant issues in automating business decision support at various levels. The amount of data collected by businesses has not only grown exponentially in the last few years but has also witnessed a major expansion in enabling technologies such as database systems, data-mining techniques, client-server and cloud computing as well as artificial intelligence. The course covers the above topics and overviews Some of the most Widely used decision support techniques (such as decision trees, genetic algorithms and neural networks), cloud computing and business intelligence techniques as well as decision support applications (such as in management, trade, marketing strategies and customer support) via simulated decision cases and real datasets.

When Offered

Offered occasionally.

MOIS 551/5303 - Electronic Business: Doing Business in the Digital Economy (3 cr.)

Prerequisites

BADM 5310

Description

This course considers how we can take advantage of new technology opportunities and how they change the structure of firms, industries and value chains, with an emphasis on business issues. It focuses on new market trends in e-Business and the entrepreneurial virtual businesses that are more on the Web. It deals with Electronic Markets and Market structures and the strategic uses of information within the firm it covers several essential topics in information strategy such as IT and market structure, the impact of IT on knowledge-intensive products and services. Students may compete in simulated electronic markets, using different market mechanisms and formulate information-based strategies.

When Offered

Offered occasionally.

MOIS 555/5305 - Information Technology Strategy and Entrepreneurship (3 cr.)

Prerequisites

BADM 5310

Description

Information is an integral part in organizational success paralleling the importance of its technology component. This course focuses on the intersection of IT strategy and the entrepreneurial business. It considers how one can take advantage of new technology opportunities and how they change the structure of firms, industries and value chains, with an emphasis on business issues. Topics include user needs, appropriate technology design, rapid prototype design and testing, social technology entrepreneurship, business modeling, and project management. Case studies are an integral part of the course. Classes combine lecture and case study discussions and the workload should include a project Where students apply IT and business skills to design product or service prototypes, distribution systems or a business plan for entrepreneurial ventures that meet today's World challenges.

When Offered

Offered occasionally.

MOIS 570/5370 - Advanced Topics (Next Generation Technologies) (3 cr.)

Prerequisites

BADM 5310

Description

Conducting business in a networked economy invariably involves interplay with technology. The purpose of the course is to explore a number of next generation technologies, the business drivers of technology-related decisions in firms, and to stimulate thought on emerging applications for commerce (including disruptive technologies). The course

provides an overview of various evolving technologies and culminates in discussion of potential business impact of these technologies in the near future.

When Offered

Offered occasionally.

MOIS 575/5375 - Independent Research in Management of Information Systems/Technology (1-3 cr.)

Prerequisites

Consent of MOIS unit head and Director of MBA Program.

Description

Using the theoretical and practical skills acquired, students will be asked to conduct an in-depth study of an organization from an IT/IS perspective. Students should be using different resources available including material discussed in different courses, case studies, and textbooks but more importantly investigating different issues addressed with public and/or private sector organizations. A supervisor will be assigned to each student to guide him/her throughout the research process.

When Offered

Offered occasionally.

MKTG 302/2101 - Principles of Marketing (3 cr.)

Description

The nature and scope of marketing. Marketing systems and the marketing environment, definition of a market, market segmentation, and buyer behavior. The marketing mix: product, place, price, and promotion. Marketing research and marketing information systems. The application of these topics to the Egyptian environment constitutes an important part of the study. Some of the class discussions and projects will incorporate entrepreneurial issues in Marketing.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 405/3201 - Marketing Research (3 cr.)

Prerequisites

MKTG 2101 and MACT 1221 or MACT 2222 .

Description

The nature and scope of marketing research. The scientific method and its application in the field of marketing, research design, basic methods of collecting data, marketing research procedures, applications of marketing research.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 410/3202 - Consumer-Buyer Behavior (3 cr.)

Prerequisites

MKTG 2101

Description

Buyer behavior relevant to marketing decisions. Theoretical and practical implications of individual behavioral variables such as motivation, learning, perception, personality and attitudes, and group influences. Buyer behavior analyzed in terms of decision-making processes and models of individual and aggregate behavior. Special attention given to consumer behavior in the Middle East.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 408/3301 - Marketing Communications Management (3 cr.)

Prerequisites

MKTG 2101

Description

An introduction to marketing communications, covering advertising, sales promotion, personal selling and public relations. The design, management and integration of an organization's marketing communications strategy.

When Offered

Offered fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 420/4203 - Advanced Marketing Research (3 cr.)

Prerequisites

MKTG 3201

Description

This course is designed to strengthen students' abilities to perform marketing research at a level superior to that of most marketing graduates worldwide. The topics offered will be chosen with particular emphasis on their value to Egyptian and regional organizations. Such topics include the qualitative techniques-focus groups, long interviews, and participant observation; and advanced widely-accepted quantitative statistical techniques for marketing decision

making.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 416/4302 - E-Marketing (3 cr.)

Prerequisites

MKTG 2101

Description

Principles, best practices, and hands-on applications of E-Marketing. The course is designed to hone skills in E-Marketing, including developing a comprehensive E-Marketing plan and creating an interactive website.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 418/4303 - Principles of Public Relations (3 cr.)

Prerequisites

MKTG 2101

Description

An overview of the public relations profession in the Middle East. Public-relations principles and techniques, current public relations problems, possible solutions.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 411/4401 - Professional Selling (3 cr.)

Prerequisites

MKTG 2101

Description

Professional selling skills, analyzing advantages and challenges of a sales career, and most desired characteristics of successful sales people. The course explains the buying process, buying systems, and procedures and how the making

of each customer type has an impact on the sales process. The course walks students through all the steps of the selling and post sale activities.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 414/4501 - Services Marketing (3 cr.)

Prerequisites

MKTG 2101

Description

An elective marketing course for undergraduate students seeking greater understanding of devising and delivering services to world-class standards. The course deals with identifying service quality from the customer's perspective, designing effective service products, designing effective service delivery systems, and implementing service quality control features suitable to the Egyptian environment.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 412/4601 - International Marketing (3 cr.)

Prerequisites

MKTG 2101

Description

The marketing problems and opportunities of the exporter, licensor, or manufacturer in a foreign country. Topics include factors in assessing world marketing opportunities and the international marketing mix.

Cross-listed

Same as INTB 4601.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 470/4034 - Strategic Brand Management (3 cr.)

Prerequisites

MKTG 2101

Description

In the Global World we are in today, the long term survival and sustainability is linked to how well Brands will perform. This means that Brands Building and Brand Management are crucial today. The savvy company must develop, manage, sustain, and eventually nourish a Distinctive Brand for its target customers.

This course will examine the different factors that lead to building equity to a brand. Also, the many factors that should be considered to develop, manage, sustain and nourish a given brand will be reviewed and analyzed. Also, several parts of this course will shed the lights on measuring brand equity with special emphasis on real life case studies.

MKTG 480/4602 - Marketing Strategy (3 cr.)

Prerequisites

MKTG 3201 ,MKTG 3202 FINC 2101 and Senior standing.

Description

An integrative capstone course for students seeking a marketing specialization. Provides a transitional experience between the marketing concepts and techniques introduced in prior courses and the practice of marketing in real-world business situations. Students learn to integrate the various elements of marketing and the other functional areas of business and develop critical decision-making abilities in strategic marketing in the context of a rapidly changing marketplace.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 470/4970 - Special topics in Marketing (3 cr.)

Prerequisites

Prerequisite: Consent of Instructor.

Description

Considers selected topics of current relevance in marketing.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 475/4975 - Independent Study in Marketing (1-3 cr.)

Prerequisites

Prerequisites: Senior standing and consent of MKTG unit head and chair.

Description

Guided readings, research, and discussions on specific selected topic in Marketing.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

MKTG 520/5201 - Marketing Management (3 cr.)

Description

Highlights the role of marketing as a process for creating value and managing customer relationships. The course addresses the marketing challenge of designing and implementing the best combination of marketing variables to carry out a firm's strategy in its target markets. Further, this course seeks to develop the student's skills in applying the analytic perspectives and concepts of marketing to such decisions as: segmentation, targeting, positioning, branding, pricing, distribution and promotion. The goal is to understand how the firm can benefit by creating and delivering value to its customers and stakeholders. The new role of marketing is emphasized including: stakeholder marketing, internal marketing, social marketing, customer relationship management and other recent trends in the market. This course takes an analytical approach to the study of marketing problems of for-profit and not-for-profit organizations.

Cross-listed

Same as GREN 5221

When Offered

Offered in fall and spring.

MKTG 521/5301 - Marketing Research Methods (3 cr.)

Prerequisites

BADM 5310

Description

This course highlights the importance of using a variety of marketing research methods in making marketing decisions. This course is designed to offer an understanding of the market research process through coverage of the steps comprising the process from defining the research problem, to developing an approach, to formulating a research design, to data collection, analysis, and conclusions. The course takes on an applied orientation in covering the research process. The course examines the proper use of statistical applications, with an emphasis on the interpretation and use of results. The course describes the process of acquiring, classifying and interpreting primary and secondary marketing data needed for intelligent, profitable marketing decisions. It also covers recent developments in the systematic recording and use of internal and external data needed for marketing decisions.

When Offered

Offered occasionally.

MKTG 524/5304 - Global Marketing (3 cr.)

Prerequisites

BADM 5310

Description

This course covers the environmental, organizational, and financial aspects of international marketing. It also describes the special marketing research, pricing, channels of distribution, product policy, and communication issues which firms face doing business in international markets. Further, this course examines the cultural, behavioral and legal challenges of entering and doing business in foreign markets. Decisions must be made regarding international marketing objectives, strategies and policies, foreign market selection, adaptation of products, and distribution channels of communications to fit each foreign market.

When Offered

Offered occasionally.

MKTG 526/5305 - Integrated Marketing Communication (3 cr.)

Prerequisites

BADM 5310

Description

This course focuses on a fully integrated approach to the marketing communication of products and services and on the major marketing communication decisions made by brand/communication managers. These decisions include mass media advertising, public relations, sales promotion, direct response marketing, sponsorship and events, packaging, and personal selling. This course is designed to provide students with both a theoretical and applied understanding of how marketing communication messages are created to positively impact customer relationships and brands.

When Offered

Offered occasionally.

MKTG 530/5306 - Strategic Marketing (3 cr.)

Prerequisites

BADM 5310

Description

The course addresses the relationship of marketing to environmental forces and other business functions. Principal topics include resource allocation, market entry/exit decisions, and competitive analysis. The course stresses on the analysis, planning, and implementation issues marketing managers encounter when they develop market strategies in competitive environments. This is done by case analysis of marketing problems and examining current developments in marketing practice. Topics include a focused review of competitor analysis, buyer analysis, market segmentation, and assessing business competitive advantages. Product portfolio issues are identified and marketing strategies developed, assessed and implemented.

When Offered

Offered occasionally

MKTG 000/5307 - Strategic Brand Management (3 cr.)

Prerequisites

BADM 5310

Description

In the Global World we are in today, the long term survival and sustainability is linked to how well brands will perform. This means that Brands Building and Brand Management are crucial today. The savvy company must develop, manage, sustain and eventually nourish a Distinctive Brand for its target customers.

This course will examine the different factors that lead to building equity to a Brand. Also, the many factors that should be considered to develop, manage, sustain, and nourish a given brand will be reviewed and analyzed. Also, several parts of this course will shed the lights on measuring brand equity with special emphasis on real life case studies.

MKTG 570/5370 - Contemporary Topics in Marketing (3 cr.)

Prerequisites

BADM 5310

Description

Recent topics in marketing.

When Offered

Offered occasionally.

MKTG 575/5375 - Independent Study in Contemporary Topics in Marketing (1-3 cr.)

Prerequisites

Consent of MKTG unit head and Director of MBA Program.

Description

Readings and research on recent topics in marketing.

When Offered

Offered occasionally.

MACT 100/1111 - Algebra and Trigonometry (3 cr.)

Prerequisites

Prerequisites: Thanawya 'Amma Arts or equivalent.

Description

.Linear and quadratic equations, graphs, the circle, the rectangular hyperbola. Exponential and logarithmic functions, trigonometric functions. Systems of equations. Complex numbers. Roots of equations, zeros of polynomials. Binomial theorem, arithmetic and geometric series.

When Offered

Offered in fall and spring

Notes

No credit for Thannawia Amma Math/Science students, or equivalent, or students majoring in any of the departments of the School of Sciences and Engineering

MACT 101/1112 - Basic Mathematics for Social Sciences (3 cr.)

Prerequisites

Prerequisite: Thanawiyia 'Amma Science or .MACT 1111 .

Description

Fundamentals of algebra. Equations and inequalities. Matrices. Introduction to differential and integral calculus.

When Offered

Offered occasionally.

Notes

No credit for science majors

MACT 131/1121 - Calculus I (3cr.)

Prerequisites

Prerequisite: Thanawiya, 'Amma Science or equivalent.

Description

Limits of one-variable functions, continuity and differentiability. Extrema and Curve sketching. Related rates. Linear approximation. Differentiation of Trigonometric functions. Applications of the derivative

When Offered

Offered in fall and spring.

MACT 132/1122 - Calculus II (3 cr.)

Prerequisites

MACT 1121 or exemption.

Description

Definite and indefinite integrals. The fundamental theorem of calculus and applications of the definite integral. Area, arc length, volumes and surfaces of revolution. Differentiation and integration of Exponential, Logarithmic, Trigonometric and other Transcendental functions. Techniques of integration. Numerical integration. Improper integrals

When Offered

Offered in fall and spring.

MACT 112/1221 - Statistical Reasoning (3 cr.)

Description

Descriptive and inferential statistics, including graphing data and correlation analysis. Random variables and their probability distributions. The distribution of the sample means, the central limit theorem. Point and interval estimation and hypotheses testing. Students are instructed on the use of a statistics computer package at the beginning of the term and use it for assignments.

When Offered

Offered in fall and spring.

Notes

Students can not take both MACT 1221 and for credit.MACT 2222

MACT 199/1930 - Selected Topic for Core Curriculum (3 cr.)

Description

A course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered in fall and spring.

MACT 231/2123 - Calculus III (3 cr.)

Prerequisites

MACT 1122

Description

Sequences and series (including power series). Vectors and planes. Surfaces. Partial differentiation. Introduction to double integrals (including double integrals in polar coordinates).

When Offered

Offered in fall and spring.

MACT 232/2124 - Calculus IV (3 cr.)

Prerequisites

MACT 2123

Description

Multiple integrals. Parametric equations. Cylindrical and spherical coordinates. Vector-valued functions, vector calculus: Green's Theorem, Gauss Theorem and Stokes' Theorem and their applications. Complex numbers.

When Offered

Offered in fall and spring.

MACT 200/2131 - Discrete Mathematics (3 cr.)

Prerequisites

MACT 1111 or equivalent.

Description

Sets, sequences, integers. Basic propositional and predicate logic. Methods of proof (including mathematical induction). Combinatorics, functions, relations and digraphs. Matrices and boolean matrices. Graphs and trees.

When Offered

Offered in fall and spring.

MACT 240/2132 - Linear Algebra (3 cr.)

Prerequisites

MACT 2123

Description

Solutions of systems of linear equations. Matrices and determinants. The space R^n , vector spaces and subspaces. Linear independence, basis and dimension. Inner product and orthonormal bases. Linear transformations. Eigenvalues and eigenvectors. Diagonalization. Various applications.

When Offered

Offered in fall and spring.

MACT 233/2141 - Differential Equations (3 cr.)

Prerequisites

MACT 2123

Description

First-order differential equations and applications. Higher-order differential equations. Applications of second-order linear differential equations with constant coefficients. Systems of linear differential equations. Series solutions. Laplace transform.

When Offered

Offered in fall and spring.

MACT 210/2222 - Statistics for Business (3 cr.)

Description

The course aims at acquainting the students with the basic statistical methods in a business context. The course demonstrates the relevance of the statistical methods in making decisions in the different areas of business: accounting, finance, human resource management, marketing, operations, management of information systems, and more. The course covers the following: descriptive statistics, random variables and continuous probability distributions, sampling distributions, estimation and confidence intervals, one-sample hypothesis testing, inferences from two samples, Chi-Square tests, analysis of variance and simple linear regression.

When Offered

Offered in fall and spring.

Notes

Students can not take both MACT 1221 and MACT 2222 for credit.

MACT 362/3133 - Formal and Mathematical Logic (3 cr.)

Prerequisites

MACT 2131 or PHIL 2010 or consent of the instructor.

Description

Introduction to the goals and methods of mathematical logic. Propositional and predicate calculus (first order logic) are

presented in detail. Goedel's completeness and incompleteness theorems, and some of the philosophico-mathematical problems in set theory, and alternative logics are discussed.

Cross-listed

Same as PHIL 5118.

When Offered

Offered occasionally.

MACT 305/3142 - Introduction to PDE and Boundary-Value Problems (3 cr.)

Prerequisites

MACT 2141

Description

Special functions. Partial differential equations. Fourier series and integrals. Diffusion, potential and wave equations in rectangular, cylindrical, and spherical coordinates. Numerical methods.

When Offered

Offered occasionally.

MACT 304/3143 - Numerical Methods (3 cr.)

Prerequisites

CSCE 1001 MACT 2141 and MACT 2132 . Any of them can be taken concurrently.

Description

Number systems and errors. Solution of nonlinear equations. Interpolation. Systems of linear equations. Approximation. Differentiation and integration. Solution of ordinary differential equations. Introduction to the solution of partial differential equations by finite differences.

When Offered

Offered once a year.

MACT 308/3144 - Linear Programming (3 cr.)

Prerequisites

MACT 2132

Description

Formulation of linear programming problems, graphical solutions, the simplex method. The revised simplex method, dual problems and sensitivity analysis. Transportation and assignment problems.

When Offered

Offered occasionally.

MACT 310/3145 - Operations Research (3 cr.)

Prerequisites

MACT 2123

Description

Network flows, minimal- cost network flows, maximal-flow problems. Critical-path methods and PERT. Non linear programming. Deterministic and probabilistic inventory theory. Deterministic and probabilistic dynamic programming.

When Offered

Offered occasionally.

MACT 306/3211 - Applied Probability (3 cr.)

Prerequisites

MACT 2123 or concurrently.

Description

Sample space, probability axioms, combinatorial techniques, conditional probability, independence and Bayes' theorem. Random variables. Distribution functions, moments and generating functions. Some probability distributions. Joint distribution, the Chebychev inequality and the law of large numbers. The central limit theorem and sampling distributions. Applications of probability in the social, biological, and engineering sciences.

When Offered

Offered once a year.

MACT 307/3223 - Statistical Inference (3 cr.)

Prerequisites

MACT 3211

Description

Sampling distribution. Point and interval estimation, methods of moments and MLE. Hypothesis testing, Uniformly Most Powerful (UMP), generalized likelihood ratio tests and order statistics.

When Offered

Offered once a year.

MACT 317/3224 - Probability and Statistics (3 cr.)

Prerequisites

MACT 2123 or concurrently.

Description

A course in probability and statistics designed for computer science and engineering students. Probability is used to construct parametric models that often arise in computer science and engineering problems. Statistics is then used to estimate the parameters of these models based on available data, check the adequacy of the fitted models, and test specific hypotheses. Topics include random variables and their probability distributions including uniform, binomial, geometric, Poisson, normal, and exponential distributions; expected value of functions of random variables; stochastic simulation; sampling distributions; maximum likelihood and least squares methods of estimation; statistical inference including hypothesis testing and interval estimation.

When Offered

Offered in fall and spring.

MACT 321/3311 - Mathematics of Investment (3 cr.)

Prerequisites

MACT 2123 or concurrently.

Description

The most commonly used mathematical functions for computing interest and discount rates are discussed. This includes simple, compound, and other forms of interest used in financial valuations, accumulated value and present value, annuities, sinking funds, amortization of debt, and determination of yield rates on securities. The theory developed in the first part of the course is then applied to the valuation of bonds, mortgages, capital budgeting, depreciation methods, and other financial instruments. Zero-coupon bond, term structure of interest rates, coupon bonds, modified and Macaulay durations, convexity.

When Offered

Offered once a year.

MACT 301/3940 - Seminar in Mathematics (1 cr.)

Prerequisites

Prerequisite: junior standing

Description

Weekly one hour seminar in different areas of Mathematics to be given by faculty or invited speakers from industries and other scientific communities.

When Offered

Offered occasionally.

MACT 401/4125 - Complex-Function Theory (3 cr.)

Prerequisites

MACT 2124

Description

The complex plane, analytic functions. Cauchy-Riemann equations. Elementary functions, complex integration. Cauchy's theorem, Cauchy integral formula. Taylor and Laurent series. The calculus of residues.

When Offered

Offered once a year.

MACT 431/4126 - Real Analysis I (3 cr.)

Prerequisites

MACT 2131 ,MACT 2124 or consent of instructor.

Description

Heine-Borel and Bolzano-Weierstrass theorems. Sequences and series. Continuity. Differentiability.

When Offered

Offered once a year.

MACT 432/4127 - Real Analysis II (3 cr.)

Prerequisites

MACT 4126

Description

Riemann-Stieltjes integral. Sequences and series of functions. Lebesgue integral. Hausdorff measure and dimension. Linear spaces and functions.

When Offered

Offered occasionally.

MACT 403/4134 - Modern Algebra (3 cr.)

Prerequisites

MACT 2131 ,MACT 2132 , or consent of instructor.

Description

Sets, integers, groups. Integral domains. Fields. Rings and ideals. Homomorphisms. Quotient groups and quotient rings.

When Offered

Offered once a year.

MACT 440/4135 - Graph Theory (3 cr.)

Prerequisites

MACT 2131 , and either MACT 3211 ,MACT 3224 or consent of instructor.

Description

Set-theoretic definition of a graph. Bipartite graph, directed acyclic graph, and tournament. Matchings, Hall's Theorem and Berge's Theorem, as well as the algorithms of Prim, Dijkstra, Kruskal, and Ford-Fulkerson. Trees, connectivity and Menger's Theorem. Planarity and chromatic number. Choice of topics among: graphical probability models, dynamic programming, Bayesian Belief Propagation, and treewidth.

When Offered

Offered occasionally.

MACT 406/4212 - Stochastic Processes (3 cr.)

Prerequisites

MACT 2141 MACT 3211 or MACT 3224

Description

Introduction to stochastic process, discrete time Markov chain, Poisson process, Compound Poisson Processes and Renewal Processes, continuous-time Markov Chain, Transition probabilities and limiting behavior for Markov Chains, Martingales, Brownian Motion, applications in finance and insurance.

When Offered

Offered once a year.

MACT 412/4213 - Mathematical Modeling (3 cr.)

Prerequisites

MACT 2132 and MACT 4212

Description

Introduction to the mathematical modeling. Deterministic models in discrete and continuous times using difference and differential equations. Probabilistic models in discrete and continuous times using discrete and continuous times Markov chains. Applications in actuarial science, biology, computer science, economics, engineering and environmental science.

When Offered

Offered once a year.

MACT 427/4231 - Applied Regression Methods (3 cr.)

Prerequisites

MACT 2132 and either .MACT 3223 MACT 3224 or ECON 2081

Description

Review of matrix algebra notation and vocabulary. Standard least squares method and application to problems arising from social, biological and engineering sciences. Deviation from assumption of multicollinearity. Variable selection methods. Analysis of variance, logistic regression models. Course includes an applied project (a thorough analysis of real-life data using computer packaged programs).

When Offered

Offered once a year.

MACT 428/4232 - Analysis of Time Series Data (3 cr.)

Prerequisites

MACT 4231 or ECON 3081

Description

This course is a continuation of MACT 4231 . It deals with the problems of modelling and forecasting time series data. Computer program packages are used as an aid for obtaining solutions. Topics include serial correlation, seasonal adjustments, exponential smoothing and extrapolation, state space models, moving average, autoregressive, ARMA and ARIMA models, and nonlinear time series, including ARCH models and chaos. Emphasis on model building, diagnostic checking, and model selection.

When Offered

Offered once a year.

MACT 429/4233 - Applied Multivariate Analysis (3 cr.)

Prerequisites

MACT 2132 and either MACT 3223 ,MACT 3224 or ECON 3081

Description

Techniques of multivariate statistical analysis illustrated by examples from various fields. Topics include: Multivariate normal distribution. Sample geometry and multivariate distances. Inference about a mean vector. Comparison of several multivariate means, variances, and covariances. Detection of multivariate outliers. Principle components. Factor analysis. Canonical correlation. Discriminant analysis. Course includes an applied project (a thorough analysis of real-life data sets using computer-packaged programs).

When Offered

Offered once a year.

MACT 421/4312 - Mathematics of Derivatives Pricing I (3 cr.)

Prerequisites

MACT 3311

Description

Introduction to financial concepts: Forwards and futures, options, put-call parity, arbitrage and no-arbitrage strategies, pricing forwards with dividends and without dividends, description of commodity and interest rate swaps. Mathematical techniques for pricing: put-call parity with and without dividends, put-call parity for coupon bonds, relationships between European and American options, properties of options (monotonicity, rate of increments, convexity), one-period and multi-period binomial trees for stock price and forward price, pricing options using a binomial tree, delta hedging, risk-neutral pricing, pricing and hedging American options.

When Offered

Offered once a year.

MACT 422/4313 - Mathematics of Derivatives Pricing II (3 cr.)

Prerequisites

MACT 4312

Description

Continuous time model, options, options on futures, Black-Scholes formulas, Black's formula, greeks and their calculation, implied volatility, mathematics of delta hedging and delta-gamma hedging, exotic options, normal and lognormal distributions, Brownian motion, geometric Brownian, stock price process under the physical and risk-neutral probability measures, stochastic differential equations, Black-Scholes equation, Ito's lemma, risk-neutral pricing in continuous time, continuous and discrete time interest rate models.

When Offered

Offered once a year.

MACT 423/4321 - Life Contingencies I (3 cr.)

Prerequisites

MACT 3211 and MACT 3311

Description

Mortality laws, future lifetimes, force of mortality, life table, fractional age assumptions, continuous and discrete life insurances, continuous and discrete life annuities, net single premium, annual benefit premium, loss at issue, premium principles.

When Offered

Offered once a year.

MACT 424/4322 - Life Contingencies II (3 cr.)

Prerequisites

MACT 4321

Description

Benefit reserve, representations of benefit reserve, recursive relationship, multiple life, joint life status, multiple life insurances and annuities, multiple decrement models, multiple decrement benefit, expense augmented models.

When Offered

Offered once a year.

MACT 407/4331 - Insurance Loss Models I (3cr.)

Prerequisites

MACT 3211

Description

Risk Theory: Loss/claim severity models, creating a new model by transformation inflation, insurance coverage modifications, policy limit, loss elimination ratio, deductibles, inflation, coinsurance, loss/claim frequency models, Poisson, geometric, negative binomial, $(a,b,0)$ and $(a,b,1)$ classes, aggregate loss models, compound distribution, recursive formula, impact of individual claim modifications.

Credibility Theory: mixture models and Bayesian estimation, discrete and continuous mixtures, prior distribution, marginal distribution, posterior distribution, predictive distribution, Bayesian premium, Buhlmann model, credibility premium, credibility factor.

When Offered

Offered once a year.

MACT 408/4332 - Insurance Loss Models II (3 cr.)

Prerequisites

MACT 3223 and MACT 4331

Description

Non-parametric estimation for complete data: empirical estimates, Nelson-Aalen estimates; Non-parametric estimation for left truncated and right censored data Kaplan-Meier product-limit estimates, Nelson-Aalen estimates, evaluation of estimators, confidence intervals for survival and cumulative hazard functions; Kernel density models; Parametric estimation: method of moments, percentile matching, maximum likelihood estimation, applications to loss data with deductible and limit; goodness-of-fit tests; Proportional hazards model: baseline hazard rate, individual hazard rate, partial likelihood function.

When Offered

Offered once a year.

MACT 410/4910 - Guided Studies in Mathematics (1-3 cr.)

Prerequisites

Prerequisite: senior standing and consent of supervisor.

Description

Under guidance of a faculty member and with approval of the Chairman, the student carries on reading or research on a specific mathematics topic. Student should demonstrate achievements by presenting results, submitting a report, or passing an examination as determined by the supervisor..

Repeatable

May be repeated for credit if content changes

MACT 409/4930 - Selected Topics in Mathematics (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

Topics chosen according to interests of students and faculty.

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes.

MACT 411/4931 - Selected Topics in Actuarial Science (3 cr.)

Prerequisites

Senior standing and consent of supervisor.

Description

Under guidance of a faculty member and with approval of the Chairman, the student carries on reading or research on a specific actuarial science topic. Student should demonstrate achievements by presenting results, submitting a report, or passing an examination as determined by the supervisor.

When Offered

Occasionally.

Repeatable

May be repeated for credit if content changes.

MACT 497/4950 - Practical Internship (3 cr.)

Prerequisites

Permission of the Department Chair or the Director of Actuarial Science Program. Students seeking to take this course must meet with their academic advisor. Approval is based on their GPA in their previous two semesters and individual evaluation.

Description

A minimum of four weeks of training in industrial, commercial, educational or government establishments in Egypt or abroad. A detailed report of this practical experience is presented both in written form and orally, and is evaluated according to department rubrics.

When Offered

Offered in summer.

MACT 495/4980 - Senior Thesis (3 cr.)

Prerequisites

Senior standing.

Description

Methods used in obtaining and reporting research. Each student selects a topic in his/her field of interest. Under the supervision of a faculty member, he/she prepares an outline, assembles a bibliography, and makes a study plan to be followed in preparing the project. After completing the project, the student makes an oral presentation of his/her chosen topic. The written thesis is completed after criticism and suggestions.

When Offered

Offered occasionally.

MACT 000/4990 - Enterprise Risk Management (3 cr.)

Prerequisites

Senior standing and consent of adviser and instructor.

Description

The course introduces students to the concept of risk and the role of enterprise risk management (ERM) in mitigating loss and optimizing opportunity across a business. The course covers the development of an ERM framework, identification, measurement and management of risk within risk-bearing enterprises. Students will participate in a mock risk committee, practice the risk control process in a case study group and gain hands-on experience drafting an ERM framework.

Hours

Two class periods.

When Offered

Offered once a year.

MACT 604/6111 - Advanced Numerical Methods (3 cr.)

Prerequisites

Consent of instructor.

Description

Numerical optimization: nonlinear unconstrained optimization, direct methods, simplex method, genetic algorithms, gradient methods, Quasi-Newton methods, constrained optimization, interior point methods, the ellipsoidal technique, trust region and optimization through surrogate models, design centering and tolerance. Solution of partial differential equations: advances in the finite element technique, finite volume, spectral methods, fuzzy approach.

MACT 605/6121 - Advanced Probability with Engineering Applications (3 cr.)

Prerequisites

A course in probability and consent of instructor.

Description

Introduction to concepts of stochastic processes, Markov processes in discrete or continuous time; renewal processes; martingales; Brownian motion and diffusion theory; random walks, inventory models, population growth, queuing models, illustrated by examples from sciences and engineering, biological models, traffic flow and applications from other areas depending on the interest of the class.

MENG 215/2505 - Mechanical Engineering Drawing (1 cr.)

Prerequisites

ENGR 1001 and ENGR 1005

Description

Computer-aided drafting. Mechanical details and assembly drawings. Working drawings. Geometrical tolerances. Welding symbols and details, introduction to 3D modeling. Introduction to civil and architectural drawings.

Hours

One three hour lab period

When Offered

Offered in fall and spring.

MENG 327/3207 - Engineering Materials (3 cr.)

Prerequisites

CHEM 1005 and ENGR 2112

Description

Introduction to materials. Crystal structure of solids. Construction and use of phase diagrams in materials systems.

Relationship of crystal structure to properties of metallic materials and their applications. Heat treatment of steels. Types of polymers, ceramics, glasses, and semiconducting materials and their applications.

When Offered

Offered in fall and spring.

MENG 339/3209 - Fundamentals of Manufacturing Processes (3 cr.)

Prerequisites

MENG 3207

Description

Processing by casting, powder metallurgy, metal working, material removal, welding and joining. Processing of plastics and ceramics. Finishing processes. Materials recycling.

Hours

Two class periods and one three-hour lab period.

When Offered

Offered in fall and spring.

MENG 342/3402 - Quality and Process Control (3 cr.)

Prerequisites

ENGR 3202 and MACT 3224

Description

Fundamentals of statistical quality control; control charts for variables and attributes; process capability analysis; sampling plans and techniques; introduction to design of experiments.

Hours

Two class periods and one three hour lab period.

When Offered

Offered in fall and spring.

MENG 341/3441 - Engineering Operations Research (3 cr.)

Prerequisites

ENGR 3202

Description

Introduction to operations research, Linear Programming (LP) models; LP Solution approaches; integer programming; post optimality analysis; transportation, transshipment, and assignment problems. Maximal flow, shortest route, minimum spanning tree, and travelling salesman problems. Case studies, model formulations and applications using software.

When Offered

Offered in fall and spring.

MENG 344/3444 - Work Analysis and Design (3 cr.)

Prerequisites

MENG 3209

Description

Methods used in determining the most effective utilization of effort in human activity systems; work methods, analysis and design; micro motion analysis; predetermined time systems; human and rating factors; work samplings; learning curves; physiological and psychological factors; computer-aided time study.

When Offered

Offered in fall.

MENG 346/3446 - Engineering and Project Management (3 cr.)

Prerequisites

MACT 3224, ENGR 3222

Description

Concepts of Engineering Management, Organizing, Motivation and Leadership, Incentive Plans, Performance evaluation, Project selection and initiation, Engineering Project Planning, Project scheduling, monitoring, control, and evaluation, Resources scheduling, Project management software.

When Offered

Offered in fall.

MENG 372/3502 - Mechanical Systems (3 cr.)

Prerequisites

ENGR 2104 and ENGR 3202.

Description

Linkage synthesis, position, velocity, and acceleration of mechanisms, cams, gears and gear trains, machine dynamics, rotating and reciprocating machines, dynamic balancing.

When Offered

Offered in fall and spring.

MENG 355/3505 - Mechanics of Materials (3 cr.)

Prerequisites

ENGR 2112 and MENG 2505

Description

Internal reactions, load-stress relations and transformation of stresses for generally loaded rods. Generalized concepts of stress, strain and material relations. Energy methods. Elastic-plastic behavior of beams. Analysis of thin walled beams. Membrane theory of axisymmetric shells. Stress concentrations.

When Offered

Offered in fall and spring.

MENG 356/3506 - Mechanical Design I (3 cr.)

Prerequisites

ENGR 2104 MENG 2505 and MENG 3505

Description

Introduction to design concepts. Constructional details as affected by manufacturing, assembly, and strength considerations. Engineering materials. Design for steady and cyclic loading, and for rigidity and stability. Rigid and elastic connections. Bolts, rivets and welds. Design of shafts and springs. Use of interactive computer programs for problem solving is illustrated and encouraged. Design projects.

Hours

.Two class periods and one three-hour design and analysis session

When Offered

Offered in fall and spring.

MENG 361/3601 - Fundamentals of Thermodynamics (3 cr.)

Prerequisites

ENGR 2122 , CHEM 1005 and CHEM 1015 .

Description

Fundamental Concepts and Definitions. Thermodynamic Processes, pure substances and perfect gases, The First Law of Thermodynamics, the Second Law of Thermodynamics, the Carnot cycle. Thermodynamic Relations, Reversibility and Entropy.

When Offered

Offered in fall and spring.

MENG 362/3602 - Applied Fluid Mechanics (3 cr.)

Prerequisites

MENG 3601

Description

Dimensional analysis, fluid measurements, compressible flow, pipe network and water hammer, turbo machinery, pumps and turbines.

Hours

Two class periods and one three-hour lab period

When Offered

Offered in fall and spring.

MENG 365/3605 - Applied Thermodynamics (3 cr.)

Prerequisites

MENG 3601

Description

Availability and second-law analysis. Power cycles: air standard and actual cycles; reversed cycles: refrigerators and heat pumps, gas mixtures, psychrometry and air conditioning, hydrocarbon reactions, waste heat recovery.

Hours

Two class periods and one three-hour lab period.

When Offered

Offered in fall and spring.

MENG 375/3705 - System Dynamics (3 cr.)

Prerequisites

PHYS 2211 , PHYS 2212 and MENG 3502 .

Description

Mathematical modeling of mechanical, electrical, and electromechanical systems. Free and forced vibrations for single degree of freedom systems. Free and forced vibrations of multiple degree of freedom systems. State space and transfer function solutions. System analogies. Introduction to automatic control, Feedback Control, Time response analysis, Stability and Steady state error.

When Offered

Offered in fall and spring.

MENG 428/4208 - Selection of Materials and Processes for Design (3 cr.)

Prerequisites

MENG 3209 and MENG 3506

Description

Effect of material properties on design. Effect of manufacturing processes on design. Failure and reliability of components in service. Economics of materials and manufacturing processes. Decision making and the selection process. Integration of design and economic analysis with materials and process selection. Case studies.

When Offered

Offered in fall and spring.

MENG 421/4221 - Ceramics and Composites (3 cr.)

Prerequisites

MENG 3209

Description

Structure, processing (powder synthesis, characterization, mixing and size reduction), micro-structure and property relationships and their applications in the design and production of ceramic nanomaterials and nanocomposites for various applications.

Hours

Two class periods and one three hour lab period.

When Offered

offered in spring.

MENG 425/4225 - Polymers and Composites (3 cr.)

Prerequisites

MENG 3209

Description

Polymeric materials, processing and design considerations. Structure, mechanical and physical properties of polymers. Degradation of polymers. Types and properties of polymer-matrix composite materials. Manufacturing of components made of polymers and composite materials. Case studies.

Hours

Two class periods and one three-hour laboratory

When Offered

Offered in spring.

MENG 426/4226 - Metals, Alloys and Composites (3 cr.)

Prerequisites

MENG 3209

Description

Structure-property relationship in alloy systems. Imperfections in solids. Diffusion and phase transformation. Heat treatment of ferrous and non-ferrous alloys. Structure, properties and processing of metal matrix composites (MMCs). Behavior of metallic alloys and composite materials in service. Case studies and laboratory experiments.

Hours

Two class periods and one three-hour lab period

When Offered

Offered in fall.

MENG 427/4227 - Failure of Mechanical Components (3 cr.)

Prerequisites

MENG 3209 .

Description

Mechanical failures, fracture mechanics, types of corrosion. Failure modes: fracture fatigue, creep, corrosion and wear. Diagnosis and prevention of failures. Case studies.

When Offered

Offered in spring.

MENG 429/4229 - Nanostructured Materials (3 cr.)

Prerequisites

MENG 3209

Description

Introduction to Nanotechnology, Nanomaterials e.g. carbon nanotubes and nanoclays. Nanostructured materials. Transition from microstructure to nanostructure. Grain refinement techniques. Paradox of strength and ductility. Multimodal microstructures. Fabrication techniques. Overview of mechanical, thermal and structural characterization techniques. Applications.

Cross-listed

Same as MENG 5230.

When Offered

Offered spring.

MENG 432/4232 - Materials, Processing, and Design (3 cr.)

Prerequisites

MENG 3209

Description

Processing for grain refinement of engineering materials; Solidification, cooling rates and heat treatment for casting and molding; shape forming; powder, fiber, and composite processing; Joining processes; laser processes; deposition technology for coatings for various applications.

Hours

Two class periods and one three-hour laboratory

When Offered

Offered in fall.

MENG 439/4239 - Advanced Manufacturing Processes (3 cr.)

Prerequisites

PHYS 2211 and MENG 3209 .

Description

Nontraditional manufacturing processes, such as microfabrication and nanofabrication technologies, friction stir welding and processing, laser welding and cutting, spark erosion and water jet machining. Automation of manufacturing processes. Numerically-controlled machine tools. NC programming. Economics of nontraditional and automated manufacturing.

Hours

Two class periods and one three-hour lab period.

When Offered

Offered in spring.

MENG 441/4441 - Decision Support in Engineering Systems (3 cr.)

Prerequisites

MENG 3441 and MACT 3224 .

Description

Interactive computer-based engineering decision support systems (DSS), Design and development, informational data base, mathematical models including nonlinear, goal and dynamic programming problems, queuing and decision analysis, heuristics and user interface.

When Offered

Offered occasionally.

MENG 442/4442 - Reliability Engineering and Risk Analysis (3 cr.)

Prerequisites

MENG 3402

Description

Basic concepts of components and systems reliability. Methods of modeling systems for reliability analysis. Reliability estimation & measurement. Principal methods of reliability analysis, including fault tree and reliability block diagrams; Failure Mode and Effects Analysis (FMEA); event tree construction and evaluation; reliability data collection and analysis. Design by reliability & probabilistic design. Overview of Risk Assessment and Risk Management, relation to System Safety and Reliability Engineering measures.

When Offered

Offered in spring.

MENG 443/4443 - Systems Simulation (3 cr.)

Prerequisites

MENG 3402

Description

Basic concepts; examples of different production and service systems; pseudo random numbers; queuing models; random variate generation; discrete-event simulation; simulation languages; model validation and analysis of simulation data.

When Offered

Offered occasionally.

MENG 445/4445 - Production and Inventory Control (3 cr.)

Prerequisites

ENGR 3202 and ENGR 3222

Description

Basic concepts of production management ; forecasting; break-even analysis, aggregate production planning; inventory management; master scheduling, materials requirement planning; capacity planning; resource allocation and scheduling.

When Offered

Offered in fall and spring.

MENG 448/4448 - Facilities Planning (3 cr.)

Prerequisites

MENG 3209

Description

Process analysis; operation analysis, job design; facility location; facility layout; materials handling systems; storage and warehousing; office layout; design principles and analytical solution procedures; computerized approaches.

When Offered

Offered in spring.

MENG 449/4449 - Maintenance Management Systems (3 cr.)

Prerequisites

ENGR 3222

Description

Maintenance Systems performance measures, types of equipment, scheduled, preventive, and predictive maintenance, work orders, planning, scheduling and control of maintenance operations, equipment safety and reliability, life cycle costing and replacement, spare parts inventory management and cost of maintenance.

When Offered

Offered in fall.

MENG 447/4477 - Manufacturing System Automation (3 cr.)

Prerequisites

MENG 3209

Description

Computer assisted manufacturing systems NC, CNC, DNC, robotics, material handling, group technology, flexible manufacturing systems, process planning and control.

Hours

Two class periods and one three-hour lab period

When Offered

Offered in spring.

MENG 457/4507 - Mechanical Design II (3 cr.)

Prerequisites

MENG 3506 and MENG 3502

Description

Design of machine elements used in power transmission: couplings, gears, bearings, roller chain drives, clutches. Design for surface failure prevention. Applications: automotive and machine tool areas, etc. Basics of systems design. Design projects.

Hours

Two class periods and one three-hour design and analysis session.

When Offered

Offered in fall and spring.

MENG 451/4551 - Computer-Aided Design and Prototyping (3 cr.)

Prerequisites

Senior standing, MENG 2505 and MENG 3506

Description

Introduction to CAD/CAM. CAD software and hardware. Geometric modeling. Types of curves and surfaces. Three-dimensional modeling. Data capturing techniques. Surface fitting techniques. Rapid prototyping techniques. Overview and utilization of typical interactive computer graphics package. Hands-on experience in using CAD software, 3D laser digitizing scanner, rapid prototyping machine, and other peripherals.

Hours

Two class periods and one three-hour lab period.

When Offered

Offered in spring.

MENG 453/4553 - Finite Element Method and Applications in Design (3 cr.)

Prerequisites

MENG 3505 and ENGR 3202

Description

Displacement approach for simple elements in structural mechanics. Generalization to three-dimensional elements. Overview of the finite element method (FEM), variational principles, transformation, assembly, boundary conditions, solutions, convergence and stability. Isoparametric elements. Applications to solid mechanics, heat conduction and coupled problems. Pre- and post processing. Integration of FEM in Computer Aided Design.

Hours

Two class-periods and one three-hour lab period.

When Offered

Offered in fall.

MENG 454/4554 - Finite Element Method in Dynamic Analysis and Design (3 cr.)

Prerequisites

MENG 4553

Description

Finite element formulation of eigen problems and initial value problems in one- and multi-dimensions; model,

harmonic and transient response; applications in mechanical engineering.

When Offered

Offered occasionally.

MENG 475/4555 - Applied Vibration Measurements, Analysis and Control (3 cr.)

Prerequisites

Senior standing and MENG 3705

Description

Elements of vibration measuring systems, vibrations-severity measurements, frequency analysis of mechanical vibration, measuring systems for frequency analysis, vibration of continuous systems, application of vibration measurements in condition monitoring and diagnostics, fault detection in rotating equipment, vibration control.

Hours

Two class periods and one three-hour laboratory period

When Offered

Offered in fall.

MENG 458/4558 - Integrated Design (3 cr.)

Prerequisites

MENG 3209 and MENG 3506

Description

The engineering design environment. Design and manufacturing. Design pitfalls and their early identification. Design measures for improving the maintainability, reliability and environmental impact. Implementation of the principle of redundancy. Introduction to design optimization.

When Offered

Offered in fall.

MENG 455/4565 - Design of Engineering Systems (3 cr.)

Prerequisites

MENG 3506

Description

Elements of system architecture, product versus process-driven design objectives, design of systems, synthesis and analysis in systems design, case studies.

When Offered

Offered in occasional.

MENG 466/4606 - Heat Transfer (4 cr.)

Prerequisites

ENGR 3202 and MENG 3602

Description

Steady and unsteady, one and multi-dimensional, heat conduction. Finite-difference and Finite-volume methods applied to heat conduction. Heat transfer by natural and forced convection. Introduction to Mass transfer. Heat transfer by radiation. Design of Heat exchangers.

Hours

Three class periods and one three-hour laboratory period

When Offered

Offered in fall and spring.

MENG 411/4661 - Turbo-Machinery (3 cr.)

Prerequisites

MENG 3602

Description

Preliminary design procedures for turbo-machines. Ideal and actual performance characteristics for hydraulic pumps and turbines, axial and centrifugal flow compressors and fans, axial and radial flow gas turbines. Cavitation in hydraulic machinery. Turbo-chargers. Hydro-power plants and pumped-storage.

When Offered

Offered in fall.

MENG 412/4662 - Power Plant Technology (3 cr.)

Prerequisites

MENG 4606 and MENG 3605 .

Description

Steam and Gas turbine power plants. Combined-cycle power plants. Co-generation. Principles of nuclear energy and introduction to Nuclear power plants. Environmental impacts of power plants.

When Offered

Offered in fall.

MENG 413/4663 - Design of Renewable Energy Systems (3 cr.)

Prerequisites

MENG 3605 and MENG 4606 .

Description

The world energy scene. Environmental impact of energy use. Wind power, PV and Solar Thermal Electricity and Biomass. Hybrid systems. Renewable energy generation in Power systems. Economics and sustainability.

When Offered

Offered in spring.

MENG 415/4665 - Internal Combustion Engines (3 cr.)

Prerequisites

MENG 3602 and MENG 3605

Description

Review of Air standard cycles. Diesel and Petrol combustion overview. Fuels and chemistry of combustion reactions. Octane and Cetane ratings. Fluid mechanic interactions with flames - burn rates. Overview of exhaust emissions. Turbocharging and supercharging, volumetric efficiency and valve timing.

When Offered

Offered in spring.

MENG 416/4666 - Design of Heating, Ventilation, and Air Conditioning Systems (3 cr.)

Prerequisites

MENG 3605 and MENG 4606.

Description

Calculation of building cooling and heating loads, and ventilation requirements. Design of Air conditioning and ventilation systems. Passive cooling and heating. Air conditioning equipment.

When Offered

Offered in fall.

MENG 417/4667 - Refrigeration and Air-conditioning (3 cr.)

Prerequisites

MENG 4606 and MENG 3605 .

Description

Refrigeration and Air conditioning cycles and C.O.P. Vapor compression refrigeration systems. Absorption refrigeration. Cryogenics. Design of Air conditioning systems and components. Heat pumps and heating systems. District cooling.

When Offered

Offered in spring.

MENG 476/4756 - Automatic Control Systems (3 cr.)

Prerequisites

Senior standing and MENG 3705 .

Description

Feedback control system and analysis in time domain. PID controllers: analysis and design. State space controllers. Stability and the concept of Routh-Hurwitz. Root locus analysis and design. Analysis of systems in frequency domains. Bode plots and controller design. Nyquist stability criterion. Introduction to intelligent control. Introduction to digital control systems.

When Offered

Offered in spring.

MENG 477/4757 - Robotics: Design, Analysis and Control (3 cr.)

Prerequisites

ENGR 2104 .

Description

Robotics and Automation, Robot classification and technical specifications, Robotic safety, homogeneous coordinate transformation, Direct and inverse kinematics, Differential motion, Jacobian: Velocities and static forces, Trajectory planning, Manipulator dynamics: Newton-Euler and Lagrange-Euler dynamic models, robot control.

When Offered

Offered in fall.

MENG 478/4778 - Microcontrollers and Mechatronics systems (3 cr.)

Prerequisites

PHYS 2211

Description

Mechatronics and digital systems, Digital logic design, Microprocessor and Microcontroller architecture, Embedded systems, Interfacing techniques, A/D and D/A conversion, Memory addressing techniques, Interrupt techniques, I/O needs and expansion, Timers, Introduction to assembly, and project application work.

Hours

Two class periods and one three-hour laboratory period

When Offered

Offered in fall.

MENG 479/4779 - Integrated Design of Electromechanical Systems (3 cr.)

Prerequisites

MENG 3705

Description

Mechatronics design and development process, Digital systems, Microcontrollers in Mechatronics, Programmable logic controllers (PLC), PLC and interfacing techniques, Ladder logic programming, servo motors: motion, braking and speed control, Transducers and instrumentation, Vision sensing principles, Power supplies, Pneumatic and Electro-pneumatic control. Design, control and application of electromechanical systems, Integrated Mechatronics design project.

Hours

Two class periods and one three-hour laboratory period.

When Offered

Offered in spring.

MENG 480/4920 - Special Problems in Engineering (1-3 cr.)

Prerequisites

Prerequisite: approval of department chair.

Description

Independent study in various problem areas of engineering may be assigned to individual students or to groups. Readings assigned and frequent consultations held.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit if content changes

MENG 492/4930 - Selected Topics in Mechanical Engineering (3 cr.)

Prerequisites

Prerequisite: senior standing.

Description

Specialized topics in mechanical engineering will be discussed, e.g. energy conversion and transmission, nuclear engineering, computer applications in mechanical engineering, composite materials, corrosion, and protection.

When Offered

Offered occasionally.

MENG 494/4931 - Selected Topics in Design (3 cr.)

Prerequisites

Prerequisite: senior standing in mechanical engineering.

Description

Specialized topics in design will be discussed, e.g. advanced strength of materials, power-plant analysis and design, design of manufacturing aids, materials-handling equipment, microcomputers in control, fluid machinery and power systems, finite-elements method in engineering, etc.

When Offered

Offered in spring.

MENG 436/4932 - Selected Topics in Materials and Manufacturing (3 cr.)

Prerequisites

MENG 3209

Description

This course will cover topics to be chosen based on the emerging advancements in the field of Materials and Manufacturing. Maybe taken for credit more than once if content changes.

When Offered

Offered occasionally.

MENG 497/4950 - Industrial Training (1 cr.)

Prerequisites

Prerequisite: Senior standing and completion of all ENGR in addition to a minimum of 18 credits of MENG.

Description

Each student is required to spend a minimum of eight weeks in industrial training in Egypt or abroad. A complete account of the experience is reported, presented and evaluated.

When Offered

Offered in fall.

MENG 490/4980 - Senior Project I (1 cr.)

Prerequisites

All ENGR courses and all 300 level MENG core courses.

Description

A capstone project. Topics are selected by groups of students according to their area of interest and the advisors' approval. Projects address solutions to open ended applications using an integrated engineering approach. Participants give an oral presentation of the main results achieved. After criticism and suggestions, they submit a written report.

When Offered

Offered in fall and spring.

MENG 491/4981 - Senior Project II (2 cr.)

Prerequisites

MENG 4980

Description

Participating students continue the work on the project topic selected in MENG 4980 . Participants give an oral presentation of the main results achieved. After criticism and suggestions, they submit a written report.

When Offered

Offered in fall and spring.

MENG 521/5221 - Advanced Topics in Mechanical Behavior of Engineering Materials (3 cr.)

Description

Advanced Topics in Mechanical Behavior of Engineering Materials (minor change in course content) Parameters affecting the mechanical behavior of materials under stresses. Strengthening mechanisms in metals and alloys. High-temperature and room temperature deformation. Effect of residual stresses. Mechanisms of cyclic deformation. Structural properties of polymers and composites. Emphasizes the relationships between micro and nanoscopic mechanisms and macroscopic behavior of materials. Case studies using industrially available materials.

MENG 522/5222 - Materials in Design and Manufacturing (3 cr.)

Description

Interrelationship of design, materials and manufacturing. Control of material properties to meet design and manufacturing requirements. Thermo-mechanical processing, surface treatment and coatings. Composite materials. Reverse engineering and materials substitution. Materials recycling. Economic considerations and life cycle costing. Case studies.

MENG 523/5223 - Physical Metallurgy (3 cr.)

Description

Relationships between mechanical behavior, composition, microstructure, and processing variables. Imperfections in materials and their effect on properties. Diffusion in solids and its industrial applications. Effect of heat treatment on the microstructure and mechanical behavior for ferrous and non-ferrous alloys. Design of new materials: meso, micro and nanostructured materials, their synthesis and applications.

MENG 524/5224 - Electronic Phenomena in Solids (3 cr.)

Description

Quantization and energy barrier, central field problem; free electron models of solids; specific heat, susceptibility, emission; electron transport in electrical and magnetic fields; optical phenomena: transmittance, reflectance, dielectric constant, band models of solids, determination of fermi surface semiconductors; mobility; impurity states, carrier lifetime; fundamental theory and characteristics of elemental and compound semiconductors. Semiconductor nanotechnology.

MENG 525/5225 - Deformation and Fracture of Materials (3 cr.)

Description

Fundamental concepts describing the mechanics and mechanisms of plastic deformation under different conditions of temperature, time, and strain rates. The mechanical and metallurgical aspects of crack nucleation and propagation under different loading conditions and in different environments. Materials design for safe structures.

MENG 526/5226 - Computer Methods in Materials Engineering (3 cr.)

Description

Applications of computer and modeling techniques to the study of materials systems and processes. Examples of the topics discussed are: Behavior of multi phase materials and casting and working process.

MENG 527/5227 - Composite Materials: Mechanics, Manufacturing, and Design (3 cr.)

Description

Composite materials, including naturally occurring substances such as wood and bone, and engineered materials from concrete to fiber and dispersion reinforced matrices. Development of micromechanical models for a variety of constitutive laws and the link between processing, property and composite structural analysis. Fabrication and processing techniques of composites; dispersion of reinforcements; interfacial adhesion; mechanical and functional properties, design and applications.

MENG 528/5228 - Advanced Testing and Characterization Techniques (3 cr.)

Description

Experimental techniques in the study of materials including quantitative measurements for the characterization of micro and nanostructured bulk and thin film materials using optical, electron and atomic force microscopy; Secondary ion mass spectroscopy (SIMS), Auger Electron Spectroscopy (AES), Rutherford Backscattering (RBS); EDX; X-ray diffraction and differential scanning calorimetry for thermal analysis. Advanced and conventional testing techniques for characterization of the physical, optical, magnetic and mechanical properties of micron and Nanomaterials and devices.

Cross-listed

Same as NANO 5203.

MENG 529/5229 - Failure Analysis and Prevention (3 cr.)

Description

Failure analysis methodology and techniques including fractography, metallography, and mechanical testing. Causes of failure in service including manufacturing defects, design deficiencies, environmental effects, overloads. Fail safe designs. Case studies in failure analysis.

MENG 530/5230 - Nanostructured Materials (3 cr.)

Description

Introduction to Nanotechnology, Nanomaterials e.g. carbon nanotubes and nanoclays. Nanostructured materials. Transition from microstructure to nanostructure. Grain refinement techniques. Paradox of strength and ductility. Multi-modal microstructures. Fabrication techniques. Overview of mechanical, thermal and structural characterization techniques. Applications.

Cross-listed

Same as MENG 4229.

When Offered

offered in spring

MENG 531/5231 - Fabrication of Nanomaterials For Films And Devices (3 cr.)

Description

This course will cover different techniques implemented for preparing thin films such as chemical vapor deposition, physical vapor deposition (evaporation, sputtering, pulsed laser deposition, electron beam, etc), and molecular beam epitaxy. In addition, different techniques for enhancing the Physical properties of materials will be covered. This will include post-laser treatments, metal induced crystallization, thermal treatments, etc.

Cross-listed

Same as NANO 5204.

When Offered

occasionally.

MENG 532/5232 - Simulation and Modeling for Nanoscale Materials and Systems (3 cr.)

Description

Principles of modeling structures and processes at the nanometer scale, including meshing techniques, finite element analysis, and molecular dynamics. Simulation of Materials Science-based or Mechanics-based modeling methods employed; mechanical response of nanostructured materials; Modeling methods including electronic structure, molecular dynamics and Monte Carlo are included.

Cross-listed

Same as NANO 5202.

MENG 534/5234 - Materials for Energy Conversion and Storage (3 cr.)

Description

This course will focus on advanced electrochemical energy conversion and storage systems including fuel cells, lithium-ion batteries, and supercapacitors; Hydrogen storage; Advanced thermal storage . Through the journey in this course, students are anticipated to understand why and how these systems are advantageous in renewable energy applications.

Cross-listed

Same as NANO 5233.

MENG 535/5235 - Biomaterials (3 cr.)

Description

Lectures will include: materials for biomedical and dental restoration applications and their biocompatibility; design at a molecular scale of materials used in contact with biological systems, including biotechnology and biomedical

engineering; methods for biomaterials surface modification and characterization. Other topics include analysis of protein absorption on biomaterials; tissue and organ regeneration; design of implants and prostheses based on control of biomaterials-tissue interactions; drug delivery, and cell-guiding surfaces.

Cross-listed

Same as NANO 6230.

MENG 541/5241 - Integrated Manufacturing Systems (3 cr.)

Description

Computer aided manufacturing, automation, flexible manufacturing systems, numerical control machines, computerized process planning, information systems in a plant, selection of automated systems.

MENG 542/5242 - Total Quality Management (3 cr.)

Description

Product quality and losses to society, loss function, product life cycle, design for quality, quality deployment charts, customer needs, process design planning and control, continuous quality improvement, quality circles.

MENG 543/5243 - Systems Modeling and Optimization (3 cr.)

Description

Modeling of large scale industrial problems, theory of optimization, software performance evaluation, simulation of complex industrial systems, input/output analysis, model validation, overview of simulation languages, manufacturing systems case studies.

MENG 545/5245 - Production Systems Design (3 cr.)

Description

Production planning, workforce and line balancing capacity planning and expansions, optimal sequencing and scheduling, measures of effectiveness of operating systems, computer applications, applied case studies.

MENG 548/5248 - Facilities Planning and Design (3 cr.)

Description

Location evaluation for plants, warehouses, and facilities, computerized layout design, selection and installation of material handling equipment, planning for expansion, modeling and analysis of facility layout: Quadratic assignment approach, graph theoretic approach, decomposition of large facilities, locating new facilities.

MENG 517/5251 - Engineering Systems Analysis and Design (3 cr.)

Description

Introduction, system design process, system modelling and optimization, design for operational feasibility, artificial intelligence and expert systems, applications.

MENG 553/5253 - Advanced Computer Aided Design (3 cr.)

Description

Homogeneous Coordinates and Cartesian Coordinates. Explicit and Implicit Representations of Lines, Planes, Surfaces and Intersections. Surface Modeling: Bezier, B-Spline and NURBS surfaces. Curve and Surface Fitting and Approximation. Solid Modeling: Constructive Solid Modeling, and Boundary Representation. Shading and Rendering. Homogeneous perspective, stereographic projections and virtual reality. Introduction to Shape and Topology Optimization.

MENG 554/5254 - Advanced Stress Analysis in Design and Manufacturing (3 cr.)

Description

Differential and integral formulations of elastic problems: equilibrium, continuity, generalized material relations, boundary conditions. Applications to two dimensional problems, plates and shells. Yield criteria and inelastic stress-strain relations. Limit analysis. Inelastic design. Simplified techniques for large deformation problems: energy approach, slab method, and upper bound solutions, numerical techniques.

MENG 555/5255 - Analysis and Design of Dynamic Systems (3 cr.)

Prerequisites

Consent of instructor.

Description

Dynamic analysis of lumped-parameter and continuous systems including strings, rods, beams and plates, use of finite elements in dynamic analysis, design of dynamic systems, systems concepts, design and synthesis of mechanical networks, modern control, system behavior analysis in time and frequency domains, compensation and design of control systems using different design methods, digital control systems.

MENG 557/5257 - Engineering Design Methodologies (3 cr.)

Description

Conceptual design: levels, generic concepts, main and subconcepts. The preliminary design stage. Design for reliability. Design optimization. Examples and a case study.

MENG 558/5258 - Applied Finite Element Analysis for Engineers (3 cr.)

Description

Advanced modeling techniques. Material, geometric and boundary condition nonlinearities. Application to elastoplasticity, creep and buckling. Time response dynamic analysis, nonlinear heat transfer. Projects involving extensive utilization of FEM packages on engineering workstations.

MENG 573/5263 - Cogeneration and Energy Storage (3 cr.)

Prerequisites

B.Sc. level Mechanical engineering courses in Thermodynamics, Heat transfer, Fluid mechanics and applications, or

equivalent.

Description

Introduction to cogeneration; cogeneration technologies; issues and applications; introduction to energy storage; types; applications in renewable energy and conventional systems; economic analysis.

MENG 575/5265 - CFD and Turbulence Modeling (3 cr.)

Prerequisites

Undergraduate level knowledge of

- i) fluid properties, fluid flows with and without friction, duct flows, Bernoulli's equation and continuity equation; heat and mass transfer.
- ii) numerical analysis including solution of sets of algebraic linear equations, and P.D.E.s employing F.D.; programming in MATLAB or any other language.

Description

Introduction to CFD, basic equations of Flow, FV method, SIMPLE algorithm and variants. Turbulence modeling. Introduction to PHOENICS/FLUENT code, application to case studies.

MENG 560/5270 - Applied Control, Vibration and Instrumentations (3 cr.)

Prerequisites

Instructor Consent.

Description

Feedback control systems and role of sensors. Process modelling and identification. Linear system response in time domain, Routh-Horwitz stability criteria. PID controllers design and implementations. Root locus: analysis, design, lead/lag compensators. Frequency response methods and analysis. Vibrations of multi-degree-of-freedom and continuous systems, introduction to finite element vibrations analysis, response to periodic and arbitrary inputs, passive and active vibration control, applied vibration measurement and analysis. Sensors: characteristics, physical properties and usage. Industrial automation and sensors. Measurement and uncertainty. Study of various techniques for sensor integration. Common instrumentation networks. Remote instrumentation for monitoring and control. Future prospect of instrumentations and intelligence.

MENG 561/5271 - Robotics: Kinematics, Dynamics and Control (3 cr.)

Prerequisites

Instructor Consent.

Description

Robot mechanisms, End-effector mechanisms, Actuators and drives, Sensors. Robot forward and inverse kinematics. Differential motion and Jacobian (Velocities and forces). Simulation software and analysis. Acceleration and Inertia, Robot dynamics. Trajectory generation and control of robot manipulators. Robot planning and control. Task oriented control, Force compliance control. Robot programming, Robot work cell design and work cycle analysis. Robot vision, Teleoperation and Interactive haptics. Closed-Loop Kinematic chains, Parallel-link robot kinematics. Non-holonomic systems, Legged robots.

Cross-listed

Same as RCSS 5201.

MENG 562/5272 - Embedded Real Time Systems (3 cr.)

Prerequisites

Instructor Consent.

Description

Fundamentals of embedded control system design, embedded processor architecture and operation. General overview of existing families of micro-controllers, DSPs, FPGAs, ASICs. Selected embedded 8/16/32 processor architectures, and programming. Real-time, resources and management, I/O, Virtual memory and memory management. Concurrency, resource sharing and deadlocks. Scheduling theory. Real-time programming and embedded software. Real-time kernels and operating systems. Bus structure and Interfacing. Programming pervasive and ubiquitous embedded system. Designing embedded system. Discretization and implementation of continuous-time control systems. Networked embedded systems and integrated control.

Cross-listed

Same as RCSS 5202.

MENG 563/5273 - Modern Control Design (3 cr.)

Prerequisites

Instructor consent.

Description

Basic linear system response: Analysis in time domain, stability analysis, Routh- Horwitz stability criteria of LTI. Feedback analysis and design continuous-time systems on the basis of root locus: analysis, design, lead/lag compensators, and Control synthesis in frequency domain: (Bode response, Nyquist stability criteria, sensitivity and design). Control design concepts for linear multivariable systems using state variable techniques. State space representation and transition matrix. Control system design in state space: controllability, pole method and pole placement design, observer/observability and compensators design. Optimal observer based feedback. Lyapunov Stability. The solutions to LQR problem, Kalman filtering problem. LQG and LTR based design methods. Discrete-time systems and computer control.

Cross-listed

Same as RCSS 5203.

MENG 564/5274 - Autonomous Robotics: Modeling, Navigation and Control (3 cr.)

Prerequisites

Instructor Consent.

Description

Autonomous and Mobile robots, Locomotion concepts and mechanisms, Degrees of mobility and steering. Non holonomic concept and constraint. Wheeled mobile robots: Kinematic and dynamic models. Trajectory generation and Control methods. Sensors, sensor models and perception. Mapping and knowledge representations. Control architectures and Navigation: Planning, Subsumption, Potential field, Motor Schemas, Probabilistic, Learning from

observations and Reinforcement learning. Relative and absolute localization. Navigation and localization techniques. SLAM (Simultaneous Localization and Mapping). Multi robotic system: navigation, cooperation and autonomy.

Cross-listed

Same as RCSS 5221.

MENG 580/5910 - Independent Study in Engineering (3 cr.)

Description

Independent study in various problem areas of engineering may be assigned to individual students or to groups. Readings assigned and frequent consultations held.

Notes

(Students may sign for up to 3 credits towards fulfilling M. Sc. requirements).

MENG 592/5930 - Advanced Topics in Engineering (3 cr.)

Prerequisites

Prerequisite: consent of instructor.

Description

Topics to be chosen every year according to specific interests.

Repeatable

May be taken for credit more than once if content changes.

MENG 593/5980 - Capstone Project (3 cr.)

Description

Students are required to attend the library and writing modules of ENGR 5940 and to undertake an engineering project approved by the chair of the supervisory committee, which consists of the student advisor and two additional faculty members. A final report is submitted and orally defended in the presence of the supervisory committee.

MENG 599/5981 - Research Guidance Thesis (3 cr.)

Description

Consultation on problems related to student thesis.

Repeatable

Must be taken twice for credit.

MENG 681/6241 - Stochastic Simulation (3 cr.)

Prerequisites

Graduate level knowledge of probability, statistics and stochastic processes.

Description

Continuous and discrete event Simulation models, random number generation, relevant probability distributions, replications, transient and steady-state conditions, design of simulation experiments, statistical analysis of results, data and file management, stochastic queues, simulation languages.

MENG 615/6255 - Continuum Mechanics (3 cr.)

Prerequisites

MENG 3505

Description

Mechanics of deformable bodies, finite deformation and strain measures, kinematics of continua and global and local balance laws. Thermodynamics of continua, first and second laws. Introduction to constitutive theory for elastic solids, viscous fluids and memory dependent materials. Examples of exact solutions for linear and hyper elastic solids and Stokesian fluids.

When Offered

Offered in fall.

MENG 660/6261 - Sustainability of Thermal Systems (3 cr.)

Description

Energy systems; energy demand; energy audit; sustainable development; energy efficiency; energy management.

MENG 670/6262 - Advanced Transport Phenomena (3 cr.)

Prerequisites

MENG 3602 ,MENG 4606 and CFD course covering numerical solutions of flow equations.

Description

Mass, momentum, and energy transport; kinetic theory of transport properties; analytical and approximate solutions to the equations of change; boundary layer theory; turbulence; simultaneous heat and mass transfer; over-all balances.

MENG 620/6270 - Nonlinear and Adaptive Control (3 cr.)

Prerequisites

Consent of instructor.

Description

Introduction to the analysis and design of nonlinear control systems. Linearization of nonlinear systems. Phase-plane analysis, Lyapunov stability analysis. Design of stabilizing controllers. Properties of adaptive systems, Adaptive control and real-time parameter estimation, Deterministic self-tuning regulators, model reference control, Adaptive observers, model reference adaptive control, gain scheduling controller modeling. Stability of adaptive control systems.

Cross-listed

Same as RCSS 5233.

MENG 699/6980 - Research Guidance Dissertation (3 cr.)

Description

Consultation on problems related to student thesis. To be taken 11 times for credit.

MEST 400/4210 - Individual Study and Selected Readings (1-3 cr.)

Prerequisites

Prerequisite: Consent of instructor and department on the basis of a well-defined proposal.

Description

Guided reading, research, and discussion based on a subject of mutual interest to a student and faculty member.

MEST 430/4301 - Special Topics in Middle East Studies (3 cr.)

Description

Selected topics to be investigated under the guidance of a faculty member, may be offered as a seminar.

Repeatable

May be repeated for credit if content changes.

MEST 500/5200 - Migration and Refugee movements in the Middle East and North Africa (3 cr.)

Description

The course offers a systematic review of international migration and refugee movements to, through and from, the Middle East and North Africa (MENA) over the last decade. It addresses their trends, causes and consequences for individuals and societies, and stresses the universality of international mobility determinants, but the specificity of the context in which they operate in the MENA.

Cross-listed

Same as MRS 5202 .

When Offered

Offered in spring.

MEST 569/5201 - A Critical Introduction to Middle East Studies (3 cr.)

Description

Required for all MA students in Middle East Studies. Introduces major debates in several disciplines of Middle East area studies: the history and politics of Orientalism; modernization theory; area studies as a field of knowledge; gender as a category of analysis; economic and political development; international relations and US Middle East policy; contending understandings of Islamism.

When Offered

Offered in fall.

MEST 570/5202 - Interdisciplinary Seminar in Middle East Studies (3 cr.)

Prerequisites

Prerequisite: completion of 24 credit hours toward the degree or consent of program director.

Description

Required for all MA students in Middle East Studies. Reading, discussion and intensive writing about cutting edge scholarly literature on: the nature of modernity, colonialism and social science, gender and colonialism, nationalism, the nature of "national economies", the politics of realist literature, economic development, the character of autocracy and political liberalization.

When Offered

Offered in spring.

MEST 505/5205 - Palestinian Refugee Issues (3 cr.)

Description

This inter-disciplinary course will be an opportunity for students to engage directly with the major practical and theoretical issues connected with Palestinian refugees, critically assessing the historical, political, legal and ideological forces that have shaped their turbulent circumstances.

Cross-listed

Same as MRS 5205.

MEST 580/5280 - Selected Topics (3 cr.)

Description

Problems discussed may vary depending on instructor and students needs. Course is offered only if participating departments do not offer an equivalent course. Focus will be announced prior to registration.

When Offered

Offered only occasionally.

MEST 582/5281 - Independent Study and Readings (3 cr.)

Prerequisites

Pre-requisites: completion of one semester and Program approval required.

Description

Guided individual readings and/or research on a subject of mutual interest to the student and faculty member.

When Offered

Offered in fall and spring.

MEST 588/5289 - Comprehensives (no cr.)

Description

Individual consultation for students preparing for the comprehensive examination.

When Offered

Offered in fall and spring.

MEST 598/5298 - Research Methods (3 cr.)

Description

A seminar designed to help students formulate and execute an MA thesis proposal.

MEST 599/5299 - Thesis (no cr.)

When Offered

Offered in fall and spring.

MRS 504/5104 - Gender and Migration (3 cr.)

Description

This seminar provides an in depth engagement with the growing sub-field of Gender and Migration. Themes covered include: international gendered labor markets, migration to and from the Middle East, domestic labor, trafficking, displacement through conflict and development, remittances, and human rights. This is a joint course offered by the Center for Migration Studies and Refugee Studies and the Institute for Gender and Women's studies.

Cross-listed

Same as GWST 5104.

MRS 512/5112 - Psychosocial Issues in Forced Migration (3 cr.)

Description

The course explores the psychosocial dimensions of forced migration including ethno-cultural. Concepts of well-being, sources of stress and coping, the impact of forced migration on child development, psychosocial consequences of torture and sexual victimization, and the interaction of trauma and bereavement. Culturally, appropriate mental health assessment, community-based intervention programs, methods of program evaluation, and ethical issues in working with refugee populations will be discussed.

Cross-listed

Same as PSYC 5112.

When Offered

Offered in spring

MRS 507/5200 - Introduction to Migration and Refugee Studies (3 cr.)

Description

Drawing on interdisciplinary approaches in history, political science, sociology, economics and psychology, this introductory course examines the causes and consequences of population movements, and provides basic background, terminology and concepts for further studies in this field. It offers an overview of migrants' trajectories across national boundaries, analyzes migrants' integration and their transformative impact on as well as contribution to host societies. It examines the networks of relations migrants may maintain with their home countries. It also looks at the role of policies and practices of the humanitarian regime in shaping the experience and addressing the challenges faced by refugees, asylum seekers, and returnees.

Cross-listed

Same as SOC/ANTH 5200.

When Offered

Offered in fall.

MRS 518/5201 - International Refugee Law (3 cr.)

Description

This course introduces the international refugee law regime and the background and historical context from which foundational concepts emerged. The bulk of the course is spent on the 1951 Refugee Convention and its Protocol, as well as the expanding mandate of UNHCR. The course considers some of the contradictions and dilemmas of international refugee law and takes into account, developments in related areas of international human rights law, international humanitarian law and migration law. This course is required for all students seeking the MA or Diploma in Migration and Refugee Studies.

Cross-listed

Same as LAW 5218.

When Offered

Offered in the fall.

MRS 500/5202 - Migration & Refugee Movements in the Middle East and North Africa (3 cr.)

Description

The course offers a systematic review of international migration and refugee movements to, through and from, the Middle East and North Africa (MENA) over the last decades. It addresses their trends, causes and consequences for individuals and societies, and stresses the universality of international mobility determinants, but the specificity of the context in which they operate in the MENA, combining insecurity engendered by wars and civil conflicts with acute international inequalities of economic, social and political opportunities.

The course starts with concepts and theories, then addresses the various facets of cross-border mobility in the MENA: voluntary and forced migration; migration and labor markets; financial transfers (remittances and investment) and migration; the mobility of skills and the brain drain / brain gain nexus; transnational communities, diasporas and their countries of origin; families and communities left behind; MENA states' policies on emigration; integration of migrant and refugee communities; EU and Gulf states' policies on asylum and immigration; transit migration; trafficking in

migrants; return migration.

Cross-listed

Same as MEST 5200 .

When Offered

Offered in fall.

MRS 501/5203 - International Migration & Development (3 cr.)

Description

The course provides an overview of recent literature and debates concerned with the relationships between migration and development. Migration and development are related issues. On the one hand, development is a determinant of migration. International differentials in development, mainly economic (labor-, income- and capital-related), but also political (state- and society-related), will be reviewed. These elements apply at the sending end as push factors (underemployment and unemployment; poverty; poor access to welfare; low rewards to skills; poor governance, political or civil instability, etc.) and at the receiving end as pull factors (jobs availability; higher incomes; social security; higher education; networks of previous migrants; etc.). On the other hand, migration has an impact on development. International mobility of workers and their family members can work for, or against, development. Debates on the impact of development include the following:

Destination Countries:

Considering whether migrant workers compete with or complement local labor? Do they reduce or increase average incomes/wages? Contribute to or drain host country welfare services?

Origin Countries:

While migrant remittances provide for better housing, education and health of families left behind, their impact on the local and national economy is much debated. Do they boost production or imports? Do they create employment or deter entry into the local labour market? Do they lead to sustainable patterns of development? Do they further the access to credit of local communities and migrants themselves? To what extent do migrants establish businesses as a result of their earnings abroad? To what extent do governments foster development along with migrant communities and host countries with migration-induced development through confidence building, infrastructure and skills training? Under what conditions does migration of skills result in a brain drain or a brain gain for sending countries? In both sending and receiving countries, different patterns of migration: circular, return, temporary, permanent, regular/irregular may have different impacts on development.

MRS 576/5204 - Research Methods in Migration and Refugees Studies (3 cr.)

Description

The course seeks to provide an orientation to the primary methodological issues that need to be addressed when conducting both primary and secondary research. The course addresses the cross-disciplinary and trans-national aspects of research that place extra demands on research methods in data collection, sampling, comparative policy framework analysis, usage of terminology, ethical considerations, comparisons of discourses and ideological representations in a sometimes contested and controversial field of inquiry. Designed with both quantitative and qualitative approach, this course addresses challenges and dilemmas that researchers confront when collecting and interpreting data in studies of refugees and migration. This course further addresses in-depth analysis regarding accessibility of relevant data (ranging from use of statistics as well as access to social fields), how to handle ethical issues; how to develop intersectional analysis, and specific questions related to multi-strategy research design; ethical issues and how to handle after-use questionnaire and checklist.

When Offered

Offered in the spring.

MRS 505/5205 - Palestinian Refugee Issues (3 cr.)

Description

This inter-disciplinary course will be an opportunity for students to engage directly with the major practical and theoretical issues connected with Palestinian refugees, critically assessing the historical, political, legal and ideological forces that have shaped their turbulent circumstances.

Cross-listed

Same as MEST 5205.

MRS 502/5206 - Comparative Migration Policies (3 cr.)

Description

Countries at both ends of the migration process develop migration policies that govern a variety of issue areas. In countries of destination, migrants essentially contribute to economic activity. Therefore, their policies address issues such as demand for migrant workers, admission criteria, recognition of skills, non-discrimination and integration of migrant workers and their families, curbing irregular migration, border control and patrolling sea lanes, the role of business and trade union and international cooperation. Countries of origin are mainly concerned with releasing pressures over their labor markets, the protection of migrants, their welfare, maximizing the contributions of migrants to development through financial remittances and their productive use, effective return migration policies, migration statistics, and international cooperation. The course will examine how a selected number of countries of origin and destination formulated and implemented policies in the respective areas of concern to the two sets of countries.

MRS 503/5207 - Migrants & Refugees in the International System (3 cr.)

Description

The course attends to the consequence for the nation state and for the international system of migration and refugee movement. The course focuses on historical and contemporary population movements. By connecting historical and contemporary population movements to, among others, colonization, globalization, nationalism, citizenship, human rights and minority politics, the course interrogates the relationship between migrants, refugees, the nation-state, and the international system.

MRS 508/5208 - Special Topics in Migration and Refugee Studies (3 cr.)

Description

Topics discussed vary every semester and depends on the instructor. The topic of the course will be announced prior to registration.

Cross-listed

Same as SOC/ANTH 5208.

When Offered

Offered annually.

MRS 509/5209 - Migration, Integration and Citizenship (3 cr.)

Description

This course will examine the challenges brought to citizenship theory by migrations and migrants integration. Diverging definitions of citizenry embody and express distinctive understandings of nationhood, be it state-centered

and assimilationist, ethnocentric and 'differentialist' or multiculturalist, that are deeply rooted in the political and cultural history of different nations. The course will focus on the various conceptions of citizenship and how they influence the integration and the migrants' identity (re)constructions well as, to a certain extent, trigger a redefinition of receiving countries' cultural and political norms, including the very meaning of Nation-State.

Cross-listed

Same as SOC/ANTH 5209.

MRS 513/5213 - Practicum in Psychosocial Interventions for Forced Migrants and Refugees (2 cr.)

MRS 514/5214 - Psychosocial Interventions for Forced Migrants and Refugees (3 cr.)

MRS 528/5228 - Migration in International Law (3 cr.)

Description

This course explores international law's impact on state migration control, as well as its broader influence on the global phenomenon of migration. States and other actors have increasingly sought to manage aspects of migration at the international level to ensure orderly and humane control of population movements. This course examines the different ways in which international law engaged with migration through, amongst other things, general principles of international law, human rights and labor law, international criminal law, the laws of armed conflict, as well as trade and environmental law.

Cross-listed

Same as LAW 5228.

MRS 584/5284 - Practicum: Internship or Research (3 cr.)

Prerequisites

Permission of Advisor.

Description

Internship for four to six months in an organization working with migrants/refugees or active involvement on an institutional research project that examines elements of population movements. The work is assessed on the basis of a written report and discussions with faculty advisor.

MRS 599/5299 - Research Guidance and Thesis (3 cr.)

Description

Supervision in the writing of the thesis.

When Offered

Offered in fall and spring.

MUSC 255/1010 - The Songs of America (3 cr.)

Description

An introduction to popular American music via genre and performance. Study of discrete sets of American songs, drawn from the major genres of current popular American music, and identification of salient features of these genres.

Notes

Requires no previous musical training.

MUSC 252/1011 - Vocal Methods (3 cr.)

Description

An overview of the skills required to sing well. Training in vocal production, some sight-singing, and study of songs chosen by the instructor and by the student.

Notes

Requires no previous musical training.

MUSC 250/1012 - Guitar and Piano: Accompaniment and improvisation "by ear" (3 cr.)

Description

Students will acquire an understanding of the division of the octave into 12 semitones, and of basic related scales and chords. They will learn to play improvised song accompaniments on piano and guitar, and to develop more elaborate accompaniments over time.

Notes

Requires no previous musical training.

MUSC 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all first-year students as part of the Primary Level Core.

When Offered

Offered occasionally.

MUSC 280-281/1800-1801 - Applied Private Instruction (1 cr.)

Prerequisites

Concurrent: Students in MUSC 1800 must register concurrently in MUSC 1805, or achieve a passing grade on the placement exam. Students who have taken MUSC 1800 should register for MUSC 1801; those who have completed MUSC 2800 should register for MUSC 2801. MUSC 283 may be repeated for credit indefinitely. Music majors would normally register for MUSC 4800 after completing MUSC 2801.

Description

Private lessons in voice or an instrument. Twelve one-hour lessons in the semester. Students are expected to practice a minimum of one hour every day. Students will perform before a jury of teachers for the final examination. A lab fee will be assessed for each semester of instruction.

Notes

All students are required to meet with their teacher IN THE FIRST WEEK OF CLASSES. They MUST contact the Music Coordinator in the Department of the Arts' Main Office by the first day of classes in order to arrange this. Students in MUSC 1800 may be assigned to a different teacher after this initial meeting, at the discretion of the Music Program.

MUSC 180/1805 - How to Read Music (3 cr.)

Description

Instruction in how to read music.

Notes

Students taking MUSC 1800-1801 , Applied Private Instruction (1 cr) are required to take this course in the same semester, or pass the music literacy placement exam.

MUSC 225/2000 - World Music (3 cr.)

Description

Study of the musical practices and cultures of representative diverse nations and peoples.

Notes

Requires no previous musical training

MUSC 299/2099 - Selected Topics for Core Curriculum (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

MUSC 220/2200 - Introduction to Music (3 cr.)

Description

The course will consist of two parts. The first is an introduction to the fundamental elements of music, including harmony, melody, timbre, rhythm and tempo, and texture, and to the instruments of the orchestra, voices, and choirs. Students will also learn the elements of musical notation and how to read it. The second is a short survey of great music in the western tradition, and of the composers who created it.

When Offered

Offered in fall and spring.

MUSC 330/2300 - Introduction to Music Technology (3 cr.)

Description

Introduction to the study of acoustics and digital audio, music synthesis, MIDI, music sequencing, and basic recording techniques. Students will produce and record audio projects with available facilities.

Notes

Preference will be given to declared music minors. No prior musical training is required.

MUSC 331/2301 - Music Production Using Protools I (3 cr.)

Description

After finishing this course, students will be qualified to apply for certification from Digidesign, the creator of Protools software, the industry standard. Students will learn to combine audio multi track recordings of live instruments with music instruments digital interface (MIDI) recording for arranging and composing, using software synthesizers and samplers (electric and real recorded acoustic instruments), and audio looping. Also, this course will develop essential techniques for recording, editing, and mixing. The software used to accomplish this will be Protools HD, Protools LE, and Protools M-Powered systems (v. 8.0.1), which are the market standard for digital audio workstation applications used for sound recording and mixing.

MUSC 232-332-432/2302-3302-4302 - Digital Audio / MIDI Lab (1 cr. each)

Prerequisites

MUSC 2200 and MUSC 2300 .

Students entering the course for the first time register in MUSC 2302. Students who have taken a semester of MUSC 2302 should register for MUSC 3302; those who have completed MUSC 3302 register for MUSC 4302.

Description

The course teaches the theory and practice of digital audio recording and editing, and music instruments digital interface (MIDI) composing and arranging, using a digital audio workstation (DAW) application and MIDI controllers. The DAW software used to accomplish this will be Protools HD , Protools LE, and Protools M-Powered systems (v.8.0.1), which are the market standard for digital audio workstation applications used for sound recording and mixing.

MUSC 333/2303 - Microphone Techniques (3 cr.)

Prerequisites

MUSC 2300 and MUSC 2301

Description

A brief history of microphone development and a general introduction to microphone theory and design, with an overview of wireless microphones. Detailed study of microphone polarity, frequency response, and amplitude ability, which are the features that define how the microphone captures sound and its suitability to different instruments. In addition, the course will study microphone placement, and microphone preamplifiers and accessories, in recording in studio and in live performances.

MUSC 240/2400 - Western Music Theory I (3 cr.)

Prerequisites

MUSC 1805 ,MUSC 2200 and MUSC 1800. Concurrent with MUSC 2401.

Description

Students will review the elementary concepts of pitch and rhythmic notation. The course quickly progresses through scale construction, pitch intervals, chord construction, and fundamental concepts of counterpoint and instrumentation. By the end of the semester, students will be able to compose two-part counterpoint, spell triads and seventh chords, and will begin to understand four-part notation and scoring.

When Offered

Offered in fall and spring.

MUSC 241/2401 - Sight-Singing and Aural Skills I (1 cr.)

Prerequisites

Concurrent with MUSC 2400

Description

Students will review the elementary concepts of pitch and rhythmic notation. By the end of the semester, they will be able to sing melodies in major and minor tonalities, articulate rhythms in simple and compound meters, and vocally arpeggiate triads and seventh chords. Students will practice dictation as well as aural skills.

Notes

Students must be able to match pitch within a 1-octave range.

MUSC 245/2450 - Arab Music Theory I (3 cr.)

Prerequisites

MUSC 1805 ,MUSC 2200 and MUSC 1800. Concurrent with MUSC 2451.

Description

Students will review the elementary concepts of jinses (Arab tri-, tetra-, or pentachord), maqamat (Arab music modes), and dorooob (Arab rhythm) notation. The course quickly progresses through maqam construction, jins intervals, darb construction, and fundamental concepts of Arab music texture and instrumentation. By the end of the semester, students will be able to compose Arab music simple forms, spell jinses and maqamat, and will begin to understand maqamat families and how to modulate between maqam family members, and the takht (traditional Arab music ensemble) notation and scoring.

MUSC 246/2451 - Maqam I (Arab Music Sight-Singing and Aural Skills) (1 cr.)

Prerequisites

MUSC 1805 ,MUSC 2200 and MUSC 1800 . Concurrent with MUSC 2450.

Description

Students will learn the elementary concepts of Arab pitch and rhythmic notation. By the end of the semester, students will be able to sing Arab melodies in different maqams, and articulate dorooob in simple and compound meters. Students will practice dictation as well as aural skills.

MUSC 262-362-462/2620-2621-2622 - Arab Music Ensemble (1 cr.)

Prerequisites

must be taken concurrently with MUSC 3250

Description

The class will constitute a vocal and instrumental performing ensemble, which will rehearse during class periods.

When Offered

Offered in fall and spring.

Repeatable

MUSC 2622 may be repeated for credit.

Notes

Rehearsal will lead to a concert performance of the music prepared.

MUSC 263-363-463/2630-2631-2632 - Guitar Ensemble (1 cr.)

Prerequisites

There are no pre-requisites for MUSC 2630. Students who have taken MUSC 2630 should register for MUSC 3631; those who have completed MUSC 3631 register for MUSC 4632. MUSC 4632 may be repeated for credit indefinitely.

Description

The class will constitute a performing ensemble, which will rehearse during class periods. Work will also include the techniques of playing, and some study of how to read music.

MUSC 264-364-464/2640-2641-2642 - Chamber Music Ensembles (1 cr.)

Prerequisites

Permission of the Director of the Music Program. Students who have taken MUSC 2640 should register for MUSC 2641; those who have completed MUSC 2641 register for MUSC 2642. MUSC 2642 may be repeated for credit indefinitely.

Description

Private coaching for a chamber music ensemble, normally of two to six players (rarely more). This may be a jazz combo, a takht, a percussion ensemble, or conventional chamber ensemble for Western art music (e.g. string quartet or piano-violin duo). Twelve one-hour coachings in the semester. Students will perform before a jury of teachers for the final examination. A lab fee will be assessed for each semester of instruction.

MUSC 265-365-465/2650-2651-2652 - Rehearsal/Performance Practicum (1 cr.)

Prerequisites

Prerequisite: consent of music faculty (required prior to registration).

Description

2652 may be repeated for credit.

Notes

A significant contribution to departmental concerts and recitals, or membership in the Cairo Choral Society, or other appropriate organizations approved by the Director of the Music Program.

MUSC 266-366-466/2660-2661-2662 - Chamber Singers (1 cr.)

Prerequisites

Consent of the director.

Description

The class will constitute a chorus, which will rehearse during class periods. Work will also include the techniques of singing, and some study of how to read music.

When Offered

Offered in fall and spring.

Repeatable

2662 may be repeated for credit.

Notes

Rehearsal will lead to a concert performance of the music prepared.

MUSC 267-367-467/2670-2671-2672 - Cairo Choral Society (1 cr.)

Prerequisites

Permission of the instructor. Students who have taken MUSC 2670 should register for MUSC 2671; those who have completed MUSC 2671 register for MUSC 2671. MUSC 2671 may be repeated for credit indefinitely.

Description

A community chorus dedicated to the study, promotion, and performance of the great choral works in the Western musical tradition. It presents performances with a professional orchestra (the Cairo Festival Orchestra) and soloists at various venues in Cairo. Students registered in this course will participate in all rehearsals and performances in the semester. (Students may also choose to join the chorus on a not-for-credit basis.)

MUSC 282-283/2800-2801 - Applied Private Instruction (1 cr.)

Prerequisites

MUSC 1800-1801 . Students who have completed MUSC 1801 register for MUSC 2800, and those who have completed MUSC 2800 register for MUSC 2801. MUSC 2801 may be repeated for credit indefinitely. Music majors would normally register for MUSC 4800 after completing MUSC 2801.

Description

Private lessons in voice or an instrument. Twelve one-hour lessons in the semester. Students are expected to practice a minimum of two hours every day. Students will perform before a jury of teachers for the final examination. A lab fee will be assessed for each semester of instruction.

Notes

All students are required to meet with their teacher IN THE FIRST WEEK OF CLASSES. They MUST contact the Music Coordinator in the Department of the Arts' Main Office by the first day of classes in order to arrange this. Students in MUSC 1800 may be assigned to a different teacher after this initial meeting, at the discretion of the Music Program.

MUSC 284-285-286/2850-2851-2852 - Private Instruction for Piano Proficiency (1 cr.each)

Prerequisites

There are no pre-requisites for MUSC 2850. Students who have taken MUSC 2850 should register for MUSC 2851; students who have register for MUSC 2851 should register for MUSC 2852.

Concurrent : Students in MUSC 2850 with no prior experience, or who cannot read music, MUST register concurrently in MUSC 1805.

Description

Private lessons in piano, intended for music majors or minors whose primary instrument is not piano. Twelve one-hour lessons in the semester. Students will perform before a jury of teachers for the final examination. A lab fee will be assessed for each semester of instruction.

Notes

1. Students registering in this course for the first time should enroll in MUSC 2850. 2. Students in MUSC 2850 with no prior experience, or who cannot read music, MUST register concurrently in MUSC 1805 . 3. All students are required to meet with their teacher in the first week o classes. They must contact the Music Coordinator in the Department of the Arts' Main Office on the first day of classes in order to arrange this. Students in MUSC 1800-1801 may be assigned to a different teacher after this initial meeting, at the discretion of the Music Program.

MUSC 370/3099 - Selected Topics in Music (3 cr.)

Prerequisites

Prerequisite: consent of the instructor.

Description

Offered occasionally.

Repeatable

May be repeated for credit if content changes.

MUSC 372/3110 - Diction for Singers in the Western Tradition (3 cr.)

Prerequisites

MUSC 1800/4800 (at least two semesters) or permission of the instructor.

Description

Study of the fundamentals of diction for singing in German, French, Italian, and English. Students will learn the International Phonetic Alphabet (IPA), and perform repertory in these languages in class. Open to students outside the voice concentration, including nan-majors, with permission of the instructor; some prior study of voice is required,

however.

MUSC 371/3150 - Western and Arab Musical Instruments (3 cr.)

Prerequisites

MUSC 2200

Description

Fundamentals of percussion, brass, woodwind, string, keyboard, and electric and electronic instruments in Western and Arab music. The course will explain how sound is produced in these instruments, looking at pitch and decibel ranges as well as playing techniques. Also, this course will examine the structure of music ensembles, from the orchestra and Arab takht to modern and contemporary ensembles in Western and Arab music.

MUSC 360/3200 - Music in the Western Tradition (3 cr.)

Prerequisites

MUSC 2200 and MUSC 2400 .

Description

The study of western music in its historical and cultural context, from its medieval roots to the present day, with an emphasis on representative great works and their composers.

MUSC 342/3250 - Music in the Arab Tradition (3 cr.)

Prerequisites

MUSC 2200

Description

Study of Arab music and song in its historical and cultural context, from its origins to the present day.

Notes

No previous experience in Arab music is required.

MUSC 334/3304 - Music Production for Visual Media (3 cr.)

Prerequisites

MUSC 2200 MUSC 2300 and MUSC 2301

Description

This course is designed to introduce students to a range of techniques and technologies used in producing audio for visual media. The course will examine theory and practice used in music production for TV, film, web, video games, and art installations. Students will acquire skills in digital music production for visual media by working on projects which simulate actual professional productions. The course also provides the terminology of audio production and the basic theoretical framework upon which production skills can be built.

MUSC 335/3305 - Electronic Music (3 cr.)

Prerequisites

MUSC 2200 and MUSC 2300

Description

A study of the history of Electronic music, in brief prior to 1945, and in more detail thereafter, touching on the different schools of electronic music in Paris (Musique Concrete), Cologne (Elektronische Muzik), Milan, and America, the use of the Voltage-Controlled synthesizer, tape composition, live Electronic music, Rock and Pop Electronic music, and the Digital Revolution and MIDI. In addition to history, the course will explain Electronic musical instruments, forms, and composers.

MUSC 336/3306 - Sound for Picture Production (3 cr.)

Prerequisites

FILM 2200 and MUSC 2301

Description

This course provides an in-depth, interactive study of sound and its relationship to picture. Topics will include post production areas relative to time code, synchronization, workflow, data interchange, sound recording and editing, lip-syncing and voice over tracks using ADR (Automatic Dialog Replacement), creating special effects with Foley, routing structures, sound mixing, and delivery methods. All of the above will be first described in class lectures and then applied practically in projects.

Cross-listed

Same as FILM 3306 .

MUSC 337/3307 - Music for Film (3 cr.)

MUSC 000/3308 - Live Sound Reinforcement (3 cr.)

Prerequisites

MUSC 2300.

Description

The course is intended to provide understanding of the fundamentals of Live Sound and knowledge of the various components, equipment, tools, history and theory, as well as sound system design concerns commonly encountered in the real world. The practical part consists of setting-up a basic sound reinforcement system and hands-on operation. Previous experience or knowledge in music, recording or live sound is not expected nor required, although it is a plus.

MUSC 340/3400 - Western Music Theory II (3 cr.)

Prerequisites

MUSC 2400 and MUSC 2401 . Concurrent with MUSC 3401

Description

Students will review the concepts of counterpoint and harmony. The course will cover instrumentation, phrase, tonic and dominant, embellishing tones, chorale harmonization and figured bass, phrase structure and expansion, diatonic sequence, and intensifying the dominant. Students will learn to analyze, compose, and write about music topics covered in class.

MUSC 341/3401 - Sight-Singing and Aural Skills II (1 cr.)

Prerequisites

MUSC 2400 ,MUSC 2401 . Concurrent with MUSC 3400.

Description

Students will review the intermediate concepts of pitch and rhythmic notation. By the end of the semester, they will be able to sing more complex melodies in major and minor tonalities, and develop their ability to perform simple and compound meters, aurally identify all intervals, and study phrasing, cadences, and the harmonic expansion of secondary chords.

MUSC 345/3450 - Arab Music Theory II (3 cr.)

Prerequisites

MUSC 2450 and MUSC 2451 .

Concurrent: Students in this course must also register for MUSC 3451

Description

Review of the instrumental and song forms of Arab music. The course will explore maqam construction, jins intervals, darb construction, and fundamental concepts of Arab music texture and instrumentation. By the end of the semester, students will be able to analyze Arab music instrumental and song forms and extract darbs and maqamat from them. In addition students will be able to compose Arab music, modulating between maqamat and changing darbs in the same piece.

MUSC 346/3451 - Maqam II (Arab Music Sight-Singing and Aural Skills) (1 cr.)

Prerequisites

MUSC 2450 and MUSC 2451 . Concurrent: Students in this course must also register for MUSC 3450

Description

Study of pitch and rhythmic elements of Arab music at an advanced level. By the end of the semester, students will be able to sing complex Arab melodies in different maqamat and their families, and articulate and decorate darbs in simple and compound meters. Students will practice dictation as well as aural skills.

MUSC 311/3520 - Guitar Pedagogy (3 cr.)

Prerequisites

MUSC 1805 MUSC 2200 and MUSC 1800/4800.

Description

Preparation for a professional career that balances performance and teaching. Coursework will involve the analysis of guitar methods, technique manuals, and literature. The topics that will be addressed over the semester will include early childhood education methods and group instruction, as well as how to coordinate beginning, intermediate and advanced level private guitar lessons and studios for adults.

MUSC 402/3900 - Independent Study (1-3 cr.)

Prerequisites

Open to students with a minimum B average.

Description

In exceptional circumstances, some advanced music students may arrange, with departmental approval, to study beyond the regular course offerings.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit if content changes.

MUSC 438/4308 - Music Production Using Protools II (3 cr.)

Prerequisites

MUSC 2300 and MUSC 2301

Description

A continuation of Music Production Using Protools I. The course will teach students advanced sound engineering techniques. For example, students will learn how to adapt their workstation (including the rams, processor, and hard disks) to accommodate large recording sessions without facing problems of slow processing which can affect quality, by adjusting the playback engine and delaying compensation. Students will learn how to set time and tempo operations and key signature for composing and arranging songs using Protools, and how to upgrade the quality of the MIDI recorded tracks performed by amateurs into professional-quality output. The course will also explore different types of recording and advanced editing techniques, and develop essential techniques for using plug-ins in the mixing and mastering stages.

MUSC 439/4309 - Digital Mixing Techniques (3 cr.)

Prerequisites

MUSC 2200 ,MUSC 2300 and MUSC 2301

Description

The course will examine the theory and practice of the music mixing process and mixing analysis, using a digital audio workstation (DAW) application, Protools v.8.0.1, currently the market standard. Students will study the different hardware (like studio monitors or speakers), software (i.e. the Protools application), and processes (like meters and signal flow), involved in digital mixing, the use of equalizers, dynamics processors, effects (reverb, chorus and delay) and pitch corrections, and the different types of panning, automation and bouncing of final mixes.

MUSC 440/4400 - Western Music Theory III (3 cr.)

Prerequisites

MUSC 3400 and MUSC 3401 . Concurrent: students in this course must also register for MUSC 4401

Description

In-depth study of phrase rhythm and motivic analysis, tonicizing scale degrees other than V, modulation to closely related keys, binary and ternary forms, modal mixture and chromatic mediant and submediants, and the Neapolitan sixth and augmented sixth chords. Students will leave this course with ability to analyze, compose, and write about all of the topics covered in Western Music Theory I-III.

MUSC 441/4401 - Sight-Singing and Aural Skills III (1 cr.)

Prerequisites

MUSC 3400 and MUSC 3401 . Concurrent: students in this course must also register for MUSC 4400

Description

Review of advanced concepts of pitch, harmony, and rhythmic notation. By the end of the semester, students will be able to sing melodies in all major and minor tonalities, articulate rhythms in simple, compound, and irregular meters, arpeggiate harmonic progressions include augmented and other predominant harmonies and modulation, and handle various chromatic techniques.

MUSC 480-481-482-483/4800-4801-4802-4803 - Advanced Applied Private Instruction (3 cr.)

Prerequisites

MUSC 2801. Students who have taken a semester of MUSC 4800 should register for MUSC 4801; those who have completed MUSC 4801 register for MUSC 4802, and those who have completed MUSC 4802 register for MUSC 4803. MUSC 4803 may be repeated for credit indefinitely.

Description

Private lessons in voice or an instrument. Twelve one-hour lessons in the semester. Students are expected to practice three hours each day. Students will perform before a jury of teachers for final examination. A lab fee will be assessed for each semester of instruction.

Notes

All students are required to meet with their teacher IN THE FIRST WEEK OF CLASSES.

MUSC 490/4900 - Advanced Seminar (3 cr.)

Prerequisites

Prerequisite: Consent of the instructor.

Description

In-depth examination of special advanced topics in music determined by the special interest and expertise of the faculty.

When Offered

Offered occasionally.

Notes

Designed for advanced students.

MUSC 492/4980 - Capstone Final Recital (3 cr.)

Prerequisites

MUSC 4802.

Description

Twelve one-hour private lessons in voice or an instrument, constituting final preparation for a solo recital at least forty minutes in length, of repertory chosen by the instructor, normally presented in the senior year. Students are expected to practice at least three hours each day. A lab fee will be assessed. The student must play the full recital as a juried exam with a grade of B or higher at least thirty days before presenting the recital. Students who do not achieve a grade of B or higher in the jury may repeat the course once for credit in order to qualify to present the recital, which is required for graduation with the B.M.A. The jury will also attend the recital and assign the final grade for the course.

NANO 500/5200 - Nanomaterials, Synthesis, Processing and Applications (3 cr.)

Description

This course provides a comprehensive introduction to nanomaterials, their synthesis, properties, processing techniques and applications. The coverage addresses top-down and bottom-up approaches including nanomaterials ranging from small particles and isolated clusters to nanostructured materials, multilayer and consolidated bulk products, thin film and coatings. Their chemical, mechanical, optical and magnetic properties will be introduced.

NANO 502/5202 - Simulation and Modeling for Nanoscale Materials and Systems (3 cr.)

Description

Principles of modeling structures and processes at the nanometer scale, including meshing techniques, finite element analysis, and molecular dynamics. Simulation of Materials Science-based or Mechanics-based modeling methods employed; mechanical response of nanostructured materials; Modeling methods including electronic structure, molecular dynamics and Monte Carlo techniques are included.

Cross-listed

Same as MENG 5232.

NANO 503/5203 - Advanced Testing and Characterization Techniques (3 cr.)

Description

Experimental techniques in the study of materials including quantitative measurements for the characterization of micro and nanostructured bulk and thin film materials using optical, electron and atomic force microscopy; Secondary ion mass spectroscopy (SIMS), Auger Electron Spectroscopy (AES), Rutherford Backscattering (RBS); EDX; X-ray diffraction and differential scanning calorimetry for thermal analysis. Advanced and conventional testing techniques for characterization of the physical, optical, magnetic and mechanical properties of micron and Nanomaterials and devices.

Cross-listed

Same as MENG 5228.

NANO 504/5204 - Fabrication of Nanomaterials For Films And Devices (3 cr.)

Description

This course will cover different techniques implemented for preparing thin films such as chemical vapor deposition, physical vapor deposition (evaporation, sputtering, pulsed laser deposition, electron beam, etc), and molecular beam epitaxy. In addition, different techniques for enhancing the physical properties of materials will be covered. This will include post-laser treatments, metal induced crystallization, thermal treatments, etc.

Cross-listed

Same as MENG 5231.

NANO 505/5205 - Nanochemistry (3 cr.)

Description

This course introduces students to the basics of chemistry at the nanoscale, and would entail a general introduction to the nano world; physico-chemical considerations for properties at the nanoscale (band structures, typical and useful "nano effects" etc...); basic synthesis and fabrication methods for nano structures (top-down and bottom up approaches).

Cross-listed

CHEM 5205

NANO 506/5206 - Management and Economics of Nanotechnology (3 cr.)

Description

The course will discuss various aspects of management and economics of nanotechnology. It would include: (1) Nanotechnology's role in society and particularly within a fast changing world. (2) Nanotechnology is the next big driver of wealth creation within corporations and countries. (3) Product and Production Nanotechnologies, (4) Enhancing creativity and managing innovation in the context of nanotechnology. (5) Nanotechnology Life Cycles (The Curves of Technological Progress, Nanotechnology & Market Interactions and Products & Process Life Cycles)

NANO 520/5210 - Advanced Quantum Mechanics (3 cr.)

Prerequisites

PHYS 4042 or equivalent.

Description

Fundamental concepts of quantum mechanics including the harmonic oscillator, the hydrogen atom, electron spin and addition of angular momentum. Qualitative and approximation methods in quantum mechanics, including time-independent and time-dependent perturbation theory, variational methods, scattering and semiclassical methods. Applications are made to atomic, molecular and solid matter. Systems of identical particles including many electron atoms and the Fermi gas.

Cross-listed

Same as PHYS 5043.

When Offered

Offered in fall and spring.

NANO 521/5221 - MEMS/NEMS Technology and Devices (3 cr.)

Prerequisites

Consent of instructor.

Description

Basic MEMS/NEMS fabrication technologies, various transduction mechanisms such as piezoelectric, pyroelectric, thermoelectric, thermionic, piezoresistive, etc. The theory of operation of few sensors including infrared detectors, radiation sensors, rotation and acceleration sensors, flow sensors, pressure and force sensors, and motion sensors. An introduction to different techniques for analyzing experimental data.

Cross-listed

Same as PHYS 5277, RCSS 5242 .

When Offered

Offered in fall

NANO 522/5222 - Electronic Transport in Semiconductors (3 cr.)

Description

This course will cover three main topics namely: Near-equilibrium transport in the presence of small gradients in the electrochemical potential or temperature, with or without the application of a small magnetic field. Physics of carrier scattering and how the microscopic scattering processes are related to macroscopic relaxation times and mean-free-paths. High-field transport in bulk semiconductors and "non-local" transport in sub-micron devices.

Cross-listed

Same as PHYS 5236.

NANO 532/5232 - Nanocomposite Science and Technology (3 cr.)

Description

This course is designed to provide fundamental understanding of emerging nanocomposite materials science and technology. The topical areas to discuss include synthesis of various nanoscale reinforcements, such as nanowires, nanotubes, and inorganic nanoparticles; fabrication and processing techniques of nanocomposites; dispersion of nanoreinforcements; interfacial adhesion; mechanical and functional properties of nanocomposites including gas/moisture barrier characteristics, electrical and magnetic properties, thermal properties and flame retardancy; molecular dynamic simulations; design and applications of nanocomposites.

NANO 533/5233 - Materials for Energy Conversion and Storage (3 cr.)

Description

This course will focus on advanced electrochemical energy conversion and storage systems including fuel cells, lithium-ion batteries, and supercapacitors; Hydrogen storage; Advanced thermal storage . Through the journey in this course, students are anticipated to understand why and how these systems are advantageous in renewable energy applications.

Cross-listed

Same as MENG 5234.

NANO 541/5241 - The Chemistry of Nanostructures (3 cr.)

Prerequisites

NANO 5205

Description

This course addresses the synthesis and chemical properties of the different categories of nanostructures such as carbon NANOUbes/nanorods/ etc..., fullerenes, colloids, Self-assembled monolayer structures (SAMs), dendrimers and other macromolecules, oxide and inorganic nanotubes/fibers/rods/etc. For each category examples of applications would be giving to demonstrate the applicability of the properties discussed.

Cross-listed

CHEM 5241

NANO 542/5242 - Nanoelectrochemistry (3 cr.)

Prerequisites

NANO 5205

Description

This course addresses the fundamentals of electrochemistry, and their application to the synthesis of nanostructures, together with applications (e.g. sensors, fuel cells, batteries, electrolysis, photovoltaic cells, reduction of carbon dioxide, environmental remediation, water disinfection, ect...). Characterization and analysis techniques would also be addressed.

Cross-listed

CHEM 5242

NANO 551/5251 - Nanotechnology Applications in Construction Materials (3 cr.)

Description

This course covers the use of nanotechnology in studying the particle shape, size and composition of conventional and advanced construction materials on a sub micro level. The correlation between the nano level characteristics and the mechanical properties as well as the durability of the materials is studied. Composition and arrangement of crystalline structures and chemical composition of materials are examined to yield materials of superior properties.

NANO 552/5252 - Nanotechnology in Studying Damage and Failure in Structures (3 cr.)

Description

The course employs nanotechnology to study submicro cracks, flaws and damage indications in structures through examining the materials used. The course aims at providing early prediction of the life time of structures and nano-based prediction of the damage patters and hence around decision on repair intervention and the technique used.

NANO 561/5261 - Advanced Solid-State Devices (3 cr.)

Prerequisites

Graduate standing in engineering and physics. Electromagnetics, vector algebra, differential equations, and MATLAB programming.

Description

This course covers crystal structures, band gap theory, ionic equilibrium theory, fundamentals of carrier transport, compound semiconductors III-V. This course will make special emphasis on the properties of various types of junctions (p-n junctions, heterojunctions, metal-semiconductor junctions) leading to various electronic devices such as field effect transistors (FETs), metal oxide-semiconductor FETS (MOSFETs), high electron mobility transistors (HEMTs), etc. Short Channel effects and nanoscale phenomena will be emphasized throughout the course and their impact on device modeling in analog and digital circuits.

Cross-listed

Same as ECNG 5210.

NANO 562/5262 - Advanced Integrated Circuit Design (3 cr.)

Description

The objective of this course is to provide the students with the knowledge of designing emerging nanoelectronic devices and using these devices to build future computing systems. After an introduction to CMOS devices and circuits, the course will cover CMOS design and simulation topics. More attention will be paid to the applications of these devices in the implementation of future computers. The memory and logic architectures that take advantage of the properties of the emerging devices will be discussed. Particularly, signal integrity and timing issues, as well as power consumption will be emphasized.

Cross-listed

Same as ECNG 5218.

NANO 571/5271 - Bionanotechnology (3 cr.)

Description

This course covers the use of various nanostructures for ultrasensitive detection of DNA, bacteria and viruses. Recent techniques for detection of single biomolecules that offers superior advantages over the conventional bulk measurements will also be presented. This course will also cover the use of different nanoparticles such as nanocrystals and gold nanoparticles for optical imaging, as hyperthermia agents for cancer therapy, and the development of smart drug delivery nanocarriers.

Cross-listed

BIOT 5271

NANO 592/5930 - Selected Topics in Nanotechnology (3 cr.)

Prerequisites

Consent of the faculty advisor.

Description

Topics to be chosen every year according to specific interests. Maybe taken for credit more than once if content changes.

NANO 590/5940 - Graduate Thesis Seminars I (2 cr.)

Description

Seminar on research topics, research methodology and thesis writing. The seminars given by invited speakers include topics on the economic impact of nanoscale sciences and nanotechnology, nano-industry and nano-entrepreneurship.

NANO 591/5941 - Graduate Thesis Seminar II (1 cr.)

Prerequisites

NANO 5940

Description

Seminars on research topics given by invited speakers that includes health and environmental impact of nanotechnology. In addition, seminars are given by the enrolled students on their research work.

NANO 599/5980 - Research Guidance Thesis (3 cr.)

Prerequisites

NANO 5940

Description

Consultation on problems related to student thesis
Must be taken at least twice for credit.

NANO 621/6121 - Nanophotonics (3 cr.)

Description

The course will cover: Maxwell's equations, light-matter interaction, dispersion, EM properties of nanostructures, etc., Photonic crystals Photonic crystal fibers, Photonic nanocircuits Metal optics, manipulating light with plasmonic nanostructures, plasmonic nano-sensors, near-field optics, metamaterials, negative refractive index and super-resolution.

NANO 630/6230 - Biomaterials (3 cr.)

Description

Lectures will include: materials for biomedical applications and their biocompatibility; design at a molecular scale of materials used in contact with biological systems, including biotechnology and biomedical engineering; methods for biomaterials surface modification and characterization. Other topics include analysis of protein adsorption on biomaterials; tissue and organ regeneration; design of implants and prostheses based on control of biomaterials-tissue interactions; drug delivery, and cell-guiding surfaces.

Cross-listed

Same as MENG 5235.

NANO 640/6240 - Nanoporous Materials (3 cr.)

Prerequisites

NANO 5205

Description

Review of the field of nanoporous materials. Synthesis, characterization and surface modification. Adsorption and separation processes, biological and catalytic applications. Nanoporous materials for the removal of pollutants in the gaseous and liquid phases.

Cross-listed

CHEM 6240

NANO 642/6242 - Nanocatalysis (3 cr.)

Description

This course covers the characterization and reactivity of nanoscale catalysts. Concept of nanocatalysis. Reaction Engineering. Modeling in Nanocatalysis. Nanocatalytic membranes for gas to liquid conversion. Nanocatalysis for dehydrogenation of hydrocarbons. Charge transport in Molecular and Nanoscale systems. Synthesis of Nanoceramic

catalysts by chemical and physical routes.

NANO 699/6980 - Research Guidance Dissertation (3 cr.)

Description

Consultation on problems related to student thesis. To be taken 11 times for credit.

PENG 200/2011 - Introduction to Petroleum Geology (2 cr.)

Prerequisites

CHEM 1005

Description

Basic concepts of Geology; Uniformization, Geologic Time, Plate Tectonics, Rocks and Minerals (Igneous, Sedimentary and Metamorphic), Minerals, Origin of Sedimentary particles, Sedimentary Transport, Depositional Environments (Continental, Transitional and Marine), Sedimentary Facies, Lithification, classification of sedimentary rocks, Mechanical behavior of the rocks, Stratigraphy (correlation, superposition, unconformity, faunal succession and relative age), Structure, folds and its types, faulting and their types.

When Offered

Offered in fall and spring.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 201/2012 - Geology Lab. (1 cr.)

Prerequisites

PENG 2011 or concurrent.

Description

Introduction to physical properties of the Earth's materials. Identification of rock forming minerals. Macroscopic description and identification of rocks. Brief introduction to microscopic methods used in identification of the different types of rocks; mode of preservation and identification of fossils and their significance to petroleum geology; topographic and subsurface maps; contour maps and cross sections and finally, introduction to remote sensing techniques.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 000/2013 - Petroleum Industry Overview (1 cr.)

Description

Overview and history of the petroleum industry and petroleum engineering; nature of oil and gas reservoirs, exploration and drilling, formation evaluation, well completions and production, surface facilities, reservoir mechanics, improved oil recovery; overview of refining, petrochemical industry and downstream processing of oil and gas.

PENG 218/2411 - Electrical Engineering (2 cr.)

Prerequisites

PHYS 1021 and MACT 2123 .

Description

Electric circuit theory; Three-phase systems; circuit analysis; electrical insulation; electrical measurements; energy conversion; induction motors, switchgear and substation apparatus, electric heating, Acoustics.

When Offered

Offered in fall or spring.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 219/2413 - Fundamentals of Surveying (1 cr.)

Prerequisites

MACT 1122

Description

Principles of plane surveying, methods of measuring distances, angles and difference in heights (levels), traverse computations, earthwork computations surveying fundamentals, survey mathematics, introduction to leveling, contouring, area and volume computations, rig positioning and leveling, pipeline undulations, reservoir locating and coordinates.

When Offered

Offered in fall or spring.

PENG 227/2415 - Materials Engineering (3cr.)

Prerequisites

CHEM 1005 and ENGR 2122 or concurrent.

Description

Structure & properties of materials; Metals; Ceramics; Plastics; Phase Equilibria; Structure/Properties relationship; Materials Selection; Performance of materials in oil environment.

When Offered

Offered in fall or spring.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 301/3011 - Petroleum Geology and Exploration (3cr.)

Prerequisites

PENG 2013 and SCI 2005

Description

Exploration geoscience, with an emphasis on applying current concepts, methods, and technologies on, basin analysis, sequence stratigraphy, petroleum systems modeling, seismic processing and interpretation, borehole imaging, and bid analysis in depositional basins.

When Offered

Offered in fall or spring.

PENG 302/3021 - Reservoir Rock Properties (3 cr.)

Prerequisites

PENG 3011 and ENGR 2122 .

Description

Core retrieving, handling and preparation, measurements of the Rock Porosity, permeability, saturation, electric properties, compressibility, and rock mechanics, surface tension, wettability, capillary pressure, relative permeability, formation damage, evaluation and remediation, flow units, concept and definition.

When Offered

Offered in spring.

PENG 303/3022 - Petrophysics and Fluids Lab (1 cr.)

Prerequisites

PENG 3021 and PENG 3211 or concurrent

Description

Lab safety and core plug preparation, measurements of porosity, gas and liquid permeabilities, saturation, electrical properties of the rock, Dean stark and retort, surface tension (Amott Test), wettability, capillary pressure calculation, relative permeability, PVT analysis.

When Offered

Offered in spring or fall.

PENG 311/3111 - Drilling Engineering I (3 cr.)

Prerequisites

PENG 2413.

Description

Geomechanics and effective wellbore placement, formation pressure, fracture pressure, threads and couplings, drilling fluids, rig types and basic systems, rig application ranges, drilling hazards and safety, well control, rig hydraulics, casing design, cementing design, drill bits type and analysis.

When Offered

Offered in fall and spring.

PENG 313/3112 - Drilling Engineering I Lab (1 cr.)

Prerequisites

PENG 3111 or concurrently.

Description

Mud program design, tests, and rheology, well control simulation, bits dulling, bits selection.

When Offered

Offered in fall or spring.

PENG 305/3211 - Reservoir Fluids (2 cr. + 1 cr.)

Prerequisites

ENGR 2122 and PENG 3011.

Description

Petroleum fluid properties, gas behavior, application of deviation factor to ideal gas law, fundamentals of phase behavior: bubble point and dew point curves, retrograde, characterizing the reservoir fluid, properties of reservoir fluids: formation volume factor, viscosity, solution gas-oil ratio, API gravity, specific gravity; and estimating gas, oil, and water properties from correlations, equations of state to predict PVT properties, applications of numerical methods and software, lab is to demonstrate PVT experiments and emphasize the concepts of petroleum fluid behavior under reservoir and surface conditions.

PENG 331/3215 - Reservoir Engineering Fundamentals (3 cr.)

Prerequisites

PENG 3211 and PENG 3021

Description

Fluid flow in porous media, reservoir energies, deriving mechanisms, diffusivity equation solutions, reservoir types and characterization, MBE for oil and gas reservoirs, DCA for reservoirs, Coning and residual saturations, and introduction to pressure transient.

When Offered

Offered in fall.

PENG 333/3221 - Well Testing (3 cr.)

Prerequisites

PENG 3215 .

Description

Overview of the Diffusivity Equation for Well Test Analysis, Well Test Analysis (Build up and Draw down well testing); Variable Rate Testing; Well Interference Testing; Gas Well Testing, Design of Well Tests, drillstem (DST) test, multiple-well test, pressure derivative analysis.

When Offered

Offered in spring

PENG 334/3222 - Well Testing Lab (1 cr.)

Prerequisites

PENG 3221 or concurrently.

Description

Data Analysis and Modeling Exercises using the state of the art well testing software.

When Offered

Offered in spring.

PENG 351/3225 - Natural Gas Engineering (3 cr.)

Prerequisites

PENG 3215 .

Description

Phase Behavior of Multicomponent Systems; Differential and Flash Vaporization, gas reservoir deliverability, material-balance calculations and decline curve analysis, gas flow measurement, dehydration and gas sweetening processes, hydrate control.

When Offered

Offered in fall or spring.

PENG 320/3227 - Formation Evaluation (3cr. + 1cr.)

Prerequisites

PENG 3021

Description

Introduction to modern well logging methods, petrophysical investigation of rocks in place, well to well correlations, qualitative and quantitative interpretation of well logs, cased hole logs, and core-log integration, running commercial software for petrophysical analyses.

When Offered

Offered in fall.

PENG 321/3310 - Well Completion and Workover (3 cr.)

Prerequisites

PENG 3111

Description

Introduction and definition of well completion and workover, Types of completions and pros and cons of each type (OH, CH, CH cemented, Linear,etc), Surface (SWHs) and Downhole components of completions (equipment) (tbg, packers, bridge plugs, SSDs, SSSV, SCSSV, ...etc) including the tubing design calculations, Coiled tubing/Wireline and coiled tubing operations, Stimulation (frac, acidizing and acid fracs), carbonate and sandstone acidizing, Perforation, Sand control/gravel pack, Formation damage, Workover fluid, Design completion of directional wells, Well completion economics, Lift systems.

When Offered

Offered in fall.

PENG 322/3311 - Production Engineering Fundamentals (2 + 1 Lab)

Prerequisites

PENG 3310

Description

Pressure Draw Down and productivity; Flow regime in vertical and Horizontal Pipes; Off Shore and Deep Water Production, Well Inflow Performance; Naturally Flowing Wells; Vertical lift performance, Multiphase flow; Gas separation, Emulsions and Inhibitors; Field Measurements, analysis of the production systems using the state of the art software, nodal analysis.

When Offered

Offered in spring.

PENG 323/3321 - Surface Facilities (3 cr.)

Prerequisites

PENG 3311.

Description

Oil and gas gathering systems, gas separation and treatment, crude emulsion and desalting treatment, multistage separation, surface facilities sizing, treatment facilities design and sizing, transportation of crude and gas, classification and fractionation of crudes.

PENG 361/3411 - Thermodynamics (3cr.)

Prerequisites

ENGR 2122 and CHEM 1005

Description

Fundamental Concepts and Definitions; Properties of Pure Substances; First and Second Law of Thermodynamics; Reversed Cycles; Reversibility and Entropy; Vapor and Gas Power Cycles.

When Offered

Offered in fall or spring.

PENG 363/3413 - Heat Transfer (3cr.)

Prerequisites

PHYS 1011 and PENG 3411

Description

Steady and Unsteady State Conduction, Forced and Natural convection, Radiation Heat Transfer and Solar Radiation, Heat Exchangers.

When Offered

Offered in spring

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 373/3415 - Principles of Energy Engineering (3 cr.)

Prerequisites

ENGR 2122 and PENG 3413

Description

Basic energy calculations; material, mass, and energy balance; reaction rates during chemical transformations in energy systems. Energy storage; Regeneration.

When Offered

Offered fall or spring.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 374/3420 - Corrosion and Oxidation Protection (3cr.)

Prerequisites

CHEM 1005 ,PENG 2415 and PENG 3411

Description

Corrosion theory; types of Corrosion; Oxidation; Wagner's theory; gas solid reactions; Creep; Fatigue; Stress Corrosion; Hot Corrosion; Inspection; Corrosion and Oxidation Protection of Pipe Lines and Drilling equipment.; Underwater Protection.

When Offered

Offered in fall or spring.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 375/3421 - Hydrogen and Fuel cells (3 cr.)

Prerequisites

PENG 2411 and PENG 3420

Description

Principles of electrochemical conversion; Hydrogen production; Chemical and physical storage; Multicomponent storage systems; Efficiency of hydrogen energy; Principles of fuel cell technology; Fuel Reforming; types and design of fuel cells; fuel cell materials; efficiency and emissions.

When Offered

Offered fall or spring.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 000/4015 - Exploration Methods (3 cr.)

Prerequisites

PENG 3021 and PENG 3022

Description

Petroleum traps; seeps; preliminary surface studies; Geological surveys; Gravity surveys; Magnetic surveys; Seismic reflection surveys; Seismic refraction surveys.

PENG 411/4121 - Drilling Engineering II (3 cr.)

Prerequisites

PENG 3111 and PENG 3215

Description

Rock mechanics in horizon/high deviation wells, directional drilling navigation systems, arctic drilling, offshore drilling systems, wellbore surveying technologies, anti-collision, well control for deviated sections, drilling problems and management of deviated sections, BHA design for deviated sections.

When Offered

Offered in fall

PENG 477/4123 - Drilling Fluids Engineering (3 cr.)

Prerequisites

PENG 4121 .

Description

Definition and functions of drilling fluids, drilling fluid chemistry and rheology, drilling fluid design for carbonates, sandstone and shales, drilling fluid additives and chemicals, clay structure and shale problems, loss control material for complete loss circulation, types of mud systems and their characteristics, mud behavior at HPHT wells, calculation related to drilling fluid, hydraulics, mud surface equipment's, and contaminations, hole problem in related to drilling fluid, formation damage and hole instability, mud design, mud selection, completion and workover fluid, air drilling in correlation with drilling fluid, smart fluid and nano-technology.

PENG 000/4125 - Advanced Well Construction (3 cr.)

Prerequisites

PENG 4121

Description

Drilling and completion of HPHT wells, casing drilling, dual gradient, UBD and MPD; covering equipment, types, drilling fluids (air, mist, foam, etc...), flow drilling, mud cap drilling, hydraulics computations, tubular design.

PENG 471/4223 - Reservoir Simulation and Modeling (2 cr. + 1 cr.)

Prerequisites

ENGR 3202 and PENG 3221

Description

Reservoir simulation fundamentals, Reservoir modeling approach, Reservoir modeling types, Model design concepts, Single well model, Sector model, Cross-sectional model, Full-field model, Data required for a simulation study, Static Model, Initialization phase, History matching, Prediction phase, Interpreting simulation results, Performance prediction, Reservoir optimization based on economic analysis, Case studies and exercises using reservoir simulation software. Dynamic analysis using Petrel reservoir engineering. Set up simulation case in Petrel and Eclipse, gridding, fluid model (PVT), well design, well flow controls, history match analysis, and volume calculation.

When Offered

Offered in fall.

PENG 412/4225 - Secondary and Tertiary Recovery (4 cr.)

Prerequisites

PENG 3215

Description

Fundamentals of enhanced oil recovery; Immiscible displacement, fractional flow and frontal advance; Overview of water flooding, patterns, mobility ratio and Recovery Efficiencies; water flooding reservoir heterogeneity, Stiles Method, Dykstra-parsons method, Craig-Geffen & Mors Method; polymer flooding, surfactant flooding, miscible gas flooding and thermal EOR, microbial EOR, technical challenges and futures techniques.

When Offered

Offered in spring.

PENG 461/4226 - Petroleum Economics (3 cr.)

Prerequisites

PENG 3311 and ENGR 3222

Description

Analysis of investment projects, reserves, depletion, regional and global legislation and taxation regulations; Evaluation of cost and risk per each decision versus time and consequences, comparing international contracting and bidding types, operational risk analysis.

When Offered

Offered in spring.

PENG 000/4227 - Reservoir Description and Characterization (3 cr.)

Prerequisites

PENG 3227

Description

Integrated reservoir characterization and design experience for senior students in petroleum engineering, geology and geophysics; includes using geophysical, geological, petro physical, and engineering data; emphasis on reservoir description (reservoir and well data analysis and interpretation), reservoir modeling (simulation), reservoir management (production optimization), and economic analysis (property evaluation).

PENG 000/4229 - Unconventional Reservoirs (3 cr.)

Prerequisites

PENG 3215

Description

Unconventional resources; heavy oil and gas from low-permeability sandstones, fractured shales, coal bed, and hydrate; emphasizing resources, geologic and geographic occurrences, recovery technology and their economics.

PENG 451/4313 - Petroleum and Gas Transmission and Storage (3 cr.)

Prerequisites

PENG 3311

Description

Pipe line transport, pipe line design, calculation of the pressure drop through the pipes, fittings, valves, and bends, pipe line construction, pumping and boosting stations, gas transmission lines, metering, pipe line automation, tanker and railroad transportation, pipeline safety, regulations, specifications of the pipeline for onshore and offshore networks, examples of international pipelines, pipeline operations and maintenance, crude oil storage type, temporary storage of crude oil, crude oil stock calculations.

When Offered

Offered every other semester.

PENG 000/4320 - Well Production Enhancement (3 cr.)

Prerequisites

PENG 3311

Description

Overview of production enhancement methods; Artificial lift design for ESP, gas lift, hydraulic jet pump, progressive cavity pump, rod pump screening criteria and modeling.

PENG 423/4323 - Petroleum Refining (3 cr.)

Prerequisites

PENG 3420

Description

Type and evaluation of crude, petroleum processing, material and energy balance, physical separation, distillation, absorption, cracking, reforming, chemical refining, sweetening, processing of petroleum gases, lubricating oil, refining schemes, refining equipment's.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 000/4325 - Well Stimulation (3 cr.)

Prerequisites

PENG 4320

Description

Matrix acidizing and hydraulic fracturing (proppant and acid fracturing). Design and execution of acidizing and hydraulic fracturing treatments. Estimation of stimulated well performance. Reservoir inflow, formation damage, skin estimation and well stimulation.

PENG 462/4421 - Renewable and Alternative Energy (3 cr.)

Prerequisites

PENG 3415 and PENG 3421

Description

Principles of Renewable and Alternative Energy Systems: Wind, Solar, Biogas, Geothermal, Fuel Cells, and Hydrogen Technologies. Economic Aspects; Efficiency; Introduction to Nuclear Energy. Connection to Grid, Smart Grids and intermittency, Market liberalization.

When Offered

Offered in fall or spring.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 463/4422 - Energy conversion and materials (3 cr.)

Prerequisites

PENG 4421

Description

Conversion of fossil, nuclear, biomass to fuel; Electrochemical conversion in fuel cells and photovoltaics; Criteria determining efficiency of energy conversions; Materials for energy applications including membranes, catalysis, electrodes, supercapacitors, and semi conductors.

When Offered

Offered fall or spring.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 474/4423 - Energy and the Environment (3 cr.)

Prerequisites

PENG 2411 PENG 3415 and PENG 3420

Description

Energy use and energy patterns in modern society; Resource estimates; Engineering analysis of energy systems; Managing carbon emissions; Environmental impact and protection, Environmental remediation technologies. Supply and Demand of energy; Energy Scenarios and modeling; Energy Policy and Auditing; Sustainable development.

When Offered

Offered in fall or spring.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 470/4425 - Environmental Protection & Chemical Pollution (3 cr.)

Prerequisites

PENG 3415

Description

Air Pollution; Water Pollution; Chemical Pollution, Combustion Emissions; Toxicity, and Poisoning; Environmental Management; Environmental Hazards; Industrial Pollution; Safety; Regional and Global Regulations and Certifications. Biological Oxygen Demand, Health and Safety, Oil spills and disasters, selected Case Studies.

When Offered

Offered every other semester.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 472/4427 - Ground Water Hydrology and Contamination (3cr.)

Prerequisites

PENG 3413 and PENG 3420

Description

Underground Hydrologic Cycle; Aquifers; Ground Water Movements; Flow Lines and Flow Nets; Steady and Unsteady State Flow; Flow Problems; Oil Field Waters; Corrosion and Microbiological Problems; Scales and Sludge; Water Treatment and Disposal; Well Injection.

When Offered

Offered occasionally.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 475/4428 - Greenhouse Technology and Emission Reduction (3cr.)

Prerequisites

PENG 2411 ,PENG 3415 and PENG 3420

Description

Technologies employed to reduce CO₂, CH₄, and soot emissions from energy utilization; Advantages and limitations of technologies applied to reduce energy emissions; Efficient use of energy; Catalytic conversion; Greenhouse challenges; Emerging greener technologies; Capture and storage of CO₂ ; Emissions from nuclear power; Reforming; Sulphur and sulphur scrubbers; Climate changes and green house gases; Energy efficiency in combating emissions NOFA (non fossil fuel agreements) Kyoto and beyond.

When Offered

Offered fall or spring.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 476/4429 - Principles of Nuclear Engineering (3 cr.)

Prerequisites

PENG 3415 and PENG 4421

Description

Introduction to nuclear engineering; Global and national energy requirements; Radioactivity; Atomic models; Fission and fusion reactor concepts; Neutron diffusion theory; Radiation protection and safety.

When Offered

Offered fall or spring.

Notes

This course can only be offered to students matriculated before fall 2015.

PENG 422/4525 - Petrochemical Technology (3 cr.)

Prerequisites

PENG 4511 or (CHEM 3003 and CHEM 3522)

Description

Ethylene and propylene production, petrochemical products, thermoplastics, thermosetting resins, fertilizers from natural gas, gas to liquid processes, equipment design and calculations.

Notes

This course can only be offered to PENG students matriculated before fall 2015 or to CHEM students.

PENG 480/4920 - Independent Studies in Petroleum and Energy Engineering (1-3 cr.)

Prerequisites

Consent of instructor and department chair on the basis of a well-defined proposal.

Description

Independent study in various problem areas of Petroleum and Energy Engineering may be assigned to individual students or groups. May be repeated for credit if content changes. Readings assigned and frequent consultations held.

PENG 494/4930 - Selected Topics in Petroleum and Energy Engineering (3cr.)

Prerequisites

Senior standing.

Description

Petroleum Topics chosen from: Petroleum or Gas exploration, drilling production, simulation, recovery, and gas liquefaction. Field study including assessment, evaluation, feasibility and economic studies will be required.
Energy Topics chosen from: Alternative Energy resources including solar, wind, biomass, fuel cells, nuclear or geothermal energy. Field study including assessment, evaluation, feasibility and economic studies will be required.

When Offered

Offered fall and spring.

PENG 497/4950 - Industrial Training (1cr.)

Prerequisites

Prerequisite: Completion of 110 credits including 18 credits in PENG.

Description

Each student is required to spend a minimum of eight weeks of industrial training in Egypt or abroad. A detailed report is presented and evaluated.

When Offered

Offered fall and spring.

PENG 490/4980 - Senior Project I (1cr.)

Prerequisites

Prerequisite: Senior standing.

Description

A capstone project. Topics are selected by groups of students and approved by faculty advisor. Topics must be related to applied industrial problems using an integrated engineering approach.

When Offered

Offered fall and spring.

PENG 491/4981 - Senior Project II (2cr.)

Prerequisites

Prerequisite: Senior standing and PENG 4980

Description

Continuation of the capstone project. Oral presentation and report submission required.

When Offered

Offered fall and spring.

PHDS 691/6291 - Advanced Research Seminar (1 cr.)

Prerequisites

Graduate Seminar I (BIOT 5940 ,CHEM 5940 ,CSCE 5940 ,ENGR 5940 ,NANO 5940 , RCSS 5940)

Description

- All Ph.D. students should attend a common class. This class will be a series of general lectures having a broad interdisciplinary nature.
- Each student should give a presentation in this series on a topic that shows how his/her capability of dealing with more than one discipline.
- The student will be evaluated based on:
 - Reports submitted at the end of each class.
 - The quality of the presentation and the extent of diversity.
- The first four lectures Will be given by faculty members or renowned researchers conducting diverse interdisciplinary research. This will give the students guidance on how to select their topics and how to link to other disciplines.
- The maximum number of students who can register in the Ph.D. seminar must not exceed 10.
- The Ph.D. seminar will be offered only once every academic year.

PHDS/PHDE 612/6216 - Design and analysis of Experiments (3 cr.)

Prerequisites

ENGR 5204 or equivalent.

Description

Learn how to plan, design and conduct experiments efficiently and effectively, and analyze the resulting data to obtain objective conclusions. Both design and statistical analysis issues are discussed. This course is intended for practical researchers and scientists from a variety of fields such as engineering, physics, chemistry, biotechnology, and biology. Applications from various fields of engineering, physics, chemistry, and biotechnology will be illustrated throughout the course. Computer software packages (Design-Expert, Minitab) to implement the methods presented will be illustrated extensively, and you will have opportunities to use it for homework assignments and the term project.

PHDE 691/6291 - Advanced Research Seminar (1 cr.)

Prerequisites

Graduate Seminar I (BIOT 5940,CHEM 5940 ,CSCE 5940 ,ENGR 5940 ,NANO 5940 ,RCSS 5940).

Description

- All Ph.D. students should attend a common class. This class will be a series of general lectures having a broad interdisciplinary nature.
- Each student should give a presentation in this series on a topic that shows how his/her capability of dealing with more than one discipline.
- The student will be evaluated based on:
 - Reports submitted at the end of each class.
 - The quality of the presentation and the extent of diversity.
- The first four lectures Will be given by faculty members or renowned researchers conducting diverse interdisciplinary research. This will give the students guidance on how to select their topics and how to link to other disciplines.
- The maximum number of students who can register in the Ph.D. seminar must not exceed 10.
- The Ph.D. seminar will be offered only once every academic year.

PHIL 100/1010 - Reading Philosophy (3 cr.)

Description

In this course we read philosophy in class, and therefore read it together. This classroom experience is learning to read in a new way, a careful way, the way of philosophy. Reading together, we open ourselves to understanding also in a new way. This course will not only prepare students for PHIL 2100 , but also for any other course in philosophy that is based on the capacity to read, to interpret, and then to write philosophy.

When Offered

Offered occasionally.

PHIL 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective to major.

When Offered

Offered occasionally.

PHIL 221/2010 - Informal Logic (3 cr.)

Description

Informal logic aims to analyze and improve argumentation and reasoning as they occur in everyday life, to identify logical fallacies, and to critically examine common techniques of persuasion. The course examines logically valid forms and rules of inference, introduces deductive and inductive methods in ancient and modern logic, and elaborates the nature of definitions, categories and judgments.

When Offered

Offered in alternate years.

PHIL 299/2099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

PHIL 220/2100 - Philosophical Thinking (core curriculum requirement) (3 cr.)

Prerequisites

RHET 1100 or concurrent (for students enrolled prior to Fall 2013).

RHET 1010 (for students enrolled in Fall 2013 or later)

Description

This course concerns the human desire to know. It is, therefore, a course in learning how to understand and how to be understood. It teaches students to listen to what others say, interpret what others have written, and take responsibility for one's own words. This is accomplished through reading texts of great intellectual distinction, patiently practising the art of interpretation without easy answers, and carrying out a sustained effort to write thoughtfully. This course encourages students to think independently, responsibly, and critically.

When Offered

Offered in fall and spring.

PHIL 224/2111 - Self and Society (3 cr.)

Description

What is self? What do we mean by 'consciousness' or 'personal identity'? Is the self a social being, or is it an entity within society that stands apart from it? Through selected readings drawn from the meeting-points and confrontations between philosophy and fields such as psychology, anthropology and sociology, this course investigates the nature of the self and its place within that plurality of selves we call society.

When Offered

Offered in alternate years.

PHIL 226/2112 - Philosophy of Religion (3 cr.)

Description

Many religions include an intellectual and theoretical component that can be investigated independently of the religion itself. This course examines and clarifies some themes that arise from the rational investigation of the intellectual component of religion. Topics may include: reason and religious belief, proofs of the existence of God, the nature of religious language, the problem of evil, mysticism as a form of knowledge, and theological paradoxes (omnipotence, omniscience and free will, etc.)

When Offered

Offered occasionally.

PHIL 230/2113 - Introduction to Ethics (3 cr.)

Description

This course introduces moral philosophy, the attempt to provide systematic explanations of standards for human conduct. Can we determine what the right thing is for us to do? How does society set its normative rules? How is a normative discourse possible? Selected texts provide the relevant context in which these questions will be examined.

When Offered

Offered in alternate years.

PHIL 234/2114 - Philosophy of the Social Sciences (3 cr.)

Description

The social sciences do not consist simply of the application of the methodology of modern natural science to the study of society, but instead are grounded in philosophy, both historically and thematically. This course presents the basic philosophy and presuppositions from which the social sciences operate. The course is especially for students who major or minor in a social science and who need a philosophic background as a context in which the social sciences can be properly understood.

When Offered

Offered occasionally.

PHIL 238/2115 - World Philosophy (3 cr.)

Description

The goal of this course is to introduce students to the wider context of philosophy beyond the West. Philosophical issues and methodologies will be discussed as they have been addressed by classical philosophical texts and eminent philosophers of Eastern traditions.

This course will offer an advanced introduction to philosophical thinking using this broader historical scope. Topics covered may include issues of ethics and action, knowledge and awareness, reality, truth, and value.

When Offered

Offered occasionally.

PHIL 242/2116 - Philosophical Anthropology (3 cr.)

Description

In this course we engage and explore various philosophical accounts of human nature. What are the unique features of the human being? Ever since Aristotle defined man as a rational animal, as the animal with language, or as a political animal, there have been various attempts at defining what is specifically human. Other philosophers have emphasized, in addition to rationality and an interest in public life, the religious dimension of human beings. These considerations lead to further questions: What is the good life, and what role do reason and passion play in it? Are human beings essentially selfish, or are we 'hard-wired' for altruism? This course comes to grips with these fundamental philosophical issues from a variety of places and periods.

When Offered

Offered occasionally.

PHIL 258/2117 - Political Philosophy (3 cr.)

Description

This course is an introduction to the history of political philosophy and addresses dominant issues central to political thinking in the Western tradition. Themes may include the question of justice, the exercise of power, the meaning of democracy, the freedom and rights of the individual, the circumstances of revolution, the roots of authority, and the role of violence. Course readings are drawn from figures such as Plato, Aristotle, Machiavelli, Hobbes, Locke, Rousseau, Mill, Kant, Hegel, Nietzsche, and Marx.

When Offered

Offered in alternate years.

PHIL 312/3001 - Ancient Philosophy (3 cr.)

Prerequisites

Prerequisite: Two philosophy courses or consent of instructor.

Description

This course explores some philosophical systems and issues characteristic of the earliest period of philosophy, especially fourth-century BC Greece. Typical figures discussed might include: Thales, Anaxagoras, Heraclitus, Empedocles, Parmenides, Plato and Aristotle; and also later figures from the Stoic, Epicurean and Neoplatonic traditions. Topics may include: early natural philosophy, the riddle of non-being, theories of intelligible form, the good-life theories of knowledge, and the nature of the human soul.

When Offered

Offered every year.

PHIL 313/3002 - Medieval Philosophy (3 cr.)

Prerequisites

Two philosophy courses or consent of instructor.

Description

This course explores some philosophical systems and issues characteristic of the period commonly called the "Middle Ages", from 500 CE to 1500 CE. Typical figures discussed might include: Augustine, Boethius, al-Farabi, Ibn Sina, Anselm, Maimonides, Ibn Rushd, Aquinas, Al-Ghazali, John Duns Scotus, William Ockham, and Suarez. Topics may include: reason and faith, divine command ethics, truth and meaning, theories of human nature, occasionalism, virtues and the soul, the problem of universals, free will, and illumination and knowledge.

When Offered

Offered every year.

PHIL 314/3003 - Modern Philosophy (3 cr.)

Prerequisites

Two philosophy courses or consent of instructor.

Description

Philosophical progress played an essential role in the historical changes of the Enlightenment and the development of industrial society. This course focuses on some of the major schools and figures of Modern thought, which include

Rationalists such as Descartes and Leibniz, Empiricists such as Locke and Hume, and/or pivotal thinkers such as Bacon, Rousseau, Hegel, Kant, and Marx.

When Offered

Offered every year.

PHIL 316/3004 - Twentieth Century Philosophy (3 cr.)

Prerequisites

Two philosophy courses or consent of instructor.

Description

The twentieth century has been marked above all by a focus on issues of language and the constitution of meaning. This course will examine representative thinkers drawn from one or both of the traditions of analytic and continental philosophy.

When Offered

Offered every year.

PHIL 310/3010 - Philosophy and Art (3 cr.)

Description

The course introduces the theme of beauty and issues of aesthetic value. Examples are drawn from areas such as literature, music, the plastic arts, and architecture.

When Offered

Offered in spring.

PHIL 315/3011 - Nineteenth Century Philosophy (3 cr.)

Prerequisites

Two philosophy courses or consent of instructor.

Description

This course examines how nineteenth century philosophers reacted to the Enlightenment's faith in reason: Whereas earlier nineteenth century thinkers believed that all aspects of reality and human experience could be explicated with a rationalistic 'system', this faith in reason became increasingly undermined by the belief that a more adequate insight is provided by non-rational 'feeling' and/or aesthetic experience. The course will also explore the 'historical turn' in nineteenth century philosophy. Figures discussed might include: Reinhold, Fichte, Schelling, Hegel, Schopenhauer, Comte, Feuerbach, Mill, Kierkegaard, Marx, Nietzsche, and Bergson.

When Offered

Offered occasionally.

PHIL 318/3012 - Theory of Knowledge (3 cr.)

Prerequisites

Two philosophy courses or consent of instructor.

Description

What is the nature of knowledge? How can we know? How is science possible? Is knowledge innate or acquired? These are some of the questions that are examined in the context of selected classical as well as contemporary texts.

When Offered

Offered in alternate years.

PHIL 319/3013 - Development and Responsibility (3 cr.)

Description

Western Civilization has gone to great lengths to 'develop' the 'underdeveloped world'. This course is a critical review of practices and goals of international development. By concentrating on ethical considerations within the various relevant fields, such as business, engineering and environmental protection, the students explore the mutual responsibilities in this cooperative enterprise.

When Offered

Offered in alternate years.

PHIL 344/3014 - Literature and Philosophy (3 cr.)

Description

The course concentrates on the intersection of the literary mode with the philosophical quest in Eastern and Western writing. Students are trained to analyze philosophical myths, tales, poems and dialogues as well as grasp the symbolic structures and expository techniques of philosophers.

Cross-listed

Same as ECLT 3014.

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes

PHIL 354/3015 - Islamic Philosophy (3 cr.)

Prerequisites

HIST 2203 or ARIC/HIST 3210 or consent of instructor.

Description

A survey of the rational and spiritual dimensions of Arab-Islamic civilization as shown in the thought and ideas of major theologians, philosophers, and mystics.

Cross-listed

Same as ARIC 3405.

When Offered

Offered occasionally.

PHIL 356/3016 - American Philosophy (3 cr.)

Prerequisites

Two philosophy courses or consent of instructor.

Description

The course examines philosophy in North America, focusing on the central themes of democracy and pragmatism. A guiding question of the course will be: How is the democratic process embedded in the philosophic enterprise? The views of major thinkers such as Peirce, James, Royce, Santayana, Dewey, Quine, and Hartshorne will be examined.

Cross-listed

Same as AMST 3016 .

When Offered

Offered occasionally.

PHIL 382/3017 - Philosophy of Science and Technology (3 cr.)

Description

The relationship between science and technology has become a serious topic of debate. Is technology applied science or is science itself techno-science? Both have become pervasive facts which have altered human abilities and experiences of the world. This increase in power brings with it new responsibilities for the creators and users of science and technology. This course will explore these new powers and attendant obligations upon humanity, other cultures and the environment.

When Offered

Offered in alternate years.

PHIL 405/4100 - Independent Study in Philosophy (1-3 cr.)

Prerequisites

Three philosophy courses and consent of instructor

Description

Independent research projects in Philosophy.

PHIL 402/5111 - Metaphysics (3 cr.)

Prerequisites

Senior level, graduate level, or consent of instructor.

Description

This course deals with questions as to the ultimate reality of the world, e.g., why is there something rather than nothing? Profound metaphysical questions posed by ancient, modern, and contemporary philosophers will be discussed. Issues may include Aristotle's Being qua Being, Leibniz' Principle of Sufficient Reason, and Heidegger's Analysis of Being.

When Offered

Offered occasionally.

PHIL 502/5111 - Metaphysics (3 cr.)

Description

This course deals with questions as to the ultimate reality of the world, e.g., why is there something rather than nothing? Profound metaphysical questions posed by ancient, modern, and contemporary philosophers will be discussed. Issues may include Aristotle's Being qua Being, Leibniz' Principle of Sufficient Reason, and Heidegger's Analysis of Being.

When Offered

Offered occasionally.

PHIL 410/5112 - Advanced Seminar in Aesthetics (3 cr.)

Prerequisites

PHIL 3010 or consent of instructor.

Description

This course offers in-depth analysis and discussion concerning key texts from the history of aesthetics and/or addressing current debates in aesthetic theory. Issues covered may include the beautiful and the sublime, classicism and romanticism, tragedy and the absurd, modernism and post-modernity.

When Offered

Offered occasionally.

PHIL 510/5112 - Advanced Seminar in Aesthetics (3 cr.)

Description

This course offers in-depth analysis and discussion concerning key texts from the history of aesthetics and/or addressing current debates in aesthetic theory. Issues covered may include the beautiful and the sublime, classicism and romanticism, tragedy and the absurd, modernism and post-modernity.

When Offered

Offered occasionally.

PHIL 317/5113 - Current Trends in Philosophy (3 cr.)

Prerequisites

Two philosophy courses or consent of instructor.

Description

This course covers key philosophical themes found in books published since the year 2000. While the popular imagination still regards Derrida and Foucault as the cutting edge in continental philosophy, different and even opposed trends have arisen over the course of the past decade. By the end of the semester, students should feel comfortable with major themes of philosophical debate going on at this very moment.

When Offered

Offered occasionally.

PHIL 517/5113 - Current Trends in Philosophy (3 cr.)

Description

This course covers key philosophical themes found in books published since the year 2000. While the popular imagination still regards Derrida and Foucault as the cutting edge in continental philosophy, different and even opposing trends have arisen over the course of the past decade. By the end of the semester, students should feel comfortable with major themes of philosophical debate going on at this very moment.

When Offered

Offered occasionally.

PHIL 418/5114 - Philosophical Masterpieces (3 cr.)

Prerequisites

Senior level, graduate level, or consent of instructor.

Description

This course will be an in-depth study of a single great work of philosophy and its place in the history of ideas.

When Offered

Offered in alternate years.

Repeatable

May be repeated for credit if the content changes

PHIL 518/5114 - Philosophical Masterpieces (3 cr.)

Description

This course will be an in-depth study of a single great work of philosophy and its place in the history of ideas.

When Offered

Offered in alternate years.

Repeatable

May be repeated for credit if the content changes.

PHIL 420/5115 - Philosophical Figures (3 cr.)

Prerequisites

Senior level, graduate level, or consent of instructor.

Description

This course is an in-depth study of one great philosophical figure. It is an opportunity to explore the philosophy of the thinker as a whole concentrating on his/her place in the history of ideas and in history itself.

When Offered

Offered in alternate years.

Repeatable

May be repeated for credit if content changes.

PHIL 520/5115 - Philosophical Figures (3 cr.)

Description

This course is an in-depth study of one great philosophical figure. It is an opportunity to explore the philosophy of the thinker as a whole concentrating on his/her place in the history of ideas and in history itself.

PHIL 330/5116 - Advanced Ethics (3 cr.)

Prerequisites

Two philosophy courses or consent of instructor.

Description

This course will explore the theoretical underpinnings of ethical judgments and behavior. It will involve a more complex set of reading than the Introduction to Ethics and apply ethical theories to particular issues.

When Offered

Offered in alternate years.

PHIL 530/5116 - Advanced Ethics (3 cr.)

Description

This course will explore the theoretical underpinnings of ethical judgments and behavior. It will involve a more complex set of readings than the Introduction to Ethics and apply ethical theories to particular issues.

PHIL 360/5117 - Philosophy of Language and Communication (3 cr.)

Prerequisites

Prerequisite: Two philosophy or consent of instructor.

Description

Language is the basis of learning, understanding and communication. Therefore, a detailed study of language (oral, physical and written) is necessary for any true understanding of self and society. This course investigates such topics as the nature of sign systems, the problems of meaning, reference, sense and interpretation, the place of rhetoric and the methods of communicative practice.

When Offered

Offered in alternate years.

PHIL 560/5117 - Philosophy of Language and Communication (3 cr.)

Description

Language is the basis of learning, understanding and communication. Therefore, a detailed study of language (oral, physical and written) is necessary for any true understanding of self and society. This course investigates such topics as the nature of sign systems, the problems of meaning, reference, sense and interpretation, the place of rhetoric and the methods of communicative practice.

PHIL 362/5118 - Formal and Mathematical Logic (3 cr.)

Prerequisites

PHIL 2010 or MACT 2131 or permission of the instructor.

Description

This course is an introduction to the ideas and methods of mathematical logic. The basis of predicate calculus (first order logic) will be presented in some details. More advanced topics such as Goedel's completeness and incompleteness theorems, some of the philosophico-mathematical problems in set theory and alternative logics will be discussed.

Cross-listed

Same as MACT 3133.

When Offered

Offered occasionally.

PHIL 562/5118 - Formal and Mathematical Logic (3 cr.)

Description

This course is an introduction to the ideas and methods of mathematical logic. The basis of predicate calculus (first order logic) will be presented in some details. More advanced topics such as Goedel's completeness and incompleteness theorems, some of the philosophico-mathematical problems in set theory and alternative logics will be discussed.

PHIL 458-558/5119 - Advanced Seminar in Political Philosophy (3 cr.)

Prerequisites

Senior level, graduate level, or consent of instructor.

Description

This advanced seminar will focus on contemporary trends in political philosophy with an emphasis on how classical political texts and problems have served as points of departure for new perspectives. The approaches studied in this course will vary from semester to semester and may include deliberative democracy, theories of recognition, liberalism, secularism/post-secularism, cosmopolitanism, and the relationship between politics and aesthetics. Reading may include the work of Arendt, Schmitt, Agamben, Ranciere, Honneth, Habermas, Rawls, Taylor, Zizek, Fraser, and Foucault.

When Offered

Offered in alternate years.

PHIL 000/5120 - Advanced Seminar in Feminist Philosophy (3 cr.)

Prerequisites

Two philosophy courses

Description

This advanced seminar will focus on a particular issue in feminist philosophy. Topics will vary and may include an emphasis on sex, gender, class, race, embodiment, power, intersectionality, disability, and other contemporary issues relevant to feminism.

PHIL 403/5199 - Selected Topics in Philosophy (3 cr.)

Prerequisites

Senior level, graduate level, or consent of instructor.

Description

According to special interest of faculty and students.

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes.

PHIL 503/5199 - Selected Topics in Philosophy (3 cr.)

Description

According to special interest of faculty and students.

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes.

PHIL 500/5201 - Classical Western Philosophy (3 cr.)

Description

This course will deal with issues in Ancient Greek and Medieval Philosophy that are relevant for an appreciation of Egypt's philosophical tradition, as well as for an understanding of the philosophical debates that contributed to the development of Islamic Philosophy. Special emphasis will accordingly be placed upon the following: Some of the great philosophers who lived and worked in Egypt (such as Philo Judaeus, Clement of Alexandria, Origen and Moses Maimonides); the history of Platonism (Plato, Plotinus and the Ancient commentators on Plato and Aristotle working in the schools of Athens and Alexandria); and the Aristotelian tradition (Aristotle, Alexander of Aphrodisias and Themistius). Because it provides valuable background material for PHIL 5202, the course will generally run in the Fall Semester.

PHIL 501/5202 - Advanced Seminar in Islamic Philosophy (3 cr.)

Description

This course will survey the classical tradition of Islamic Philosophy. It will constitute a close study of the works of figures such as Al-Farabi, Ibn Sina, Al-Ghazali, and the Andalusian thinkers such as Ibn Tufayl and Ibn Rushd. Ibn Al-Arabi and the Sufi tradition, as well as selective writings by Shihab al-Din Suhrawardi and Mulla Sadra, may also be studied. Some consideration may also be given to the significant status of Islamic Philosophy within the History of Science. Additionally, towards the end of the course, some contemporary work in the field of Islamic Philosophy may also be considered. Because PHIL 5201 provides valuable material for PHIL 5202, the latter will generally run in the Spring Semester.

PHIL 504/5203 - Kant and Idealism (3 cr.)

Description

This course will focus upon the transformation of philosophy during the late enlightenment period that was enacted by Immanuel Kant and which gave rise to what is now known as 'Continental Philosophy.' Kant's works will be studied alongside either those thinkers by whom he was influenced, such as Leibniz and Hume, or those thinkers upon whom he had an influence, such as Fichte, Schelling, Hegel and Schopenhauer.

PHIL 505/5204 - Advanced Seminar in Phenomenology (3 cr.)

Description

This course will begin by investigating the origins of phenomenology by means of a close reading of key selections from the work of Husserl. It shall then move on to consider Heidegger's transformation of phenomenology. The work of later phenomenologists, such as Sartre and Merleau-Ponty, may also be discussed.

PHIL 599/5299 - Research Guidance and Thesis (0 cr.)

Description

Students are required to write a thesis of approximately 15,000 words in length, which should demonstrate the student's ability to conduct research and write critically and pointedly about a given subject. There will also be a final defense of the finished thesis.

PHYS 100/1001 - Physics for Poets (3 cr.)

Description

A conceptual overview of classical and modern physics. Mechanics, properties of matter, heat, sound, electricity and magnetism, light, atomic and nuclear physics, relativity theory.

When Offered

Offered in fall and spring.

Notes

No credit for Thannawia Amma Math/Science students, or equivalent, or students majoring in any of the departments of the School of Sciences and Engineering.

PHYS 111/1011 - Classical Mechanics, Sound and Heat (3 cr.)

Prerequisites

Thanawiya Amma MACT or Science, or IGCSE O-level physics, or German Abitur, or French Baccalaureate, or International Baccalaureate. Other high school degrees have the option of taking PHYS 1001 and MACT 1111 as prerequisites or passing an entrance exam in PHYS 1001 .MACT 1121 or concurrent. To be taken concurrently with PHYS 1012

Description

An introduction to classical mechanics covering vectors, applications of Newton's laws, conservation laws and forces, motion in a plane, circular motion, equilibrium and elasticity, rotational motion, simple harmonic motion, energy and power; mechanical and sound waves, temperature, heat and the first law of thermodynamics.

When Offered

Offered in fall, spring and summer.

PHYS 123L/1012 - General Physics Laboratory I (1 cr.)

Prerequisites

Concurrent with PHYS 1011

Description

The fundamental quantities of physics are measured through selected experiments in mechanics, heat, and sound. Data are summarized, errors are estimated, and reports are presented.

Hours

.One three-hour laboratory period

When Offered

Offered in fall, spring and summer.

PHYS 112/1021 - Electricity and Magnetism (3 cr.)

Prerequisites

PHYS 1011 ,PHYS 1012 ,MACT 1122 or concurrent. Concurrent with PHYS 1022

Description

An introduction to electricity and magnetism covering the electric field, Gauss's law, electric potential, capacitance, dc circuits, magnetic fields, Faraday's and Ampere's laws, time-varying fields, Maxwell's equations in integral form and alternating currents.

When Offered

Offered in fall, spring and summer.

PHYS 124L/1022 - General Physics Laboratory II (1 cr.)

Prerequisites

Concurrent with PHYS 1021

Description

The fundamental quantities of physics are measured through selected experiments in electricity, magnetism, and optics. Data are summarized, errors are estimated, and reports are presented.

Hours

One three-hour laboratory period

When Offered

Offered in fall, spring and summer.

PHYS 199/1930 - Selected Topic for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

PHYS 211/2041 - Foundations of Modern Physics (3 cr.)

Prerequisites

PHYS 1021. Co-requisite MACT 2141 .

Description

Introduction to special relativity and quantum physics, experimental basis of relativity, Einstein's Postulates, Lorentz transformation, relativistic momentum and energy, experimental evidence of quantization, wave-particle duality, and Schrodinger equation.

When Offered

Offered in fall and spring.

PHYS 000/2042 - Modern Physics Laboratory (1 cr.)

Prerequisites

PHYS 2041 or Concurrent

Description

Quantization of electric charge, thermal radiation law, quantization of energy, particle nature of light, spin

When Offered

Offered in fall and spring

PHYS 215/2211 - Introduction to Electronics (3 cr.)

Prerequisites

PHYS 1021 and PHYS 2212 concurrent.

Description

Foundation of circuit analysis, AC theory, introduction to semiconductor devices, amplifiers, feedback oscillators.

When Offered

Offered in fall, spring and summer.

PHYS 221L/2212 - Electronics Laboratory (2 cr.)

Prerequisites

Concurrent with PHYS 2211 .

Description

Basic experiments in electronics.

When Offered

Offered in fall, spring and summer.

PHYS 222L/2213 - Electronics lab for Computer Scientists & Computer Engineers (1 cr.)

Prerequisites

Concurrent with PHYS 2211

Description

Basic experiments in electronics for the Computer Science & Engineering majors.

When Offered

Offered in fall and spring.

PHYS 214/2221 - Waves and Optics (3 cr.)

Prerequisites

PHYS 1021 and PHYS 2222 concurrent.

Description

Wave phenomena; EM waves, geometrical and physical optics.

When Offered

Offered in fall and spring.

PHYS 204L/2222 - Optics Laboratory (1 cr.)

Prerequisites

PHYS 2221 or concurrent.

Description

Basic experiments in physical optics with special emphasis on laser optics.

When Offered

Offered in fall and spring.

PHYS 279/2241 - Computational Methods in Physics (2 cr. + 1 cr.)

Prerequisites

CSCE 1001 and MACT 2123 .

Description

Linear systems of equations and matrices; eigenvalues and eigenvectors; numerical errors; numerical solution of linear and nonlinear equations; curve fitting; numerical differentiation and integration; numerical solution of ordinary differential equations; applications in various fields of physics. MATLAB will mostly be used as a programming language in the weekly computer laboratory sessions.

Hours

Two credits lectures and one credit computer lab.

When Offered

Offered in spring.

PHYS 312/3013 - Theoretical Mechanics (3 cr.)

Prerequisites

PHYS 2041 and MACT 2141

Description

Vector and tensor analysis, statics, kinematics, and dynamics of a particle and system of particles, rigid and deformable bodies; rotating coordinate systems, Lagrange's and Hamilton's equations with applications.

When Offered

Offered in fall.

PHYS 316/3023 - Electromagnetic Theory (3 cr.)

Prerequisites

PHYS 2221 and MACT 2124

Description

Electric field and potential. Gauss's law; divergence. Conductors, dielectrics and capacitance. Poisson's and Laplace's equations. Electrostatic analogs. Magnetic field and vector potential. Time varying fields; displacement current. Maxwell's equations in differential form, Poynting's theorem, Electromagnetic waves in vacuum and in matter

Cross-listed

Same as ECNG 3401.

When Offered

Offered in spring.

PHYS 311/3031 - Thermodynamics and Statistical Mechanics (3 cr.)

Prerequisites

PHYS 2041 and MACT 2141

Description

A macroscopic and microscopic study of equilibrium thermal physics, fundamental laws of thermodynamics, and statistical mechanics applied to various systems.

When Offered

Offered in spring.

PHYS 321L/3052 - Nuclear Physics Lab (1 cr.)

Prerequisites

PHYS 2041 or concurrent.

Description

Experiments in atomic and nuclear physics.

When Offered

Offered in fall and spring.

PHYS 000/3071 - General Relativity and Cosmology (3 cr.)

Prerequisites

PHYS 2041. Junior Standing

Description

Coordinate symmetries, the principle of equivalence and its implications, metric description of a curved spacetime, Geodesic equation and Einstein field equation, applications of spacetime outside a spherical star, Hubble's law, dark matter, Robertson-walker metric, the expanding universe and thermal relics, inflation and the accelerated universe.

PHYS 314/3223 - Advanced Optics (3 cr.)

Prerequisites

PHYS 2222 ,PHYS 2221

Description

Geometric optics: generalized paraxial formulas, matrix formalism of Gaussian optics. Imaging properties of lens systems: lens combination, the vector nature of light: polarization effects, diffraction effects, superposition of waves: interference, spatial and temporal coherence length, and multilayer structures.

When Offered

Offered in spring.

PHYS 325/3231 - Introduction to Solid-State Physics (3 cr.)

Prerequisites

PHYS 2041

Description

Classification of materials and their structural characteristics, symmetry and properties of materials, free-electron

theory, band theory, dielectric processes, optical processes in material.

When Offered

Offered in spring.

PHYS 322L/3232 - Solid-State Physics Lab (2 cr.)

Prerequisites

PHYS 3231

Description

Experiments in solid-state physics and semiconductor devices.

When Offered

Offered in fall and spring.

PHYS 421/4042 - Quantum Mechanics I (3 cr.)

Prerequisites

PHYS 2041 and MACT 3142 .

Description

Stern-Gerlach experiments, operators and measurement, Schrödinger time evolution, quantized energies and particle in potential wells, unbound states, angular momentum, Hydrogen atom, harmonic oscillator.

When Offered

Offered in spring.

PHYS 000/4043 - Quantum Mechanics II (3 cr.)

Prerequisites

PHYS 4042

Description

Perturbation theory, hyperfine structure and the addition of angular momenta, perturbation of Hydrogen, identical particles, time-dependent perturbation theory, periodic systems, modern applications of quantum mechanics.

PHYS 413/4051 - Nuclear and Particle Physics (3 cr.)

Prerequisites

PHYS 4042

Description

A modern view of the fundamental structure of matter, nuclear structure, nuclear models, nuclear decay and radioactivity, nuclear reactions; quarks, gluons, leptons; accelerators, particle interactions with matter, detectors; weak, electromagnetic and strong interactions.

When Offered

Offered in fall.

PHYS 414/4224 - Photonics (3 cr.)

Prerequisites

PHYS 2221 or consent of instructor.

Description

Light sources and transmitters, receivers, laser diodes, LEDs and photodiodes. Electromagnetic mode theory for optical propagation. Optical fiber measurements: fiber materials, multimode fibers, single-mode fibers. Fabrication, cabling, connectors and couplers. Optical amplifiers, Erbium-Doped fiber amplifiers. Modulation of light, multiplexing and demultiplexing, fiber networking.

When Offered

Offered in fall.

PHYS 404L/4225 - Photonics and Optical Communication Laboratory (1 cr.)

Prerequisites

PHYS 4224 or concurrent. Consent of Instructor

Description

Experiments in fiber optics illustrating concepts pertaining to fiber dispersion, attenuation measurements, characterization of light sources (LEDs and laser diodes) and detectors (photodiodes), optical multiplexing and demultiplexing, optical and interferometric sensors.

When Offered

Offered in fall.

PHYS 412/4233 - Semiconductor Physics (3 cr.)

Prerequisites

PHYS 3231

Description

Fundamental theory and characteristics of elemental and compound semiconductors. Semiconductor technology. P-N junctions and transistors.

When Offered

Offered in fall.

PHYS 323L/4234 - Semiconductor Technology Lab (2 cr.)

Prerequisites

PHYS 2211 and PHYS 2212

Description

Experiments in semiconductor and electronics technology.

When Offered

Offered in fall and spring.

PHYS 000/4241 - Introduction to Solar Energy (3 cr.)

Prerequisites

Consent of instructor

Description

Working principle of a solar cell, fabrication of solar cells, PV module construction and the design of a PV system. The suitable semiconductor materials, device physics, and fabrication technologies for solar cells are presented. The cost aspects, market development, and the application areas of solar cells are also presented.

PHYS 000/4242 - Introduction to Nanophysics (3 cr.)

Prerequisites

Consent of the instructor

Description

Nanophysics fundamentals, physics nanostructures, thermodynamics of nanostructures, monocrystalline structures, Quantum nanostructures, Nano optics, nanoplasmonics.

PHYS 000/4243 - Physics of Solar Energy Conversion Nanosystems (3 cr.)

Prerequisites

Consent of the instructor

Description

Atomic structures, basics of energy conversions, fundamental of nanoscience and nanotechnology, wave optics, light-matter interactions, diffractions and interference, Solar cell physics and design.

PHYS 000/4244 - Introduction to Nanotechnology (3 cr.)

Prerequisites

Consent of instructor

Description

Fabrication methods of nanomaterials and nano devices, properties of nanoparticles, nanowires and nanotubes. Electronic transport in nanostructures, nanoelectronics and nanophotonics, nanomagnetism

PHYS 416/4281 - Experimental Methods in Physics (3 cr.)

Prerequisites

Prerequisites: Junior standing. Consent of instructor.

Description

Experimental techniques for studying thermal, optical, magnetic and electric properties of matter. Low temperature physics: gas liquefaction, storage of liquefied gases, cryostats for low temperature studies, applied cryogenics.

When Offered

Offered in fall and spring.

PHYS 402/4910 - Independent Study (1-3 cr.)

Prerequisites

Prerequisites: consent of the instructor, senior standing.

Description

In exceptional circumstances some senior physics students, with departmental approval, may arrange to study a selected topic outside of the regular course offerings. The student and faculty member will select a topic of mutual interest and the student will be guided in research and readings. The student would demonstrate achievement either by submitting a report or passing an examination, according to the decision of the supervisor. May be repeated for credit more than once if contents change.

PHYS 415/4930 - Selected Topics in Physics (3 cr.)

Prerequisites

Prerequisite: Junior standing or consent of instructor.

Description

Topics may include Quantum Field Theory, Superconductivity, Laser Physics, Biophysics, and Geophysics. Can be taken more than once as long as the topic is different

When Offered

Offered occasionally.

Repeatable

May be repeated for credit more than once if content changes.

PHYS 401/4980 - Senior Thesis and Seminar (3 cr.)

Prerequisites

Senior standing.

Description

Methods used in obtaining and reporting the results of research. Each student selects a topic in his/her field of interest under the supervision of a faculty member, prepares an outline, assembles a bibliography, and makes a study plan to be followed in preparing his project. After finishing the project, each participant then makes an oral presentation of his/her chosen topic. A written thesis has to be completed after criticism and suggestions.

When Offered

Offered in fall and spring.

PHYS 504/5013 - Classical Mechanics (3 cr.)

Prerequisites

PHYS 3013 or equivalent.

Description

Variational principles and Lagrange's Equations, central force problem, kinematics and equations of motion of rigid body problem, oscillations, classical mechanics of the special theory of relativity, Hamiltonian equations of motion, canonical transformations, Hamilton-Jacobi theory and action-angle variables.

When Offered

Offered in fall.

PHYS 502/5023 - Classical Electrodynamics (3 cr.)

Prerequisites

PHYS 3023 or equivalent and PHYS 5061 .

Description

Boundary value problems in electrostatics: Poisson and Laplace equations, formal solution of electrostatic boundary value problem with Green function, applications in rectangular, spherical and cylindrical coordinates, multipoles, electrostatics of macroscopic media, magnetostatics, Faraday's law and quasi-static fields, Maxwell equations, macroscopic electromagnetism and conservation laws.

When Offered

Offered in spring.

PHYS 549/5024 - Passive Microwave Circuits (3 cr.)

Prerequisites

PHYS 3023 or equivalent.

Description

Transmission line theory, Different types of planar transmission lines, Empirical and quasistatic solution of planar lines, Network parameters and their relationships, Matching circuits based on lumped elements/transformers/tuning stubs, Lossy and lossless power dividers, Different types of directions couplers, Microstrip antenna elements and arrays, Electromagnetic simulation of different microwave circuits, Optimization of microwave circuits.

When Offered

Offered in spring.

PHYS 509/5032 - Advanced Thermodynamics and Statistical Mechanics (3 cr.)

Prerequisites

PHYS 3031 or equivalent.

Description

The laws and applications of thermodynamics, Boltzmann transport equation and transport phenomena, classical statistical mechanics, canonical and grand canonical ensembles, quantum statistical mechanics, ideal Fermi and Bose gases, phase transitions and critical phenomena.

When Offered

Offered in spring.

PHYS 506/5043 - Advanced Quantum Mechanics (3 cr.)

Prerequisites

PHYS 4042 or equivalent.

Description

Fundamental concepts of quantum mechanics including the harmonic oscillator, the hydrogen atom, electron spin and addition of angular momentum. Qualitative and approximation methods in quantum mechanics, including time-independent and time-dependent perturbation theory, variational methods, scattering and semiclassical methods. Applications are made to atomic, molecular and solid matter. Systems of identical particles including many electron atoms and the Fermi gas.

Cross-listed

Same as NANO 5210.

When Offered

Offered in fall and spring.

PHYS 501/5061 - Mathematical Physics (3 cr.)

Prerequisites

MACT 2141 or equivalent.

Description

Vector analysis, coordinate systems, tensor analysis, matrices, group theory, functions of a complex variable: conformal mapping and calculus of residues, series solutions of differential equations, special functions, partial differential equations of theoretical physics, separation of variables, nonhomogeneous equations-Green's function, integral transforms, Fourier and Laplace transforms.

When Offered

Offered in fall.

PHYS 510/5235 - Introduction To Solids (3 cr.)

Prerequisites

PHYS 3231 or equivalent.

Description

Classification of solids; preparation and characterization; binding energies; ionic, covalent and metallic bonds; crystallography; reciprocal lattice; Brillouin zones; vector representation; crystal symmetry and macroscopic properties; tensor formulation; diffraction in crystalline and amorphous solids; crystal imperfections; point-, linear-, and planar type; effects on properties; origin of microstructure in crystalline and amorphous solids.

When Offered

Offered in fall.

PHYS 512/5236 - Electronic Transport in Semiconductor (3 cr.)

Prerequisites

PHYS 2211 and PHYS 3231 or equivalent.

Description

This is a course about how charge flows in semiconductors with an emphasis on transport in nanoscale devices. The course consists of three main parts. Part 1 focuses on near-equilibrium transport in the presence of small gradients in the electrochemical potential or temperature, with or without the application of a small magnetic field. The emphasis in Part 2 is on the physics of carrier scattering and how the microscopic scattering processes are related to macroscopic relaxation times and mean-free-paths. Part 3 examines high-field transport in bulk semiconductors and so-called "non-local" transport in sub-micron devices. The course concludes with a brief introduction to quantum transport. The objective of the course is to develop a broad understanding of the basic concepts needed to understand modern electronic devices. It is intended for those who work on electronic devices - whether they are experimentalists, device theorists, or computationalists.

Cross-listed

Same as NANO 5222 .

When Offered

Offered in fall.

PHYS 513/5237 - Theory of Solids (3 cr.)

Prerequisites

PHYS 3231 or equivalent.

Description

Semi-classical theory of electron dynamics; classification of solids; failures of the static lattice model; classical and quantum theories of harmonic crystal: phonons and lattice vibrations; thermal properties of insulators; defects, dislocations and thermodynamic stability; dielectric properties; phenomena in insulators: excitons, photoconductivity, light amplification, non-linear optics, luminescence.

When Offered

Offered in spring.

PHYS 507/5242 - Computational Physics (3 cr.)

Prerequisites

MACT 2141 MACT 3143 or consent of instructor.

Description

Numerical methods for quadrature solution of integral and differential equations, and linear algebra. finite difference methods, finite element techniques, solving a system of equations. Use of computation and computer graphics to simulate the behavior of complex physical systems. Monte Carlo simulations.

When Offered

Offered in fall.

PHYS 556/5277 - MEMS/NEMS Technology and Devices (3 cr.)

Prerequisites

Consent of instructor.

Description

Basic MEMS/NEMS fabrication technologies, various transduction mechanisms such as piezoelectric, pyroelectric, thermoelectric, thermionic, piezoresistive, etc. The theory of operation of few sensors including infrared detectors, radiation sensors, rotation and acceleration sensors, flow sensors, pressure and force sensors, and motion sensors. An introduction to different techniques for analyzing experimental data.

Cross-listed

Same as NANO 5221 ,RCSS 5242 .

When Offered

Offered in fall.

PHYS 508/5282 - Advanced Experimental Techniques (3 cr.)

Prerequisites

PHYS 3052 PHYS 3232 and PHYS 4234 or equivalent.

Description

This course is designed to introduce students to advanced techniques in experimental physics. The emphasis is on self-study of the phenomena, data analysis, and presentation in journal paper format. Experiments may vary each semester. Examples of topics: Thin film deposition and characterization, high pressure physics, photonics, solid state techniques, fluid flow visualization. This course is team-taught through a course coordinator.

When Offered

Offered in spring.

PHYS 561/5910 - Independent Studies (1-3 cr.)

Prerequisites

Prerequisite: Consent of supervisor, graduate standing.

Description

In exceptional circumstances, some senior graduates with departmental approval may arrange to study beyond the regular course offerings. Guided reading for research and discussions based on a subject of mutual interest to the student and the responsible faculty member. The student demonstrates his/her achievement by submitting a report and by passing a subsequent examination.

Notes

Maximum of 3 credit hours of independent studies can be used towards the M. Sc. degree in physics.

PHYS 562/5930 - Selected topics in Physics (3 cr.)

Prerequisites

Consent of the faculty advisor.

Description

Topics to be chosen according to specific interests. Maybe taken for credit more than once if content changes.

Cross-listed

Same as PHYS 6930.

When Offered

Offered in fall and spring.

PHYS 590/5940 - Graduate Seminar I (1 cr.)

Prerequisites

Seminars of research topics given by invited speakers. The student must register for this course prior to submitting a thesis topic.

When Offered

Offered in fall.

PHYS 591/5941 - Graduate Seminar II (1 cr.)

Prerequisites

PHYS 5940

Description

Presentations and discussions of results obtained by the graduate students during research work.

When Offered

Offered in spring.

PHYS 599/5980 - Research Guidance and Thesis (3 cr. + 3 cr.)

Description

Thesis consultation for qualified students. Two semesters are required, with credit being given each time.

PHYS 602/6025 - Classical Electrodynamics II (3 cr.)

Prerequisites

PHYS 5023

Description

Plane electromagnetic waves and wave propagation, waveguides, resonant cavities, radiating systems, multipole fields and radiation, scattering and diffraction, covariant formulation of electrodynamics, dynamics of relativistic particles and electromagnetic fields, collisions, energy loss, and scattering of charged particles, Cherenkov and transition radiation, radiation by moving charges, radiation damping.

When Offered

Offered in fall and spring.

PHYS 641/6225 - Integrated Photonics (3 cr.)

Prerequisites

PHYS 4224 or equivalent.

Description

This course will introduce students to a range of passive photonic components; students will gain an understanding of the fundamentals of how these devices operate and an appreciation of where these components find applications in communications, energy and sensing systems. Topics covered in this course include: interaction of light with matter; resonator optics; periodic structures, optical thin films and gratings; photonic band gap materials; waveguides and couplers, Plasmonics and Nanoparticles. Hands on experience for modeling and design of these devices and structures using photonic software is of prime essential to illustrate and validates the fundamentals of the course.

When Offered

Offered in fall and spring.

PHYS 642/6243 - Computational Electromagnetics (3 cr.)

Prerequisites

PHYS 5023, PHYS 5242 or equivalent.

Description

Modeling electromagnetic phenomena related to microwave, millimeter, terahertz, and optical frequencies. Fundamentals of electromagnetic theory, Green's functions in layered media, Integral equation formulation, Method of Moments, The Mode Matching Method, Finite difference time domain, Variation approaches in electromagnetic and finite element methods, the Beam propagation method, Spectral Fourier method for periodic structures.

When Offered

Offered in fall and spring.

PHYS 662/6930 - Advanced Selected Topics in Physics (3 cr.)

Prerequisites

Consent of the faculty advisor.

Description

Topics to be chosen according to specific interests. May be taken for credit more than once if content changes.

Cross-listed

Same as PHYS 5930.

When Offered

Offered in fall and spring.

POLS 101/1001 - Introduction to Political Science (3 cr.)

Prerequisites

ENGL 0210

Description

Methods of study and the nature of political phenomena; terminology and conceptual tools; origins, forms, and historical development of political organization; political institutions and functions; comparison of modern forms of political organization at the national, local, and international levels.

POLS 199/1099 - Selected Topics in Political Science (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major, and available for fulfillment of the primary level Social Sciences requirement in the core curriculum.

POLS 203/2003 - Introduction to Political Science II (3 cr.)

Prerequisites

ENGL 0210

Description

This course is reserved for students above the level of their first semester sophomores who wish to major in Political Science, but cannot be taken if students have already taken POLS 1001 . See the description of POLS 1001 .

POLS 299/2096 - Selected Topics for Core Curriculum (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes.

POLS 204/2104 - Introduction to Research Methods in Political Science (3 cr.)

Prerequisites

RHET 1000 , POLS 1001 or POLS 2003

Description

The course is an introductory course intended for students seeking a career in political science-related fields. The key purpose of the course is to introduce students to main methods of scientific political enquiry. Using existing data sources, qualitative and quantitative research methods are the main topics to be covered in this course.

POLS 205/2403 - Europe in the Age of Revolution and Reform (1789-1914) (3 cr.)

Description

This Course explores Europe's so-called "Long 19th century" from the French Revolution to World War I including many of the phenomena that came to define the century such as capitalism, nationalism, socialism, feminism and imperialism.

Cross-listed

Same as HIST 2403.

POLS 206/2404 - Europe in International Politics in the Twentieth Century (3 cr.)

Description

This Course explores major development in European and international socio-economic politics from the end of the 1800's to the present day. It introduces the key events and trends of this tumultuous century including wars, revolutions, and ideological movements.

Cross-listed

Same as HIST 2404.

When Offered

Offered in fall and spring.

POLS 301-302/3201-3202 - History of Political Theory (3 cr. per semester)

Prerequisites

RHET 1000 and POLS 1001 or POLS 2003

Description

Analysis of the thought of the major contributors, from Plato to the present. Fall semester (301): ancient and medieval political philosophy and the modern break with traditions. Spring semester (302): main currents of modern thought.

When Offered

POLS 3202 Is not Offered in the fall semester.

POLS 313/3401 - Introduction to Comparative Politics (3 cr.)

Prerequisites

RHET 1000 and POLS 1001 or POLS 2003

Description

This course provides an introduction to the analysis of comparative politics, exploring differences in the institutional

make-up and the workings of political systems worldwide. Topics covered include an examination of the key institutions of the state, executive-legislative relations, the different tiers of government, the media in politics, interest group and party politics and political transitions.

POLS 303/3403 - American Government and Politics (3 cr.)

Prerequisites

RHET 1000 and POLS 1001 or POLS 2003

Description

Formation and implementation of public policy, with attention to the structure, powers, and functions of the presidency, the bureaucracy, the Congress, and the federal courts and the forces that influence their actions.

When Offered

Offered occasionally.

POLS 305/3405 - Politics and Society in Contemporary Africa (3 cr.)

Prerequisites

RHET 1000 and 6 hours of social sciences.

Description

Introduction to the social arena within which politics occurs and the political arena which helps to shape society in Africa today. Focuses on understanding continuity and change in African politics and societies, and sheds light on both the significant potential of Africa, and the enormous challenges the continent faces.

When Offered

Offered occasionally.

POLS 308/3408 - Comparative Politics of the Middle East (3 cr.)

Prerequisites

RHET 1000 and POLS 1001 or POLS 2003 .

Description

Comparative study of government and ideologies, social stratification, and institutions in the Middle East. Also includes a study of the problems of modernization and political development.

When Offered

Offered in fall and spring.

POLS 323/3423 - Comparative Government and Politics: Developing Systems (3 cr.)

Prerequisites

RHET 1000 and POLS 1001 or POLS 2003

Description

The government and politics of selected countries in the developing world (Middle East, Africa, Asia, Latin America). Subjects covered may include the structural and functional characteristics of executive, legislative, and judicial institutions; bureaucracy, political parties, mass movements, political culture, the role of public opinion, foreign policy.

When Offered

Offered in fall.

POLS 324/3424 - Comparative Government and Politics in Contemporary Eastern Europe and Russia (3 cr.)

Prerequisites

RHET 1000 and POLS 1001 or POLS 2003

Description

The collapse of communism and post-communist political and economic developments. Transition to democracy and market economy. Ethnicity, nationalism and the emergence of nation states. Consideration of the government and politics of selected countries.

When Offered

Offered in spring.

POLS 325/3425 - Government and Politics of Egypt (3 cr.)

Prerequisites

RHET 1000 .

Description

Examination of structure and process of the Egyptian government and political life including: the executive, legislative and judicial institutions and their powers; the legislative process; executive policy making; electoral processes; parties and interest groups; and other selected aspects of the interaction between state and society.

POLS 354/3454 - Political and Social Thought in the Modern Arab World (3 cr.)

Prerequisites

RHET 1000

Description

Development of political and social ideologies in the Arab world since the beginning of the twentieth century. Topics will include the impact of liberal thought on Arab elites, the rise of nationalism, and the emergence of theories of political and social transformation.

When Offered

Offered in fall and spring.

POLS 310/3510 - Introduction to Development (3 cr.)

Prerequisites

RHET 1000 and POLS 1001 or POLS 2003

Description

Introduces students to development dilemmas in the "Global South," using a political economy approach. Questions raised include: What is development? How to measure it? Why are some nations "developed" and others are not? The course covers theories of Modernization, Dependency, Neo-Liberalism, and Statism, as well experiences of various countries.

When Offered

Offered in fall and spring.

POLS 350/3550 - Introduction to Political Economy (3 cr.)

Prerequisites

RHET 1000 ,POLS 1001 or POLS 2003 and ECON 2021

Description

Analysis of interconnections between politics and economics, political authority and the market, power and wealth. Survey of main schools of thought in political economy, their evolution, convergence and divergence. Empirical issues essential to the understanding of the interaction between politics and economics in today's world will be included.

POLS 351/3551 - Theory and History of Political Economy (3 cr.)

Prerequisites

RHET 1000

Description

Traces the history of political economy and its major schools, covers how different schools conceptualize the mutual relationships between the economy and politics. Relates these schools to the development of capitalism and the process of globalization.

POLS 320/3620 - International Relations (3 cr.)

Prerequisites

RHET 1000 ,POLS 1001 or POLS 2003 and POLS 2404

Description

The nature of politics among sovereign states: approaches and basic concepts, national power, the balance of power, nationalism and imperialism, instruments and goals of national policy, real or ideal limitation on international anarchy. Emphasis on international law and the United Nations, selected topics in contemporary international political history.

When Offered

Offered in fall and spring.

POLS 400/4000 - The Discipline and Critical Social Theory (3 cr.)

Prerequisites

Honors Status, POLS 3201-3202

Description

This course is the capstone seminar for the Department of Political Science's Honors Program. The course familiarizes students with the genealogy of the discipline of political science, and their place in it, introduces them to a range of authors, texts and ideas associated with critical social theory and prepares them to write their major research project. The course is only open to students enrolled in the honors program.

POLS 000/4018 - East- West Dialogue: Cross-Cultural Perceptions and Reflections (3 cr.)

Prerequisites

RHET 2010 and 6 credits at 3000 level in POLS

Description

This course provides a unique opportunity for students at AUC to share their educational experience with students in the west. The medium for this shared experience will be videoconferences held over the internet with university classes in the United States and other Western countries. For each videoconference, we will be reading the same texts as the students at our partner institutions. The videoconferences provide not only the medium for the shared component of the course; they also suggest its substantive theme. For, while we encounter the apparent cultural other over the internet, we will be exploring with them the question of our relationship to the other - especially how our perceptions of the other have developed over time and how they continue to influence the political interaction between "East" and "West" today.

Cross-listed

Same as SEMR 4018

POLS 430/4030 - Seminar: Special Topics in Political Science for Undergraduates (3 cr.)

Prerequisites

RHET 2010 and 6 credit hrs at 3000 level in POLS.

Description

Selected topics to be investigated under the guidance of a faculty member.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit if content changes

Notes

May be offered as a seminar.

POLS 433/4033 - Individual Study and Selected Reading (1-3 cr.)

Prerequisites

RHET 2010 and consent of instructor and department on the basis of a well-defined proposal.

Description

Guided reading, research, and discussion based on a subject of mutual interest to a student and faculty member.

When Offered

Offered in fall and spring.

POLS 431/4035 - Political Sociology (3 cr.)

Prerequisites

Prerequisites: 9 hours of social science, and junior or senior standing.

Description

Social bases of various political systems such as Western-type democracy, authoritarianism, and totalitarianism. Topics include: determinants of political behavior, power, elite formation, bureaucracy, and the political role of the military and intellectuals in Third World societies.

Cross-listed

Same as SOC 4035.

When Offered

Offered in fall.

POLS 499/4099 - Senior Year Thesis (3 cr.)

Prerequisites

The pre-requisites for POLS 4099 is being enrolled in the Honors Program and accumulating the requisite credits in the prescribed courses, including, but not limited to, POLS 4000 and POLS 4104

Description

This course provides students enrolled in the department's Honors Program the opportunity to write an original research thesis with faculty supervision.

POLS 404/4104 - Political Science Methods (3 cr.)

Prerequisites

RHET 2010 POLS 2104 and 3 credit hours at 300 level in POLS.

Description

This course seeks to provide students with a critical understanding of political science methods, the ability to read statistical materials, and to use advanced qualitative and quantitative research methods. Electoral behavior and systems are extensively studied in this course and used to demonstrate how different research methods are applied to study a topic as important as elections.

POLS 416/4216 - Race, Class and Gender: Theorizing Political Identity (3 cr.)

Prerequisites

Six credits at 300 level in POLS.

Description

This course will survey a variety of contemporary trends in the political theorization of race, gender and class as they relate to the development of notions of identity in a historical context and as categories of political exclusion and inclusion. Special emphasis will be given to modern and contemporary concepts of identity, including notions of subjectivity, gender, race, culture, class and ethnicity.

POLS 417/4217 - Cosmopolitanism and Global Justice (3 cr.)

Prerequisites

POLS 3201-3202

Description

The course considers questions of justice in a global context. It uses case studies and theoretical (historical and contemporary) to explore issues associated with just war, human rights, migration, citizenship, as well as economic, environmental, and social justice across state borders.

POLS 426/4226 - Contemporary Political Islam (3 cr.)

Prerequisites

RHET 2010

Description

This course is designed to provide an understanding of the phenomenon of political Islam in the Arab and Muslim worlds. It examines the reasons, implications, and consequences of the reassertion of Islam in today's politics. The course is divided into three parts. The first provides a thorough analysis of the main idea and model (s) that inspire contemporary Islamist activists. The second part critically examines the different trends within the Islamic movements and presents case studies of their origins, evolution, dynamics, and limitations. Finally, the course concludes with a critical analysis of the ideas of prominent Islamic thinkers that are considered as main ideologues of political Islam.

POLS 471/4371 - Introduction to Public International Law (3 cr.)

Prerequisites

RHET 2010 and POLS 3620

Description

Introduces students to the practice and theoretical foundations of public International law, covering such topics as source doctrine (customary International law, treaty law, etc.), international personality, jurisdiction, state responsibility, self-determination and the use of force. This course may be counted toward the Dual Degree Option combining a BA in Political Science and an MA in International Human Rights Law.

Cross-listed

Same as LAW 4371

When Offered

Offered in fall and spring.

POLS 472/4372 - International Law in the Middle East (3 cr.)

Prerequisites

RHET 2010 and POLS 4371 .

Description

An in-depth treatment of selected issues of contemporary international law. Provides students with an understanding of specialized areas of international law including the use of force and dispute resolution, acquisition of territory, state succession, law of the sea, and international human rights law by focusing on specific issues relevant to the Middle East.

When Offered

Offered in spring.

POLS 473/4373 - Special Topics in Public Law (3 cr.)

Prerequisites

RHET 2010 and 6 credit hrs at 300 level in POLS.

Description

Topics drawn from constitutional and administrative law, including related jurisprudence and judicial institutions.

Repeatable

May be taken a second time if content changes.

POLS 474/4374 - Special Topics in Public International Law (3 cr.)

Prerequisites

RHET 2010 and POLS 4371

Description

Specialized areas of international law, such as human rights and humanitarian law.

Repeatable

May be taken if content changes.

POLS 475/4375 - Introduction to Egyptian and Islamic Law (3 cr.)

Prerequisites

RHET 2010

Description

The Egyptian legal system will be considered according to its present structure and historical development including institutions, processes, laws, and the courts. There will be special emphasis on developments in constitutional law and the role played by the constitution in the political context of present day Egypt. The course also offers an introduction to Islamic jurisprudence in the classical doctrine, in the pre-modern Egyptian legal system, and in contemporary Egypt. This course may be counted toward the Dual Degree option combining a BA in Political Science and an MA in International Human Rights Law.

Cross-listed

Same as LAW 4375 .

When Offered

Offered once a year.

POLS 477/4377 - Law and Development (3 cr.)

Prerequisites

RHET 2010 ,POLS 3510 and POLS 4371

Description

This course will explore the interface between law and processes of development. by looking critically at what is meant by "law", we will explore the impact of law (however defined) on social and economic development. In so doing, the beneficial and detrimental impacts of law on development will be assessed. The influence of law in the domains of population, constitutionalism, and the environment, among others, will be considered.

POLS 478/4378 - Introduction to International Human Rights Law (3 cr.)

Prerequisites

RHET 2010 .

Description

The course provides an overview of the major human rights treaties, customary norms, international institutions and mechanisms of enforcement, while at the same time encouraging a critical stance that questions the role and effect of human rights in a world of distress and inequality. This course may be counted towards the Dual Degree Option combining a BA in Political Science and an MA in International Human Rights Law.

Cross-listed

Same as LAW 4378 .

When Offered

Offered once a year.

POLS 420/4420 - Issues in Middle East Politics (3 cr.)

Prerequisites

RHET 2010 and POLS 3408 .

Description

Selected Topics in Middle East Politics investigated under the guidance of a faculty member. May be offered as a seminar.

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes

POLS 422/4422 - Contemporary Egypt (3 cr.)

Prerequisites

RHET 2010 and POLS 3408

Description

This course examines the current Politics of Egypt, including elections, civil society activism and changing power relations between social forces.

When Offered

Offered in fall.

POLS 432/4432 - Seminar: Comparative Politics and/or Policies (3 cr.)

Prerequisites

RHET 2010 and one of POLS 3408 POLS 3423 POLS 3424 .

Description

Selected topics in the field of comparative politics or policies, with concentration on a single country, problem, or policy.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit if content changes.

POLS 435/4435 - The State and Society (3 cr.)

Prerequisites

RHET 2010 and 6 credit hrs. at 300 level in Political Science.

Description

The concept of the State is at the center of the study of politics and of our understandings of political and socio-economic problems like ethnic conflict, sectarian strife, law enforcement, economic development and democratization. This course offers a critical study of theories from Marx, Weber, and other social scientists about the State, its institutions, and its interactions with its society and its citizens.

POLS 438/4438 - Modern China (3 cr.)

Prerequisites

RHET 2010

Description

An examination of the evolution of modern China's political system in the light of Chinese history. Areas for consideration will include the structure of Chinese political culture, how communism has served China, how China's past may continue to determine China's future. When there is sufficient interest, and such arrangements are possible, the course will include a two- to three- week trip to China.

When Offered

Offered occasionally.

POLS 439/4439 - Government and Politics in the Modern Caucasus and Central Asia (3 cr.)

Prerequisites

RHET 2010 ,POLS 1001 and POLS 2003

Description

The policy of colonization and the collapse of the Soviet multi ethnic empire. New nation states in the post communist era including their relations with the Middle East.

POLS 470/4470 - The Politics of Human Rights (3 cr.)

Prerequisites

RHET 2010 and 6 credit hrs at 300 level in Political Science.

Description

This is a research-oriented class on the politics of human rights in comparative perspective with special reference to issues in Egypt and the Middle East

POLS 480/4480 - Israeli Politics and Society (3 cr.)

Prerequisites

RHET 2010 and 6 credit hrs. of Social Science.

Description

This course offers an analytic view of a wide variety of political and social aspects of Israel's domestic setting, including: Israel's political system; economy; civil-military relations; new immigrants; as well as the main political and social divisions.

POLS 481/4481 - The Politics of Palestinian-Israeli Relations (3 cr.)

Prerequisites

RHET 2010 and POLS 3620 .

Description

This course critically examines the politics of Palestinian-Israeli relations. Topics will include, inter alia, the history of political relations between the two communities, and the manner in which the relations have been historicized and politicized, the political economy of the relations, mechanisms of Israel's occupation and the prospects of and for a Palestinian state.

POLS 402/4502 - The Political Economy of Egypt (3 cr.)

Prerequisites

RHET 2010 ,POLS 3510 and POLS 3550

Description

The course focuses on the political factors that shaped the economy, the polity and society at large. In this class, we will try to understand the dynamics of internal and international power relations that shaped the history of modern development, the factors of policy making, the role of the state and the role of external factors

POLS 413/4513 - International Financial Institutions (3 cr.)

Prerequisites

RHET 2010 ,ECON 2021 and POLS 3620 .

Description

The politics of international economics, focusing on the role of the IMF, World Bank, WTO, and other multinational institutions as well as regional financial and economic integration with emphasis on European Union and Middle East and Islamic finance and banking. Special attention will be given to the political dimensions of such issues as debt rescheduling, structural adjustment, international trade regulations, foreign aid, trade wars and embargoes.

POLS 423/4523 - The Political Economy of Poverty and Inequality (3 cr.)

Prerequisites

RHET 2010 ,POLS 3510 and POLS 3550

Description

The focus of this seminar is on the mechanisms that influence poverty. Some of the major issues are: the socio-economic and political characterization of the poor; the role of the state in poverty alleviation; the impact of globalization on poverty and the best policies to reduce poverty.

POLS 424/4524 - Political Economy of the Middle East and North Africa (3 cr.)

Prerequisites

RHET 2010 ,POLS 3510 and POLS 3550

Description

An examination of the interconnection between the socio-political forces and economic policies in the Middle East and North Africa. For instance: how liberalization affects democratization and vice versa, how economic national characteristics affect the political process and vice versa. Required for all students in Political Economy Specialization.

POLS 425/4525 - Global Political Economy (3 cr.)

Prerequisites

RHET 2010 ,POLS 3620 and POLS 3550

Description

The dialectics of the relationship between market and state. Types of international actors and the international division of labor; old and new. Theory of international regimes and the evolution of mechanisms of international trade and

finance. Transformation of the global political economy and its impact on patterns of hegemony/ marginalization in the contemporary world.

POLS 442/4542 - Environmental Politics (3 cr.)

Prerequisites

RHET 2010

Description

This course analyzes environmental politics in an international arena. It examines the policies and tactics of a range of actors, including national and local governments, non-governmental and intergovernmental organizations, corporations, mass movements and scientists.

POLS 450/4550 - Business -Government Relations (3 cr.)

Prerequisites

RHET 2010 and POLS 3550 .

Description

The course will explore interactions and the impact of government and business relations in modern economies. It will first look at some of the key theoretical issues and then examine the nature of this relationship in a comparative international context.

POLS 460/4560 - Development Studies Seminar (3 cr.)

Prerequisites

RHET 2010 and 12 hours of social science.

Description

Interdisciplinary and comparative analysis of development as a process and as a historical phenomenon. Critical evaluation of economic, political, social, and cultural technological and managerial factors that structure developmental change.

Cross-listed

Same as ANTH 4560,SOC 4560.

When Offered

Offered occasionally.

POLS 405/4605 - International Politics in the Middle East (3 cr.)

Prerequisites

RHET 2010 ,POLS 3408 and POLS 3620 .

Description

This seminar seeks to examine the relationships of the Middle East to the great powers of our time, with emphasis on the political, military, economic and cultural impact of these powers on shaping the region, and its future.

POLS 409/4609 - Seminar: International Organization (3 cr.)

Prerequisites

RHET 2010 and POLS 3620

Description

This seminar examines the structure and evolution international organizations, both intergovernmental (IO's) and non-governmental (NGO's), with an emphasis on the United Nations system, its specialized agencies, and recent issues of global governance.

When Offered

Offered in spring.

POLS 410/4610 - International Security (3 cr.)

Prerequisites

RHET 2010 and POLS 3620 .

Description

Discusses the major theories of war and peace. Encompasses a study of international crisis, conflict, war, and strategies for managing conflicts. Covers critical security studies to understand the challenges of the assumptions underpinning traditional security studies. Diverse topics including environmental security, global human security, and international terrorism will be studied with a view of focusing on the changing nature of international security.

POLS 411/4611 - Contemporary Foreign Policies (3 cr.)

Prerequisites

RHET 2010 and POLS 3620 .

Description

Investigates the processes involved in foreign policy decision-making. Focus will be on understanding the contexts, constraints and influences which foreign policy decision-makers have to deal with, combined with specialized knowledge of the post-1945 foreign policies of major and emerging states in the international system.

POLS 414/4614 - Egyptian Foreign Policy (3 cr.)

Prerequisites

RHET 2010 and POLS 3620

Description

Main themes of Egyptian foreign policy from 1952 including: Egypt's relations with the great powers; inter-Arab relationships and policy including unity experiments, the inter-Arab arena including the Arab League, and the Gulf Cooperation Council; effects on foreign policy of the Arab-Israeli conflict; relations with the Non-Aligned Movement, the Islamic Conference, the Organization of African Unity; policy concerns of the national interest including Nile waters and the Suez Canal.

POLS 415/4615 - U.S. Foreign Policy (3 cr.)

Prerequisites

RHET 2010 and POLS 3620 .

Description

Examines major issues and processes of U.S. foreign policy considered historically focusing on the post World War II era. Processes of policy formulation and values manifested in U.S. foreign policy are explored in the context of specific issue areas such as the Cold War, the end of the Cold War, the Western Alliance, and development aid and assistance to Latin America, Africa, and Asia.

POLS 440/4640 - Seminar: Special Topics in International Relations for Undergraduates (3 cr.)

Prerequisites

RHET 2010 and POLS 3620

Description

A special issue or theme in international relations investigated under the guidance of a faculty member.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit if content changes.

POLS 430/5130 - Seminar: Special Topics in Political Science for both Undergraduates and Graduates (3 cr.)

Prerequisites

Junior standing.

Description

Selected topics to be investigated under the guidance of a faculty member.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit if content changes

Notes

May be offered as a seminar.

POLS 440/5140 - Seminar: Special Topics in International Relations for both Undergraduates and Graduates (3 cr.)

Prerequisites

Junior standing.

Description

Selected topics to be investigated under the guidance of a faculty member.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit if content changes.

Notes

May be offered as a seminar.

POLS 501/5201 - Comparative Theory (3 cr.)

Prerequisites

Prerequisite: graduate standing.

Description

An examination of the field of Comparative Politics and major relevant theories, approaches to research, and analysis. Required of all students in the Comparative Politics Specialization.

POLS 502/5202 - Scope and Method of Developmental Analysis (3 cr.)

Description

A critical review of the theories, models, and methodologies relevant to the study of political development, especially in the Third World.

When Offered

Offered in fall and spring.

POLS 503/5203 - International Relations Theory (3 cr.)

Description

Critical review of major theories and concepts in international relations, and the relevance of theory to contemporary world politics. Special attention will be given to the development of theoretical and research skills needed for the conducting of graduate research and the writing of graduate thesis.

When Offered

Offered in fall and spring.

POLS 504/5204 - Advanced Political Science Methods (3 cr.)

Description

The course provides students with a critical understanding of quantitative and qualitative research methods in political science. It should help students draft thesis proposals according to the department guidelines. Students should enroll in this course starting their second semester in the program. The topics covered include: the design of research projects, methods to gather and analyze data, and the ethical problems involved in conducting social science research.

POLS 505/5205 - Identity, Culture and Norms in World Politics (3 cr.)

Description

Studies identities, cultures and norms in world politics. It explores, inter alia, the construction of domestic and state identities and the making of norms and cultures, as well as the intersection of these three elements, at the global level.

When Offered

Offered in Spring.

POLS 510/5210 - Global Governance and World Order(s) (3 cr.)

Description

This course explores the ideas, institutions and practices of global governance, multilateralism and world order. A range of theoretical frameworks and case studies examine the role of social forces, state and non-state actors, issues such as cooperation and regulation, discourses of imperialism and institutional mechanisms in the current world order.

When Offered

Offered in Fall.

POLS 520/5220 - Protracted Social Conflicts (3 cr.)

Description

Protracted social conflicts (PSCs) are endemic conflicts based on horizontal inequalities such as ethnicity, religion, race and gender. This course will examine how PSCs affect development priorities, the distribution of income and services, etc; which exacerbates unequal access to economic resources and benefits, which in turn intensifies hatred and conflict on non-class demarcation lines.

POLS 525/5225 - International Political Economy (3 cr.)

Description

Patterns of the evolution, organization and functioning of the global political economy including the role of states and other international actors; theory and practice of international regimes and global issues of the third millennium.

When Offered

Offered in fall.

POLS 526/5226 - The Political Economy of Regionalism (3 cr.)

Description

This course examines the patterns, criteria, and dynamics of regionalism in the global political economy. The course takes a comparative approach to analyzing the political economy of regionalism, studying the Middle East, Latin America, Asia, Europe and Sub-Sahara Africa. We will examine the positive and negative effects of the trends of regionalism, identify patterns, and compare the political, economic, military/security, socio-cultural, linguistic, historical, and ideological variables of each region under study.

POLS 530/5230 - Regime Change and Democratization (3 cr.)

Prerequisites

POLS 5201

Description

The course addresses the academic debate on authoritarianism, regime change, and democratization in theoretical and empirical perspective. Conceptual approaches include regime type analysis, theories of democratic transition and consolidation, and hybrid regimes. Empirical cases compare developments in different world regimes.

POLS 534/5233 - Middle East Conflicts (3 cr.)

Description

The Arab-Israeli conflict is at the core of Middle East conflicts; the numerous Arab-Israeli wars and peace efforts dominated the conflict scene in the region for more than half a century. Other conflicts are fueled, affected, and intertwined with the various aspects of Arab-Israeli conflict. This seminar analyzes roots of this protracted conflict since Zionism clashed with Palestinian nationalism in the early 20th century until the most recent effort to settle it.

When Offered

Offered in Fall.

POLS 535/5235 - Middle East Politics (3 cr.)

Description

This course provides an in-depth examination of the nature and dynamics of Middle East politics. It explores some of the main approaches to understanding the Middle East Political system. The course will focus on state formation, national identities, leadership, elites and the impact of the west.

POLS 536/5236 - Contemporary Issues in Political Islam (3 cr.)

Description

This course is designed to examine current intellectual, economic, political, and foreign policy issues in political Islam. Among the topics that will be analyzed are political Islam and the challenges modernity,; secularism; the Islamic state; democracy and pluralism; human rights; women; Islamic economic system; and globalization.

POLS 537/5237 - Modern Islamic Political Thought (3 cr.)

Description

This seminar explores key thinkers in the development of modern Islamic political thought. It examines how thinkers from Morocco to South Asia have used religious arguments to inform their political philosophies.

POLS 540/5240 - Politics of Modern Egypt (3 cr.)

Description

This course offers an in-depth analysis of the nature and dynamics of modern Egyptian politics. Assessments of the Nasser, Sadat and Mubarak presidencies are followed by a treatment of the major issues and themes confronting and shaping Egypt's contemporary political arena.

POLS 544/5244 - European Politics (3 cr.)

Description

Considers the governance structures, processes, and patterns of politics in major states, institutions of the EU, and international organizations.

POLS 545/5245 - Development Politics and International Cooperation (3 cr.)

Description

This course examines the main features of the politics of development and international development cooperation, including, but not limited to, conceptual issues such as changing understandings of development, as well as theoretical approaches to explaining development or its absence

When Offered

Offered occasionally.

POLS 550/5250 - Politics In Asia (3 cr.)

Description

The general aim of this course is to acquaint the student with an overall historic view of contemporary Asian politics, in an evolving international political and economic environment. The course is divided into two parts: (I) an introduction to the continent, and to Comparative Politics; and (II) five case studies, most of them covering more than one country, which will be thought alternatively, according to the availability of lecturers, 2-3 cases studies per semester.

When Offered

Offered occasionally.

POLS 551/5251 - African Politics (3 cr.)

Description

The course provides an in-depth examination of the nature and dynamics of African politics. It explores issues related to state formation; post-colonial development processes; conflicts and civil wars; attempts at regional and sub-regional cooperation and integration and Africa international political and economic relations in the globalization era.

POLS 552/5252 - Arab-American Relations (3 cr.)

Description

This is a course which will introduce students to the growing importance of Arab-American relations in the post Cold War era. Informed by conceptual approaches in International Relations, it will examine changing patterns in political and strategic relationships, and will also assess the impact of US policy on some of the crucial regional issues which cause serious concerns to the governments and peoples of the region.

POLS 554/5254 - Comparative Foreign Policy: Theories and Applications (3 cr.)

Description

Patterns of the international system are greatly shaped by the strategies, objectives, and decisions of states, i.e. their foreign policies. Consequently, this course deals with the sources, processes and outcomes of these policies and how far they shape the global arena.

When Offered

Offered in spring.

POLS 555/5255 - Conflict and Security in Global Politics (3 cr.)

Description

This course examines, theoretically and through case studies, conflict and security in world politics. This includes analysis of the dynamics of inter-state, ethnic, and anti-imperial and -colonial conflict, as well as security arrangements, from balance of power to regional and global security regimes.

When Offered

Offered in fall.

POLS 558/5258 - Comparative Politics and the Middle East (3 cr.)

Prerequisites

POLS 5201 or POLS 5202 and POLS 5235 or POLS 5240

Description

Polity, economy, and society considered as interconnected areas for research in comparative politics; the impasse debate about theory in Middle East politics explored in relation to comparative work on other areas and analysis of representative studies; consideration of materials relevant for studying the Middle East; practice in formulating a research proposal and in developing an agenda for research.

POLS 561/5261 - Public Policy and Development (3 cr.)

Prerequisites

ECON 2021 and POLS 5202 or POLS 5235

Description

Public policy-making considered within contexts of current policy debates. Historical perspectives emphasized, as well as the effects of the globalization of trade, rise of multinationals, and the parameters of effective policy making at national and sub-national levels.

POLS 562/5262 - International Development Organizations (3 cr.)

Prerequisites

POLS 5202

Description

The structure of international aid and assistance, with emphasis on analyzing the activities of multilateral, and bilateral organizations and NGOs which attempt to promote development. Emphasis will be on the political and bureaucratic environments in which these organizations operate.

POLS 570/5270 - Special Topics in Political Science for Graduates (3 cr.)

Description

Alternating selected Topics to be investigated and reported.

When Offered

Offered in fall and spring.

Repeatable

May be taken more than once if content changes.

POLS 571/5271 - Seminar: Special Topics in International Relations for Graduates (3 cr.)

Description

Issues in international relations regionally or topically defined. Each student will investigate an aspect of the topic as defined, researching it and reporting on it within the seminar context.

Repeatable

May be taken more than once if content changes.

POLS 580/5280 - Independent Study and Readings (3 cr.)

Prerequisites

Prerequisite: Department approval.

Description

Guided individual readings and/or research on a subject of mutual interest to student and faculty member.

When Offered

Offered in fall and spring.

Repeatable

May be taken only once.

POLS 584/5284 - Practicum: Internship or Research (3 cr.)

Prerequisites

At least eighteen hours of master's degree work and permission of course convener.

Description

Internship for four to six months in an organization pursuing development activities, or active involvement on an institutional research project having a development emphasis. The work is assessed on the basis of a written report and discussion.

POLS 585/5285 - Project Seminar (3 cr.)

Description

This is a special seminar for the practical development specialization. It includes the examination, specification and identification of problem areas; conceptualization and design of programs and their implementation; evaluation of project proposals and implementation. Students will be assessed by a variety of practical exercises, and the design of a project proposal.

POLS 586/5286 - Skills in Development Practice (3 cr.)

Description

This special seminar for the development specialization offers practical skills integral for working in the development field. The approach will be thematic and students will be introduced to the latest in techniques relevant to the field. A critique of the various approaches will be encouraged. Students will be assessed by a variety of practical exercises, essays and research projects.

POLS 599/5299 - Research Guidance and Thesis (no cr.)

OPMG 202/2101 - Statistics for Business (3 cr.)

Prerequisites

MACT 1112 or ECON 2061 .

Description

Basic concepts and applications of statistical analysis in business decisions. Methods include probability, risk analysis, estimation, forecasting, analysis of variances, and regression analysis.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

OPMG 310/3201 - Operations for Competitive Advantage (3 cr.)

Prerequisites

MACT 1221 or ECON 2061 or MACT 2222 .

Description

How firms can gain competitive advantage from the operation function. This course introduces the basic concepts, tools and principles that are essential for the analysis and improvement of business processes. Topics may include

forecasting, product and service design, capacity planning, quality management, materials management and project management.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

OPMG 409/4102 - Quantitative Approach to Management (3 cr.)

Prerequisites

OPMG 4202

Description

Topics like the philosophy and techniques of operations research, the theory of probability, inventory models, utility and decision game theory, linear programming, queuing models, and simulation methods are emphasized.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

OPMG 402/4202 - Production/Operations Management II (3 cr.)

Prerequisites

OPMG 3201

Description

Current theory and practice in the planning, operating, and control of production/service systems. Topics include: production planning, purchasing and materials management, quality assurance, and productivity analysis.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

OPMG 403/4203 - Business Process Management and Simulation (3 cr.)

Prerequisites

OPMG 3201

Description

Initiatives in quality (TQM), time-based competition, balanced score card, business simulation and business dynamics,

including recent development in benchmarking and business process reengineering, with particular attention given to process management through supporting process design and improvement.

When Offered

Offered in fall.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

OPMG 404/4204 - Service Operations and Strategy (3 cr.)

Prerequisites

OPMG 3201

Description

Service organizations are dominating the global economy in terms of GDP share and employment, this is even more acute in the Egyptian economy. As such, the need to know how to design, operate and analyze service operational systems is more crucial than ever. This course covers the basic principles behind the design and operation of service enterprises with focus on service facility design, location, demand management, yield management and service capacity planning. Industries which could be considered include tourism, hospitality, financial, health care and government operations.

When Offered

Offered in spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

OPMG 401/4301 - Supply Chain Management (3 cr.)

Prerequisites

OPMG 3201 .

Description

The integrative managerial issues and challenges related to developing and implementing a firm's supply chain strategy. Attention is directed to the supply chain strategy mission confronted by varied types of business organizations.

When Offered

Offered in fall and spring.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

OPMG 470/4970 - Special Topics in Production / Operation Management (3 cr.)

Prerequisites

Prerequisite: Consent of Instructor.

Description

Considers selected topics of current relevance in Production / Operation Management.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

OPMG 475/4975 - Independent Study in Production/Operation Management (1-3 cr.)

Prerequisites

Prerequisites: Senior standing and consent of OPMG unit head and chair.

Description

Guided readings, research, and discussions on specific selected topic in Production/Operation Management.

When Offered

Offered occasionally.

Notes

Enrollment in is limited, and priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students enrolling in specified as collateral requirements in other majors, and students who have declared business administration as a minor.

OPMG 507/5201 - Introduction to Business Statistics (3 cr.)

Description

This course provides a basic introduction to statistics as applied to finance, business, and accounting problems. Conceptual understanding of the concepts is stressed. Students will learn both limitations of statistics and how to interpret results. Hands-on experience in applying the concepts using Excel and SPSS is an integral part of the course. Topics include graphical & tabular descriptive techniques, random variables and descriptive probability distributions, continuous probability distributions, sampling distributions, estimation, hypothesis testing, regression analysis, and analysis of variance. Application areas used include finance (e.g., portfolio construction), operations (e.g., statistical process control), and marketing.

When Offered

Offered in fall and spring.

OPMG 520/5202 - Operations Management for Competitive Advantage (3 cr.)

Prerequisites

OPMG 5201

Description

This course provides a basic understanding of manufacturing and service operations, and their role in the organization. Topics covered include process analysis, process capacity, quality management and control, forecasting, inventory control, lean operations, and planning and control. Topics are covered with emphasis on managerial, applications-oriented perspective.

When Offered

Offered in fall and spring.

OPMG 521/5301 - Managing and Coordinating Supply Chains (3 cr.)

Prerequisites

BADM 5310

Description

Supply Chain Management (SCM) deals with the efficient and effective flow of goods, services, information and financial resources through a network of suppliers, transformation facilities, distribution sites and customers. The goal of this course is to understand how supply chain decisions impact the performance of the firm as well as the entire supply chain. This course covers the major issues in supply chain management, including: definition of a supply chain; role of inventory; bullwhip effect and information sharing; vendor-managed inventories and other distribution strategies; third-party logistics; managing product variety; information technology and supply chain management; international issues. SCM focuses on managing material and information outside of the factory walls including aspects of sourcing, product design collaboration, demand planning and forecasting, inventory deployment, distribution system design, channel management, procurement, and logistics. We explore order fulfillment strategies and the impact of the Internet on distribution and back-end supply chain processes. We also examine strategies for enterprise integration.

When Offered

Offered occasionally.

OPMG 528/5302 - Managing Dynamic Projects (3 cr.)

Prerequisites

BADM 5310

Description

To compete successfully many organizations provide unique goods and/or services which are delivered via "projects." These include the professional services firms that provide a broad portfolio of services supporting their clients' projects. Even organizations that do not regularly engage in projects often utilize projects to enable organizational, process or technological change. In all cases effective management of projects is required in order to achieve the overarching project goal of customer satisfaction. The course focuses on strategies and tools useful in management of projects. Topics covered include efficient & effective management of tasks within individual project, project portfolio management. Managing distributed development, and common classification of project types.

When Offered

Offered occasionally.

OPMG 530/5303 - Data Analysis (3 cr.)

Prerequisites

BADM 5310

Description

This course uses the Excel/VBA environment for developing models. Students will develop spreadsheets and write programs for forecasting, financial price simulation, option pricing, and financial statements. Add-ins are used for optimization, simulation, and decision analysis.

When Offered

Offered occasionally.

OPMG 532/5305 - Operations Strategy (3 cr.)

Prerequisites

BADM 5310

Description

In this course we examine how firms can develop a competitive edge via excellence in operations strategy formulation and implementation. We study how companies can design operations to compete based on cost, quality, flexibility, or service. We will also study different scenarios in which firms make structural strategic decisions; dealing with "hard" issues such as technology choice, capacity expansion, and factory focus; and infrastructural strategic decisions; dealing with "softer" issues such as quality management & benchmarking, and procedures for global sourcing & inter-functional coordination.

When Offered

Offered occasionally.

OPMG 533/5306 - Business Dynamics (3 cr.)

Prerequisites

BADM 5310

Description

This course introduces system dynamics modeling for the analysis of business policy and strategy. Students will learn to visualize and analyze a business organization in terms of the structures and policies that create dynamics and regulate performance. A common theme that runs through the course is the search for connections between the behavior of people (and groups) in organizations and the organizational trajectories they generate; and how interactions among physical, cognitive, social, and informational factors in various organizational settings lead to dynamic behavior over time. We will also introduce "management flight simulators" that allow us to experience the long term side effects of decisions, systematically explore new strategies, and develop our understanding of complex systems.

When Offered

Offered occasionally.

OPMG 570/5370 - Selected Topics in Operations Management (3 cr.)

Prerequisites

BADM 5310

Description

It considers selected topics of current relevance in Operations Management.

When Offered

Offered occasionally.

OPMG 575/5375 - Independent Study in Operations Management (1-3 cr.)

Prerequisites

Prerequisite: Consent of OPMG unit head and chair.

Description

Guided readings, research, and discussions on specific selected topic in Production/Operation Management.

When Offered

Offered occasionally.

PSYC 201/1000 - Introduction to Psychology (3 cr.)

Description

Survey of the general field of psychology. Topics include the history of psychology, research methods, biological aspects of behavior, sensation and perception, learning and memory, cognition and language, consciousness and cognitive abilities, motivation and emotion, human development, health and stress, personality, psychological disorders and their treatment, and the social aspects of behavior.

When Offered

Offered in fall and spring.

PSYC 207/2000 - Introduction to Psychological Statistics (3 cr.)

Description

Basic Introduction to the application and interpretation of statistical analysis in psychology. Begins with statistical methodology, branches of statistics, definition of a variable and its measurement. Topics include frequency tables and graphs, central tendency, variability, probability distributions, normal distribution, estimation, significant tests, comparison of two or more groups, association between categorical variables, regression, correlation. Use of SPSS software.

When Offered

Offered in fall and spring.

PSYC 299/2099 - Selected Topics in Psychology (3 cr.)

Prerequisites

PSYC 1000 , sophomore or junior standing and permission of the instructor.

Description

Topics will vary depending on contemporary trends in the field of psychology.

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes.

PSYC 208/2100 - Research Methods for Psychology (3 cr. + 1 cr. lab)

Prerequisites

PSYC 1000 and PSYC 2000

Description

Review of qualitative and quantitative research methods that form the empirical basis of contemporary psychology. Progresses from the logic of scientific discovery and comprehension of research literature to the formulation, design, conduct, analysis, and reporting of specific research projects. The laboratory will provide applied exercises to facilitate an understanding of the research methods and mentorship in the comprehensive development and implementation of student research project required for this class.

When Offered

Offered in fall and spring.

Notes

This course is designed for psychology majors.

PSYC 240/2201 - Introduction to Community Development (3 cr.)

Description

Introduce the students to the different concepts and approaches to community development as well as to community organizing. Utilizes a critically reflective framework as part of the curriculum to overcome the potential division between theory and practice. Identifies the key issues that the students are likely to confront in community development and organizing work.

Cross-listed

Same as ANTH 2201, SOC 2201.

When Offered

Offered in fall.

PSYC 302/3002 - Personal Growth and Adjustment (3 cr.)

Prerequisites

PSYC 1000

Description

This course covers personal psychological adjustment with a focus on the practical and applied aspects of psychology as opposed to theoretical. Students will learn to apply psychological knowledge toward developing and achieving goals. Topics will include personal change, health, stress management, relationships and intimacy, communication, study skills, career development, and time management. For the course learning outcomes to be successfully attained, students will develop and implement a community-based learning project.

When Offered

Offered in fall and spring.

PSYC 330/3003 - Community Psychology (3 cr.)

Prerequisites

PSYC 1000 or permission of instructor.

Description

This course will introduce students to theory and practice in community psychology. The practice of community psychology is directed towards the design and evaluation of strategies to prevent social pathologies such as crime, widespread drug abuse, and domestic violence, and promote community empowerment and healthy group coping strategies. While these strategies are, of course, aimed at promoting mental health in the individual, the idea is to target the social system of which he/she is a part and thus create a psychologically healthy setting for many individuals.

When Offered

Offered in fall.

PSYC 301/3010 - Social Psychology (3 cr.)

Prerequisites

PSYC 1000

Description

The extension of general psychological principles and methods to the study of interaction with social and physical environment. The nature and methodology of research in social psychology. The major theoretical concepts and their applications and contributions to a variety of areas in the field including development and socialization, social perception and attribution of causality, attitude formation and changes, pro- and anti-social behavior, interpersonal attraction and intimacy, and the social effects and functions of groups.

Cross-listed

Same as SOC 3010.

When Offered

Offered in fall and spring.

PSYC 310/3011 - Educational Psychology (3 cr.)

Prerequisites

PSYC 1000

Description

Educational Psychology introduces psychological principles, theories, and methodologies to issues of teaching and learning in education. The role of psychology of education in studying and influencing teaching and learning will be explored with an emphasis on direct application to planning, implementing, and evaluating instruction in the classroom.

When Offered

Offered occasionally.

PSYC 304/3040 - Lifespan Development (3 cr.)

Prerequisites

PSYC 1000 .

Description

The study of human growth and development across the lifespan with emphasis on normal growth and milestones achieved in the physical, cognitive, social, and emotional systems. Educational and familial contexts are highlighted. Students will develop an understanding of the concepts, methods, and research findings central to the study of developmental psychology.

When Offered

Offered in fall and spring.

PSYC 308/3080 - Cognitive Psychology (3 cr.)

Prerequisites

PSYC 2100

Description

Current research and theory concerning mental processing and mental structures. Emphasis on the processes of perceiving, learning, remembering, and thinking. The merits and limitations of studying these processes from an information-processing perspective.

When Offered

Offered in fall.

PSYC 313/3130 - Learning and Behavioral Psychology (3 cr.)

Description

Reviews the fundamentals of the processes of learning, memory and conditioning, emphasizing both classical and operant conditioning in human and animal models. It is followed by an exploration of the techniques and theories of behavioral psychology in the applied setting.

When Offered

Offered occasionally.

PSYC 315/3150 - Psychological Testing and Assessment (3 cr.)

Prerequisites

PSYC 1000 and PSYC 2000

Description

Study of psychometrics, including measurement statistics, reliability, validity. Overview of test construction and development. Introduction to types of testing including intellectual/cognitive; achievement; and personality measures. Ethical and cultural issues in assessment.

When Offered

Offered in spring.

PSYC 340/3202 - Participatory Action Research in Community Settings (3 cr.)

Description

This course will introduce students to the appropriate research methodologies when dealing with community organizing and development, particularly the participatory action research approach to community development.

Cross-listed

Same as ANTH 3202,SOC 3202.

When Offered

Offered in fall.

PSYC 327/3270 - Theories of Personality (3 cr.)

Prerequisites

PSYC 1000

Description

The study of the development and dynamics of personality from a variety of theoretical perspectives, including psychoanalytic, cognitive, behavioral, trait, biological, and humanistic. A critical analysis of the theories includes discussion of cultural and historical contexts and examination of scientific evidence.

When Offered

Offered in fall and spring.

PSYC 342/3420 - Abnormal Psychology (3 cr.)

Prerequisites

PSYC 1000

Description

Different theoretical approaches and empirical studies of causes, symptoms, and treatment of abnormal patterns of behavior. Problems and advantages of creating a classification scheme for abnormal behavior. The major diagnostic categories and review of the more common patterns of abnormal behavior. How such disorders arise from subtle interactions between organic or psychological predispositions.

When Offered

Offered in fall and spring.

PSYC 380/3800 - Biopsychology (3 cr.)

Prerequisites

BIOL 1010 or BIOL 1011 and PSYC 1000 and PSYC 2100 .

Description

This course explores the relationship between the nervous system and behavior. Topics include biopsychology as a neuroscience, brain structures and functions, sensory and motor systems, human motivation, cognition, emotion and mental health.

When Offered

Offered in fall.

PSYC 401/4001 - Supervised Research in Psychology (1-3 cr.)

Prerequisites

PSYC 2100 , minimum B average, and permission of instructor.

Description

Student will assist with a research project by working under the individual guidance of a Psychology faculty member. Requirements may include library research, data collection, data entry, statistical analysis, qualitative analysis, and assistance in planning or conducting parts of a research project.

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes. May not be taken for more than 6 credits per faculty advisor during the student's academic path.

PSYC 402/4002 - Independent Study (1-3 cr.)

Prerequisites

Prerequisites: a minimum B average, consent of the instructor, and approval by the Unit Head and the Department Chair.

Description

In exceptional circumstances some seniors and graduating seniors with department approval may arrange for independent study on a chosen topic in Psychology that is not covered in the regular offerings for that academic year. Guided readings, research and frequent consultations held.

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit if content changes

PSYC 410/4011 - Cultural Psychology (3 cr.)

Prerequisites

PSYC 1000 and junior or senior standing.

Description

This course will explore the nature of different psychological systems (or "ethnopsychologies") that exist throughout the world and the complex relation of these to western psychology. Topics to be covered include the relationship of culture to human development, personality, psychopathology, and psychotherapy, paying particular attention to the impact of social change and cultural contact. This course will also address some major issues in applied psychology from a cultural and international perspective. The successful student will leave this course with an appreciation of the

cultural underpinnings of western psychology, an in-depth understanding of the limitations of universalist perspectives, and a new appreciation for cultural and psychological diversity.

When Offered

Offered occasionally.

PSYC 414/4014 - Child Psychology (3 cr.)

Prerequisites

PSYC 3040 or permission of instructor.

Description

. Child psychology familiarizes students with contemporary theoretical and practical knowledge of child development. The theoretical level involves theories of child development, with a special emphasis on children with special cognitive, emotional and medical needs. The practical level requires students' involvement in the field by providing them with supervised applied experience in dealing with children with various special needs such as disability, childhood illnesses, and child abuse and neglect.

When Offered

Offered occasionally

PSYC 407/4015 - Psychological Anthropology (3 cr.)

Prerequisites

Prerequisites: 6 hours of anthropology, 6 hours of psychology, and junior or senior standing

Description

Interdisciplinary and cross-cultural approach to the study of the reciprocal relations of culture and personality; special focus on themes of identity, socialization, and the emergence of self in various cultural settings.

Cross-listed

Same as ANTH 4015.

When Offered

Offered occasionally.

PSYC 420/4022 - Industrial/Organizational Psychology (3 cr.)

Prerequisites

PSYC 3010 and PSYC 3270 .

Description

This course provides students with the understanding of the scientific basis and professional practice of industrial/organizational psychology. Topics include personnel selection and placement, training and development, performance appraisal, organizational development, quality of work life, and ergonomics.

When Offered

Offered occasionally.

PSYC 403/4030 - History and Systems of Psychology (3 cr.)

Prerequisites

Prerequisites: junior or senior standing and 15 hours of psychology, or permission of instructor.

Description

Places recent developments in psychology in a broad perspective. Emphasizes how new movements in psychology reflect both psychology's past and the influence of related fields such as the cognitive and neurosciences.

When Offered

Offered in spring.

PSYC 442/4062 - Clinical Psychology (3 cr.)

Prerequisites

PSYC 3270 ,PSYC 3420 and PSYC 3800 or permission of instructor.

Description

This course will cover the history and current state of the field of clinical psychology. Topics that will be covered include clinical assessment, clinical interventions, psychotrauma, and clinical theories. This course is intended for advanced undergraduate students who are considering graduate work or practical work in fields related to clinical psychology.

When Offered

Offered occasionally.

PSYC 430/4063 - Advanced Community Psychology (3 cr.)

Prerequisites

PSYC 1000 ,PSYC 3003 and permission of instructor.

Description

Provides an advanced introduction to theory and practice in community psychology, incorporating experiential community based learning as an integral part of the course requirements. Builds upon theories and concepts covered in Psychology 3003 (Community Psychology) by introducing special topics of particular importance to Egypt. Topics and skills covered may relate to oppression and liberation, social action, stress and coping, needs assessment, program development, program evaluation, public policy or special populations such as refugees and persons with disabilities or mental illness.

PSYC 400/4099 - Selected Topics in Psychology (3 cr.)

Prerequisites

Prerequisite: junior or senior standing, and permission of the instructor.

Description

Topics to be chosen according to specific interest, for example: learning theory, conflict and stress, psycholinguistics, ethnopsychology.

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes.

PSYC 440/4203 - Practicum in Community Development (3 cr.)

Prerequisites

Six hours of social sciences or consent of the instructor.

Description

One semester, field experience in an approved international development agency, local NGO or other professional setting approved by faculty supervisor. Supervised by a faculty supervisor.

Cross-listed

Same as ANTH 4203 and SOC 4203.

When Offered

Offered in spring.

PSYC 000/5000 - Research Methods and Inferential Statistics for Psychology (3 cr.)

Prerequisites

Post baccalaureate

Description

This course will introduce students to research methods in psychology, including the process of scientific inquiry, features of different research methods, and practical applications and challenges when conducting studies. Quantitative and qualitative research methods will be reviewed such as experimental designs, correlation studies, and single-case studies. Inferential statistics will include basic introduction, test of hypothesis, correlation and regression.

PSYC 412-512/5112 - Psychosocial Issues in Forced Migration (3 cr.)

Prerequisites

Prerequisites: Permission of the instructor.

Description

Explores the psychosocial dimensions of forced migration including ethno-cultural concepts of well-being, sources of stress and coping, the impact of forced migration on child development, psychosocial consequences of torture and sexual victimization, and the interaction of trauma and bereavement. Culturally appropriate mental health assessment, community-based intervention programs, methods of program evaluation, and ethical issues in working with refugee populations will be discussed. This course is required of all students seeking the diploma in Forced Migration and Refugee Studies.

Cross-listed

Same as MRS 5112.

When Offered

Offered occasionally.

PSYC 500/5200 - Fundamentals of Counseling (3 cr.)

Description

This course is an introduction to culturally sensitive interviewing, listening, and report writing skills required of professional helpers. Students will gain familiarity with fundamental counseling concepts and experience in using basic counseling techniques. The course will enhance students' capacity for psychological mindedness and intervention.

PSYC 503/5206 - International and Multicultural Psychology (3 cr.)

Description

This course is an overview of the mainstream as well as alternative theoretical, methodological, and applied approaches that are relevant to the study and practice of psychology. Specifically, the course will provide students with knowledge, awareness, and skills in international and cultural issues related to the field of psychology.

PSYC 575/5209 - Independent Study and Guided Readings (1-3 cr.)

Prerequisites

Minimum 3.0 GPA, consent of instructor, and approval of graduate advisor.

Description

In exceptional circumstances some students may arrange for independent study on a specific topic in psychology that is not covered in the course offerings for that academic year. Guided readings, research and frequent consultations held.

When Offered

Offered occasionally.

PSYC 502/5210 - Community Psychology and Systems Theory (3 cr.)

Description

This course examines the core theories, values, and methodologies of community psychology and systems theory. An emphasis is placed on the ecological perspective, empowerment theory, sociocultural and cross-cultural competence, community inclusion and partnership, and ethical, reflective practice.

PSYC 520/5216 - Psychology in the Schools (3 cr.)

Description

This course will focus on prevention-oriented community and environmental interventions in school settings. General topics areas addressed are: assessment, consultation, intervention, special education, research, reform movement in education, multiculturalism, and diversity, and the future of education and school psychology.

PSYC 508/5220 - Applied Research Design and Statistical Analysis (3 cr.)

Description

This course provides students with the conceptual knowledge and skills needed to understand, evaluate, and conduct multivariate research. The course will also acquaint students with the statistical techniques used to analyze data derived from such research.

PSYC 545/5226 - Seminar in Cross-Cultural Family Studies (3 cr.)

Description

This course will expose students to contemporary issues affecting families in a global context from a systemic/ecological perspective. Issues of diversity and cross-cultural interactions will be integrated throughout the course, with an emphasis on the Arab/Middle Eastern experience.

PSYC 505/5230 - Ethics and Professional Issues (3 cr.)

Description

This course is designed to introduce students to ethical decision-making that is an integral part of psychological practice and research. Students will learn about specific ethical principles and guidelines, and will be challenged to increase awareness, sensitivity and understanding of ethical and professional practices particularly within multicultural settings.

PSYC 530/5233 - Community Assessment and Program Evaluation (3 cr.)

Description

This course exposes students to concepts and methods of applied research in community psychology, specifically community assessment and program evaluation. Assessment techniques may focus on community needs and assets/resources assessment. Students will gain knowledge and skills in program evaluation, including evaluation theories, different types of evaluation (including process, outcome, and impact), and qualitative and quantitative evaluation methodologies. There will be an emphasis on strengths-based, participatory, and empowerment-oriented approaches, as well as professional ethics.

PSYC 510/5241 - Theories of Counseling and Psychotherapy (3 cr.)

Description

This course examines historical and contemporary approaches to counseling and psychotherapy. Theoretical assumptions and principle interventions and techniques of each paradigm will be studied, emphasizing evidence-based practice. Theories covered include psychodynamic, humanistic/experiential, cognitive, behavioral, brief/strategic, and postmodern approaches. There is an emphasis on multicultural considerations.

PSYC 535/5243 - Prevention and Intervention in Communities (3 cr.)

Description

This course provides students with knowledge and skills related to prevention across the lifespan, health promotion, and other types of community interventions. Students are exposed to a variety of community and preventive interventions, so as to prepare them to think about, work with, and lead community and preventive interventions in the future. The course provides training in community program development by offering opportunities for students to

participate in program development, implementation, or management. Multicultural sensitivity and professional ethics are addressed.

PSYC 515/5251 - Psychological Assessment (3 cr.)

Description

This course increases familiarity with some of the most important psychological assessment tools, including personality and intelligence testing, clinical interviewing, and behavioral observation. Students examine strengths and limitations of tests and how to administer, score and interpret them. Students learn how to write integrated reports that can inform treatment. The course integrates hands-on experience conducting assessments, with supervised experience in report writing. Multicultural and ethical issues are addressed.

PSYC 525/5253 - Consultation to Non-Profit Organizations (3 cr.)

Description

This course provides students with knowledge and skills for consultation with nonprofit organizations, using a participatory and strengths-based approach. Topics include understanding the nonprofit sector, phases and theories of consultation, establishing and marketing a consultation business, and ethical and professional competence. Nonprofit consultation often focuses on strategic planning, organization development, needs assessment, capacity and resource development, program evaluation, and fundraising.

PSYC 570/5256 - Special Topics in Psychology (3 cr.)

Prerequisites

Approval of advisor.

Description

In-depth examination of a specific topic in psychology of current theoretical, research, or clinical interest. Topics will vary depending on instructor.

When Offered

Offered Occasionally.

Repeatable

May be repeated for credit if content changes.

PSYC 506/5261 - Psychopathology and Resilience across Cultures (3 cr.)

Description

This course is an overview of contemporary views on psychopathology and resilience from a multicultural perspective. The course will cover key processes influencing mental health across cultures such as belief systems and communication interaction as well as ways to cultivate resilience.

PSYC 596/5263 - Internship in Community Psychology (3 cr.)

Prerequisites

PSYC 5200 PSYC 5210 PSYC 5230 PSYC 5220 PSYC 5233 PSYC 5243 and approval of advisor.

Description

This course provides students with applied fieldwork experience in community psychology during an academic year-long field internship. Students are placed at NGOs, community agencies, or private or public institutions as interns with an approved external supervisor at the site. In addition, students meet regularly with a psychology faculty member for individual and group supervision.

PSYC 580/5264 - Practicum I in Counseling Psychology (3 cr.)

Prerequisites

PSYC 5200 PSYC 5210 PSYC 5291 PSYC 5230 PSYC 5241 PSYC 5251 and approval of advisor.

Description

Introductory practicum in which students provide direct counseling services with the support of individual and group supervision. This practical training will help students develop their skills in areas including but not limited to: a. counseling assessment and interventions; b. session and case management skills; c. ethical and legal principles, and d. documentation such as record keeping and report writing.

PSYC 540/5270 - Community and Group Interventions (3 cr.)

Description

This course provides an overview of the concepts and applications of group interventions in community and counseling contexts. Principles of group work will be reviewed, including systemic thinking, group dynamics and cohesion, professional tasks and challenges, and stages of group development.

PSYC 581/5274 - Practicum II in Counseling Psychology (3 cr.)

Prerequisites

PSYC 5200 PSYC 5210 PSYC 5291 PSYC 5230 PSYC 5241 PSYC 5251 and approval of advisor.

Description

Advanced practicum in which students provide direct counseling services with the support of individual and group supervision. This practical training will help students develop their skills in areas including but not limited to: a. counseling assessment and interventions; b. session and case management skills; c. ethical and legal principles, and d. and documentation such as record keeping and report writing.

PSYC 586/5276 - Practicum I in Community Psychology (3 cr.)

Prerequisites

Approval of Advisor.

Description

Introductory practicum in which students apply community psychology principles and methods in community settings with the support of individual and group supervision. Specialized skills will be gained at various levels of ecological analysis with an emphasis on ethical and professional practices, and may include consultation, prevention, community assessment or intervention, program evaluation, or public policy development.

PSYC 550/5281 - Couples Counseling and Human Sexuality (3 cr.)

Description

The course will focus on theories and methods of effective counseling with couples. The course will also cover the influence of socio-cultural factors on couples' relationships. The human sexuality portion of the course will address issues such as sexual development across life span, sexual attitudes, sexual dysfunction, sexual assault, commercial sex and sex therapy.

PSYC 590/5284 - Internship in Counseling Psychology (3 cr. + 3 cr.)

Prerequisites

Completion of PSYC 5261 PSYC 5220 PSYC 5270 PSYC 5281 PSYC 5264 and PSYC 5274

Description

This course provides students with clinical training and experience in counseling during an academic year-long field internship. Students are placed at NGOs, community agencies, or private or public institutions as interns with an approved external supervisor at the site. In addition, students meet regularly with a psychology faculty member for individual and group supervision.

PSYC 587/5286 - Practicum II in Community Psychology (3 cr.)

Prerequisites

Approval of Advisor.

Description

Advanced practicum in which students apply community psychology principles and methods in community settings with the support of individual and group supervision. Specialized skills will be gained at various levels of ecological analysis with an emphasis on ethical and professional practices, and may include consultation, prevention, community assessment or intervention, program evaluation, or public policy development.

PSYC 504/5291 - Advanced Lifespan Development (3 cr.)

Description

This course is an exploration of lifespan development through the lenses of biological, learning, cognitive, social, and cultural theories. Emphasis is on gaining a conceptual understanding of healthy development and better practical understanding of how to help children, adolescents, and adults address developmental challenges they face.

PSYC 599/5299 - Research Guidance and Thesis (3 cr.)

Prerequisites

Approval of advisor.

Description

Supervision in the preparation and writing of the Masters thesis. May be repeated for credit.

PPAD 299/2099 - Selected Topics for the Core Curriculum (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

PPAD 308/3198 - Management in Government (3 cr.)

Description

Introduction to management and policy-making in government and non-profit organizations, with an emphasis on development programming in Egypt. Exploration of current policy and governance issues of importance to Egypt. Overview of management techniques applied in designing, implementing, and assessing development programs in government and non-profit settings.

When Offered

Offered in spring.

PPAD 506/5111 - Essentials of Public Policy and Administration (3 cr.)

Description

Introduction to public policy and administration for students with limited preparation in political science and social science generally. Exploration of what constitutes policy and how it is made, implemented, and evaluated, including role of different institutions and actors in shaping policy outcomes. Overview of major management issues in nonprofit and government agencies, including setting strategy, developing operational plans, and managing human and financial resources to achieve desired outcomes. May be taken for MPP credit only by students with limited background in management or social sciences (advisor approval required).

When Offered

Offered in fall.

PPAD 510/5113 - Organizational Behavior for Government and Nonprofit Management (3 cr.)

Description

Factors that shape how employees and managers interact with each other, with partners, citizens, and clients, and with the institutions themselves in public and nonprofit settings. Theories of motivation, leadership, group dynamics, power, communication, and ethical behavior in organizations. Application of theoretical constructs to the reality of developing country conditions, preparing students to address organizational challenges in professional settings.

When Offered

Offered in alternate years.

PPAD 512/5114 - Management of Development Programs (3 cr.)

Description

Theory and practice of management as applied to development projects, programs, and organizations. Managerial aspects of social and economic development, with extensive use of case material to explore how management shapes development outcomes. Implementation of management reforms in public and nonprofit settings, including project design and management.

When Offered

Offered in fall.

PPAD 505/5121 - Institutions, Democratization, and Public Policy (3 cr.)

Description

Review of theoretical and philosophical underpinnings of the state, institutions and public policy; explores dynamic relationships among state, society and economy. Introduction to political theory, institutional theory and public policy theory, from theories of who governs and how to the policy process. Extensive use of case studies to explore how institutions shape political life, policy, reform, and the democratic transition.

When Offered

Offered in spring.

PPAD 511/5122 - Administrative Environment and Public Policy in Egypt and the Middle East (3 cr.)

Description

In-depth exploration of the interaction of public policy and government institutions in Egypt and the Middle East to achieve public purposes. Consideration of how administrative structures shape outcomes and how performance constraints can be overcome, with application to selected social and productive sectors of public policy concern in Egypt and the region.

When Offered

Offered in alternate years.

PPAD 518/5123 - Governance, Accountability, and Stakeholder Negotiations (3 cr.)

Description

Provides students with an understanding of governance and accountability concepts, tools, and applications as applied

in governmental and nonprofit settings, including international development organizations, and corporations working in developing countries. Strategies to overcome governance deficiencies including corruption, weak accountability to stakeholders, and nontransparency. Approaches to negotiation, especially between sectors (government-nonprofit-private sector) and with community stakeholders. Communication tools and other approaches for improving stakeholder relations.

When Offered

Offered in fall.

PPAD 519/5124 - Leadership and Communication for Public Affairs (3 cr.)

Description

Approaches to leading change in government and nonprofit settings at the organizational, local, and national levels. Consideration of how to develop personal leadership skills based on case studies and analysis of successful and unsuccessful leadership models in the public sphere, and how to develop effective change strategies, overcome barriers, and shape group behavior to achieve desired outcomes. Development of better oral and written communication skills, problem-solving approaches, and skill in using management tools to build collaboration within and between organizations.

When Offered

Offered in alternate years.

PPAD 523/5125 - Citizen-centered government (3 cr.)

Description

Exploration of institutional reforms to expand citizen engagement and government accountability in the Middle East, including decentralization of government services, community-based services, and creation of mechanisms to engage citizens in governance. Use of technology to improve citizen services and communication, including e-government.

When Offered

Offered in alternate years.

PPAD 517/5126 - Non-profit Management (3 cr.)

Description

Application of management concepts, approaches, and tools in a nonprofit setting, including strategic management, human resource management, budgeting and financial management, and project management. Interaction of NGOs with partners including participatory development approaches, relations with donors and governments, coalition-building and fundraising. Both project and advocacy approaches will be covered.

When Offered

Offered in spring.

PPAD 525/5127 - Reforming Delivery of Social Services (3 cr.)

Description

Exploration of the causes and consequences of ineffective government programming in social service delivery and strategies to improve performance. Comparative analysis of issues in health, education, anti-poverty programming,

including the interaction of financial, human resource, and governance failures and ways to address them in a developing country context. Application of intervention strategies to increase responsiveness to citizen needs, including the uses of information, technology, capacity-building, and accountability mechanisms.

When Offered

Offered in alternate years.

PPAD 526/5128 - Corporate Social Responsibility and NGO Partnerships (3 cr.)

Description

Overview of corporate social responsibility principles and applications from a developing country perspective. Issues in responsible corporate management, including addressing environmental, social, and accountability challenges. Tools for implementing and assessing corporate social responsibility programming, including mechanisms for developing effective partnerships with nonprofit organizations. Extensive use of cases from developing country experience.

When Offered

Offered in alternate years.

PPAD 524/5129 - Globalization and Development (3 cr.)

Description

Integrative approach to the debate on globalization and development in the 21st century. Analyzes globalization through the lens of diverse regions, using cases and analysis to explore global aspects of social change, growth and development, social and economic stability and development finance. Considers emerging issues reshaping global development, including migration of labor and capital, trade, technology, conflict, and global warming. Impact of globalization on sustainable development, including environment, debt, crisis management, global governance, poverty, and inequality.

When Offered

Offered in alternate years.

PPAD 507/5131 - Government Finance for Policy Analysis (3 cr.)

Prerequisites

Completion of economics core or equivalent economics preparation.

Description

Role of government expenditure, taxation, and financing in public policy, with emphasis on socioeconomic development and related policy issues. Application of financial and economic principles to government finance, with emphasis on rigorous theory, empirical evidence, public choice analysis, and policy applications in a market economy. Design, selection, and evaluation of spending programs (emphasizing social programs and social insurance); revenue generation including taxation, non-tax funding mechanisms, government credit; subsidy and income transfer programs.

When Offered

Offered in alternate years.

PPAD 516/5132 - Social and Environmental Policy (3 cr.)

Description

Overview of issues and analytic approaches for social and environmental policy, including programmatic and policy responses to development challenges in the environment, health and social services, and anti-poverty programming, with an emphasis on applications and case studies of experience in the Middle East and North Africa. Application of analytic methods to understand the root causes of barriers to providing social services and protecting the environment, and potential solutions to address these challenges from an interdisciplinary perspective.

Cross-listed

Same as GREN 5203 .

When Offered

Offered in spring.

PPAD 520/5133 - Global Health Issues and Policies (3 cr.)

Description

Examination of health issues in developing countries from a global perspective, with an emphasis on strategies to address social, economic, and managerial barriers to better health outcomes. Consideration of healthcare delivery in the broader context of development, equity, and government performance. Role of poverty, environmental degradation, and related social factors in health outcomes and development of new approaches to tackle social determinants of health. Introduction to health finance issues and approaches. Exploration of global issues affecting health such as migration, intellectual property rights, and governance failures.

When Offered

Offered in alternate years.

PPAD 521/5134 - Government Regulation of Business and Investment (3 cr.)

Description

Introduction to government strategies to regulate social and economic sectors to overcome market failures. Comparative analysis of regulatory structures and issues in financial markets, telecommunications, the utility sector (power, water), environment, and social services (education, healthcare). Regulatory tools and analysis of alternative regulatory strategies as applied in developing countries. Privatization and public-private partnerships, including legal frameworks, approaches to community involvement in decision-making, accountability, and dispute resolution.

When Offered

Offered in fall.

PPAD 522/5135 - Promotion of Local Economic Development (3 cr.)

Description

Introduction to government strategies to promote broad-based and employment-creating growth at the national, regional, and local levels. Small and midsize enterprise development, including financing tools. Mobilization of local resources through collaboration with the business sector and community partners. Identification and removal of barriers to investment to create an environment conducive to growth. Tools to attract investors and create local capacity for growth.

When Offered

Offered in spring.

PPAD 541/5136 - Gender in Public Policy (3 cr.)

Description

The course approaches the topic of gender in public policy in three ways. We begin by exploring frameworks for thinking about both gender differences and public policy. We then examine a series of policy issues that have gendered outcomes such as access to social protection, education and employment. Finally, we consider the representation of women in the making of public policy, looking at the participation of women in electoral politics and government machinery.

PPAD 536/5141 - Policy for Sustainable Cities (3 cr.)

Description

Explores policy choices facing urban managers, planners, and the communities they serve with regard to putting cities on a path to sustainability. Considers how allocation of, control over, and use of key land and financial resources shapes urban development from political economy, governance and space planning perspectives. Examines participatory planning and other methods to engage urban stakeholders in management of cities as well as tools to promote adoption of green technologies in the urban housing, industrial, transport, power, water, and commercial building sectors.

Cross-listed

Same as GREN 5231 .

PPAD 537/5142 - Greening the Built Environment (3 cr.)

Description

Examines core concepts, analytic tools, and program models needed to develop the urban built environment in ways that are socially and environmentally sustainable. Gives particular attention to retrofitting and sustainability upgrades for the existing urban core, developing new communities on a sustainable model, and providing affordable options for low-income urban residents, including upgrading of informal areas as well as new developments. Explores how the spatial distribution of work and housing choices interacts with transport/transit systems, energy use, and infrastructure to shape urban sustainability outcomes.

Cross-listed

Same as GREN 5232 .

PPAD 538/5143 - Urban Infrastructure Development for Sustainability (3 cr.)

Description

Considers how the development of critical infrastructure (power generation and transmission, water/wastewater, transport/transit, and waste management) can be directed toward socially and environmentally sound and economically viable models. Provides an understanding of alternative infrastructure financing, regulation, and implementation models from state provision to public-private partnerships. Explores how infrastructure network choices shape city expansion, urban quality of life, and efficiency outcomes in a dynamic urban context.

Cross-listed

Same as GREN 5233.

PPAD 529/5151 - Issues in International Security (3 cr.)

Description

Exploration of strategies and techniques for managing potential and active conflicts at the national and international levels, including such traditional and new threats to international security as inter-state territorial, intra-state ethnic-based, and violent transnational extremist groups, dispute over non-renewable resources, and climate change. Consideration of institutions and methods for managing each stage of the conflict process, from prevention and deterrence through conflict resolution and post-conflict rebuilding.

When Offered

Offered in spring.

PPAD 530/5152 - International Intervention and Conflict Management (3 cr.)

Description

This course focuses on international intervention and conflict management with the objective of assessing the policy implications of various conflict management strategies such as crisis management, mediation, peace-keeping, partition, humanitarian intervention (responsibility to protect) and prevention. In addressing these issues, the course will examine the application and outcomes in specific cases from the Middle East, Bosnia-Herzegovina, Sri Lanka and Sub-Saharan Africa.

When Offered

Offered in spring.

PPAD 531/5153 - Armament, Arms Control and Disarmament (3 cr.)

Description

This course reviews the history of arms control and disarmament, especially during the cold war period and in its aftermath. The role of the United Nations, the current focus on nuclear non-proliferation, the regime set up by the Non-proliferation Treaty (NPT), the conformity of counter-proliferation policies with international law and the present status of treaties on weapons of mass destruction will be discussed. The course will examine current issues of nuclear armament, particularly non-proliferation in the Middle East.

When Offered

Offered in alternate years.

PPAD 532/5154 - Issues in regional security in the Middle East and Africa (3 cr.)

Description

This course is about comparable and other issues of regional security in the Middle East and Africa. It will address categories of issues and then focus on specific case studies of occupation, water, oil, other natural resources, and ethnic and intra-State conflicts. Policies of regional and extra-regional powers and multilateral approaches towards these security cases will be reviewed.

When Offered

Offered in alternate years.

PPAD 533/5155 - Cooperation for Development in the Multilateral System (3 cr.)

Description

This course will review the foundations of multilateral cooperation for development and the current development issues tackled by the United Nations system such as poverty, employment, food security, the environment and population. It will examine the processes through which multilateral approaches are defined; the attitudes towards these approaches of great, middle range powers and developing countries; as well as the principles and means of multilateral action. The realization of the Millennium Development Goals (MDGs) will be particularly studied.

When Offered

Offered in alternate years.

PPAD 534/5156 - Comparative Bilateral Cooperation Policies for Development (3 cr.)

Description

This course will review the policies of international cooperation put in place by industrialized countries. It will examine their priority issues, such as fighting poverty, promoting entrepreneurship, gender equality, preservation of the environment and migration, the objectives and geographic focuses of these policies. The course will also review modalities and delivery institutions such as USAID, CIDA, SIDA, JAICA and GTZ.

When Offered

Offered in alternate years.

PPAD 535/5157 - Multilateral Cooperation for Development at the Country Level: Issues and Practice (3 cr.)

Description

This course is about the programs at the country level put in place by multilateral organizations to support public administrations in developing countries carry out their development functions. It will review primary issues of development faced by these countries. The course will then examine the design and implementation of programs of a

number of organizations that meet the priorities and needs of partner developing countries. The course will examine examples of programs of specific organizations such as the World Bank, UNDP, ILO FAO and UNESCO.

When Offered

Offered in alternate years.

PPAD 542/5159 - Islam and Global Affairs (3 cr.)

Description

This proposed seminar will offer an in-depth analysis of the role of Islam in the world system in the post-9/11 era both as an alternative perspective on global governance and global security, as well as actors in the system. It will be organized into four parts. The first part analyzes the Islamic worldview as derived from its fundamental sources, the Qur'an and the Sunna; subsequent classical perspectives; and modern academic and theoretical formulations of international relations. The second part examines the emergence of Islam in the World system: from ummah to nation-states; Muslims encounter with colonialism and the rise of anti-colonialism; transnational Muslim Organizations; and Islam in the West. The third part explores transnational Islamic movements, such as the Tabligh-i-Jama`at, the Muslim Brothers, the Qaida and global jihadist. The last part investigates Islam and global security; the interaction between Islam and contemporary geopolitical issues, including globalization, terrorism, Muslim nuclear option and the Arab spring and the rise of Islamists.

PPAD 543/5160 - War, Peace and Conflict Resolution in Islam (3 cr.)

Description

This proposed seminar will examine in-depth the theory and practice of war, peace and conflict resolution in Islam. The course is divided into four parts. The first explores the place of Islam in the contemporary world and its impact on global security. The second part examines the Islamic traditions on peace and war. It looks into Muslim conceptions of peace and the main ideas of contemporary Muslim theologians of nonviolence. This section also examines the various Islamic theories on war and Jihad, the just war theory and Islamic conduct of war, the Islamic ethics of weapons of mass destruction, and Islamic views on martyrdom and suicide bombing. The third part investigates US global strategy and the Muslim world and on Muslim responses. The last part examines the practical ideas and steps toward formulating a model for Islamic conflict resolution and peacebuilding. It covers the role of education, women and building skills for peacemaking.

PPAD 540/5161 - Diplomacy: Theory and Practice (3 cr.)

Description

The course analyzes both the limits and potential of diplomacy. It examines how thinking about diplomacy has evolved from the classical period through to the beginning of the twenty-first century and how it might develop in the future in response to the interrelated and changing issues and the interdependence between actors in world society.

PPAD 575/5175 - Independent Study in Public Policy and Administration (1-3 cr.)

Prerequisites

Pre-requisites: Permission of the instructor and unit head

Description

Guided readings, research, and discussions on specific selected topics in Public Policy and Administration

PPAD 491/5198 - Practicum (3 cr.)

Prerequisites

Junior or Senior status.

Description

Students work on an approved individual or team professional assignment with a relevant government, non-profit, or other organization. Class meets alternate weeks during the term to work on practicum assignments and to translate practicum products into polished professional work products, which may become the basis of student theses or master's projects. Work may be begun prior to the term in which the student enrolls in the class with instructor's approval. Assessment based on practicum supervisor's review, and other products prepared, and contribution to peer reviews or team products.

Cross-listed

Same as PPAD 5198

When Offered

Offered in fall and spring.

Notes

Grading Pass/Fail.

PPAD 591/5198 - Practicum (3 cr.)

Prerequisites

Completion of at least 3 courses or approval of department and instructor.

Description

Students must complete an approved individual or team professional assignment with a relevant government, non-profit, or other organization. Class meets alternate weeks during the term to work on practicum assignments and to translate practicum products into polished professional work products, which may become the basis for student theses or master's projects. Work may be begun prior to the term in which the student enrolls in the class. Assessment based on practicum supervisor's review, research paper and other products prepared, and contribution to peer reviews or team products. Students may arrange to complete an individual practicum assignment on an independent study basis under faculty supervision.

Cross-listed

Same as PPAD 5198

When Offered

Offered in fall and spring.

Notes

Grading Pass/Fail.

PPAD 570/5199 - Special Topics in Public Policy and Administration (1-3 cr.)

Prerequisites

Consent of the instructor and advisor.

Description

Considers selected topics of relevance to public policy and administration. May be repeated with permission of the supervisor if the topic varies from the previous enrollment.

When Offered

Offered occasionally.

PPAD 500/5201 - Research Methods for Public Policy and Administration (3 cr.)

Description

Theoretical and applied aspects of developing a research project, including definition of research questions, literature review, overall research design, and methodology, as well as research implementation planning (use of library sources, field investigation, and scheduling). Each student will develop a research proposal that will generally serve as the basis for the thesis proposal.

When Offered

Offered in spring.

PPAD 515/5202 - Public Policy Analysis and Program Evaluation (3 cr.)

Description

Introduction to analytic tools, methods, and approaches to policy analysis in diverse development issues areas and country situations. Develops skills in selection and application of tools to analyze policy problems, assess alternative solutions, and develop recommendations for action, including cost-benefit and simulation. Approaches to program evaluation ex ante and ex post, including identification of data needs, assessment of implementation issues and outcomes, and definition of strategies to achieve desired outcomes.

When Offered

Offered in spring.

PPAD 508/5211 - Qualitative Analysis for Policy and Administration (3 cr.)

Description

Use of qualitative data in policy and public administration research and analysis. Fundamental concepts and applications of methods including interviews, case studies, historical research, focus groups, and qualitative surveys. Ethics in qualitative analysis. Design, execution, and interpretation of qualitative results, including issues of validity and replicability.

When Offered

Offered in fall.

PPAD 509/5212 - Applied Quantitative Analysis (3 cr.)

Description

Application of statistical techniques to policy analysis and policy/program evaluation. Use of the empirical techniques to understand policy issues, analytical modeling and forecasts. Essentials of multivariate regression analysis with policy applications, problems in regression analysis, forecasting, time series/panel data modeling, and simultaneous equations models, with an emphasis on application rather than theory and use of statistical packages (SAS and SPSS) for policy analysis.

When Offered

Offered in fall.

PPAD 501/5221 - Strategic Management for Government and Nonprofit Organizations (3 cr.)

Description

Concepts of strategic management as applied to government and nonprofit organizations, including development agencies. Methods and practical considerations related to developing organizational strategies to achieve public purposes, translation of strategies into organizations plans in light of theory and practice of organizational behavior, and assessment of performance relative to strategy.

When Offered

Offered in spring.

PPAD 504/5222 - Fundamentals of Financial Planning and Management for Government and Nonprofit Organizations (3 cr.)

Description

Essentials of financial management in nonprofit and governmental settings, providing an overview of budget planning, management, monitoring, and controls at the program, agency, and government-wide level. Review of government financial management principles and applications, including managing tax and expenditure programs, sources and uses of funds for government organizations, control of corruption, fundamentals of performance measurement, budgetary decision-making concepts and processes, and citizen participation in budgeting. Financial management of non-profits, including introduction to fundraising and revenue generation strategies, sustainability, financial monitoring and reporting, and controls.

When Offered

Offered in alternate years.

PPAD 513/5223 - International Models of Public Management (3 cr.)

Description

Explores international approaches to structuring and managing the public sector to meet national objectives. Examines alternative models and their implications for government performance and effectiveness, with an emphasis on MENA region and developing countries, but also considering European, North American, and Asian models. Application of analytic tools and models of government behavior to compare approaches to reforming government management in diverse contexts.

When Offered

Offered in alternate years.

PPAD 514/5224 - Human Resource Management for Government and Nonprofit Organizations (3 cr.)

Description

Study of key concepts, tools, and methods for human resource management in government and nonprofit organizations. Implementation of management tools to improve human resource productivity and performance through strategic application of HR tools including structural reform, recruitment, capacity-building, motivation, promotion, evaluation, benefits, and conditions of work.

When Offered

Offered in spring.

PPAD 502/5231 - Economics for Public Policy Analysis (3 cr.)

Description

Overview of concepts and methods for microeconomic and macroeconomic analysis as applied to public policy and public sector/nonprofit management. Tools and concepts of microeconomic analysis, including factors shaping demand and supply, theory of the firm, market distortions, externalities, and public goods, and application of economic tools to policy assessment. Introduction to macroeconomic concepts including national income, monetary and fiscal policy, debt and financial markets, growth and employment, savings and investment, and international trade, foreign exchange, and the balance of payments.

When Offered

Offered in fall.

PPAD 503/5232 - Role of Government in a Market-Oriented Economy (3 cr.)

Prerequisites

PPAD 5231 or equivalent economic preparation.

Description

Overview of the interaction of markets with the economic and social development of developing countries and consideration of the role of governments in promoting, regulating, and supplementing the action of markets to achieve public purposes. Consideration of alternative government strategies in key social and productive sectors, including prevention of and responses to market failures, promotion of equity and the rule of law, provision of social services, and maintenance of stable growth. Application of economic analytic tools to assess and select government strategies in a market-oriented system.

When Offered

Offered in spring.

PPAD 527/5251 - International Organization in Global Governance (3 cr.)

Description

Exploration of how international organizations interact with each other and with national actors in defining and implementing norms and functions of global governance. Focus on global governance actors and regimes developed for priority issue areas, including peace and security; human development; trade; finance; human rights; the environment; labor and working conditions; and international migration. Consideration of the role of United Nations, international

and regional organizations and mechanisms for collaboration with state, international, and non-state actors to strengthen and manage global regulatory regimes.

When Offered

Offered in fall.

PPAD 528/5252 - Theory and Practice of Negotiation (3 cr.)

Description

This course reviews theories as well as practice of international negotiation, at the bilateral, regional and bilateral levels. It examines determinants, drivers and hypotheses in negotiation processes as well as their different stages and forms. The course also studies the practice of negotiation in specific bilateral, regional and global processes such as South Africa, Sri Lanka the Arab-Israeli conflict and the law of the sea.

When Offered

Offered in spring.

PPAD 539/5258 - Role of Force: Strategy and Statecraft (3 cr.)

Description

This course focuses on force as an instrument of policy in modern statecraft. Major concepts include the functions of force and the formation of national security policy; classical military strategy and the influences of material resources, technology and structural factors on its evolution; legal and moral limits on force; and the extension of military power into the realm of peace-keeping, humanitarian relief and military occupation. The course also considers contemporary strategy challenges such as insurgency, terrorism, non-violent resistance and civil military relations.

PPAD 598/5298 - Research Seminar (0 cr.)

Prerequisites

Supervisor approval of a thesis or master's project proposal or permission of the supervisor and instructor.

Description

Support to students in research phase of the thesis or master's project. Weekly meetings and assignments to support ongoing analysis, research, and writing, guided discussions, peer-to-peer assessment, and critique of thesis or master's project components. Ungraded; required for all students.

When Offered

Offered in fall and spring.

PPAD 599/5299 - Research Guidance (0 cr.)

When Offered

Offered in fall and spring.

RHET 101/1000 - Approaches to Critical Writing (3 cr.)

Description

Develops proficiency in critical expository writing, critical reading and greater fluency in expression. Focuses on the writing process with an emphasis on developing the student's voice, organizing and developing ideas independently within the context of academic writing. Introduces library research and use of sources.

When Offered

Offered in fall, spring and summer.

Notes

For students beginning fall 2013 and later, RHET 1000 and RHET 1100 have been replaced with one course RHET 110/1010 - Freshman Writing (3 cr.) .

RHET 110/1010 - Freshman Writing (3 cr.)

Description

RHET 1010 is designed to help first year students improve their analytical and argumentative skills. This involves reading texts analytically and critically within various disciplines, considering the rhetorical situations in which they are working, organizing and supporting ideas to make a convincing argument while maintaining their voice as writers. This course also provides training in the use and integration of sources, library and online research and fosters a more discriminating attitude to academically acceptable sources. Ultimately, the course provides opportunities for students to develop effective and coherent communication skills.

When Offered

Offered in fall and spring. Summer only for students repeating the course.

Notes

RHET 1010 replaces RHET 101/1000 - Approaches to Critical Writing (3 cr.) and RHET 102/1100 - Effective Argument (3 cr.) for students beginning in the Freshman Program in fall 2013 and later.

RHET 120/1020 - Research Writing (3 cr.)

Prerequisites

RHET 1010 concurrent with CORE 1010.

Description

This semester, after performing an extensive review of the literature on an area of interest, you will choose an area of study that requires you to gather data to support a hypothesis. The topic should be one that lends itself to research. You are encouraged to pursue an area that is related to your major or another of personal interest.

Notes

RHET 1020 replaces RHET 201/2010 - Research Writing (3 cr.) for students beginning the Freshman Program in fall 2013 and later.

RHET 199/1099 - Selected Topics (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all first year students irrespective of major.

When Offered

Offered occasionally.

RHET 102/1100 - Effective Argument (3 cr.)

Prerequisites

RHET 1000

Description

Develops the skills to produce effective argument with a focus on organization, content, analysis of readings, critical thinking. Provides training in the use and integration of sources, library and online research.

When Offered

Offered in fall, spring and summer.

Notes

For students beginning fall 2013 and later, RHET 1000 and RHET 1100 have been replaced with one course: RHET 110/1010 - Freshman Writing (3 cr.)

RHET 201/2010 - Research Writing (3 cr.)

Prerequisites

RHET 1100 or its equivalent.

Description

Develops the skills to produce extended forms of academic essays and research papers with a focus on the methods of research, process of research paper writing, integration and evaluation of sources and critical analysis.

When Offered

Offered in fall, spring and summer.

Notes

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.)

RHET 299/2099 - Selected Topics (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students irrespective of major.

When Offered

Offered occasionally.

RHET 225/2220 - Public Speaking (3 cr.)

Prerequisites

RHET 2010 or its equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.) .

Description

Public Speaking is a course designed to provide both a practical introduction to the fundamental principles of speaking in public and a forum for practicing public speaking skills. Through a variety of instructional strategies - discussion, class workshops, readings, lectures, and presentations- students learn the processes by which effective speeches are conceived, prepared, and delivered.

RHET 399/3099 - Selected Topics (3 cr.)

Prerequisites

RHET 2010 or equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

Course addresses broad intellectual concerns, and is accessible to all students irrespective of major.

RHET 345/3110 - The Writer's Workshop (3 cr.)

Prerequisites

RHET 2010 or equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

This course focuses on the writing and critique of personal narratives, reflecting upon students' places as individuals within the larger contexts of family, country, and/or region. They will learn fundamentals of narrative life writing, understand the crafts of writing and revising, and consider their life stories in the wider context of cultural theory. Students will learn and practice advanced discussion techniques in workshop, when narratives are critiqued by instructor and peers.

RHET 340/3120 - Life Narratives: Reading as Writers (3 cr.)

Prerequisites

RHET 2010 or equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

This reading-intensive course will introduce students to the field of autobiographical and biographical literature known

as life writing. Students will analyze writing strategies in classic and contemporary memoirs, confessions, letters, diaries, and visual portraits as well as autobiographies and biographies, through key themes of self, identity, secrets, truth, inheritance and ethics.

RHET 341/3130 - Travel Writing (3 cr.)

Prerequisites

RHET 2010 or equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

In this course, students will become familiar with the genre of travel writing, and the history, politics and economics of place and how these influence culture. Through various reading, writing, and travel experiences, students will gain an understanding of themselves vis-à-vis the other and develop an appreciation of how travel can transform the self. They will learn how to respond critically to travel narratives, identify credible sources to inform their writing, make original observations, and modify perspective to compose alternative texts.

RHET 342/3140 - Writing Children's Literature (3 cr.)

Prerequisites

RHET 2010 or equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

Students in this course will assess and write works of fiction and nonfiction addressing children through different media (picture books, plays, short stories, novellas). Students will explore who writes and illustrates for children and why, and the language used to address children during different stages. They will engage in projects to entertain children, while providing indirect instruction, and produce written works for organizations that serve the needs of children.

RHET 380/3150 - Poetry Writing (3 cr.)

Description

As a workshop with a significant critical component, this course focuses on developing students' mastery of language through the writing of poetry. That writing is grounded with an examination of poetry's rhetorical and cultural impact. Students in this course will write a series of poems in response to weekly assignments, analyze the work of poets from both the West and the Middle East, and complete a final portfolio that shows significant revision and careful analytical thinking about the poems themselves as well as their place within the genre.

RHET 390/3160 - Fiction writing (3 cr.)

Description

This course focuses on the craft and discipline of fiction writing. Students will study writers in the Arab and Western literary tradition, and from that study, they will learn the fundamentals of various rhetorical strategies in fiction,

understand how to transform small ideas from daily life into fiction, and consider how their cultural background affects how they tell stories. Students will also learn how to critique other students' stories in workshops and how to revise and develop their own work.

RHET 320/3210 - Business Communication (3 cr.)

Prerequisites

RHET 2010 or equivalent; junior standing or instructor approval.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

This course focuses on the methods of persuasion that business professionals and administrators of organizations use to shape messages for professional and public audiences. Rhetorical analyses of various workplace document genres are followed by application of knowledge and skills to produce effective and appropriate business messages. Students will conduct research on topics of interest to the business community, and present findings in the form of proposals, formal reports, and oral presentations.

When Offered

Offered in fall, spring and occasionally in the summer.

RHET 321/3230 - Technical Communication (3 cr.)

Prerequisites

RHET 2010 or equivalent; junior standing or instructor approval; science and engineering majors or instructor approval.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

This course develops the knowledge and skills to produce technical documents that meet professional and ethical standards required by technical fields and professions. It focuses on both the rhetorical and workplace problems that are addressed by writers, such as audience, exigency and purpose, and workplace constraints. Throughout the course, students will analyze and discuss recent areas of concern in the field technical communication, as well as produce documents in various technical genres, including proposals and formal reports.

When Offered

Offered in fall, spring and occasionally in summer.

RHET 332/3240 - Presentation and Persuasion in Business (3 cr.)

Prerequisites

RHET 2010 or equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

This course acquaints students with both the presentation and interpersonal communication skills required in business-related, professional situations. It addresses both the composition and the delivery of professional speeches, such as sales presentations, convention addresses, job bids, as well as the interpersonal skills necessary for the successful conduct of business discourse, in particular negotiation contexts.

RHET 334/3250 - Digital Rhetoric (3 cr.)

Prerequisites

RHET 2010 or equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

This is a course in the rhetorical analysis of the relatively new but increasingly important genres that comprise the various practices of E-Writing, including: blogging, wiki-development, networked writing, hypertext, social networking and other manifestations of the digital age. Students will study and work with various digital environments with attention to their evolving possibilities and constraints.

RHET 310/3310 - Effective Rhetoric: Discourse and Power (3 cr.)

Prerequisites

RHET 2010 or its equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

This course guides students through key texts in rhetorical theory to give them not only a foundational knowledge of major questions, concepts and debates in the field but also to provide them with the language and tools to critically analyze a variety of texts, whether these texts be visual, oral, or written. Students will reflect on, through various writing assignments, the intellectual, social, and political contributions of rhetoric to the study of human communication.

RHET 322/3320 - Writing in the Social Sciences (3 cr.)

Prerequisites

RHET 2010 or equivalent; consent of instructor, consent of Chair/Associate Chair, junior or senior standing.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

This course focuses on writing in the student's discipline. Particular attention is paid to the conventions of professional writing and citation, as well as a variety of approaches to delivering discipline-specific information to diverse audiences. Also included are advanced research, public writing and public presentations.

RHET 323/3330 - Changing Words, Changing Worlds (3 cr.)

Prerequisites

RHET 2010 or equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

Changing Words, Changing Worlds engages students with contemporary discourse within the humanities. It takes as its point of departure a seminal work that frames our understanding and concepts within the humanities relating how this key text acts as a trajectory creating a paradigm shift and permeating into other fields, such as Marx's Manifesto of the Communist Party. By analyzing the interplay between language and ideas, students will be able to relate to how discourse within one area of the humanities is infiltrated becoming a reference point for other fields.

RHET 325/3340 - The Rhetoric of Argument in the Humanities and Social Sciences (3 cr.)

Prerequisites

RHET 2010 or equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

This course engages students in the study of argumentation, its theory and practice. Students will employ instruments for identifying differences of opinion, analyzing and evaluating explicit and implicit standpoints of argument, and presenting arguments in oral and written discourse.

RHET 330/3350 - Writing and Cognition (3 cr.)

Prerequisites

RHET 2010 or equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

This course takes an interdisciplinary approach to the phenomenon of writing by examining the cultural values embedded in writing and the cognitive claims about the relationship between thought and language, and by surveying the ways written expression has been used as a tool for reconstructing perception, memory, self and society. These issues will be approached through reading and writing together, and through experimenting with assumptions and hypotheses about what happens when people write. Class readings come from history, philosophy, cognitive psychology, composition studies, and literature.

RHET 460/4060 - Independent Study (1-3 cr.)

Prerequisites

Pre-requisites: Consent of Instructor, Consent of Chair/Associate Chair, Junior or Senior Standing.

Description

In exceptional circumstances, students, in consultation with a faculty member and with approval of the Chair/Associate Chair, may design or take a course that is not regularly offered. In such a case, the student, in consultation with the instructor, will propose a course of study and work will culminate in one of the following: a scholarly research paper on some aspect of the history, theory, or application of rhetoric and composition; a practical application of writing, such as

a grant or report submitted to an outside agency; a body of work that is normally expected in a listed course not being offered during the current term.

RHET 450/4160 - Imagining the Book (3 cr.)

Prerequisites

At least one 300-level RHET course and/or instructor permission solicited through a project proposal.

Description

Students in this course will complete a substantial portion of a long writing project while analyzing and modeling approaches to manuscripts. Each student will design and generate a different project, so projects may span across genres (i.e., a group of personal narratives or short stories, a novel, a book of poetry, a collection of critical and/or academic essays, etc.). Students will engage in the process of writing a manuscript through utilizing genre analysis and class workshops. Students in a number of writing contexts and disciplines, as well as Rhetoric and Writing Minors, are encouraged to take this capstone course.

RHET 410/4260 - Writing for Project Funding (3 cr.)

Prerequisites

RHET 2010 or equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

Grant writing skills may be used for fundraising, applying for scholarships and fellowships, starting new businesses, securing research and conference grants, and acquiring funding for the cultural, non-profit and non-governmental sectors. This course develops the skills of effective fund-seeking and proposal writing through a step by step service-learning activity, where students learn how to access donor funds to meet the needs of local non-profit organizations.

RHET 480/4270 - Research and Writing Internship (3 cr.)

Prerequisites

RHET 1020 or equivalent.

Description

This capstone course immerses students into an applied, real-world writing experience that helps them transition from academic writing to work-place writing, as well as provides in-class guidance and reflection. Students select one of three tracks of internship experience - professional business writing, literary writing and publishing, or technical writing for non-profits.

RHET 490/4280 - Advanced Scientific and Technical Writing (3 cr.)

Prerequisites

RHET 2010 or equivalent. Engineering and Science Majors only; junior or senior standing.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

This course develops advanced scientific and technical communication skills for both academic and practical environments. It features the IMRAD method of report writing, oral and visual presentation skills for senior projects, literature reviews for scientists and engineers, technical reports for the workplace, and technical documents that represent organizations to the public.

RHET 400/4360 - Writing and Editing for Publication (3 cr.)

Prerequisites

RHET 2010 or equivalent.

For students beginning fall 2013 and later, RHET 2010 has been replaced by RHET 120/1020 - Research Writing (3 cr.).

Description

This course develops the skills to produce effective articles and presentations with a focus on journal submission requirements, journal review and publication processes. Provides training in the integration of information technology for presentations, and in primary and secondary research methods.

RCSS 501/5201 - Robotics: Kinematics, Dynamics and Control (3 cr.)

Description

Robot mechanisms, End-effector mechanisms, Actuators and drives, Sensors. Robot forward and inverse kinematics. Differential motion and Jacobian (Velocities and forces). Simulation software and analysis. Acceleration and Inertia, Robot dynamics. Trajectory generation and control of robot manipulators. Robot planning and control. Task oriented control, Force compliance control. Robot programming, Robot work cell design and work cycle analysis. Robot vision, Teleoperation and Interactive haptics. Closed-Loop Kinematic chains, Parallel-link robot kinematics. Non-holonomic systems, Legged robots.

Cross-listed

Same as MENG 5271.

RCSS 502/5202 - Embedded Real Time Systems (3 cr.)

Description

Fundamentals of embedded control system design, embedded processor architecture and operation. General overview of existing families of micro-controllers, DSPs, FPGAs, ASICs. Selected embedded 8/16/32 processor architectures, and programming. Real-time, resources and management, I/O, Virtual memory and memory management. Concurrency, resource sharing and deadlocks. Scheduling theory. Real-time programming and embedded software. Real-time kernels and operating systems. Bus structure and Interfacing. Programming pervasive and ubiquitous embedded system. Designing embedded system. Discretization and implementation of continuous-time control systems. Networked embedded systems and integrated control.

Cross-listed

Same as MENG 5272.

RCSS 503/5203 - Modern Control Design (3 cr.)

Description

Basic linear system response: Analysis in time domain, stability analysis, Routh-Horwitz stability criteria of LTI. Feedback analysis and design continuous-time systems on the basis of root locus: analysis, design, lead/lag compensators, and Control synthesis in frequency domain: (Bode response, Nyquist stability criteria, sensitivity and design). Control design concepts for linear multivariable systems using state variable techniques. State space representation and transition matrices. Control system design in state space: controllability, pole method and pole placement design, observer/observability and compensators design. Optimal observer based feedback. Lyapunov Stability. The solutions to LQR problem, Kalman filtering problem. LQG and LTR based design methods. Discrete-time systems and computer control.

Cross-listed

Same as MENG 5273.

RCSS 504/5204 - Applied Estimation (3 cr.)

Description

Introduction to Probability, Probability theory, Bayes theorem, Bayesian Inference. Introduction to estimation. Linear Optimal Filters, Predictors, Smoothers, Nonlinear Filters. Kalman and Information filter, Continuous and Discrete Time Kalman Filter. Extended Kalman filter and implementation, Unscented Kalman Filter (UKF). Distributed Kalman filter over network. Particle filter, Rao-Blackwellized Particle Filter (RBPF). Particle filter Fast SLAM. Case Studies.

RCSS 521/5221 - Intelligent and Autonomous Robotic Systems (3 cr.)

Description

Autonomous and Mobile robots, Locomotion concepts and mechanisms, Degrees of mobility and steering. Non holonomic concept and constraint. Wheeled mobile robots: Kinematic and dynamic models. Trajectory generation and Control methods. Sensors, sensor models and perception. Mapping and knowledge representations. Control architectures and Navigation: Planning, Subsumption, Potential field, Motor Schemas, Probabilistic, Learning from observations and Reinforcement learning. Relative and absolute localization. Navigation and localization techniques. SLAM (Simultaneous Localization and Mapping). Multi robotic system: navigation, cooperation and autonomy.

Cross-listed

Same as MENG 5274.

RCSS 522/5222 - Mechatronics Innovations and Experimental Robotics (3 cr.)

Description

Mechatronics innovations: Concepts and innovative ideas, design and hands-on experimentation. Sensors and intelligent sensor systems. Interfacing techniques. Controllers. Electrical motors: selection and control, encoders, and drivers. Power systems and control: pneumatic, electro-pneumatic, hydraulic and electro-hydraulic. Technologies and techniques associated with industrial and mobile robots. Joint space and operational space control. Velocity saturation, trajectory generation and tracking. Project work supporting design, simulation and experimentation.

RCSS 523/5223 - Bioinspired Robotics and Multi Robotic Systems (3 cr.)

Description

Traditional and Biomimetic robots. Bioinspired robot design: actuators, sensors, and material. Bioinspired algorithms for robot control. Social Networks. Multi robotic systems (MRS): concept, homogeneous and heterogeneous architectures. MRS control architecture: MRS planning, Motor schema based MRS, Behavior based MRS. MRS and machine learning. Inter-robot communication and coordination. Auction-based task negotiation for MRS. Autonomy and cooperation. Task definition, decomposition and knowledge representation. Resource management and deadlocks. Collaborative Observation and Localization. Multi-Robot Navigation. Human-Robot Interaction. Biological inspired solutions: Ant colony and social insect behavior, Swarm intelligence and self organization.

RCSS 524/5224 - Robotics and Intelligent Automated Manufacturing (3 cr.)

Description

Manufacturing systems: organization, facility layout, performance indicators. Robotics in Manufacturing. AGVs in Manufacturing. Robot work cells. Sensors in Manufacturing. Communication protocols. Agile manufacturing. Models and Metrics. Automation, NC/CNC. Design for Manufacturability. Manufacturing systems design: single cell, assembly line, group technology, cellular and flexible systems. Material transport and storage systems. Analysis of flow lines, assembly systems and line balancing. Quality measurement and reliability. Manufacturing support systems: CAD/CAM/CIM tools and product cycle, process and production planning, shop floor control, inventory control. Modern manufacturing systems: Push/pull systems, pull systems (KANBAN and CONWIP), Just-In-Time, TQM.

RCSS 531/5231 - Teleoperation, Haptic Systems and Collaborative Control (3 cr.)

Description

Technical specifications: teleoperation and haptics systems. Haptics: Human, Machine, and Computer haptics, and their interrelation. Haptic systems: sensors, actuators and interfaces. Haptic device modeling and control. Event-based haptics. Rendering of stiff walls and friction, rigid-body and deformable body interaction. Haptic teleoperation. Bilateral teleoperation. Teleoperation and haptic systems architecture control approaches. Force control, impedance control, stiffness control Feed-forward control, Adaptive motion/force control. Performance specifications and stability issues, Stability and Transparency, stability against passive human and environment impedances. Design for time-delayed teleoperation. Robustness issues. Collaborative control and collaborated virtual environment.

RCSS 532/5232 - Robust and Optimal Control (3 cr.)

Description

Linear system theory and robust control. System analysis: stability and performance, sensitivity function, integral quadratic constraints, small-gain argument, H₂ and H_∞ space and performance. NORMs. Robustness and Uncertainty. Robust stability, quadratic stability, and stability margin. Robust performance, controller parameterization, design constraints. Balanced Model Reduction, Modeling uncertainty. Linear fractional transform (LFT). Structured singular values, μ -Analysis, LMI analysis. μ synthesis. H₂ optimal control, H_∞ control and controller order reduction, H_∞ loop shaping. Optimal control theory: optimization of static functions, calculus of variations, optimal linear regulators, dynamic programming.

RCSS 533/5233 - Nonlinear and Adaptive Control (3 cr.)

Prerequisites

Consent of instructor.

Description

Introduction to the analysis and design of nonlinear control systems. Linearization of nonlinear systems. Phase-plane analysis, Lyapunov stability analysis. Design of stabilizing controllers. Properties of adaptive systems, Adaptive control and real-time parameter estimation, Deterministic self-tuning regulators, model reference control, Adaptive observers, model reference adaptive control, gain scheduling controller modeling. Stability of adaptive control systems.

Cross-listed

Same as MENG 6270.

RCSS 534/5234 - Networked Control Systems: Design and Applications (3 cr.)

Prerequisites

ECNG 3202 and ECNG 4306

Description

Introduction to Networked Control Systems, real-time systems, network architecture, wired and wireless network protocols, international standards, NCS in industrial control, NCS in terrestrial transportation systems, Study of different software packages and simulation tools for NCS.

Cross-listed

Same as ECNG 5226.

RCSS 541/5241 - Smart Systems and Computational Intelligence (3 cr.)

Description

Intelligent systems and evolutionary algorithms. Computational methods, intelligent behaviors and algorithms observed in nature and humans. Neural networks: Supervised and unsupervised Neural Networks (NNs), Single and Multi layer feed-forward NNs, Feedback NNs, Hopfield NNs, Associative memories (Kohonen networks), Learning vector quantizer (LVQ) Radial base function (RBF) NNs. Evolutionary algorithms, genetic algorithms. Fuzzy logic: memberships, reasoning, Fuzzy controllers, Neuro-Fuzzy networks, Fuzzy ARMAP. Swarm Intelligence and Colony optimization. Feature selection. Computational intelligence: imprecise and uncertain knowledge, learning, adaptive behavior and real time problems. Case studies.

RCSS 542/5242 - MEMS/NEMS Technology and Devices (3 cr.)

Prerequisites

Consent of instructor.

Description

Basic MEMS/NEMS fabrication technologies, various transduction mechanisms such as piezoelectric, pyroelectric, thermoelectric, thermionic, piezoresistive, etc. The theory of operation of few sensors including infrared detectors, radiation sensors, rotation and acceleration sensors, flow sensors, pressure and force sensors, and motion sensors. An

introduction to different techniques for analyzing experimental data.

Cross-listed

Same as PHYS 5277,NANO 5221.

When Offered

Offered in fall

RCSS 543/5243 - Image Analysis and Computer Vision (3 cr.)

Description

Perception and image systems. Pinhole Camera Model. Auto-calibration. Digital image processing fundamentals. Image normalization, gray and binary image processing, RGB and IHS color space representations. Image enhancement: contrast stretching and digital filtering in the spatial and frequency domains. Image restoration. Coding and compression. Image segmentation. Image Convolution / Correlation Matching / De-convolution. Object classification and classifiers. Object recognition and interpretation. Estimating image field and image motion, Optical flow and motion. Stereo vision. Multi-view and motion-based 3-D object reconstruction. Dynamic vision: object tracking, recursive state estimation, autonomous navigation, discrete self-localization. Robotic Control via visual servoing.

RCSS 544/5244 - Sensors, Perception and Smart Systems (3 cr.)

Description

Sensors and perception. Physical principles of sensing. Static and dynamic characteristics of sensors. Sensor classifications and selection. Interfacing techniques. Calibration and self-calibration of smart sensors. Sensors and intelligent systems: design trends in the field of smart sensors systems. Sensors for: intelligent and autonomous robots, smart systems, automotive and manufacturing industries, smart structures, and other modern industries and smart products. Sensor integration and data fusion. Sensors in remote control and real time systems. Wireless sensor networks, features, architecture and technology, topology, energy, communication protocols and security, distributed & collaborative signal processing, and applications.

RCSS 545/5245 - Advanced Artificial Intelligence (3 cr.)

Description

Problem Solving by Search, Knowledge Representation and Reasoning, Planning, Quantifying Uncertainty, Probabilistic Reasoning, Learning from Examples, Learning Probabilistic Models, and Reinforcement Learning.

Cross-listed

Same as CSCE 5261.

RCSS 592/5930 - Selected Topics in RCSS (3 cr.)

Prerequisites

Consent of the faculty advisor.

Description

Topics to be chosen according to specific interests. Maybe taken for credit more than once if content changes.

RCSS 590/5940 - Graduate Thesis Seminar I (2 cr.)

Description

Seminar on research topics, research methodology and thesis writing. The seminars given by invited speakers include topics on the sustainable development and economic impact of RCSS and relevant technology, Industrial needs and the evolution of RCSS and advanced research.

Cross-listed

Same as ENGR 5940.

RCSS 591/5941 - Graduate Thesis Seminar II (1 cr.)

Prerequisites

RCSS 5940

Description

Seminars on research topics given by invited speakers that include ongoing development in the area of RCSS interdisciplinary field. In addition, seminars are given by the enrolled students on their research work.

Cross-listed

Same as ENGR 5941.

RCSS 593/5980 - Capstone Project (3 cr.)

Description

Students are required to attend the library and the writing modules of RCSS 5940 and , to undertake an engineering project approved by student's advisor and the director of the program. A final report of the project should be submitted and orally defended in the presence of a supervisory committee consist of student's advisor and two faculty members.

RCSS 599/5989 - Research Guidance Thesis (3 cr.)

Prerequisites

RCSS 5940

Description

Consultation on problems related to student thesis. Must be taken at least twice for credit.

RCSS 692/6930 - Advanced Selected Topics in Robotics, Control and Smart Systems (RCSS) (3 cr.)

Description

Advanced topics in the field of Robotics, Control and Smart Systems (RCSS) to be chosen every year according to specific interests and the evolution of knowledge and development trends in RCSS. May be taken for credit more than once if content changes.

RCSS 699/6980 - Research Guidance Dissertation (3 cr.)

Description

Consultation on problems related to students thesis. To be taken 11 times for credit.

SOC 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all first-year students as part of the Primary Level Core.

SOC 210/2005 - Arab Society (3 cr.)

Prerequisites

RHET 2010 or concurrent.

Description

Description and analysis of social and cultural characteristics and problems of contemporary Arab Society, taking into consideration the specific historical, economic, and ideological forces that shape it. The social basis for Arab unity and identity. Introduction to basic concepts and principles for understanding social phenomena.

Cross-listed

Same as ANTH 2005.

When Offered

Offered in fall and spring.

SOC 299/2099 - Selected Topics for Core Curriculum (3 cr.)

Prerequisites

RHET 1000

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

SOC 201/2101 - Introduction to Sociology (3 cr.)

Description

General sociology concepts and theoretical issues. Survey of the field covering the sociology of small groups, the family, education, work, community structure, and political life; discussions on the uses of sociology.

When Offered

Offered in fall and spring.

SOC 240/2201 - Introduction to Community Development (3 cr.)

Description

Introduce the students to the different concepts and approaches to community development as well as to community organizing. Utilizes a critically reflective framework as part of the curriculum to overcome the potential division between theory and practice. Identifies the key issues that the students are likely to confront in community development and organizing work.

Cross-listed

Same as ANTH 2201 ,PSYC 2201 .

When Offered

Offered in fall.

SOC 203/2301 - Social Problems of the Middle East (3 cr.)

Description

Major theoretical perspectives in studying social problems. Systematic examination of the salient stresses and strains in Egyptian, Arab, and Middle Eastern societies. Discussion of selected concrete problems, such as population, bureaucracy, youth unrest, deviance, drugs, prostitution.

When Offered

Offered in fall.

SOC 206/2302 - Arab Family Structure and Dynamics (3 cr.)

Description

The family as a social institution with emphasis on Middle Eastern characteristics, selected aspects of marriage and family life, special attention to the social consequences of changing family styles.

When Offered

Offered in spring.

SOC 301/3010 - Social Psychology (3 cr.)

Prerequisites

PSYC 1000

Description

The extension of general psychological principles and methods to the study of interaction and social environment. The nature and methodology of research in social psychology. The major theoretical concepts and their applications and contributions to a variety of areas in the field including development and socialization, social perception and attribution of causality, attitude formation and changes, pro- and anti-social behavior, interpersonal attraction and intimacy, and the social effects and functions of groups.

Cross-listed

Same as PSYC 3010 .

When Offered

Offered occasionally.

SOC 304/3025 - Development Agencies (3 cr.)

Description

The course examines the various agencies active in the field of development. It investigates how these organizations, such as NGOs, state bureaucracy and international development organizations shape the process of development.

When Offered

Offered occasionally.

SOC 306/3030 - Sociology of Literature (3 cr.)

Description

The social bases of literary productions both oral and written and the functions of literature for social integration. The interrelationship of literary expression and movements for social change.

When Offered

Offered occasionally.

SOC 321/3045 - The Urban Experience (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

This course will explore a variety of approaches for the study of life in cities, providing students with tools to think critically about the meaning of urban life in the new century. Are cities the vibrant, vital centers of all that is exciting, new and provocative in modern life or are they the decaying, decadent and dangerous remnants of an industrial age whose time has passed? How do we link the lives of corporate elites and pop icons with crack dealers and shanty town dwellers? How do we place migration, world capital flows, transnational media, and global consumption in our studies of city life?

Cross-listed

Same as ANTH 3045.

When Offered

Offered occasionally.

SOC 322/3050 - Rural Sociology (3 cr.)

Description

The Middle Eastern rural community and its relation to agricultural development, tenure systems, ecological processes, urbanization, migration, and changing technology.

When Offered

Offered occasionally.

SOC 323/3055 - Fundamentals of Population Studies (3 cr.)

Description

Facts and issues of human population. Creates demographic literacy, and an ability to deal with population realities. Substantive knowledge covering processes and determinants of population structure, growth, and changes: fertility, mortality, and migration, as well as challenges of population growth.

When Offered

Offered in alternate years.

SOC 332/3060 - Social Constructions of Difference: Race, Class and Gender (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

The course will first introduce students to the vast theoretical literature on the concepts of race, class and gender from sociology and anthropology. Second, the course will expect students to shift focus away from looking at different cultures to analyzing cultural productions of difference. In the course we will be concerned with how racial, class and gender identities are shaped by diverse hegemonic systems, modes of resistance, and the structuring of social relations in different societies.

Cross-listed

Same as ANTH 3060.

When Offered

Offered occasionally.

SOC 370/3085 - Environmental Issues in Egypt (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

The technical aspects of environmental issues in Egypt are examined taking into account the cultural, social, and political dimensions upsetting the balance of the environment. Major issues such as water scarcity, global warming, desertification, urban pollution, tourism, and demographic pressures are presented and analyzed.

Cross-listed

Same as ANTH 3085.

When Offered

Offered in alternate years.

SOC 309/3102 - History of Social Theory (3 cr.)

Prerequisites

Prerequisites: 9 hours of social sciences, and junior or senior standing, or consent of instructor.

Description

The nature and function of social theory and its development, especially since the Enlightenment. Emphasis on the cumulative insights and ideas which have contributed to modern social theory. The essential aspects of the philosophy of social science, especially epistemological problems in the sciences of sociology and anthropology.

Cross-listed

Same as ANTH 3102.

When Offered

Offered in fall.

SOC 204/3103 - Social Statistics (3 cr.)

Prerequisites

Prerequisites: Students must have taken SOC 2101 , no exceptions

Description

This course is designed for students in the social sciences who do not have a background in mathematics except high school algebra. The course will provide an introduction to statistics as a tool for analyzing and understanding data related to social life. The course deals with basic concepts and procedures and integrates SPSS demonstrations and exercises..

When Offered

Offered in fall.

SOC 310/3104 - Contemporary Sociological Theory (3 cr.)

Prerequisites

SOC 3102 or consent of instructor.

Description

The main trends, basic problems, and unresolved issues of post-war sociological thought. Essential aspects of the logic of scientific inquiry; contemporary theories as model building in sociology including new functionalism, critical theory, structuralism and poststructuralism.

Cross-listed

Same as ANTH 3035.

When Offered

Offered in spring.

SOC 381/3105 - Doing Survey Research in the Social Sciences (3 cr.)

Prerequisites

SOC 2101 and SOC 3103 . For sociology minors only: An equivalent statistics course may be substituted for SOC 3103

only with the permission of the instructor.

Description

.This course introduces students to the basic survey methods used in the social sciences. Emphasis is on the logic of social science and the implications of the major forms of quantitative research methodology. Allows students to recognize and analyze merits of research in the social sciences including public opinion and policy action research .

When Offered

Offered in spring

Notes

Students will be encouraged to conduct mini-scale surveys on the campus and beyond.

SOC 340/3202 - Participatory Action Research in Community Settings (3 cr.)

Description

This course will introduce students to the appropriate research methodologies when dealing with community organizing and development, particularly the participatory action research approach to community development.

Cross-listed

Same as ANTH 3202 ,PSYC 3202 .

When Offered

Offered in fall.

SOC 303/3303 - Social Movements (3 cr.)

Prerequisites

Three hours of Social Sciences.

Description

Basic processes by which societies initiate, consolidate, transform, and change their basic institutions and social structures. Anatomy of reform and revolutionary social movements, especially those affecting Arab and Third World societies.

Cross-listed

Same as ANTH 3020.

When Offered

Offered in spring.

SOC 307/3304 - Social Class and Inequality (3 cr.)

Description

The basic theory and methods of the sociology of inequality. The nature and variety of stratification systems, major theories of stratification, empirical studies and social correlates of class phenomena, social mobility, and class conflict. Emphasis on Middle Eastern material.

When Offered

Offered in fall.

SOC 405/4005 - Sociology of Work (3 cr.)

Prerequisites

Prerequisites: Junior or senior standing, 6 hrs. of social science or the permission of the instructor.

Description

The course examines the concept of work and how it is defined and understood in contemporary society. It investigates the changing nature of work, labor issues, changing management styles, and gender and the work place.

When Offered

Offered occasionally.

SOC 406/4010 - Educational Sociology (3 cr.)

Prerequisites

Prerequisites: 9 hours of social sciences, and junior or senior standing.

Description

The nature and interrelationship of educational agencies to other social institutions. The emergent structure of Middle Eastern educational programs and their implications for social change and integration.

When Offered

Offered occasionally.

SOC 408/4020 - Criminology (3 cr.)

Prerequisites

Prerequisites: 9 hours of social sciences, and junior or senior standing.

Description

Theories of crime and social control. Institutional programs charged with the custody and treatment of law violators. Problems of deviance as related to class structure and social change.

When Offered

Offered occasionally.

SOC 422/4025 - Religion in a Global World (3 cr.)

Prerequisites

9 hours of social sciences and junior or senior standing.

Description

Comparative study of religion in culture and society. The course will explore a variety of theories and controversies in the anthropological understanding of religion. Emphasis is on how religion may restrict but also empower believers, inform their social identities, and intersect with political and economic practices and institutions in a globalizing world.

Cross-listed

Same as ANTH 4025.

When Offered

Offered in fall.

SOC 431/4035 - Political Sociology (3 cr.)

Prerequisites

Prerequisites: 9 hours of social sciences, and junior or senior standing

Description

Social bases of various political systems such as Western-type democracy, authoritarianism, and totalitarianism. Topics include: determinants of political behavior, power, elite formation, bureaucracy, and the political role of the military and intellectuals in Third World societies.

Cross-listed

Same as POLS 4035 .

When Offered

Offered in fall.

SOC 435/4040 - Gender and Power in Development (3 cr.)

Prerequisites

Prerequisite: nine hours of social sciences, at least junior standing or the consent of the instructor.

Description

The course will examine the transformations in the lives of women and men through development and incorporation into global economic and political systems from a sociological perspective, particularly from the "Third World". However, the focus is not limited to women, but rather concentrates on the structure and process of gender relations. In examining "gender politics", we will explore the politicization of gender relations at various levels of society, from domestic settings to national contexts to the international sphere.

When Offered

Offered annually.

SOC 455/4055 - Seminar in African Studies (3 cr.)

Prerequisites

9 hours of Social Sciences and Junior or Senior standing.

Description

Through the examination of a contemporary topic in African Studies, this interdisciplinary seminar examines epistemological and methodological issues in African Studies such as transformation, resistance, power, technology, and women and development. Original sources will be used to examine the theoretical assumptions, data, and methods underlying the literature. Prior course work in African Studies is recommended.

Cross-listed

Same as ANTH 4055 .

When Offered

Offered occasionally.

SOC 400/4099 - Selected Topics in Sociology (3 cr.)

Prerequisites

Prerequisites: 9 hours of social sciences, and junior or senior standing.

Description

Topics to be chosen according to specific interests, such as sociology of medicine, sex roles, symbolic interaction, applied sociology.

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes.

SOC 450/4106 - Critical Approaches to Development (3 cr.)

Prerequisites

Prerequisites: 9 hours of social sciences and junior or senior standing.

Description

Contemporary theories of development as they apply to and illuminate the problems of development in underdeveloped countries. The approach will be interdisciplinary.

Cross-listed

Same as ANTH 4050 .

When Offered

Offered in fall and spring.

SOC 495/4107 - Senior Seminar (3 cr.)

Prerequisites

Senior standing and SOC 3105 or ANTH 3105 or 12 hours of Social Sciences.

Description

Emphasis on current methodological trends in anthropology and sociology reflecting the research interests of the faculty and students, and drawing on the experience of the undergraduate career. Content may therefore vary from year to year.

Cross-listed

Same as ANTH 4107 .

When Offered

Offered in spring.

Notes

The student will be required to write a methodologically sound senior paper, preferably based on field research.

SOC 440/4203 - Practicum in Community Development (3 cr.)

Prerequisites

Six hours of social sciences or consent of the instructor.

Description

One semester, field experience in an approved international development agency, local NGO or other professional setting approved by faculty supervisor. Supervised by a faculty supervisor.

Cross-listed

Same as ANTH 4203 and PSYC 4203 .

When Offered

Offered in spring.

SOC 402/4405 - Independent Study (3 cr.)

Prerequisites

Prerequisites: a minimum B average, consent of the instructor, and approval by the Unit Head and the Department Chair.

Description

In exceptional circumstances some seniors and graduating seniors with department approval may arrange for independent study on a chosen topic in sociology that is not covered in the regular offerings for that academic year. Guided readings, research and frequent consultations held

When Offered

Offered in fall and spring.

Repeatable

May be repeated for credit if content changes

SOC 445/4499 - Selected Topics in Coptic Studies (3 cr.)

Description

This course allows instructors to offer a topic in Coptic Studies. The topic will be chosen from year to year in coordination with the departments concerned and the dean of the School of HUSS, and according to the individual interests and areas of expertise of the instructors. Topics chosen may include various aspects of Coptic art and history, monasticism, folklore, or other subjects. The course may be taken more than once if the topic changes.

Cross-listed

Same as ARIC 5132 ,EGPT 5160 ,HIST 4905 ,ANTH 4499 .

When Offered

Offered in fall.

Notes

Students in these majors may petition preferably before registration to have the course included in their major requirements.

SOC 460/4560 - Development Studies Seminar (3 cr.)

Prerequisites

Prerequisites: 12 hours of social science

Description

Interdisciplinary and comparative analysis of development as a process and as a historical phenomenon. Critical evaluation of economic, political, social, and cultural technological and managerial factors that structure developmental

change.

Cross-listed

Same as ANTH 4560 ,POLS 4560 .

When Offered

Offered occasionally.

SOC/ANTH 507/5200 - Introduction to Migration and Refugee Studies (3 cr.)

Prerequisites

Graduate standing or advanced undergraduate standing and permission of instructor.

Description

Drawing on interdisciplinary approaches in history, political science, sociology, economics and psychology, this introductory course examines the causes and consequences of population movements, and provides basic background , terminology and concepts for further studies in this field. It offers an overview of migrants' trajectories across national boundaries, analyzes migrants' integration and their transformative impact on as well as contribution to host societies. It examines the networks of relations migrants may maintain with their home countries. It also looks at the role of policies and practices of the humanitarian regime in shaping the experience and addressing the challenges faced by refugees, asylum seekers, and returnees.

Cross-listed

Same as MRS 5200 .

When Offered

Offered in fall.

SOC/ANTH 500/5201 - Classical Social Thought (3 cr.)

Description

An in-depth examination of classical sociological and anthropological theories of culture and society.

When Offered

Offered in fall.

SOC/ANTH 501/5202 - Contemporary Social Thought

Prerequisites

SOC/ANTH 5201

Description

An in-depth examination fo contemporary sociological and anthropological theories of culture and society.

When Offered

Offered in spring.

SOC/ANTH 505/5203 - Ethnographic Fieldwork (3 cr.)

Description

Techniques of participant observation, non-participant observation, and in-depth interviewing used in anthropology and ethnomethodology. Issues include problems of access, grounded theory and ethical issues. Students will normally carry out a fieldwork project for the course.

When Offered

Offered in spring.

SOC/ANTH 506/5204 - Survey Research (3 cr.)

Description

Techniques and issues in survey research. Sampling, operationalization, questionnaire design, survey application and analysis of survey data. The course is designed to give students hands-on experience in every aspect of survey research.

When Offered

Offered in spring.

SOC/ANTH 508/5208 - Special Topics in Migration and Refugee Issues (3 cr.)

Description

Topics discussed may vary depending on the instructor. Focus of the course will be announced prior to registration. Course may be repeated for credit if content changes.

Cross-listed

Same as MRS 5208 .

SOC/ANTH 000/5209 - Migration, Integration and Citizenship (3 cr.)

Description

This course will examine the challenges brought to citizenship theory by migrations and migrants integration. Diverging definitions of citizenry embody and express distinctive understandings of nationhood, be it state-centered and assimilationist, ethnocentric and 'differentialist' or multiculturalist, that are deeply rooted in the political and cultural history of different nations. The course will focus on the various conceptions of citizenship and how they influence the integration and the migrants' identity (re)constructions well as, to a certain extent, trigger a redefinition of receiving countries' cultural and political norms, including the very meaning of Nation-State.

Cross-listed

Same as MRS 5209.

SOC/ANTH 510/5210 - Problems in Sociology-Anthropology (3 cr.)

Description

Problems discussed may vary depending on the instructor and the needs of the students. Focus of the class will be announced prior to registration. Course may be repeated for credit if content changes.

When Offered

Offered occasionally.

SOC/ANTH 515/5215 - Kin, Friends and Neighbors (3 cr.)

Description

Principles underlying group formation at the local level, such as kinship, residence, and friendship and the resultant web of collective and dyadic relations; special emphasis on the articulation of these groups with class, occupational and ethnic groups, and the state.

When Offered

Offered in alternate years.

SOC/ANTH 520/5220 - Gender and Sexuality (3 cr.)

Description

How sex roles and gender are socially constructed in cross-cultural perspectives: special emphasis on the impact of social-cultural change on gender relations.

When Offered

Offered in alternate years.

SOC/ANTH 525/5225 - Religion, Ideology and Society (3 cr.)

Description

The relation of ideology and world religions to social action; special emphasis on the integrative aspects on society as well as their potential for change and transformation.

When Offered

Offered in alternate years.

SOC/ANTH 530/5230 - Theorizing the State (3 cr.)

Description

This course offers a critical reading of the concept of the state, particularly in relation to governance and power, regulation of subjects and citizens, discourses and practices of normalization of social orders, and limits to state power.

When Offered

Offered in alternate years.

SOC/ANTH 535/5235 - Maintaining Systems of Global Inequality (3 cr.)

Description

Theories of the growth of the new international division of labor and its relationship to socioeconomic change in both developed and developing societies.

When Offered

Offered in alternate years.

SOC/ANTH 540/5240 - Revisiting the Rural (3 cr.)

Description

This course examines the remaking of rural communities in relation to historical shifts in capital and state dynamics, the organization and practice of everyday life, the politics of labor and property, and the production of desire and subjectivity.

When Offered

Offered in alternate years.

SOC/ANTH 545/5245 - Cities: Structure and Dynamics (3 cr.)

Description

The structure of urban forms, patterns of city life, and the relationship of cities to the wider societies of which they are part.

Cross-listed

Same as GREN 5244 .

When Offered

Offered in alternate years.

SOC/ANTH 550/5250 - Sociology of Knowledge (3 cr.)

Description

The epistemological foundations and social framework of knowledge; what is involved in "having knowledge" about society.

When Offered

Offered in alternate years.

SOC/ANTH 555/5255 - Comparative Health and Healing Systems (3 cr.)

Description

Cross-cultural and multidisciplinary approach to the crucial issues which link the social sciences to health and healing systems. Special emphasis on issues of health and healing under conditions of social and cultural change; development and policy in the Middle East.

When Offered

Offered in alternate years.

SOC/ANTH 560/5260 - Population Dynamics (3 cr.)

Description

A consideration of the causes and consequence of the growth and decline of population through the analysis of fertility, mortality, and migration. Issues and research related to rapid population growth and labor migration will be emphasized.

When Offered

Offered in alternate years.

SOC/ANTH 565/5265 - Ethnicity, Identity and Nationalism (3 cr.)

Description

This course examines the factors that contribute to modern nationalism or contradict it. Such factors include ethnic and other forms of identity such as those constructed around the notions of race, language, and religion. The approach to the imagined community is both cultural, dealing with identity formation and maintenance, and social, stressing processes and social groups.

When Offered

Offered in alternate years.

SOC/ANTH 570/5270 - Environment and Society (3 cr.)

Description

This course uses a broad interdisciplinary approach to analyze the relationship between development and environmental degradation, the ways in which development enhances protection, and the issues of sustainable development. It covers the social movements that may emerge around the environmental concerns, and the social processes that lead to environmental risks.

Cross-listed

Same as GREN 5205 .

When Offered

Offered in alternate years.

SOC/ANTH 575/5275 - Modern Social Movements (3 cr.)

Description

The emergence of modern social movements based on such issues as gender, ecology, race, ethnicity, community control, and identity. The relation between "new" social movements and earlier social movements based on class, national liberation, and revolutionary transformation, with comparison between First and Third World movements.

When Offered

Offered in alternate years.

SOC/ANTH 580/5280 - History and Memory (3 cr.)

Description

This course is an examination of the meanings and relationships between the past, memory and history in anthropological practices and debates. Specifically, it seeks an analysis of the conceptual and methodological boundaries between history production and collective memory paradigms.

When Offered

Offered in alternate years.

SOC/ANTH 502/5285 - Social and Cultural Dynamics in Contemporary Egypt (3 cr.)

Description

Emphasis on those forces which have given Egyptian society cohesion and continuity in a rapidly changing world. Crucial issues confronting social scientists and planners.

When Offered

Offered occasionally.

SOC/ANTH 503/5290 - Middle Eastern Societies and Cultures (3 cr.)

Description

A survey of the present state of knowledge concerning Middle Eastern societies, with an emphasis on the disciplinary approaches of sociology and anthropology.

When Offered

Offered in spring.

SOC/ANTH 591/5297 - Independent Study and Readings (3 cr.)

Prerequisites

Department approval.

Description

Guided individual readings and/or research on a subject of mutual interest to student and faculty member that will not be covered in a regularly offered course.

When Offered

Offered in fall and spring.

Repeatable

May be taken only once.

SOC/ANTH 598/5298 - Thesis Writing Seminar (3 cr.)

Prerequisites

SOC/ANTH 5201 ,SOC/ANTH 5202 and either SOC/ANTH 5203 ,SOC/ANTH 5204 or the consent of the instructor.

Description

This course serves as an intermediary phase between the research proposal and the Master's thesis, which is designed to help students transition from fieldwork and data collection to data analysis and writing up. Students will be lead through a process of documenting, analyzing, and presenting their data in ways that emphasize faculty and peer evaluation and feedback.

SOC/ANTH 599/5299 - Research Guidance and Thesis (no cr.)

Description

Consultation for students in problems related to their theses.

When Offered

Offered in fall and spring.

GREN 501/5201 - Global Changes and Sustainable Development (3 cr.)

Description

The course is an introduction to the whole program. It focuses on sustainable development and global change- vital issues for humanity- with specific attention to the challenges in Egypt of the transition from unsustainable to sustainable development. Topics include rethinking established ways of production and consumption; types of green business, the interrelationship between local and global challenges, business policy and decision making affecting sustainability; finding new ways of greening economics, sustainable transportation, energy, engineering, architecture and construction; agriculture and water resources in a changing global climate; and the role of SMEs.

GREN 502/5202 - Engineering for a Sustainable Environment (3 cr.)

Description

Solid, industrial and hazardous waste generation and control, with an emphasis on sustainable engineering practices such as environmental impact assessment and performance, waste management, pollution prevention, waste minimization, cleaner production, energy recovery, recycling and reuse.

Cross-listed

Same as ENGR 5240 .

GREN 503/5203 - Core Concepts & Applications for Social & Environmental Policy (3 cr.)

Description

Overview of issues and analytic approaches for social and environmental policy, including programmatic and policy responses to development challenges in the environment, health and social services, and anti-poverty programming, with an emphasis on applications and case studies of experience in the Middle East and North Africa. Application of analytic methods to understand the root causes of barriers to providing social services and protecting the environment, and potential solutions to address these challenges from an interdisciplinary perspective.

Cross-listed

Same as PPAD 5132 .

GREN 504/5204 - Entrepreneurship and Innovation (3 cr.)

Prerequisites

MGMT 5307 .

Description

Innovation lies at the heart of economic growth in the modern world. Entrepreneurs with the ability and resourcefulness to establish their own business are critical to the process of innovation. Innovation is not just about starting a new business but it is also about creating and developing innovative ways of management. Whether you are thinking of starting a new venture or developing innovative mechanisms of management in a large organization, you will need to understand Entrepreneurship and Innovation.

This course takes students through the various aspects of starting, managing, and growing a business. Whether you want to start a new venture, a new project, or develop an innovative way of management. You will need to write a business plan? This course will teach you how to write a business plan, its benefits and how does it differ from a feasibility study.

Opportunity identification, clear business and market definition, segmentation, and entry, building a team and creating a suitable organizational form, avoiding common pitfalls, and various strategies for starting or growing a business , are among the numerous facets of entrepreneurship covered in the course.

Methods employed include individual and group case analysis, writing a business plan, interviews with, and talks by, entrepreneurs, and profiling of successes and failures.

Cross-listed

Same as ECNG 5274 and MGMT 5307 .

GREN 505/5205 - Environment and Society (3 cr.)

Description

This course uses a broad interdisciplinary approach to analyze the relationship between development and environmental degradation, the ways in which development enhances protection, and the issues of sustainable development. It covers the social movements that may emerge around the environmental concerns, and the social processes that lead to environmental risks.

Cross-listed

Same as SOC/ANTH 5270 .

GREN 511/5211 - Water Desalination (3 cr.)

Description

Description of methods of water analysis and treatment. Study of the properties of water and aqueous solutions.

Detailed discussion and analysis of design, maintenance, energy requirements and economics of the major processes of desalination, such as distillation, reverse osmosis, and electrodialysis.

GREN 513/5213 - Solid and Hazardous Wastes Engineering (3 cr.)

Description

Solid wastes - Nature, generation and collection. Local and regional management strategies including recycling and recovery of useful products, landfilling, and incineration. . Hazardous wastes - Nature, generation and collection. Risk assessment. Management strategies including source reduction, treatment, recovery, landfilling, and incineration.

Cross-listed

Same as ENVE 5254 /CENG 4555 .

GREN 514/5214 - Green Buildings (3 cr.)

Description

Climate change and the building sector, Environmental impacts of the Construction Industry, Concept of Green Buildings, different rating systems, Sustainable Sites, Energy and Atmosphere, Indoor Environmental Quality, Materials & Resources, recycling contents & VOC, Green Building for Existing Buildings, water efficiency, life cycle cost analysis, innovation on design.

GREN 000/5215 - Sustainability of Thermal Systems (3 cr.)

Description

Energy systems; energy demand; energy audit; sustainable development; energy efficiency; energy management.

Cross-listed

MENG 6261

GREN 521/5221 - Marketing Management (3 cr.)

Description

Highlights the role of marketing as a process for creating value and managing customer relationships. The course addresses the marketing challenge of designing and implementing the best combination of marketing variables to carry out a firm's strategy in its target markets. Further, this course seeks to develop the student's skills in applying the analytic perspectives and concepts of marketing to such decisions as: segmentation, targeting, positioning, branding, pricing, distribution and promotion. The goal is to understand how the firm can benefit by creating and delivering value to its customers and stakeholders. The new role of marketing is emphasized including: stakeholder marketing, internal marketing, social marketing, customer relationship management and other recent trends in the market. This course takes an analytical approach to the study of marketing problems of for-profit and not-for-profit organizations.

Cross-listed

Same as MKTG 5201 .

GREN 522/5222 - Strategic Management of Innovation (3 cr.)

Description

Innovation is regarded as a critical source of competitive advantage in an increasingly changing environment. Innovation is production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. This course will study the theory and practice of innovation as a process and an outcome based on a comprehensive model of innovation which consists of three determinants: innovation leadership, managerial levers and business processes. The course will examine the impact of accelerating innovation on cost, product quality and marketability; organizational changes required to couple R&D with marketing and commercialization; and the managerial skills and professional expertise needed to develop a sustainable innovation

practice within an organization.

Cross-listed

Same as MGMT 5308 and ECNG 5273 .

GREN 523/5223 - Managing in a Dynamic Environment (3 cr.)

Description

The course aims at acquainting the student with how a leader could manage an organization in a dynamic environment. The course focuses on the main functions of a manager such as planning, organizing, controlling, motivation, team building and with special emphasis on leadership. It emphasizes contemporary and applied management in a global and dynamic environment. It also aims at developing an understanding of the tasks that managers must perform to keep the organization running both effectively and efficiently. In addition, the course emphasizes the environmental constraints imposed on the Egyptian manager and attempts to explore ways of applying the principles of management in Egyptian enterprises.

Cross-listed

Same as MGMT 5202 .

GREN 524/5224 - Financial Management (3 cr.)

Prerequisites

ACCT 5201 .

Description

It is a basic business finance course, dealing with various aspects of financial decision making. It provides an introduction to time value of money; bond and stock valuation; ratio analysis; financing decisions; capital budgeting; cost of capital; capital structure; risk and return; dividend policy; operating and financial leverage; and working capital management.

Cross-listed

Same as FINC 5202 .

GREN 531/5231 - Policy for Sustainable Cities (3 cr.)

Description

Explores policy choices facing urban managers, planners, and the communities they serve with regard to putting cities on a path to sustainability. Considers how allocation of, control over, and use of key land and financial resources shapes urban development from political economy, governance and space planning perspectives. Examines participatory planning and other methods to engage urban stakeholders in management of cities as well as tools to promote adoption of green technologies in the urban housing, industrial, transport, power, water, and commercial building sectors.

Cross-listed

Same as PPAD 5141 .

GREN 532/5232 - Greening the Built Environment (3 cr.)

Description

Examines core concepts, analytic tools, and program models needed to develop the urban built environment in ways that are socially and environmentally sustainable. Gives particular attention to retrofitting and sustainability upgrades for the existing urban core, developing new communities on a sustainable model, and providing affordable options for low-income urban residents, including upgrading of informal areas as well as new developments. Explores how the spatial distribution of work and housing choices interacts with transport/transit systems, energy use, and infrastructure to shape urban sustainability outcomes.

Cross-listed

Same as PPAD 5142 .

GREN 533/5233 - Urban Infrastructure Development for Sustainability (3 cr.)

Description

Considers how the development of critical infrastructure (power generation and transmission, water/wastewater, transport/transit, and waste management) can be directed toward socially and environmentally sound and economically viable models. Provides an understanding of alternative infrastructure financing, regulation, and implementation models from state provision to public-private partnerships. Explores how infrastructure network choices shape city expansion, urban quality of life, and efficiency outcomes in a dynamic urban context.

Cross-listed

Same as PPAD 5143 .

GREN 534/5234 - Egyptian Environmental Law (3 cr.)

Description

This course will give you a broad practical understanding of the Egyptian environmental law. The course is designed to introduce you to the fascinating variety of important environmental challenges addressed by environmental laws, the difficult policy issues surrounding environmental problems, and the legal complexities of environmental regulatory and administrative schemes. Environmental laws can be extremely complex. This course, however, gives you the foundation by covering the "fundamentals" of Egyptian environmental law. You will also develop some critical analytical and research skills (such as analyzing problems and reading statutes) that are transferable to all areas of environmental law.

GREN 000/5235 - Corporate Social Responsibility and NGO Partnerships (3 cr.)

Description

Overview of corporate social responsibility principles and applications from a developing country perspective. Issues in responsible corporate management, including addressing environmental, social, and accountability challenges. Tools for implementing and assessing corporate social responsibility programming, including mechanisms for developing effective partnerships with nonprofit organizations. Extensive use of cases from developing country experience.

Cross-listed

PPAD 5128

GREN 544/5244 - Cities: Structure and Dynamics (3 cr.)

Description

The structure of urban forms, patterns of city life, and the relationship of cities to the wider societies of which they are part.

Cross-listed

Same as SOC/ANTH 5245 .

GREN 000/5245 - Community Assessment and Program Evaluation (3 cr.)

Description

This course exposes students to concepts and methods of applied research in community psychology, specifically community assessment and program evaluation. Assessment techniques may focus on community needs and assets/resources assessment. Students will gain knowledge and skills in program evaluation, including evaluation theories, different types of evaluation (including process, outcome, and impact), and qualitative and quantitative evaluation methodologies. There will be an emphasis on strengths-based, participatory, and empowerment-oriented approaches, as well as professional ethics.

Cross-listed

PSYC 5233

GREN 000/5246 - Community Psychology and Systems Theory (3 cr.)

Description

This course examines the core theories, values, and methodologies of community psychology and systems theory. An emphasis is placed on the ecological perspective, empowerment theory, sociocultural and cross-cultural competence, community inclusion and partnership, and ethical, reflective practice.

Cross-listed

PSYC 5210

GREN 000/5247 - Prevention and Intervention in Communities (3 cr.)

Description

This course provides students with knowledge and skills related to prevention across the lifespan, health promotion, and other types of community interventions. Students are exposed to a variety of community and preventive interventions, so as to prepare them to think about, work with, and lead community and preventive interventions in the future. The course provides training in community program development by offering opportunities for students to participate in program development, implementation, or management. Multicultural sensitivity and professional ethics are addressed.

Cross-listed

PSYC 5243

GREN 000/5248 - Consultation to Non-Profit Organizations (3 cr.)

Description

This course provides students with knowledge and skills for consultation with non-profit organizations, using a participatory and strengths-based approach. Topics include understanding the nonprofit sector, phases and theories of consultation, establishing and marketing a consultation business, and ethical and professional competence. Nonprofit consultation often focuses on strategic planning, organization development, needs assessment, capacity and resource development, program evaluation, and fundraising.

Cross-listed

PSYC 5253

GREN 571/5251 - Graduate Thesis Seminar I (2 cr.)

Description

Seminar on multi-disciplinary research topics, research methodology, thesis writing, and presentations given by invited speakers. Speakers from different backgrounds and experiences will be invited from the involved schools as well as the international partners.

GREN 572/5252 - Graduate Thesis Seminar II (1 cr.)

Description

Seminar on research plans given by students to discuss their thesis topics and the results they obtained in their works. In the case of twinning thesis, students should organize together the seminar. However, every student should provide a presentation on his/her part of the research.

GREN 573/5253 - Research Guidance Thesis (3 cr. + 3 cr.)

Description

Consultation on problems related to student thesis. It must be taken twice for a total of 6 credits.

GREN 000/5281 - Sustainable Development Project Part One (3 cr.)

Prerequisites

Advisor Approval.

Description

Students complete three courses that cover the three dimensions (social, environment and economic) of advisor-supported community-based project applying learning from the M.Sc. Program in Sustainable Development. Upon approval, students can take this course with the other two courses concurrently. Part one will focus on the analysis of the project needs and the fact findings through field visits.

GREN 000/5282 - Sustainable Development Project Part Two (3 cr.)

Prerequisites

Advisor Approval.

Description

Students complete three courses that cover the three dimensions (social, environment and economic) of advisor-supported community-based project applying learning from the M.Sc. Program in Sustainable Development. Upon approval, students can take this course with the other two courses concurrently. Part two will focus on the planning of the community problem which should respect the principles of sustainable development and participatory approach.

GREN 000/5283 - Sustainable Development Project Part Three (3 cr.)

Prerequisites

Advisor Approval.

Description

Students complete three courses that cover the three dimensions (social, environment and economic) of advisor-supported community-based project applying learning from the M.Sc. Program in Sustainable Development. Upon approval, students can take this course with the other two courses concurrently. Part three will focus on planning the action plan for implementing the planned solutions and validating the implementation with the identified stakeholders in the field.

GREN 000/5910 - Independent Study in Sustainable Development (3 cr.)

Description

This course offers for students the change to study beyond the regular course offerings. Guided reading for research and discussions based on a subject of mutual interest to the student and the responsible faculty member. The student demonstrates his/her achievement by submitting deliverables according to the agreement with the responsible faculty and in line with the course load of a graduate course.

THTR 199/1099 - Selected Topics for Core Curriculum (3 cr.)

Description

Course addressing broad intellectual concerns and accessible to all first-year students as part of the Primary Level Core.

When Offered

Offered occasionally.

THTR 130/1101 - The World of the Theatre (3 cr.)

Description

An initiation into the world of the theatre with the aim of developing the critical skills of an informed and perceptive audience member through the reading of plays, critical articles, and the attendance of stage performances and film versions of plays.

THTR 125/1200 - Acting for Non-Majors (3 cr.)

Description

An introduction to the art and technique of acting for the non-major student, utilizing training games and exercises to present the student with a general overview of the acting process, while also providing experiences and techniques beneficial to basic human communication.

When Offered

Offered in fall and spring.

Notes

May not be used for departmental credit by theatre majors or minors.

THTR 203/1201 - Theatre in the Making (3 cr.)

Description

An introduction to theatre as a collective art form by exploring all of its components and participants: from playwright to actor, from director to designers, from producing team to audience.

When Offered

Offered in fall and spring.

THTR 299/2099 - Selected Topics for Core Curriculum (3 cr.)

Prerequisites

RHET 1000 .

Description

Course addressing broad intellectual concerns and accessible to all students, irrespective of major.

When Offered

Offered occasionally.

THTR 225/2201 - Acting I (3 cr.)

Description

A basic course in the fundamentals of acting, designed for majors, minors, and those with some previous experience. In-class exercises and improvisations, combined with rehearsed scenes and monologues from simple realistic texts, will help students gain proficiency in objective/obstacles, creation of a character, basic voice and breath control, and basic body alignment and awareness.

Cross-listed

Same as FILM 2201

When Offered

Offered in fall and spring, and occasionally in the summer.

THTR 226/2211 - Acting in Arabic I (3 cr.)

Description

The art and craft of acting as a systematic process applied to the specific demands of Arabic Drama. Scene work and

monologues from modern and contemporary Arabic plays.

Cross-listed

Same as FILM 2211

When Offered

Offered in fall or spring, and occasionally in the summer.

THTR 230/2301 - Play Analysis (3 cr.)

Description

The development of the art of reading a play through detailed examination of its dramatic structure and in-depth analysis of its text. Both Western and Arabic plays will be examined.

When Offered

Offered in fall or spring.

THTR 204/2401 - Introduction to Technical Theatre (3 cr.)

Description

An introduction to the theories, techniques, tools, and materials of technical theatre. Technical areas to be covered include organization, architecture, shops, stage equipment, scenery, props, lighting, sound, costumes, technical direction, and stage management.

When Offered

Offered in fall and spring.

Notes

Students will be expected to work on one of the technical crews for a major theatre department production concurrently with the course.

THTR 240/2601 - Production Practicum (1 cr. per production)

Description

A course for any student who wishes to gain academic credit for significant contribution to departmental theatre productions in one of the following area: a. Scenery, b. Costume, c. Props, d. Lighting, e. Sound; or f. Run Crew. Minimum of 50 hours of practical work are required. Students work under direct supervision of a theatre faculty member. May be repeated twice for credit.

THTR 242/2603 - Rehearsal and Performance Practicum (1 cr. per production)

Description

A course for any student who wishes to gain academic credit for significant contribution to departmental theatre productions in one of the following areas: a. Performance or b. Stage Management. Students work under direct supervision of a theatre faculty member. Registration by permission of the faculty member in charge of the specific activity. May be repeated twice.

THTR 370/3099 - Selected Topics in Theatre (3 cr.)

Prerequisites

Prerequisite: consent of the instructor.

Description

In-depth examination of specific topics in theatre determined by the special interests and expertise of the faculty.

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes

THTR 000/3103 - Drama in Context I: Greeks to English Renaissance (3 cr.)

Description

A study of dramatic literature and theatre practice in its social context from 5th century BC Athens to the closing of the English theatres in 1642. Plays are studied for their literary value and as points of departure for exploration of performance and design practices. The course examines ways in which theatre and the societies which produce its serve to reflect one another.

THTR 000/3104 - Drama in Context II: Italian Renaissance to Modern (3 cr.)

Description

Renaissance Italy, 17th century France and England, and the European Enlightenment and early Industrial Age. Plays are studied for their literary value and as points of departure for exploration of performance and design practices. The course examines ways in which theatre and the societies which produce it serve to reflect one another.

THTR 000/3105 - Drama in Context III: Modern and Contemporary (3 cr.)

Description

A study of 19th to 21st Century European dramatic literature and theatre practice in its social context. Plays are studied for their literary value and as points of departure for exploration of performance and design practices. The course examines ways in which theatre and the societies which produce it serve to reflect one another.

THTR 227/3201 - Acting II (3 cr.)

Prerequisites

THTR 2201

Description

Students will build upon their knowledge of the acting process through focus upon a more rigorous examination of the development of a character, utilizing challenging scenes from early modern playwrights such as Chekhov, Pinter, Albee and Williams. Additionally, vocal and body work will continue through exploration of standard speech production, kinesthetic and relaxation techniques.

When Offered

Offered once a year.

THTR 327/3203 - Special Topics in Acting (3 cr.)

Prerequisites

THTR 3201

Description

In-depth examination and implementation of specialized acting and performance skills and techniques. Focus of study to be determined by the special interests and expertise of the faculty.

When Offered

Offered occasionally.

Repeatable

May be repeated for credit if content changes

THTR 325/3205 - Acting Styles (3 cr.)

Prerequisites

THTR 3201

Description

An advanced acting class, offering exploration and techniques in varied acting styles, including but not limited to Greek/Roman, Medieval, Restoration, Neo-Classicism, Romanticism, Farce, Expressionism and Absurdism. Vocal work will be examined through ensemble patterns, shared speech and period movement. Content of course to be determined by the interests and expertise of the faculty.

When Offered

Offered once every other year.

THTR 000/3207 - Movement for the Stage (3 cr.)

Prerequisites

THTR 2201 or THTR 2211

Description

Movement for the Stage focuses on increasing the strength, flexibility, endurance, and movement vocabulary of the actors physical instrument, its presence in space, and the use of it as a tool for theatrical storytelling.

THTR 326/3211 - Acting in Arabic II (3 cr.)

Prerequisites

THTR 2211

Description

A continuation on a more advanced level of the work started in Acting in Arabic I, applied to a wider range culminating in the presentation of a class term project.

When Offered

Offered in fall or spring.

THTR 328/3301 - Directing I (3 cr.)

Prerequisites

THTR 2201 and THTR 2301

Description

The fundamental directorial controls, as well as theoretical and practical training, leading to the production of single scenes.

When Offered

Offered in fall.

Repeatable

May be repeated once for credit as content changes.

THTR 324/3401 - Design for the Theatre (3 cr.)

Prerequisites

THTR 1201 and THTR 2401

Description

A study of the principles of visual design and their application for the theatre. Play analysis that focuses on visual and spatial design requirements. Includes scenery, costumes, and lighting. Involves drawing, painting, model making, and research into period styles.

When Offered

Offered once a year.

THTR 000/3403 - Make Up for the Theatre (3 cr.)

Description

This course is an introduction to theatrical make up techniques for the actor. Students will explore the process of developing character through the manipulation and transformation of their facial characteristics with makeup. Projects will focus primarily on two dimensional techniques, but will introduce latex and other three dimensional techniques and will cover a wide range of character and special effects applications.

When Offered

Offered occasionally in winter or summer session.

THTR 360/3501 - Playwriting I (3 cr.)

Description

A workshop in which students develop basic technical skills of playwriting through exercises culminating in the production of a working scenario for a short one-act play.

When Offered

Offered in fall.

THTR 361/3503 - Playwriting II (3 cr.)

Prerequisites

Prerequisite: THTR 3501

Description

A workshop in which students develop the scenario they have produced in Playwriting I into a short one-act play to be performed as a staged-reading.

When Offered

Offered in spring.

THTR 340/3601 - Advanced Theatre Practicum (3 cr.)

Prerequisites

THTR 2401 ,THTR 2601 and consent of instructor.

Description

Advanced, specialized, and intensive participation in theatre production activities. Assignments made in major supervisory positions in consultation with and under the supervision of a theatre faculty member. Technical production areas of scenery, costumes, props, lighting, sound, or stage management.

When Offered

Offered fall and spring.

Repeatable

Repeatable for credit. No maximum.

THTR 344/3603 - Design Practicum (3 cr.)

Prerequisites

Prerequisites: Selection by application and interview.

Description

A course for students who wish to learn about theatre design through participation in designing a departmental theatre production. Students selected through application and interview process.

When Offered

Offered occasionally.

Repeatable

Repeatable for credit.

Notes

Selected students will form a design team that will be responsible for designing scenery, props, costumes, lighting, and sound for a major production.

THTR 402/4000 - Independent Study (1-3 cr.)

Prerequisites

Minimum B average required.

Description

In exceptional circumstances, some senior majors may arrange, with departmental approval, to study beyond the regular course offerings.

When Offered

Offered in fall and spring.

THTR 461/4103 - Dramatic Theory and Criticism (3 cr.)

Description

An exploration of the various and conflicting perceptions of the nature and function of drama through the study of major works of dramatic theory and criticism from the Greeks to the present.

When Offered

Offered in alternate springs.

THTR 471/4110 - Theatrical and Dramatic Translation (3 cr.)

Description

A critical exploration of the particular challenges surrounding a number of "translations" of drama, with specific focus on the nature of dramatic language, the adaptability and contemporary value of myth, cultural and historical barriers and the means of challenging them, the shortcomings and advantages of dramaturgy, and the inevitable concrete requirements of performance.

When Offered

Offered occasionally.

THTR 428/4301 - Directing II (3 cr.)

Prerequisites

THTR 3301 and completion of all 200-level requirements.

Description

Advanced theoretical and practical, production-oriented training in play direction culminating in the presentation of a directorial project.

When Offered

Offered occasionally.

THTR 000/4404 - Scene Design (3cr.)

Prerequisites

THTR 2401 and THTR 3401.

Description

The study of the principles of design and their application for scenery for the theatre. Course work will center on play analysis that focuses on visual and spatial design requirements and the design process. Will include drawing, painting,

model making, and research into period styles.

When Offered

Offered occasionally.

THTR 000/4405 - Stage Lighting (3 cr.)

Prerequisites

THTR 2401 or consent of instructor.

Description

The study of lighting theory and practice for the stage. Topics to be covered are: fundamentals of light theory, basics of electricity, lighting equipment and its use, historical overview of lighting for theatre, examination of current lighting methodology and an introduction to lighting design.

When Offered

Offered occasionally.

THTR 000/4406 - Costume Design for Theatre and Film (3 cr.)

Prerequisites

THTR 2401, THTR 3401 or consent of instructor.

Description

Students will examine the social and historical dynamics of dress and the application of those dynamics to the theatrical and film costume. Coursework will include research into the history of dress and its application to historical costume design as well as the interpretation of contemporary scripts for costume design. Will include instruction in fundamental drawing and painting skills.

When Offered

Offered occasionally.

THTR 470/4701 - Senior Seminar (3 cr.)

Prerequisites

Prerequisite: consent of the instructor.

Description

In-depth examination of advanced topics in theatre determined by the special interests of the faculty.

When Offered

Offered occasionally.

Notes

Designed for senior majors.

THTR 490/4703 - Senior Thesis (3 cr.)

Prerequisites

THTR 3401 THTR 3301 THTR 4103 (or currently enrolled). Some projects will have additional prerequisites. Course should be taken in final semester at AUC.

Description

Students will develop a major project, combining research and creative work that enables the student to integrate course work from the theatre curriculum with self directed application. Projects will be of a depth of study and creative engagement to warrant a capstone project on a senior level and could include work in the areas of acting, directing, design, playwriting, or dramaturgy. Students will propose projects in the semester before the course is taken and will be subject to faculty approval.

THTR 495/4705 - Senior Honors Project (3 cr.)

Prerequisites

Prerequisite: consent of the instructor.

Description

Offered to first or second semester seniors in the department who have distinguished themselves artistically and academically (minimum 3.4 GPA in the major, 3.2 cumulative). A major project, combining research and creative work in the areas of directing, design, performance, playwriting, or dramaturgy.

When Offered

Offered in fall and spring.

Notes

. Projects will be chosen by students in consultation with a faculty advisor.

TVDJ 507/5207 - Practicum: TV or Special Video Assignment (3 cr.)

Description

Field experience at an approved television, video/digital section of a publication or TV production companies in Egypt or abroad to be conducted preferably as a six week long summer internship or during a semester.

When Offered

Offered occasionally

TVDJ 537/5237 - TV Digital News Gathering and Script Writing (3 cr.)

Prerequisites

Must be taken concurrently with TVDJ 5241 and TVDJ 5242 .

Description

Introduces students to the theory and practice of field reporting and production. Students will learn the concepts of television journalism, the differences in reporting for print and broadcast, scriptwriting, use of pictures and related topics.

When Offered

Offered in fall.

TVDJ 538/5238 - Arabic TV Script Writing (3 cr.)

Prerequisites

TVDJ 5237

Description

Introduces students to the theory of field reporting and producing. Students will learn the concepts of television journalism, the differences in reporting for print and broadcast, scriptwriting, use of pictures and related topics. The course is partially devoted to presentation skills of Arabic TV reporting.

When Offered

Offered in spring.

Notes

Non-Arabic speaking students may substitute an elective with approval of the director.

TVDJ 539/5239 - TV Presentation and Voice Coaching (3 cr.)

Prerequisites

TVDJ 5237

Description

A workshop devoted to the presentation of TV news and features, particularly when "on camera". The prime focus of the course is to develop an awareness of how skeletal-muscular-respiratory organization can inhibit or promote vocal tone resonance and articulation, and to provide the physical experiences necessary to promote improvement in posture and breathing. The course provides the means whereby unconscious, inappropriate personal habits i.e. grimace, frown; nervous gesture can be brought to consciousness and gradually eliminated. Particular attention will be given to developing unobtrusive and clear enunciation in English.

When Offered

Offered in fall and/or winter.

TVDJ 541/5241 - Field and Studio Digital Camera Production (3 cr.)

Prerequisites

. Must be taken concurrently with TVDJ 5237 and TVDJ 5242 .

Description

Intensive field training on how to use digital video cameras. Students will learn the basics of camera shooting, sequencing, framing, lighting, and also how to conduct vox pops and interviews. Students will practice shooting on different field and studio camera models and formats, indoors, outdoors and in a studio environment. Students will also learn lighting techniques for the field and studio.

When Offered

Offered in fall.

TVDJ 542/5242 - Digital Video Editing (3 cr.)

Prerequisites

Must be taken concurrently with TVDJ 5241 and TVDJ 5237 .

Description

Intensive training in editing labs to master the basic operation of video editing equipment. Students will learn how to edit their stories using machine to machine editing (linear editing) and software editing (non-linear editing). Students will also learn live video editing and production inside the studio.

When Offered

Offered in fall.

TVDJ 545/5245 - TV Studio News Reporting (3 cr.)

Prerequisites

TVDJ 5237 TVDJ 5241 and TVDJ 5242

Description

This course provides students with intensive, real-world exposure to the production of television field news reports. Students will be involved in all aspects of creating a weekly television news program, including reporting, executive producing, studio camera work, directing, writing and anchoring. Each student will produce a weekly three minute report.

When Offered

Offered in spring.

TVDJ 546/5246 - TV Digital Journalism Capstone (3 cr.)

Prerequisites

TVDJ 5245

Description

A continuation of TVDJ 5245 , this course provides more advanced training in producing television news broadcasts with an emphasis on writing, research, and execution of mini-documentaries, investigative reports and features. Students fluent in Arabic may produce reports in Arabic. Students will complete the required capstone project in this course.

When Offered

Offered in fall.

TVDJ 559/5259 - TV Interviewing and Talk Show Hosting (3 cr.)

Description

Introduces students to television interviewing across a variety of formats through delivery and practice. Students will learn one-on-one interviews (live, pre-taped and remote) and talk show hosting. Students will learn the skills and techniques of researching a guest, developing topics and preparing questions.

When Offered

Offered in Spring.

TVDJ 000/5290 - Special Topics (3 cr.)

Description

Content varies with the instructor. Can be repeated once for credit if content changes.

When Offered

Offered occasionally.

TRST 501/5217 - Translation: Theory and Practice (3 cr.)

Description

This course focuses on the developments in the field of Translation Studies since the 1970s when translation became increasingly conceptualized as cultural transfer rather than a linguistic operation. It introduces students to the interdisciplinary approaches in the field including the impact of deconstruction, gender studies and post-colonial theory. Students will explore the cultural and political agendas of translation through selected theoretical texts. The course will also introduce students to various translation practices (adaptation, e-writing, etc) and will look at a translator's role in society, and translation as an agent social change. Students will read a selection of texts in literary theory that will inform their practice in translation. Students will situate their own work in translation not only in relation to contemporary cultural forms and practices, but also in relation to the traditions that inform current translating practices. Selected texts and translation exercises will be in English and in Arabic.

Cross-listed

Same as ARIC 5217 .

TRST 502/5218 - Translation and The Arab "Renaissance" (3 cr.)

Description

Students will read pioneering works of the nineteenth and the twentieth century in the Arab region that dealt with issues of translation and its centrality to modern nation-building. What exactly is the role of the translator? What is the function of translation in society? The course situates at the act of translation within colonial/postcolonial contexts in

which questions of power surround the relationship between the original text and its translation. It also explores questions of visibility and invisibility of the translator, translation vs. adaptation, original text and target cultural context. Taught in English. Readings and translation exercises in English and Arabic.

Cross-listed

Same as ARIC 5218 .

BADM 203/2001 - Introduction to Business (3 cr.)

Description

The course is designed to be an introductory course for students with no prior knowledge in business. The course starts by defining the business organization and its role in society as well as entrepreneurship and its role in the economy. The course then covers all the business functions including management, marketing, operations, accounting, finance, human resource management and information systems. The four basic functions of a manager, namely planning, organizing, leading and controlling are also introduced. The ethical and social responsibility of business is emphasized. The course is meant to give students who are considering majoring or minoring in Business or Entrepreneurship an introductory overview about the field, that gives a practical and integrated view of the profession and the field of study.

BADM 301/3002 - Introduction to International Business (3 cr.)

Prerequisites

MKTG 2101 and BADM 2001.

Description

The social, cultural, political, legal, and technological environment of international business. The theoretical relationship underlying international business transactions and the integration of functional activities in international firms.

When Offered

Offered in fall and spring.

Notes

Enrollment in this course is limited. Priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students need it as collateral requirement in other major, and students who have declared business administration as a minor.

BADM 300/3003 - Business Environment and Ethics (3 cr.)

Prerequisites

BADM 2001 or MGMT 3201

Description

Perspectives on the business environment and the ethical issues facing business. Organizational responses to environmental and ethical issues. Social responsibility of business firms.

When Offered

Offered in fall and spring.

Notes

Enrollment in this course is limited. Priority is given to students seeking the Bachelor of Business Administration

degree or the Bachelor of Accounting degree, students need it as collateral requirement in other major, and students who have declared business administration as a minor.

BADM 480/4001 - Business Planning and Strategy (3 cr.)

Prerequisites

All BBA Business Core courses and graduating senior standing.

Description

A capstone course, which integrates all business functions. Emphasis is on developing business strategies, discussing different levels of strategies, and developing a business plan for organizations.

When Offered

Offered in fall and spring.

Notes

Enrollment in this course is limited. Priority is given to students seeking the Bachelor of Business Administration degree or the Bachelor of Accounting degree, students need it as collateral requirement in other major, and students who have declared business administration as a minor.

BADM 000/4999 - Internship and Career Development (3 cr.)

Prerequisites

Junior standing and instructor consent.

Description

This course offers business students an opportunity to present the work and learning they got from a practical internship. It also offers students valuable tips on how to link theoretical concepts to practice. In addition, students learn from each other's experiences and presentations.

BADM 000/5310 - Strategic Management (3 cr.)

Prerequisites

All MBA Foundation Courses

Description

This course provides a framework through which core business skills acquired from the foundational courses are integrated together. Such integration replicates how the different business functions are interrelated and ultimately reflected in the strategic development of the organization. The course addresses two central questions for any business entity; where to compete and how to compete. Participants learn effective means by which a business entity could harness its resources in order to translate a well designed strategy into superior performance at all organizational levels.

When Offered

Offered in fall and spring.

Notes

This is the capstone course for the MBA program.

BADM 000/5401 - Business Consultancy (3 cr.)

Prerequisites

Consent of Instructor.

Description

This course provides MBA students with a platform to apply and practice the multidisciplinary business competencies they acquired throughout the program within a comprehensive and practical context. A major component of the course will be a graduation consultancy project offering business solutions for real established companies or developing a business plan for a startup. Students will also be coached on how to professionally communicate their business solutions as consultants. Skills acquired through this course will be augmented by the extensive use of cases covering a variety of business problems, including but not limited to growth strategy, international and regional expansion, entrepreneurship, family business challenges, organizational restructuring, business transformation, mergers & acquisitions, and operational efficiency.