Faculty of Arts and Sciences (FAS)

Graduate

Officers of the Faculty

Fadlo R. Khuri	President of the University
Zaher Dawy	Provost
Farès Dahdah	Dean
Saouma BouJaoude	Special Advisor to the Dean for Faculty Affairs
Khouzama Knio	Associate Dean for Advancement and Impact
Wissam Raji	Associate Dean for Research and Innovation
Izzat El Hajj	Director of Freshman Program
Bradley Jon Tucker	Vice-Provost and Registrar
Antoine Sabbagh	Director of Admissions
Lokman Meho	University Librarian

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Dima Jamil Ahmad Dit Hakim	Administrative Assistant
Zeina Katergi	Executive Officer for Administrative Affairs
Dina Khattab	Academic Affairs Officer
Abeer Khoury	Financial Operations Manager
Hadi Knaiber	Data Analyst

Stephanie Mesrobian	Undergraduate Student Officer
Nadine Rizk	Faculty and Staff Affairs Manager
Razan Sabbidine	Student Records Administrative Officer
Armine Seferian	Communications Officer
Mohamad Ali Sheikh	Building Operator
Heghnar Tacouhie Yeghiayan	Faculty Affairs and Research Support Officer

Historical Background

The Faculty of Arts and Sciences was established in 1866, the same year in which the Syrian Protestant College, now the American University of Beirut, was established. On December 13, 1866, the first class was held, attended by sixteen students, and in 1870 the first five students graduated. Arabic, which was the language of instruction since the inception of the college, was replaced by English in 1882. AUB, in general, and the Faculty of Arts and Sciences, in particular, have survived many crises since 1866, including two world wars, regional and local wars, student strikes and economic crises. Despite all these hardships, the faculty has continued to develop and maintain its high academic standards.

Mission

The Faculty of Arts and Sciences embodies AUB's core commitment to the liberal arts and sciences. It offers undergraduate and graduate programs in the arts, humanities and social, natural and mathematical sciences, and is dedicated to advanced research in all these domains. Through its freshman and general education programs, it is the university's principal gateway to higher studies and professional education. The faculty, through its teaching and research, promotes free inquiry, critical thinking, academic integrity, and respect for diversity and equality.

Vision

Building upon its rich tradition, the Faculty of Arts and Sciences is determined to position itself at the heart of free inquiry in the Middle East. Liberal and critical thinking is central to the faculty's teaching, its research, its engagements with the wider community and its commitment to the thoughtful transformation of all its activities and structures. The faculty's enhanced undergraduate programs will graduate innovators with a breadth of vision who can be agents of positive change wherever they live and work. The faculty will strategically expand its graduate offerings, especially in areas where it can make a distinctive contribution, and it will educate graduate students who are themselves producers of knowledge. The faculty will be recognized internationally for the quality of its research and creative activities in the humanities, social sciences, natural sciences, mathematical sciences, and interdisciplinary areas, whether undertaken in response to regional and global needs or to human curiosity and imagination. The faculty will provide a vital forum for open discussion and engage contemporary issues in ways that resonate far beyond our campus walls.

Graduate Study

Admission to the graduate programs in the Faculty of Arts and Sciences is competitively based on the applicant's academic record, achievements, and research interests. All applicants to graduate study need the recommendation of the academic unit concerned. Academic units may add additional requirements that could assist in their admission recommendations, such as a writing sample, GRE (or GMAT) scores and/ or interview. FAS also offers an MS in environmental policy planning (as part of an interfaculty graduate environmental sciences program).

The following includes admissions information specific to the Faculty of Arts and Sciences. Additional requirements are described in the Office of Admissions section in this catalogue.

Admission as a Regular Graduate Student

Applicants are considered for admission as regular students to a graduate program if they meet the following minimum admission requirements:

An undergraduate GPA of at least 3.3 (or standardized equivalent from other institutions of higher learning) in the major field of study and a cumulative GPA of at least 3.0 (or standardized equivalent) for all work done at the undergraduate level leading to a bachelor's degree or its equivalent from AUB or another recognized institution of higher learning. Applicants to the environmental policy planning specialization in the master's degree program in environmental sciences are required to have a GPA of at least 3.3 in the last two years of undergraduate study or its equivalent at AUB or other universities as determined by the faculty Graduate Studies Committee.

Further requirements for admission to graduate work are found in the Office of Admissions section in this catalogue.

Admission as a Graduate Student on Probation

Applicants are considered for admission on probation if they meet the following minimum admission requirements:

An undergraduate GPA of at least 3.0 (or standardized equivalent from other institutions of higher learning) in the major field of study and a cumulative GPA of at least 3.0 (or standardized equivalent) for all work done at the undergraduate level leading to a bachelor's degree or its equivalent from AUB or another recognized institution of higher learning. Applicants to the environmental policy planning specialization in the master's degree program in environmental sciences are required to have a GPA of 3.0 in the last two years of study or its equivalent at AUB or other universities as determined by the faculty Graduate Studies Committee.

Further requirements for admission to graduate work are found in the Office of Admissions section in this catalogue.

Admission as a Prospective Graduate Student

Applicants who hold a bachelor's degree in a major field of study, other than the one to which they are applying, and who do not have sufficient academic preparation in the field may be admitted as prospective graduate students who must complete specified undergraduate course requirements.

To be considered for admission as prospective graduate students, the applicants must have attained an undergraduate GPA of 3.0 (or standardized equivalent) in all work done at the undergraduate level leading to a bachelor's degree or its equivalent from AUB or another recognized institution of higher learning.

Further requirements for admission to graduate work are found in the Office of Admissions section in this catalogue. For the purpose of change of status (admission after completion of requirements) to regular graduate student, a minimum GPA of 3.3 will be required in all the undergraduate courses requested from the student upon admission. If a GPA of 3.0-3.3 is attained, students may have their status changed to graduate student on probation pending departmental recommendation and approval of the faculty Graduate Studies Committee. The supplementary courses must be completed within four consecutive regular terms.

RCR Requirement

The Responsible Conduct of Research (RCR) requirement must be completed by all newly admitted degree-seeking graduate students. The requirement consists of a course that must be completed within the first month and is marked by a passing grade. Failure to fulfill this requirement in a timely manner results in a registration hold that is removed once the requirement has been fulfilled. The specific course/section to be taken is assigned by the student adviser. For more details on the requirement, please refer to General University Academic Information section of this catalogue. Below is the RCR course listing of FAS.

RCRA 300 Responsible Conduct of Research in the Humanities 0 cr.
An online RCR course (Responsible Conduct of Research) from the Collaborative Institutional Training Initiative (CITI Program). Required of all graduate students in the humanities. The course "covers core norms, principles, regulations, and rules governing the practice of research." It consists of the following modules: Research Misconduct, Data Management, Authorship, Peer Review, Mentoring, Using Animal Subjects in Research, Conflicts of Interest, Collaborative Research, Research Involving Human Subjects and Case Study - Data Management. Every term.

RCRA 301 Responsible Conduct of Research in the Sciences 0 cr.
An online RCR course (Responsible Conduct of Research) from the Collaborative Institutional Training Initiative (CITI Program). Required of all graduate students in the sciences. The course "covers core norms, principles, regulations, and rules governing the practice of research." It consists of the following modules: Research Misconduct, Data Management, Authorship, Peer Review, Mentoring, Using Animal Subjects in Research, Conflicts of Interest, Collaborative Research and Research Involving Human Subjects. Every term.

RCRA 302 Responsible Conduct of Research in the Social Sciences 0 cr.
An online RCR course (Responsible Conduct of Research) from the Collaborative Institutional Training Initiative (CITI Program). Required of all graduate students in the social and behavioral sciences. The course "covers core norms, principles, regulations, and rules governing the practice of research." It consists of the following modules: Research Misconduct, Data Management, Authorship, Peer Review, Mentoring, Using Animal Subjects in Research, Conflicts of Interest, Collaborative Research and Research Involving Human Subjects. Every term.

Transfer of Credits

Transfer of Credits into a Master's Degree Program
Please refer to the General University Academic Information, section pertaining to "Credit Transfer."

Transfer of Credits from One Master's Degree to Another
Please refer to the General University Academic Information, section pertaining to "Credit Transfer."

Department of Arabic and Near Eastern Languages

Chairperson	Khansa, Enass
Professors	Baalbaki, Ramzi M. (Margaret Weyerhaeuser Jewett Professor of Arabic); Jarrar, Maher Z.; Orfali, Bilal W.; (Sheikh Zayed Chair for Arabic & Islamic Studies)
Assistant Professors	AbdelMegeed, Maha; Khansa, Enass
Senior Lecturers	Bazzi, Tarif; Fakhreddine, Jawdat
Lecturers	Atiyyah, Najah; Bou Fadel, Najem; El Daif, Rachid; Ghaddar, Hussein; Korangy, Alireza; Moukaled, Sina; Semaan, Rima; Sultany, Kanawaty Rima; Zein, Raghida M.
Instructors	El Mallah, Jihad; Malti, Samir

The Department of Arabic and Near Eastern Languages offers graduate programs leading to the MA and PhD degrees. The requirements for both degrees are listed below.

For admission and graduation requirements, refer to the faculty and department web pages.

MA in Arabic Language and Literature

Students registered in the master's program in the Department of Arabic and Near Eastern Languages are required to take a minimum of 21 graduate credit hours and present a thesis based on independent research.

Doctor of Philosophy in Arabic Language and Literature

The Department of Arabic and Near Eastern Languages is steeped in the Arabic philological and literary tradition. Its faculty is also experienced in the use of contemporary western methods of teaching and approaches to language and literature. For this reason, the department is well-positioned to train future leaders in the field.

Academic governance of the department complies with the practices and procedures currently applied by the Faculty of Arts and Sciences. The department seeks to augment its faculty as needed, mainly through exchange and visiting programs as well as through highly selective and rigorously defined recruitment.

Goals and Objectives of the Doctoral Program

The program's objective is to train students to become technically competent in their preferred field of specialization and play a principal role in enhancing education in the region.

PhD candidates will acquire:

- critical, interpretive, and analytical skills.
- benchmark methodologies leading to the conduct of advanced research.
- and deeper, more sophisticated, and more nuanced understanding of Arabic language and literature.

Curriculum

The offerings of the department fall within three broadly defined fields:

- Arabic language and related fields (phonetics, morphology, syntax, history of grammar, lexicology, stylistics, etc.)
- classical and pre-modern Arabic literature and thought (including poetry, prose, belles lettres, and other forms of literary expression)
- modern Arabic literature and thought (including poetry, prose, literary theory, etc.)

Admissions

Admission requirements are in line with those set by the Faculty of Arts and Sciences and may be found in the section entitled Admission to PhD Programs under the Office of Admissions. The department necessitates the following three requirements:

- a master's degree in Arabic from a recognized university, or an equivalent considered acceptable by the department, plus three recommendation letters and an interview (when considered necessary by the department). Students of exceptional promise may be admitted after finishing their BA.
- proven unimpaired Arabic.
- English proficiency. For the required level of proficiency, see the section entitled English Language Proficiency Requirement under the Office of Admissions.

Financial Support

The department offers, on a selective basis, substantial support which fully covers tuition and includes a monthly stipend. In return, PhD students are expected to teach courses and perform other tasks assigned by the department. Students may also apply for support to carry out research in archives and libraries outside Lebanon and to attend international scholarly conferences.

Requirements for the Completion of the PhD

- Credits: A minimum of 18 credits is required beyond the MA. These are comprised of six graduate courses (including a 3-credit tutorial) in the following required and optional fields.
- Required fields:
  - Arabic language and linguistics
  - Classical Arabic literature
  - Modern Arabic literature
- Optional fields:
  - Arab cultural history (Qur'an, Hadith, kalam, tasawwuf, heresiography, etc.)
  - Literary theory (comparative: Arab/Western)

In addition, the following are required: a 3-credit tutorial to be conducted by the candidate's adviser, leading to the production of the candidate's doctoral proposal.

- The distribution of the above requirements over the said fields will be decided by the department in each case on its own merit.
- **Language Requirements:** A working reading knowledge of a second European language, preferably French or German, must be shown before candidacy status is achieved.
- **Residency Requirements:** See Residency Requirements under General University Academic Information.
- **PhD Publication Requirements:** See PhD Publication Requirements under General University Academic Information.
- **Supervision:** During the first term of graduate study, the department will appoint an academic committee to draw up a program of study for the students and to follow up on their progress. At a later stage, the department, in consultation with the student, will assign the student an academic adviser.
- **Candidacy Status:** See Admission to Candidacy under General University Academic Information. The students must achieve candidacy status no later than three years from the date of admission and at least one year before graduation. Achieving candidacy is conditional upon completion of 18 credits, i.e. five courses plus the required tutorial for students with a master's degree or 39 credits and the equivalent of an MA thesis for students with a BA while also satisfying the proposal and language requirements. To achieve candidacy, students must sit for a written comprehensive examination (PhD Qualification Exam Part I) comprising at least three different papers. The proto-examining committee, consisting of four AUB faculty members of professorial rank, will be in charge of writing questions and correcting answers. Within two weeks from the date of the written comprehensive, students shall appear before the proto-examining committee to defend their answers.
- **Doctoral Proposal:** A detailed proposal defining the thesis problem, describing the pertinent literature and suggesting the proposed approach to solving it must be defended before and approved by the thesis examining committee (PhD Qualification Exam Part II). The committee membership must be approved by the Graduate Studies Committee of the Faculty of Arts and Sciences, and a copy of the proposal must be sent to the Graduate Council.
- **Thesis Examining Committee:** For the composition of the committee, refer to PhD Thesis Committee under General University Academic Information.

- **Thesis Defense:** Six copies of the pre-defense final manuscript must be submitted to the adviser at least eight weeks prior to the date of the defense session. This session shall be public. Candidates may, if they so elect, write their theses in English, provided members of the proto-examining committee expressly state their satisfaction with the candidate's capacity for acquisition of knowledge in Arabic.
- **Awarding/Withholding the Degree:** The decision of the thesis examining committee may be one of the following four:
  - Award: with or without demanding minor corrections.
  - Award: provided certain specific and restricted alterations are implemented within three months and approved by the proto-committee.
  - Suspend: major alterations are required and must be implemented within 6-12 months, after which the whole committee shall reconvene.
  - Withhold: without further recourse.

Course Descriptions

ARAB 301 Seminar in Classical Arabic Literature (Poetry or Prose) 3.0; 3 cr.
An overview of the formative elements (geographic, linguistic, ethnic, religious, and cultural) and defining issues (identity, nature, and economic drives), with selective focus on major trends and figures in classical Arabic literature before 1258/657. The language of instruction in this course is Arabic.

ARAB 303 Graduate Seminar in an Epoch, a Trend, or a Book in Classical Arabic Literature 3.0; 3 cr.
Negotiating classical Arabic literature through the historical method, the thematic approach, or direct textual engagement. The selective focuses of this course cover a wide spectrum of Arabic literary production before 1258/657. The language of instruction in this course is Arabic.

ARAB 305 Graduate Seminar in Qur'anic Studies 3.0; 3 cr.
A survey of the different problems in Qur'anic studies, such as compilation of the Qur'an, al-nasikh wal-mansukh, al-muhkam wal-mutashabih, the secret letters, and the different schools of tafsir. The language of instruction in this course is Arabic.

ARAB 309 Graduate Seminar in Arabic Sources 3.0; 3 cr.
A systematic survey of the major sources of Arabic literary and linguistic study. The different genres represented by these sources are emphasized. The language of instruction in this course is Arabic.

ARAB 311 Graduate Seminar in an Epoch, a Trend, or a Book in Modern Arab Literature 3.0; 3 cr.
Focusing on a period, a trend, a particular author or book, this course is an in-depth study using modern, critical, and comparative approaches to literature. The language of instruction in this course is Arabic.

ARAB 313 Graduate Seminar in Folk Literature 3.0; 3 cr.
An analytic study of Arabic folk literature and its development. Study includes the different influences on folk literature and folk literature's impact on Arabic literature during later centuries. The language of instruction in this course is Arabic.

ARAB 315 Graduate Seminar in Comparative Literature 3.0; 3 cr.
This course deals with the theories and methods current in comparative literature in Arabic and global literature, encouraging research on transcultural aspects of literary production, theory and criticism. The language of instruction in this course is Arabic.

ARAB 317 Graduate Seminar in Advanced Semitics or Linguistics 3.0; 3 cr.
A study of the Arabic grammatical tradition, with special emphasis on the development of the grammarians' analytic methods. Alternatively, and according to need, the course could offer a survey of comparative Semitic philology. The language of instruction in this course is Arabic.

ARAB 319 Graduate Seminar in Arabic Literary Theory 3.0; 3 cr.
A survey of schools of literary criticism, genres and issues pertaining to 20th century Arabic literature. Annually.

ARAB 351 Special Topics in Arabic Language and Literature 1–3 cr.
A course that varies in content and focuses on selected topics in language and literature. The language of instruction in this course is Arabic.

ARAB 390 Tutorial in Arabic Language or Literature 1–3 cr.
May not be repeated for credit.

ARAB 395A Comprehensive Exam 0 cr.
Prerequisite: Consent of adviser.

ARAB 399 MA Thesis 9 cr.
MA Thesis

ARAB 401 Tutorial in Arabic Language or Literature 3 cr.
May not be repeated for credit

ARAB 480 Qualifying Exam Part I: Comprehensive Exam 0 cr.
Every term.

ARAB 481 Qualifying Exam Part II: Defense of Thesis Proposal 0 cr.
Every term.

ARAB 484 PhD Thesis 30 cr.
To be taken only by regular track PhD students. Taken at first thesis registration, then registered for every subsequent term with sequential letter annotations (A-L; 0 credits) until completion of thesis work. Every term.

ARAB 488 PhD Thesis 42 cr.
To be taken only by accelerated track PhD students. Taken at first thesis registration, then registered for every subsequent term with sequential letter annotations (A-L; 0 credits) until completion of thesis work. Every term.

The choice to register for ARAB 488 should be done in consultation with the thesis adviser to ensure that the total number of PhD thesis credits and PhD course credits are met as per AUB rules and regulations.

Department of Biology

Chairperson	Kambris, Zakaria S.
Professors	Bariche, Michel J.; Baydoun, Elias H.; Gali-Muhtasib, Hala U.; Knio, Khouzama M.; Kreydiyyeh, Sawsan I.; Osta, Mike A.; Saoud, Imad P.; Smith, Colin A.; Talhouk, Rabih S.
Associate Professors	Ghanem, Noel D.; Jaalouk, Diana E.; Kambris, Zakaria S.
Assistant Professor	Sadek, Riyad A.
Lecturers	Rizkallah, Hind D.; Sinno-Saoud, Nada
Instructors	Hajjar, Layane A.M.; Al-Zein, Mohammad S.
Adjunct Faculty	Dohna, Heinrich

MS in Biology

The master's program in biology aims at providing students with a good foundation in biological sciences and training them to conduct scientific investigations. Students are expected to acquire technical skills needed to answer scientific questions through hypothesis-driven research work. This is achieved through engaging them in hands-on activities at the bench and in the field, in addition to analyzing generated and existing biological data. The program also fosters analytical and critical thinking, and trains students on the use of appropriate scientific language and oral and written communication skills necessary for proper dissemination of scientific information.

The Graduate Record Examination (GRE) is required of all applicants for graduate work. Requirements for an MS degree in biology consist of a minimum of 21 credit hours in biology courses numbered 300 or above and a 9-credit thesis.

The following courses are core courses and should be taken by all master's students:

BIOL 310 (3 cr.), BIOL 315 (3 cr.), and BIOL 393 (1 cr.)

Unless otherwise stated, only senior undergraduate biology majors with a GPA of 3.3 or above can register in biology graduate courses with the consent of the instructor.

PhD in Cell and Molecular Biology

Mission Statement

The doctoral program in cell and molecular biology aims to provide the best training to students for their careers as research scientists in cell and molecular biology. It provides students with the opportunity to develop their capacity for scholarly and independent work, critical analytical thinking, and the ability to communicate knowledge and ideas. It is intended to produce scientists who will make significant, original contributions to the biological sciences. The program exposes students to theoretical foundations and practical training in current laboratory techniques. It serves the AUB mission by providing Lebanon and the region with qualified researchers and preparing students for careers in research, teaching, and public service.

Admission Requirements

The PhD program is a five-year program. Admission to the program will be on a competitive basis. To be eligible for admission, applicants should have a good academic record, demonstrate genuine interest in Cell and Molecular Biology research and must:

- hold a bachelor's (BS) or master's (MS) degree in biological sciences or related fields from a recognized institution.
- present three letters of recommendation from previous tutors or employers.
- submit scores from the general Graduate Record Examination (GRE). This exam is required of both BS and MS holders.
- meet Readiness for University Studies in English (RUSE).
- present a statement of purpose.
- be interviewed by a select group of department faculty members (who may require the student to give a seminar presentation).
- and be recommended for admission by the Biology Department.

Program Requirements

The program requirements for BS holders consist of a minimum of 36 credit hours of graduate level coursework and a minimum of 42 credit hours of thesis work. The requirements for MS holders are a minimum of 18 credit hours of graduate level coursework in addition to 30 credit hours of thesis work.

Upon admission into the program, students will be assisted by the department head who will act as an academic adviser and help them in the selection of courses. Students' course of study is designed individually in light of their interests and career goals. All duties of the head are transferred to the thesis adviser once selected.

The program incorporates the existing master's program and consists of core courses that address basic principles of cell and protein function, gene expression, bioinformatics, and biostatistics.

Required Core Courses

All students are required to take the following six core courses and the seminar (plus tutorial if applicable):

- BIOL 310 Biostatistics 3 cr.
- BIOL 315 Research Methods in Biology 3 cr.
- BIOL 322 Advanced Biochemistry 3 cr.
- BIOL 330 Molecular Genetics 3 cr.
- BIOL 332 Advanced Cell Biology 3 cr.
- BIOL 370 Bioinformatics 3 cr.
- BIOL 491 CMBL Tutorial (required only by students holding a BS) 2 or 3 cr.
- BIOL 493 CMBL Seminar 1 cr.

If these courses have already been taken as part of the master's program, they may be replaced by others upon departmental approval to complete the 18-credit requirement.

Elective Courses

Elective courses are taken to meet the credit requirements and emphasize the students' research work and field of specialty. These courses may be chosen from the Biology Department, graduate course offerings or from course offerings of other departments that fall within the students' field of interest and scope of the program.

Laboratory Rotations

During the first year of study, students may take the laboratory rotation course (BIOL 494), conducting research in two different faculty laboratories within the Biology Department or the university. The department considers exposure to different research environments an essential part of training. Students entering with only a BS must also register for an additional 2- or 3-credit laboratory tutorial in their first year.

Seminars

Students are required to attend and participate in seminars and journal clubs every term. Academic credit (1 credit) will be received only once during the first year. Subsequent terms will not be credited. Graded: Pass/No Pass (or Fail).

PhD Thesis Committee

Refer to PhD Thesis Committee under the General University Academic Information section of this catalogue.

PhD Qualification Exams Part I and Part II

Refer to PhD Qualification Exam under the General University Academic Information section of this catalogue.

Candidacy and Residency

Refer to General University Academic Information, Requirements for the Degree of Doctor of Philosophy section that has clearly defined candidacy and residency requirements.

PhD Thesis and Thesis Defense

Refer to PhD Thesis Format and PhD Thesis Defense under General University Academic Information section of this catalogue.

Residency Requirements

For residency requirements, refer to Residency Requirements under the General University Academic Information section of this catalogue.

Graduation Requirements

The following is a list of graduation requirements:

- Completion and successful defense of a thesis.
- Teaching experience (theory or lab) equivalent to a 3-credit course at minimum.
- Yearly presentation, during candidacy, of research progress to the department.
- Acceptance or publication of at least two internationally refereed papers or one internationally refereed paper and one internationally refereed abstract or proceeding.

In all other respects, the graduation requirements set forth in the catalogue for the PhD program will apply.

Financial Support

The department offers, on a selective basis, substantial support which fully covers tuition and includes a monthly stipend. There are also some funds available to support participation in international conferences; these funds are awarded on a competitive basis. In return, students are expected to help in teaching undergraduate labs, with presentations of introductory courses, and in proctoring and correcting exams.

Course Descriptions

BIOL 310 Biostatistics 2.3; 3 cr.
This course covers methods of statistical analysis of research data in a wide range of biological fields. It starts from elementary concepts and descriptive statistics to concentrate on hypothesis-testing for one, two and several samples including non-parametric methods. It covers correlation, regression, and curve-fitting as well as goodness-of-fit tests applied to various distributions. Appropriate computer applications are used for all statistical analysis procedures. Prerequisite: graduate standing.

BIOL 315 Research Methods in Biology 1.5; 3 cr.
A core course that provides practical experience in a variety of techniques currently employed in biological research, providing an understanding of their application and result interpretation. Prerequisite: graduate standing.

BIOL 322 Advanced Biochemistry 3.0; 3 cr.
This course presents the relationship of biomolecular structure to function, enzyme catalysis, regulation, and selected examples of current biochemical research.

BIOL 328 Plant Biochemistry 3.0; 3 cr.
A course that provides information in areas of biochemistry unique to plants, including the cell wall, photosynthesis, assimilation of mineral nutrients, natural products, and growth substances.

BIOL 330 Molecular Genetics 3.0; 3 cr.
A discussion of recent developments in molecular genetics that provides an understanding of the molecular mechanisms underlying gene regulation and tissue-specific gene expression.

BIOL 332 Advanced Cell Biology 3.0; 3 cr.
A discussion of recent findings in cell biology, emphasizing understanding of the research approaches used to elucidate major processes that regulate the normal function of the cell.

BIOL 333 Signal Transduction 3.0; 3 cr.
A study of the common signal transduction pathways mediating the effect of different first messengers. Prerequisite: graduate standing.

BIOL 335 Molecular Biology of Cancer 3.0; 3 cr.
A course that deals with the regulatory mechanisms of neoplastic cell growth and cancer cell metastasis. This course includes a discussion of recent developments in molecular genetics of the intra- and/or inter-cellular mechanisms involved in tumor formation, cellular proliferation, apoptosis, invasion, and metastasis. Prerequisite: graduate standing.

BIOL 338 Cancer and Natural Products 3.0; 3 cr.
This course is designed to introduce students to the numerous natural compounds that show promise in the treatment of cancer and the mechanism-based approaches to this treatment using these compounds. In addition, the course provides information on the research designs, protocols, and assays involving natural compounds.

BIOL 341 Advanced Microbiology 3.0; 3 cr.
A study of energy metabolism of various microbial groups emphasizing degradation of organic compounds under aerobic and anaerobic conditions. This course also deals with applications of microorganisms in industrial, medical, and environmental fields.

BIOL 362 Advanced Ecology 2.3; 3 cr.
A discussion and analysis of topics of current interest in ecology with emphasis on population and community dynamics, and methods of ecological investigation and analysis; includes field work.

BIOL 363 Population and Community Ecology 3.0; 3 cr.
A course that introduces the various models and theories of population dynamics and community structure, and their applications in assessing the complex interactions that occur in natural plant-animal systems as a result of long co-evolution, with an emphasis on chemical ecology.

BIOL 364 Conservation and Restoration Ecology 3.0; 3 cr.
A course that introduces various concepts and applications in the field of conservation and landscape ecology. Degradation processes, principles of restoration ecology, and models of conservation biology are discussed. Part of this course concentrates on the use of remote sensing, GIS, and GPS as tools in landscape ecology.

BIOL 370 Bioinformatics 2.3; 3 cr.
A project-based course that teaches computer and statistics skills to handle biological data efficiently and creatively. Projects can involve the analysis of any type of biological data, such as image data, survival data, microarray data, sequence data, next-generation sequencing data, etc. Students can either analyze data from their own work or recapitulate parts of a published analysis. During the course, students write analysis scripts in R that automatize an entire workflow from data pre-processing to analysis, output of results, and plotting.

BIOL 390 Special Topics in Biology 1, 2, 3 or 4 cr.
Prerequisites: graduate standing and consent of instructor. May be repeated for credit.

BIOL 391 Tutorial 2 cr.
Every term. Prerequisites: graduate standing and consent of instructor. Cannot be repeated for credit. Graded: Pass/No Pass (or Fail).

BIOL 392 Tutorial 3 cr.
Every term. Prerequisites: graduate standing and consent of instructor. Cannot be repeated for credit. Graded: Pass/No Pass (or Fail)

BIOL 393 Seminar 1 cr.
This course trains students on how to present research findings. Prerequisite: graduate standing.

BIOL 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

BIOL 399 Thesis 9 cr.
Thesis

BIOL 480 Qualifying Exam Part I: Comprehensive Exam 0 cr.
Every term. Prerequisite: completion of a minimum of 18 credit hours of coursework.

BIOL 481 Qualifying Exam Part II: Defense of Thesis Proposal 0 cr.
Every term. Pre/corequisite: BIOL 480.

BIOL 484 PhD Thesis 30 cr.
Every term. To be taken only by regular track PhD students. Taken at first thesis registration, then registered for every subsequent term with sequential letter annotations (A-L; 0 credits) until completion of thesis work.

BIOL 488 PhD Thesis 42 cr.
Every term. To be taken only by accelerated track PhD students. Taken at first thesis registration, then registered for every subsequent term with sequential letter annotations (A-L; 0 credits) until completion of thesis work. The choice to register for BIOL 484 or BIOL 488 should be done in consultation with the thesis adviser to ensure that the total number of PhD thesis credits and PhD course credits are met as per AUB rules and regulations.

BIOL 491 Tutorial 2 cr.
Every term. Prerequisite: consent of instructor. Students with an MS are exempted. Cannot be repeated for credit. Graded: Pass/No Pass (or Fail).

BIOL 492 Tutorial 3 cr.
Every term. Prerequisite: consent of instructor. Students with an MS are exempted. Cannot be repeated for credit. Graded: Pass/No Pass (or Fail).

BIOL 493/493A CMBL Seminar 1 cr. /0 cr.
Students enrolled in the CMBL program present research findings. Prerequisite: enrollment in CMBL program. Academic credit will be received only once during the first year; subsequent terms will be recorded but not credited. Graded: Pass/No Pass (or Fail).

BIOL 494 CMBL Laboratory Rotation 3 cr.
Students taking this course will be conducting a small research project in any area pertinent to the field of cell and molecular biology. The research has to be conducted in two different laboratories under the supervision of a faculty member from the Biology Department. The supervisor should ensure that the students receive the necessary training in safety and technical issues required for the successful progress of the project and that the work involved meets the ethical criteria set by AUB Human Research Protection Program and Institutional Animal Care and Use Committee (IACUC). Graded: Pass/No Pass (or Fail).

Sample Student Programs of Study

BS holder working for MS (21 cr.)		**BS holder working for PhD (36 cr.)**	
First term		**First term**	
BIOL 315	3 cr.	BIOL 315	3 cr.
BIOL elective	3 cr.	BIOL 330	3 cr.
BIOL 393	1 cr.	BIOL 494	3 cr.
BIOL 391A	2 cr.	BIOL 493	0 cr.
	9 cr.		**9 cr.**

Second term		**Second term**	
BIOL 310	3 cr.	BIOL 310	3 cr.
BIOL elective	3 cr.	BIOL 332	3 cr.
BIOL elective	3 cr.	BIOL 491	2 cr.
		BIOL 493	1 cr.
	9 cr.		**9 cr.**

Third term		**Third term**	
BIOL elective	3 cr.	BIOL 370	3 cr.
		BIOL 322	3 cr.
		BIOL elective	3 cr.
		BIOL 493A	0 cr.
	3 cr.		**9 cr.**

Fourth term		**Fourth term**	
		BIOL elective	3 cr.
		BIOL elective	3 cr.
		BIOL elective	3 cr.
		BIOL 493A	0 cr.
			9 cr.

AUB MS holder working for PhD (18 cr.)		**Non-AUB MS holder working for PhD (22 cr.)**	
First term		**First term**	
BIOL 330	3 cr.	BIOL 310	3 cr.
BIOL 332	3 cr.	BIOL 493	1 cr.
BIOL 494	3 cr.	BIOL 494	3 cr.
BIOL 493	0 cr.		
	9 cr.		**7 cr.**
Second term		**Second term**	
BIOL 322	3 cr.	BIOL 315	3 cr.
BIOL 370	3 cr.	BIOL 322	3 cr.
BIOL 493	1 cr.	BIOL 370	3 cr.
Elective	2 or 3 cr.	BIOL 493A	0 cr.
	9 or 10 cr.		**9 cr.**
Third term		**Third term**	
		BIOL 330	3 cr.
		BIOL 332	3 cr.
		BIOL 493A	0 cr.
			6 cr.

Department of Chemistry

Chairperson	El-Rassy, Houssam T
Professors	Al-Ghoul, Mazen H.; Bouhadir, Kamal H.; El-Rassy, Houssam T.; Ghaddar, Tarek H.; Ghauch, Antoine R.; Halaoui, Lara I.; Hasanayn, Faraj A.; Kaafarani, Bilal R.; Patra, Digambara J.; Sultan, Rabih F.
Associate Professors	Karam, Pierre M.; Hmadeh, Mohamad A.
Instructors	Abi Rafii, Randa A.; Deeb, Hana H.; Sadek, Samar A.

MS in Chemistry

The department offers the MS degree in chemistry. Graduate students may specialize in analytical, inorganic, organic or physical chemistry. Of the minimum 21 graduate course credits required for the MS degree, a minimum of 6 credits must be graduate courses in the concentration field of chemistry, and 6 credits must be graduate courses in chemistry outside the students' field of specialization. CHEM 361 is a requirement for all graduate students. A 9-credit thesis, CHEM 399, is required.

The research interests of the chemistry faculty include synthetic heterocyclic chemistry, synthesis of biomaterials for drug delivery and synthesis of carbocyclic DNA analogs; reactive intermediates; cage compounds; coordination and organometallic chemistry; supramolecular chemistry; photocatalysis; photo-electrochemistry of semiconductors; synthesis, assembly and physical properties of nanostructured materials; surface chemistry; irreversible nonequilibrium thermodynamics and statistical mechanics; nonlinear dynamics in chemistry; generalized hydrodynamics; chemical waves; patterns and fractals in precipitate and metal electro-deposition systems; laboratory and field investigations of atmospheric chemistry processes; design and synthesis of dyes for dye sensitized solar cells; self-assembled mono-layers (SAMs) of bioactive material and poly-peptides on metal surfaces; study of electronic structure of unsaturated transition metal complexes and their reactions; discotic liquid crystals; synthesis of electron-deficient materials for organic electronics and opto-electronics applications; organic light emitting diodes (OLEDs); organic field effect transistors (OFETs); organic solar cells; molecular recognition; solid-state stacking of organic materials; biocatalysis; control of inorganic phase growth; developing new probe molecules based on nanocapsules, nanocrystals, curcurmin and PAHs for physical and biophysical studies; fluorescence sensing and spectroscopic investigation on multi-component analysis and biosensor development; fluorescence spectroscopy, imaging and applications; hybrid solid materials; luminescence, solid surface room temperature phosphorescence (SS-RTP) and diffuse reflectance spectrometry (DRS); monitoring of organic and inorganic pollutants in industrial effluent under rigorous conditions; nanoscopy and single molecule studies in physical and biophysical chemistry; new methods for depollution of water contaminated by organic pollutants; photophysical and biophysical chemistry; probe chemistry; use of the reductive properties of Zero Valent Iron for the degradation of pesticides and chlorinated organic compounds in water; renewable energy, biosensing and photochemistry at the single molecule level.

Course Descriptions

CHEM 301 Structure of Inorganic Compounds 3.0; 3 cr.
Electronic absorption spectra of complex inorganic molecules; vibrational, NMR, NQR, EPR and Mössbauer spectroscopy; physical methods of determination of the structure of inorganic molecules. Annually.

CHEM 302 Solid-State and Materials Chemistry 3.0; 3 cr.
Fundamentals of materials and solid-state chemistry. This course covers the structure of solids; bonding in crystals; defects in crystals and solid solutions; crystallography and X-ray diffraction; phase diagrams and transformations; synthesis techniques and strategies; structure-property relations; reactivity of solids; ceramics, composites and inorganic polymers; nanostructured microporous and mesoporous materials; transition metal oxides; heterogeneous catalysts and surface reactions.

CHEM 303 Chemistry of the Coordination Compounds 3.0; 3 cr.
Applications of Orgel and Tanabe-Sugano diagrams; factors affecting stability of coordination compounds; stereochemistry; trans-effect; stabilization of oxidation states; mechanisms of the reactions of coordination compounds; catalysis by coordination compounds. Annually.

CHEM 304 Mechanisms of Inorganic Reactions 3.0; 3 cr.
Mechanisms of substitution reactions in octahedral and square planar metal complexes; mechanisms of oxidation-reduction, metal ion catalysis and photochemistry; application of symmetry rules to inorganic reactions; fluxional molecules. Alternate years.

CHEM 305 Bioinorganic Chemistry 3.0; 3 cr.
Fundamentals of biological inorganic chemistry. An overview of essential elements for life and geochemical cycles; metal ions and metalloproteins; transport and storage of metal ions in biological systems; biomineralization; transferrin and ferritin; metal-dependent lyase and hydrolase enzymes; catalytic nucleic acids; electron transfer proteins; respiration and photosynthesis; oxygen metabolism; cytochrome c and multi-copper oxidases; hydrogen metabolism and hydrogenase; biological nitrogen fixation; nitrification and denitrification mechanisms; metalloenzymes; metal-ion receptors and signaling.

CHEM 306 Applied Quantum Chemistry 3.0; 3 cr.
The course gives at first a brief background on the theory of modern ab initio and density functional electronic structure methods in chemistry. It then provides training in applying these methods as tools of investigation in chemistry using computational algorithms available at AUB such as Gaussian. Students learn how to locate and characterize minima and transition states on the ground and excited potential energy surfaces, and how to evaluate activation and reaction energies and how to calculate spectroscopic properties. A set of contemporary problems with available experimental data from the different disciplines of chemistry will be considered to demonstrate the scope and limitations of different theoretical methods to make accurate predictions. The course is project-based. The emphasis of the projects will be on designing structure-reactivity and mechanistic studies in organic and transition metal chemistry, but students can still select projects from their own research areas. The course is open to senior undergraduates. Prerequisite: The equivalent of either CHEM 217 or CHEM 218.

CHEM 311 Advanced Organic Chemistry 3.0; 3 cr.
Electronic interpretation of organic reactions; correlation of inductive, resonance and steric effects with reactivity of molecules; chemistry of carbocations, carbanions, carbenes, carbenoids and radicals as intermediates in characteristic organic reaction mechanisms. Annually.

CHEM 313 Physical Organic Chemistry 3.0; 3 cr.
Organic reactions mechanisms, linear free energy relationships, solvent and reagent correlations, isotope effects, catalysis in weak and strong acid and base medium, organic photochemistry, and pericyclic reactions. Alternate years.

CHEM 314 Heterocyclic Chemistry 3.0; 3 cr.
A general survey of the synthesis and reactions of selected classes of heterocyclic compounds; spectroscopic properties and structural relationships. Alternate years.

CHEM 315 Chemistry and Technology of High Polymers 3.0; 3 cr.
An introduction to the chemistry of high polymers; types, mechanisms, and kinetics of polymerization; structure, characterization, and properties of macromolecules; preparation, processing and uses of the more common condensation and addition polymers used in plastics, elastomers, and fibers. Alternate years.

CHEM 316 Chemistry of Synthetic Polymers for Biomedical Applications 3.0; 3 cr.
An introduction to the chemistry of synthetic polymers and their applications in the biomedical field; nomenclature, preparations, reactions, synthesis, mechanisms, characterization, biocompatibility, and biodegradability. A general presentation of biomedical applications of synthetic polymers in bones, joints, teeth, artificial organs, synthetic skin, contact lenses, time-release drug delivery and gene delivery. Alternate years.

CHEM 317 Synthetic Organic Chemistry 3.0; 3 cr.
A survey of new reagents and synthetic procedures used in advanced organic synthesis; oxidation and reduction reagents in organic synthesis; protecting groups; carbon- carbon bond formation; functional groups inter-conversions. Alternate years.

Chem 318 Organic Chemistry Spectroscopy 3.0; 3 cr.
The course covers modern and advanced spectroscopic techniques used for structure elucidation of organic molecules. Techniques include mass spectrometry, infrared, 1-D and 2-D NMR spectroscopy. Emphasis is on structure determination by systematic experiment planning, data acquisition and meticulous data analysis of combined techniques. The laboratory component serves as rigorous training in all covered spectroscopic techniques as explored in the structure elucidation of an organic unknown. This course is open to senior chemistry students in good standing (cumulative and chemistry average above 3.3).

CHEM 319 Organic Optoelectronics 3.0; 3 cr.
The course investigates optoelectronic devices at the molecular level. The design and function of these devices will be explained and analyzed based on literature examples at the molecular and bulk material levels. Emphasis will be on molecular switches, molecular motors, organic field-effect transistors, organic light-emitting diodes, organic solar cell, discotic liquid crystals, chemosensors, memories and logic gates.

CHEM 320 Nonlinear Dynamics and Pattern Formation 3.0; 3 cr.
Introduction to self-organization and pattern formation in science and engineering. The course will explore reaction-diffusion systems, hydrodynamical systems, bistable media, excitable and oscillatory media. It will introduce the appropriate mathematical techniques necessary to understand and describe the mathematical models for such phenomena such as linear stability, bifurcations, Ginzburg-Landau equations, Newell-Whitehead-Segel equation, multiple scales, square and hexagonal patterns, defects. Examples from interdisciplinary areas will be covered. Most of the concepts and examples will be illustrated with MATLAB-based codes. Alternate years.

CHEM 321 Quantum Chemistry 3.0; 3 cr.
Wave mechanics, solutions of time-independent Schrödinger equation, particle in a box, harmonic oscillator, angular momentum, H-atom, atomic orbitals, variational theorem, perturbation theory, polyelectronic atoms, Slater determinants, term symbols, Hückel MO theory, electronic wave functions, SCF and CI calculations. Alternate years.

CHEM 322 Statistical Mechanics 3.0; 3 cr.
This is a course on statistical mechanics that is divided into four parts of assorted topics. It starts from an overview of some basic concepts in thermodynamics and exposes the formal structure of equilibrium statistical mechanics with applications to ideal noninteracting and interacting systems. Then the course dwells on more advanced topics such as the liquid state, critical phenomena, Ising model and the renormalization group. In the third part, kinetic theory is presented through a thorough discussion of the Boltzmann equation and the derivations of the continuum equations. Transport processes are then discussed and transport coefficients are calculated. The theory of Brownian motion is also described as another approach to describe nonequilibrium processes. In the last section, Monte Carlo methods are applied to calculate various macroscopic properties for some lattice models. Alternate years.

CHEM 323 Chemical Kinetics 3.0; 3 cr.
Rate analysis, modern experimental techniques, theories of chemical kinetics, selected topics in gas phase and solution kinetics, characterization of transition states by ab- initio methods. Alternate years.

CHEM 324 Electrochemistry 3.0; 3 cr.
Fundamentals and applications of electrochemistry. Overview of electrode processes, potentials and thermodynamics of cells; kinetics of electrode reactions; Marcus microscopic theory for charge transfer; treatment of mass transfer by migration and diffusion; electrochemical techniques including potential step methods, potential sweep methods, and hydrodynamic methods; electrode reactions with coupled homogeneous chemical reactions; instrumentation. Alternate years.

CHEM 325 Molecular Spectroscopy 3.0; 3 cr.
Review of basic quantum mechanics; fundamental features of spectroscopy and experimental methods; atomic spectra; diatomic molecules; rotational spectroscopy; vibrational spectroscopy; electronic spectroscopy; polyatomic molecules; direct product representations and selection rules; re-emission of energy by excited molecules; fluorescence; fluorescence spectra; molecular beams and lasers. Alternate years.

CHEM 326 Nanomaterial Science: Theory and Applications 3.0; 3 cr.
This course covers the fundamentals of material properties at the nanoscale, preparation methods, characterization techniques, and applications stemming from their unique optical, electrical, and catalytic properties. Nanomaterials covered include quantum dots, plasmonic nanoparticles, nanowires, and photonic crystals. Nanomaterials in energy conversion, nanocatalysis, and medicine will be discussed with examples drawn from the recent primary literature. Prerequisites: Chem 201, in addition to consent of instructor for any graduate student with a BS other than in Chemistry, Physics, or BE in Engineering. Can be open to seniors with consent of instructor.

CHEM 327 Electrochemistry: Fundamentals and Applications in Sustainable Energy Systems 3.0; 3 cr.
This course introduces the fundamental principles and techniques of electrochemistry and its applications in renewable energy technologies. The course covers the fundamentals of electrochemical cells, electrochemical thermodynamics, and kinetics of electrode reactions, essential electrochemical methods, and the principles and processes of applications in energy conversion and storage, such as photoelectrochemical solar cells, photocatalysis, electrocatalysis, fuel cells, batteries, supercapacitors, and artificial photosynthesis. Credits cannot be given for both CHEM 227 and CHEM 327.

CHEM 328 Biophysical Chemistry 3.0; 3 cr.
Brief survey on biophysical methods, binding and protein-drug association by absorption spectroscopy, secondary structure determination of protein and nucleic acids by circular dichroism spectroscopy, interaction of biomolecules by fluorescence quenching method, membrane polarity, protein-membrane interaction, distance measurement by FRET, estimation of rotational diffusion by fluorescence anisotropy, characterization of biomolecules by IR and Raman spectroscopy, structure of biomolecules by 2D-NMR, probing bio-molecular interaction by ESR, optical microscopy and cell imaging, single molecule studies and estimation of torque during chemo-mechanical coupling in molecular motors, measuring diffusion and sedimentation coefficients by sedimentation and ultracentrifugation, DLS, relation of partition coefficient to the properties of macromolecules in size exclusion chromatography, electrophoresis, protein crystallization and X-ray crystallography, protein folding and unfolding, Calorimetry, ligand interaction and energetics. Alternative years.

CHEM 329 Introduction to Nanoscience with Applications 3.0; 3 cr.
This course is intended to introduce science and engineering students to the emerging fields of nanoscience and nanotechnology. It aims at introducing the necessary and basic concepts as well as the experimental tools and techniques that are needed to understand structure and phenomena at the nanoscale. It then exposes the students to various applications in materials science, electronic devices, and nanobiology. Alternate years.

CHEM 331 Chemical Instrumentation for Environmental Analysis 3.0; 3 cr.
Qualitative and quantitative analytical methods; ultraviolet (UV) and infrared (IR) spectroscopy; atomic absorption (AA) and emission spectroscopy; introduction to chromatographic separations. Designed for the master's degree programs in environmental sciences. Annually.

CHEM 332 Chemical Separations in Environmental Analysis 3.0; 3 cr.
Fundamentals of analytical separations; distribution methods in discrete stages; methods in continuous stages; chromatographic methods: GC, HPLC, SFC; non- chromatographic methods: electrophoresis, field-flow fractionation, size exclusion; recent innovations. Designed for the master's degree programs in environmental sciences. Annually.

CHEM 333 Water and Soil Depollution 3.0; 3 cr.
This course is designed for chemistry, engineering and life science students interested in water and soil depollution. It covers the basic of physical and chemical techniques used for the degradation of classical as well as emergent water contaminants. Emphasis will be done on advanced oxidation processes (AOPs) and their application to hospital, industrial and agroindustrial effluents, underground water, and contaminated soils. AOPs include photo-induced processes, UV/Photolysis of H2O2, UV/O3 process, Vacuum/UV photolysis, ozonation, Fenton processes, sensitized AOPs, ultrasound processes (homogeneous and heterogeneous) and persulfate oxidation (thermal, solar, and chemical activation). AOPs are useful for in-situ chemical oxidation (ISCO) and in-situ thermal remediation (ISTR). This course will also cover spectroscopic and spectrometric approaches to monitor trace levels of water micro-contaminants and their metabolites and transformation products upon treatment. This course requires prior knowledge in chemistry, instrumental analysis and environmental science and engineering. Annually.

CHEM 334 Atmospheric Chemistry 3.0; 3 cr.
This course is designed for engineering and life sciences students interested in the chemical processes in the atmosphere. The course addresses the basics of chemistry of the stratosphere, including ozone loss; and the chemistry of the troposphere, including formation of ozone by homogeneous gas phase reactions. It explains the fundamentals of atmospheric chemistry (photochemistry, spectroscopy, kinetics, and rates of reactions of gas phase chemistry) and their relation to the modern understanding of climate change, air quality, and ozone depletion. The course also looks at the chemistry of inorganic and organic compounds as well as the physical and chemical properties of primary and secondary particles. The course describes the analytical methods used for the measurements of ambient gas and particle concentrations and gives the chance for the students to present one of the current topics related to atmospheric chemistry. The course prerequisites are undergraduate physics, chemistry, calculus (especially differential equations), probability and statistics, and physical chemistry (especially kinetic theory).

CHEM 335 Biosensors: Fundamentals, Design, and Applications 3.0; 3 cr.
This course is designed for students studying in the field of life sciences, medicine, and engineering interested in learning the fundamentals of bio-sensing techniques. The course covers sensing systems that are mainly based on optical and electrochemical methods. It will introduce students to fundamentals in optical spectroscopy applied to sensing (Absorbance, FRET, Fluorescent enhancement, Fluorescent quenching Anisotropy, Metal Enhancement Fluorescence, Surface Plasmon Resonance…) and electrochemical detection techniques based on Cyclic voltammetry, Amperometry, and Potentiometry. Strategies to construct biosensors will be covered in details. Topics will emphasize recent applications in the field of immunoassays and sensors applied to DNA, bacteria, cell and pesticides detection, and food analysis. By the end of this course, graduate students will gain the ability to understand the functionality of biosensors and will be able to deliberately design new sensors.

CHEM 336 Renewable Energy 3.0; 3 cr.
This course is designed to introduce students of different backgrounds to the latest innovations in renewable energy research. The students will learn through a series of interactive and modern techniques the fundamentals and hurdles of Hydrogen fuel cells, Water splitting, CO2 reduction, Solar cells, Thermoelectric devices, Microbial fuel cell, Biofuel, and recent technologies in energy storage. The course also touches on the international climate change policies.

CHEM 351 Special Topics 3 cr.
May be repeated for credit with consent of the department.

CHEM 361 Tutorial 3 cr.
A tutorial that should be taken during a student's second or third term of graduate studies, but not during a summer term. Students taking CHEM 361 are required to submit written reports to their advisers and to present a seminar to the students and faculty of the department. CHEM 361 is required of all graduate students in the department.

CHEM 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

CHEM 399 Thesis 9 cr.
Thesis.

Department of Computer Science

Chairperson	Safa, Haidar H.
Professors	Abu Salem, Fatima K.; El-Hajj, Wassim; Safa, Haidar H.
Associate Professors	Elbassuoni, Shady; Khabbaz, Maurice
Assistant Professors	Assaf, Rida; El Hajj, Izzat; Harkous, Hassanein; Mardanbegi, Diako; Mouawad, Amer
Senior Lecturer	Jureidini, Wadi' N.
Lecturers	Kobeissi, Mohamed A.; Raheel, Saeed
Instructors	Aoude, Loa ; Fatairi, Nour ; Khalil, Alabbass

The Department of Computer Science offers a program leading to the degree of master of science (MS) in computer science. For more information about the department,
visit https://website.aub.edu.lb/fas/cs/Pages/index.aspx.

Mission Statement

The Department of Computer Science at the American University of Beirut prepares students for advanced studies and professional careers in the dynamically changing world of computing and information technology. Our programs combine the theoretical foundations of computing with the practical knowledge of software development vital to industry, to provide broad and integrated curriculums.

The department offers a bachelor of science (BS) degree in computer science, designed to be completed typically in three years. It also offers a master of science (MS) program designed to provide advanced and specialized education in computing, offered in formats that meet the needs of both working professionals and full-time students.

The department has vigorous research programs in theoretical computer science networking and security, machine learning and data science, high-performance computing, data mining and information retrieval, and software engineering. Our faculty members are committed to contributing to the advancement of the field of computing through scholarly activities, in which our students play a vital role.

MS in Computer Science

In addition to the university requirements for graduate study in the Faculty of Arts and Sciences, students must complete: (1) 21 credits and a thesis (thesis option), (2) 27 credits and a project (project option), or (3) 30 credits of course work (course-based option). For all options, students must take 3 credits from each of the following 3 categories (9 credits in total): theory, systems, and applications. The remaining credits (12 for the thesis option, 18 for the project option, and 21 for the course-based option) are normally CMPS courses numbered 300 and above to be taken in coordination with the student's adviser. For more information about the program, visit https://website.aub.edu.lb/fas/cs/Pages/index.aspx.

Course Descriptions

Introductory Courses

CMPS 301 Programming and Computational Thinking 3.0; 3 cr.
This course provides students with a brief introduction to many topics in computer science and prepares them to teach programming and computational thinking in schools. The class will use the Python programming language.

CMPS 302 Computing Systems 3.0; 3 cr.
This is a computer science course that introduces students to computers and to their role in society. Topics covered include the principles of computer operations from both the hardware and software perspectives, basic networking concepts, web authoring concepts including HTML, cascading style sheets, and data manipulation using spreadsheets and databases.

CMPS 303 Gaming and Robotics 3.0; 3 cr.
The objective of this course is to use proven research-based best practices to improve the integration of science, technology, engineering, and mathematics to help students master rigorous, real-world learning experiences including gaming, robotics, and design technology.

Theory Courses

CMPS 314 Design and Analysis of Algorithms 3.0; 3 cr.
A course that studies advanced data structures and algorithms, with an emphasis on the design of algorithms. Topics include advanced graph and search algorithms, dynamic programming, amortized analysis, parallelism, greedy and approximate algorithms, string, and pattern matching, computational geometry, and an introduction to the class of NP-complete problems. This course was previously numbered CMPS 356. Annually.

CMPS 315 Complexity Theory 3.0; 3 cr.
Complexity theory studies the power and limitations of efficient computation. It addresses questions related to what can be computed when we bound resources such as time, memory, randomness, communication, and parallelism. These questions are generally widely open and many surprising connections exist between them. Topics include randomized algorithms, bounded-space algorithms, Savitch's Theorem, Immerman-Szelepcsényi's Theorem, the PCP Theorem and its connections to hardness of approximation, interactive proofs, and IP = PSPACE, hardness vs. randomness, hardness amplification, introduction to parameterized complexity, circuit complexity, and hardness within P. Prerequisite: graduate standing.

CMPS 316 Algorithmic Graph Theory 3.0; 3 cr.
Algorithmic graph theory is a central area that lies at the intersection of mathematics and computer science. At the heart of it are graphs, which are mathematical structures that are used to model relations between objects, together with algorithms used to manipulate these models. Algorithmic graph theory is used to model many types of relations and dynamics in physical, biological, and even social systems. This course helps students develop the mathematical underpinnings of the theory of graphs and graph algorithms by providing an introduction to an exciting area having applications in many fields including mathematics, computer science, engineering, physics, biology, economics, and many others. Prerequisite: graduate standing.

CMPS 317 Parameterized Complexity 3.0; 3 cr.
This course is designed to provide students with an understanding of the principles and techniques used in the design and analysis of parameterized/kernelization algorithms. Topics include kernelization, bounded search trees, iterative compression, randomization, and graph minors. The course is primarily theoretical and does not require programming, but it does require understanding of the notion of a mathematical proof, knowledge of discrete mathematics and graphs, and mathematical problem-solving skills. We shall discuss and analyze a variety of algorithms chosen for their importance and their illustration of fundamental concepts. If time permits, we shall also spend some time exploring the boundary between feasible computations and infeasible computations beyond P vs NP (e.g., W-hardness, ETH, and SETH). Prerequisite: graduate standing.

Systems Courses

CMPS 323 Parallel Computing 3.0; 3 cr.
A course that discusses the design, analysis, and implementation of algorithms for parallel computers. Topics include selection, merging, sorting, searching, matrix computations, numerical problems, and fast Fourier transforms. Students develop skills in designing parallel algorithms and analyzing their asymptotic running time and memory requirements, and develop medium-sized parallel codes using modern languages and libraries. This course was previously numbered CMPS 373. Annually.

CMPS 324 GPU Computing 3.0; 3 cr.
This course covers parallel computing in the context of processors with many computational cores, with particular emphasis on data parallelism and general purpose GPU programming. The course introduces the CUDA programming model as well as the GPU architecture and memory organization. The course then covers how to map algorithms to parallel hardware and common optimizations for parallel code using numerous parallel patterns and applications case studies, such as: vector addition, matrix multiplication, convolution, stencil computation, histogram, reduction, prefix-sum, ordered merge, sorting, sparse matrix computation, graph traversal, and others. The course also covers a selection of advanced parallel programming practices. Same as CMPS 224. Graduate students may be required to do extra reading, a term paper, and/or an additional project. This course is equivalent to EECE 696.

CMPS 332 Compiler Construction 3.0; 3 cr.
This course covers the design and implementation of optimizing compilers starting from source code representation down to machine code. Topics include intermediate representations, linkage and storage conventions, intermediate code generation for imperative and object-oriented languages with polymorphism, global dataflow analysis and the iterative dataflow algorithm, local and global optimizations, backend code generation, and register allocation. Graduate students may be required to do extra reading, a term paper, and/or an additional project. Same as CMPS 232. This course was previously numbered CMPS 374. Annually.

CMPS 342 Advanced Computer Networks 3.0; 3 cr.
This course enhances students' knowledge about up-to-date networking topics and improves their research skills in the field. It reviews the major protocols of TCP/IP stack then introduces modern Internet routing, IP multicasting, quality of service, Internet telephony, IPv6, MPLS, etc. The course also covers the architectures of wireless local area networks (IEEE 802.11), mobile IP networks, Mobile Ad hoc Networks (MANETS), GSM and its evolution to UMTS then LTE, Internet of Things and Wireless Sensor Networks. Although the course is a lecture-based course, discussions are always encouraged. To prepare you to conduct independent research, the course contains a term research project in which students working in small groups select a related research topic to survey, identify existing problems, and try to propose solutions. This course was previously numbered CMPS 384. This course is equivalent to EECE 651. Annually.

CMPS 345 Distributed Systems 3.0; 3 cr.
A distributed system consists of a set of nodes located at networked computers and communicates only by passing messages. This course provides techniques to abstract, design and implement efficient, scalable, and fault-tolerant distributed systems. Topics include, but are not limited to, inter-process communication, distributed synchronization, and consensus (e.g., paxos, blockchain), fault-tolerance, distributed file systems (e.g., HDFS), and Hadoop ecosystem. This course was previously numbered CMPS 375. Annually.

Applications Courses

CMPS 350 Discrete Models for Differential Equations 3.1; 3 cr.
A detailed study of methods and tools used in deriving discrete algebraic systems of equations for ordinary and partial differential equations: finite difference and finite element discretization procedures; generation and decomposition of sparse matrices, finite-precision arithmetic, ill-conditioning and pre-conditioning, Scalar, vector, and parallelized versions of the algorithms. The course includes tutorial "immersion" sessions in which students become acquainted with state-of-the-art scientific software tools on standard computational platforms. Prerequisites: Linear algebra and the equivalent of MATH/CMPS 251 (which can be taken concurrently) or upon consent of the instructor. Same as MATH 350. Occasionally.

CMPS 351 Optimization and Nonlinear Problems 3.1; 3 cr.
A study of practical methods for formulating and solving numerical optimization problems that arise in science, engineering, and business applications. Newton's method for nonlinear equations and unconstrained optimization. Simplex and interior-point methods for linear programming. Equality and inequality-constrained optimization. Sequential quadratic programming. Emphasis is on algorithmic description and analysis. The course includes an implementation component where students develop software and use state-of-the-art numerical libraries. This course can also be counted towards fulfilling the theory breadth requirement. Same as MATH 351. Annually.

CMPS 354 The Finite Element Method 3.0; 3 cr.
A course that presents the theoretical foundations of the finite element method and some of its applications to partial differential equations. Topics include Sobolev spaces, existence and uniqueness of weak solutions and the Lax-Milgram lemma, regularity of weak solutions and a priori estimates, the Galerkin method, piecewise polynomial approximations, approximating solutions of boundary value problems for elliptic equations, and initial value problems for parabolic and hyperbolic equations. Occasionally.

CMPS 355 Bioinformatics Algorithms 3.0; 3cr.
How do we find potentially harmful mutations in your genome? How can we reconstruct the evolutionary Tree of Life? How do we compare related genes from different species? These are just three of the major questions in modern biology that can only be answered using computational approaches. This course will explore a variety of fundamental topics in computational biology. It will delve into computational ideas used in biology as well as let students apply existing resources that are used in practice every day by bioinformatics professionals. The course offers an opportunity for students who possess a programming background to become more experienced coders in a biological setting.

CMPS 358 Introduction to Symbolic Computing 3.0; 3 cr.
Introductory topics in computer algebra and algorithmic number theory that include fast multiplication of polynomials and integers, fast fourier transforms, primality testing and integers factorization. Applications to cryptography and pseudo-random number generation. Linear algebra and polynomial factorization over finite fields. Applications to error-correcting codes. Introduction to Grobner bases. Same as MATH 358. Occasionally.

CMPS 359 Special Topics in Computational Science 3.0; 3 cr.
A course on selected topics in computational science, which change according to the interests of visiting faculty, instructors and students. Selected topics cover state-of-the-art tools and applications in computational science. Prerequisite: consent of instructor. Same as MATH 360. This course was previously numbered CMPS 360. Occasionally.

CMPS 364 Advanced Machine Learning 3.0; 3 cr.
This course focuses on Deep Learning and its applications. Deep Learning has revolutionized the field of Machine Learning and has turned Artificial Intelligence from a research endeavor into an actual reality. In this course, students will learn about the fundamentals of Deep learning, and how to build Deep Learning models for various real-world applications, particularly in Computer Vision and Natural Language Processing. This course was previously numbered CMPS 392. This course is equivalent to EECE 693. Annually.

CMPS 365 Information Retrieval and Web Search 3.0; 3 cr.
This course introduces graduate-level students to the basics of information retrieval, and the models and algorithms underlying modern search engines. Topics covered include: crawling; indexing; Boolean and vector space retrieval models; probabilistic information retrieval models; language models; top-k query processing; evaluation of information retrieval systems; relevance feedback; link analysis; latent semantic analysis; and information extraction. This course was previously numbered CMPS 391 Occasionally.

CMPS 371 Advanced Software Engineering 3.0; 3 cr.
A course on state-of-the-art software engineering for large distributed and concurrent systems. Fundamental principles and concepts for specifying, designing, analyzing, implementing, and testing such systems; Concurrent object-oriented paradigms; Design patterns; Use of tools; Documentation using both formal and informal descriptions. Students will develop at least one large software system as part of the course. This course was previously numbered CMPS 363. Annually.

CMPS 385 Advanced Computer Graphics 3.0; 3 cr.
A course that presents the basic concepts of 3D computer graphics. Topics include 3D object representations and manipulations, 3D transformation and viewing, hidden-surface and hidden-line removal, shading models, rendering, texture mapping, raytracing, and animation techniques. Occasionally.

CMPS 386 Computer-Aided Geometric Design 3.0; 3 cr.
Graduate students taking the course are assigned extra work in the form of outside reading, a term paper, and/or an additional project. Same as CMPS 286. Occasionally.

CMPS 388 Computer Animation 3.0; 3 cr.
A course that introduces the basic techniques and algorithms in computer animation. Topics include: history and applications of computer animation, modeling, interpolation, key framing, morphing, deformation, forward and inverse kinematics, particle systems and rigid body dynamics. Occasionally.

Special Courses

CMPS 395A Comprehensive Exam 0 cr.

CMPS 396 Special Topics in Computer Science 1 - 3 cr.
A course in which topics may vary each term and are expected to be in areas of active research. Students may register for this course twice (or more) on condition that course content differs. Prerequisite: graduate standing. Annually.

CMPS 397 Computer Science Tutorial 1 - 3 cr.
May not be repeated for a credit.

CMPS 398 Project 3 cr.
Project

CMPS 399 Thesis 9 cr.
Thesis

Department of Economics

Chairperson	Neaime, Simon E
Professor Emeritus	Makdisi, Samir
Professor	Neaime, Simon E.
Professor of Practice	Diwan, Ishac
Associate Professor	Salti, Nisreen I.
Assistant Professors	Abboud, Ali; Samad, Zeeshan; Tuncay, Muhammed Alparslan; Yamout, Nadine; Zalghout, Abdallah
Lecturers	Bou Nassar, Makram; Ramadan, Usamah H.
Full-time Instructor	Makki, Malak, Z.
Instructors	Abdallah, Leen; El Baba, Nora; El-Khalil, Iyad A.; Hamdan, Dana; Hijazi, Ryan; Jammoul, Mayssaa; Kanaan, Maya; Karam, Ramzi; Makki, Ghina; Mansour, Hasan; Nader, Pamela; Rbeiz, Sylvia; Sabra, Raja

The department offers two master's degree programs, which include a master of arts in economics and a master of arts in financial economics.

Candidates for both master's degrees should hold a BA in economics. For holders of other bachelor's degrees (or their equivalent), candidates should complete the following undergraduate courses or their equivalent: ECON 214, ECON 217, ECON 227, MATH 201 and MATH 202. Moreover, all applicants must submit an official GRE or GMAT score with the application.

MA in Economics

Students wishing to obtain a master of arts in economics (MAE) are required to complete at least 24 credits, all of which should be at the graduate level, including ECON 305, ECON 317 and ECON 327, plus a 6-credit thesis. Of the remaining 15 graduate credits, at least 9 credits should be chosen from the available graduate courses in the department, and up to 6 credits may be chosen from available graduate courses at the university with the adviser's approval. In case of deficiencies in the students' undergraduate records, the department may require additional credits. Students are also required to pass the comprehensive exam.

Faculty in the department have a wide range of research interests covering, among others, labor economics, theory-based and applied macroeconomics, financial economics, behavioral economics and economic methodology, public economics and the political economy of development.

ECON 301 Graduate Tutorial 3.0; 3 cr.
May not be repeated for credit. Occasionally.

ECON 303 Graduate Seminar 3.0; 3 cr. (each)
Occasionally.

ECON 305 Econometrics I 3.0; 3 cr.
Parameter estimation and hypothesis testing within the framework of the classical linear regression model. Subjects covered include general least squares and its applications (e.g. heteroskedasticity, autocorrelation, multivariate regression), GMM estimation, simultaneous equation models and panel data models. Annually.

ECON 306 Econometrics II 3.0; 3 cr.
Dynamic models, structural VARs (impulse response, variance decomposition), cointegration and error correction models, ARCH models, and forecasting methods. The course has a strong empirical component. Prerequisite: ECON 305. Annually.

ECON 307 Urban Economics 3.0; 3 cr.
A study of the development and growth of urban areas and analysis of specific urban issues such as pollution, housing, land use and public transportation. Occasionally.

ECON 317 Microeconomic Theory I 3.0; 3 cr.
Theory of demand and theory of consumer's choice: choice under uncertainty, theory of production and theory of costs, market equilibrium and market failure, externalities and the public good. Annually

ECON 318 Topics in Behavioral Economics 3.0; 3 cr.
An introduction to behavioral and experimental methods; description of evidence collected in the laboratory and in the field; a comparison of the assumptions and predictions of the benchmark neoclassical model to the more recent and complex behavioral models. One of the following three areas will be covered: behavioral finance, behavioral game theory, or experimental markets. Occasionally.

ECON 326 Public Economics 3.0; 3 cr.
A study of the theories of governmental taxation and spending, budgetary policies, and their effects on the level of economic activity, welfare effects of taxation and expenditure policies. Occasionally.

ECON 327 Macroeconomics 3.0; 3 cr.
A study of macroeconomic theory including the classical and New Keynesian macroeconomic models, theories of intertemporal consumption and saving, investment dynamics, business cycle analysis and economic growth, inflation and unemployment trade-offs, monetary and fiscal policy, and macroeconomic stabilization. Annually.

ECON 328 Monetary Economics 3.0; 3 cr.
This is an advanced course on monetary economics based on a general equilibrium approach. Topics include models of money demand such as money-in-the-utility function and cash-in-advance models, New Keynesian monetary economics, and public finance and inflation. Annually.

ECON 332 Political Economy of Development 3.0; 3 cr.
Studies the role of factors such as geography, historical path dependence, institutions, and culture in determining economic growth; introduces the basic tools of political economics; studies models of governance and mis-governance and the role of institutional failure; examines empirical issues in validating the effect of institutions and culture on economic outcomes. Occasionally.

ECON 333 Energy Economics and Policy 3.0; 3 cr.
A study of the theories related to energy economics, such as economics of natural and energy resources, and the interrelationship between energy, economics, and the environment, as well as some important issues in energy policy. Students cannot receive credit for both ECON 333 and MECH 674. Occasionally.

ECON 335 International Trade Theory 3.0; 3 cr.
An intensive examination of the theory of comparative advantage: the classical and Heckscher-Ohlin statements, trade and welfare, tariffs, recent contributions to trade theory. Occasionally.

ECON 336 International Monetary Economics 3.0; 3 cr.
An intensive examination of the theories of balance of payments adjustment, the international monetary system, and the position of the developing countries in it. Occasionally.

ECON 338 Economics of Natural Resources and the Environment 3.0; 3 cr.
An analysis of economic issues regarding the efficient use of natural resources and the management of environmental quality. Occasionally.

ECON 339 Mathematical Economics 3.0; 3 cr.
General equilibrium theory, linear programming and dynamic optimization, economic dynamics, difference and differential equations, and the economics of uncertainty and information. Prerequisites: ECON 239 and either MATH 218 or MATH 219. Occasionally.

ECON 390 Special Topics in Economics 3.0; 3 cr.
May be repeated for credit. Occasionally.

ECON 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

ECON 399 Thesis 6 cr.
Thesis

MA in Financial Economics

Students wishing to obtain a master of arts in financial economics (MAFE) are required to complete at least 27 credits, all of which should be at the graduate level, plus a 3-credit project. The coursework includes eight required courses (listed below) and one elective. In case of deficiencies in the students' undergraduate records, the department may require additional credits. Students are also required to pass the comprehensive exam.

The research interests of the faculty include macro-finance, industrial organization, international economics, applied econometrics, financial economics, financial econometrics, macroeconomics, monetary economics, energy economics, and time-series econometrics.

Financial Economics Courses

ECON 305 Econometrics I 3.0; 3 cr.
Parameter estimation and hypothesis testing within the framework of the classical linear regression model. Subjects covered include general least squares and its application (e.g. heteroskedasticity, autocorrelation, multivariate regression), GMM estimation, simultaneous equation models and panel data models. Annually.

ECON 317 Price Theory I 3.0; 3 cr.
Theory of demand and theory of consumer's choice: choice under uncertainty, theory of production and theory of costs, market equilibrium and market failure, externalities and the public good. Annually.

ECON 327 Macroeconomics 3.0; 3 cr.
A study of macroeconomic theory including the classical and New Keynesian macroeconomic models, theories of intertemporal consumption and saving, investment dynamics, business cycle analysis and economic growth, inflation and unemployment trade-offs, monetary and fiscal policy, and macroeconomic stabilization. Annually.

ECON 328 Monetary Economics 3.0; 3 cr.
This is an advanced course on monetary economics based on a general equilibrium approach. Topics include models of money demand such as money-in-the-utility function and cash-in-advance models, New Keynesian monetary economics, and public finance and inflation. Annually.

ECON 340 Asset Pricing I 3.0; 3 cr.
A primer in asset pricing emphasizing the underlying economic theory and recent empirical results; surveys the major asset pricing theories, tools, and results and portfolio choice. The course presents a general framework for pricing (financial) assets, and the economic foundations for how individual preferences impact these prices. The course also covers the role of financial markets in sharing risk in the economy and presents recent empirical evidence on the determinants of asset returns. Topics include pricing of stocks and bonds, portfolio theory, and the operation and efficiency of financial markets. Occasionally.

ECON 341 Corporate Finance I 3.0; 3 cr.
This course provides strong foundations in the principles of corporate finance. Theoretical and empirical models dealing with economic aspects of corporate finance and the financial decisions of firms are examined. Topics covered include debt and equity financing, the bankruptcy process, the costs of financial distress, and firm financing constraints and business cycles. Occasionally.

ECON 342 Asset Pricing II: Options and Derivatives Instruments 3.0; 3 cr.
An analysis of basic derivative contracts such as forwards, futures, options, and swaps; contract characteristics, payoffs from various strategies, as well as hedging arbitrage; and speculation activities using derivatives are analyzed. Annually.

ECON 395A Comprehensive Exam 6 cr.
Prerequisite: consent of adviser.

Electives (one course: 3 credits)

One elective course is chosen from the following list in consultation with the faculty adviser. Other electives may alternatively be chosen from available graduate courses at the university with the adviser's approval.

ECON 336 International Monetary Economics 3.0; 3 cr.
An intensive examination of the theories of balance of payments adjustment, the international monetary system, and the position of the developing countries in it. Occasionally.

ECON 344 Financial Markets and Institutions 3.0; 3 cr.
An analysis of the institutional features of the international financial markets, instruments and application of financial economic theory, and analytical tools to achieve effective and efficient risk management in international environments. Occasionally.

ECON 345 International and Arab Emerging Financial Markets 3.0; 3 cr.
Case studies and exercises of portfolio selection and management in selected Middle Eastern countries. Occasionally.

ECON 346 Advanced Futures and Options 3.0; 3 cr.
An analysis of pricing in continuous-time of contingent claims securities and a broad category of derivative instruments and investment strategies. Prerequisite: ECON 342. Occasionally.

ECON 347 Economic Forecasting 3.0; 3 cr.
A course that provides training in methods of forecasting used in commercial enterprises. This course also introduces the methods of macroeconomic forecasting. Occasionally.

ECON 348 Advanced Monetary Economics 3.0; 3 cr.
An examination of recent monetary economic developments intended to equip students with the technical details and workings of monetary economic models. Prerequisite: ECON 328. Occasionally.

ECON 355 Corporate Finance II 3.0; 3 cr.
This course selects topics in corporate finance. The financial landscape is rapidly evolving in the wake of the global financial crisis. Many of the themes of Corporate Finance II have special relevance today: the pros and cons of debt financing, the bankruptcy process, the costs of bankruptcy, and the role of private equity. Examining these issues will provide a holistic view of finance, capital markets, and the role of financial intermediaries.

ECON 356 Special Topics in Financial Economics 3.0; 3 cr.
May be repeated for credit. Occasionally.

ECON 357 Special Topics in Monetary Economics 3.0; 3 cr.
May be repeated for credit. Occasionally.

ECON 398 Project 3 cr.
Project.

Transfers Between the Two Programs

Students wishing to transfer from one program to another can do so after obtaining departmental approval and can be given credit for courses already passed that fall within the requirements of the other program.

Transfers between the two programs are permitted subject to the following:

Students enrolled in the MAE program who wish to transfer to the MAFE program are given credit for ECON 305, ECON 317, ECON 327 and ECON 328 if completed prior to the transfer. The four courses are required under the MAFE program.

Credit may be given for two other graduate courses completed under the MAE program.

With the above courses completed, this leaves 15 credits of additional required coursework (plus the project) to be completed to graduate with an MAFE. Any incomplete courses among the above-mentioned need to be completed. The remaining elective course(s) are chosen in consultation with the student adviser.

Students enrolled in the MAFE program who wish to transfer to the MAE program must complete ECON 317, ECON 327 and ECON 305. If completed prior to the transfer, these classes constitute part of the course requirements towards the MAE. With the completion of these three courses, the transferring students need to complete an additional 15 credits of coursework, plus the thesis.

Department of Earth Sciences

Chairperson	Doummar, Joanna J.
Professor	Abdel-Rahman, Abdel-Fattah M.
Associate Professors	Doummar, Joanna J.; Salah, Mohamed K.
Assistant Professors	Haidar, Ali T; Nemer, Tony.
Instructor	Khadra, Wisam M.

MS in Geology

Candidates pursuing the master of science program in geology must complete seven graduate courses (21 cr.) and a thesis (9 cr.). Students may select courses from the graduate courses offered in the department and a maximum of 9 credits of electives can be from outside the department according to their fields of interest.

Course Descriptions

GEOL 303 Geochemistry 3.0; 3 cr.
An application of chemical concepts to the evolution of the Earth, particularly its weathering, magmatic and metamorphic cycles, and the distribution of elements; cosmochemistry, crystal chemistry and aqueous geo-chemistry. Prerequisite: GEOL 216.

GEOL 304 Geophysics I 3.0; 3 cr.
An introduction to seismic, gravitational and magnetic methods and their interpretation procedures and applications in the exploration of petroleum and other natural resources.

GEOL 305 Geophysics II 3.0; 3 cr.
A course on electrical, radiometric, and thermal geophysical methods, in addition to well logging for general geophysical applications and their methods of interpretation. Pre/corequisites: GEOL 221 and GEOL 223.

GEOL 306 Economic Minerals Geology 3.0; 3 cr.
A course on the occurrence and classification of mineral ore deposits and theories of their formation; ore forming processes and ore deposit models; advanced techniques to evaluate ore genesis; and mineral exploration techniques. Prerequisite: GEOL 216.

GEOL 307 Advanced Petroleum Geology 3.0; 3 cr.
A course that covers the origin, migration, and accumulation of petroleum; applications of surface and subsurface geological and geophysical exploration methods, production, and development processes; and Middle East hydrocarbon exploration and development.

GEOL 308 Alternate Energy Sources 3.0; 3 cr.
A course on energy and energy use, including a detailed treatment of non-fossil fuel energy options including nuclear, biomass, hydro, wind, solar and geothermal methods, with practical applications.

GEOL 310 Global Tectonics 3.0; 3 cr.
A course on large-scale processes of rock deformation within the Earth, the theory of plate tectonics, and the origins and modes of deformation of major tectonic features. These include ocean ridges and continental rifts, transform and transcurrent faults, subduction zones and mountain ranges. Prerequisite: GEOL 213.

GEOL 313 Photogeology 2.2; 3 cr.
A course on the principles of air photo interpretation and remote sensing; the construction of planimetric geological maps, profiles and mosaics from vertical photographs using pocket and mirror stereoscopes, and an introduction to the analysis of satellite imagery.

GEOL 317 Micropaleontology 2.2; 3 cr.
An introduction to the study of the main groups of microfossils, with emphasis on the foraminifera, and their application and techniques in preparation for examination.

GEOL 318 Hydrogeology 3.0; 3 cr.
A course on the fundamentals of hydrogeology; groundwater occurrence, movement, development, and management; pumping tests; and groundwater chemistry, quality and contamination.

GEOL 319 Geostatistics 2.2; 3 cr.
This course deals with the study and application of different statistical techniques of interest to the geological sciences. Topics to be covered include analysis of sequences of data, map analysis and analysis of multivariate data. Prerequisite: GEOL 213 or consent of instructor.

GEOL 320 Graduate Seminar 3.0; 3 cr.
Seminar given by the department. Graduate students attending the course are required to cover a particular theme on one of the various aspects of the geology of the Middle East, such as earthquakes, tectonism and stratigraphy of the region, magmatism in the Nubian shield.

GEOL 321 Diagenesis I: Advanced Petrography of Sedimentary Rocks 3.0; 3 cr.
A course that covers some advanced petrographic techniques used in the study of sedimentary rocks (e.g., conventional and cathodoluminescence microscopy, scanning electron microscopy), major diagenetic processes and the resultant products in sedimentary environments. Prerequisites: GEOL 216 and GEOL 223; or consent of instructor. Biannually.

GEOL 322 Diagenesis II: Advanced Techniques in Geochemistry of Sedimentary Rocks 3.0; 3 cr.
A course on the various geochemical methods (e.g., trace elements, stable isotopes, radiogenic isotopes, fluid inclusions and micro-thermometry) commonly used in the study of diagenesis of both carbonate and clastic reservoirs. Prerequisites: GEOL 216 and GEOL 223; or consent of instructor. Biannually.

GEOL 323 Geological Oceanography 3.0; 3 cr.
A general introduction to climatic and oceanographic interactions, characteristics of oceans, and a detailed analysis of near shore and coastal environments.

GEOL 324 Engineering Geology I 2.2; 3 cr.
A course on engineering geology and earth materials that focuses on the interaction between engineering and geology in relation to the geotechnical properties of soil and rock mechanics and site investigations.

GEOL 325 Engineering Geology II 3.0; 3 cr.
A course on environmental and applied engineering geology that deals with environmental planning, natural disasters, and terrain evaluation, with special applications to mass movements, geology of man-made structures and the urban environment.

GEOL 330 Selected Topics in Advanced Geology 3 cr.
May be repeated for credit.

GEOL 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

GEOL 399 MS Thesis 9 cr.

Department of Education

Chairperson	Karami-Akkary, Rima R.
Professors	Al-Hroub, Anies M.; BouJaoude, Saouma B.; Ghaith, Ghazi M.; Khamis, Vivian E.; Khishfe, Rola F.
Professors Emeritus	Bashshur, Munir
Associate Professors	Amin, Tamer G.; Baytiyeh, Hoda M.; El Hassan, Karma; ElMouhayar, Rabih R.; Karami-Akkary, Rima R.
Assistant Professor	Khalil, Lina
Lecturers	BouZeineddine, Amal R.; El Khatib, Lara; Hout, Hanin; Karameh, Jinan; Misk, Zeina; Mouawad, Rim; Osman, Enja; Shihab, Mahmoud; Shukri Balaa, Rola
Instructors	El Ghazi, Rana; Fayed, Rayan; Jouni, Nidal; Zein, Yassine

The Department of Education offers programs at both the undergraduate and graduate levels. The undergraduate level program leads to a bachelor of arts degree. The post-BA diploma program leads to a teaching diploma, diploma in special education, or diploma in educational management and leadership. The graduate program offers in-person MA programs that lead to a master of arts degree in education; and online programs that lead to an online graduate diploma in online education; and an online MA in computing in education.

MA in Education (In person)

The MA in education aims to prepare students for further graduate study as well as to improve their professional practice. The program addresses the needs and interests of beginning and experienced teachers and other interested persons whose objective is to advance their knowledge of educational practice in schools. The MA program also prepares students for admission to doctoral study in a variety of related fields, such as educational psychology, research methodology, administrative and policy studies, and instruction and learning of subject matter in a variety of content areas.

The MA program comprises the following areas of concentration:

- Educational Foundations and Policy Studies (not offered at present)
- Educational Psychology (Tests and Measurement or School Guidance and Counseling)
- Educational Administration and Policy Studies
- Elementary Education
- Mathematics Education
- Science Education
- Teaching of English as a Foreign Language (TEFL)

Prerequisites

Students may pursue their studies towards the MA in education in any one of the areas of concentration above provided they meet the department and university requirements for admission to graduate work. The department prerequisites include a teaching diploma or equivalent professional certification. For educational administration and policy studies, a minimum of one year of relevant professional experience is required. However, and at the discretion of the department, students may be exempt from all or part of the teaching diploma requirements based on professional experience and/or previously completed graduate coursework. In case of deficiencies in undergraduate preparation, a student may be required to complete other prerequisite courses, such as courses in the relevant subject matter before full admission to the program. For university admission requirements for all graduate students, refer to the Office of Admissions section in this catalogue.

Requirements

The program includes a minimum of 21 credits and a thesis. A non-thesis option, which includes a minimum of 27 credits of course-work plus a 3-credit project, is also available. All MA candidates are required to complete the following two courses as a core program: EDUC 315; EDUC 321; and two graduate education electives or graduate courses relevant to the area of specialization as approved by the academic advisers. The balance of the program comprises primarily specialized courses related to the student's chosen area of concentration.

Course Descriptions

EDUC 301 Seminar in the History and Philosophy of Education 3.0; 3 cr.
A course on the development of educational thought and practice through primary sources. Systems of educational theory are examined from the age of Pericles to post-World War II, with special emphasis on contemporary educational practice. Annually.

EDUC 302 Seminar in the History and Philosophy of Arab Education 3.0; 3 cr.
A study of the development of Arab educational thought and practice through primary sources. Selected problems and representative thinkers from various periods are examined, beginning with Islam, and ending in the early twentieth century. Alternate years.

EDUC 303 Determinants of Educational Policy 3.0; 3 cr.
An examination of forces underlying policy making in education based on a theoretical and case study approach; developing scenarios for improvements. Annually.

EDUC 305 Foundations of Science Education 3.0; 3 cr.
A study of the nature of science and its philosophical and sociological foundations with an emphasis on educational implications; psychological bases of concept-learning in science and the contributions of research to science education. Alternate years.

EDUC 306 Recent Developments in Science Education 3.0; 3 cr.
A study of recent developments in science curricula, methods of teaching, utilization of facilities, evaluation, and teacher education and supervision. Alternate years.

EDUC 307 Seminar: Problems and Innovations in Elementary Education 3.0; 3 cr.
A review and analysis of contemporary problems, innovations and trends in elementary education, organizational structures, teaching competencies, classroom logistics, student discipline and instructional improvement strategies. Alternate years.

EDUC 308 Educational Planning and Policy Studies 3.0; 3 cr.
Planning models at the micro level and applications in various countries; policy formulation, change and implementation issues as they relate to educational institutions and public and private educational systems. Annually.

EDUC 309 Foundations of Mathematics Education 3.0; 3 cr.
A study of the nature of mathematics and its philosophical, historical, and sociological foundations, with emphasis on educational implications; psychological bases of concept learning in mathematics and the contributions of research in mathematics teaching. Alternate years.

EDUC 310 Recent Developments in Mathematics Education 3.0; 3 cr.
A study of recent developments in mathematics curricula, methods of teaching, utilization of instructional media, evaluation techniques, and teacher education and supervision. This course includes tryouts of some of these innovations in actual school situations. Alternate years.

EDUC 311 Seminar in Supervision of Instruction 3.0; 3 cr.
A seminar on the role of the supervisors as they work with teachers to improve instruction, and an examination of theoretical and practical aspects with special attention given to research in the field. Annually.

EDUC 313 Management and Organization Theories in Education 3.0; 3 cr.
An advanced theoretical study focusing on concepts of leadership, decision-making, group dynamics, and organizational behavior and change, with particular emphasis on research in the field. Annually.

EDUC 314 Comparative Education 3.0; 3 cr.
A study of theory and methods of comparative education, with an examination of schooling in a number of leading Western educational systems. This study concerns itself with historical, social, political, and economic forces influencing and underlying these systems. Alternate years.

EDUC 315 Psychology of Education (Advanced) 3.0; 3 cr.
A comprehensive analysis of instructional theory, measurement skills, cognitive development, learning theory and methods of applying behavior modification in the classroom. Annually.

EDUC 316 Comparative Study of Education in Arab Countries 3.0; 3 cr.
A study of Arab educational systems, with a focus on their major problems in light of changing situations. Annually.

EDUC 317 Theory and Methods of Testing 3.0; 3 cr.
A study of theory and practice of test construction and use. The goal of this course is to build a broad background of information and skill for the proper evaluation of psychological tests and the correct interpretation and use of test results. A wide variety of tests are examined, with emphasis on major tests of intelligence and aptitude, achievement, and personality. Alternate years.

EDUC 318 Test Construction in Education 3.0; 3 cr.
Development of testing techniques and skills for appraisal of the cognitive and affective objectives of instruction. Alternate years.

EDUC 319 Issues, Trends, and Applications in Measurement 3.0; 3 cr.
The course provides an overview of issues, both methodological and conceptual, in the field of measurement and evaluation, and current perspectives and future directions in both test theory and practice. It includes a practicum that focuses on developing students' skills in standardized test administrations, test scoring and score reporting. Alternate years.

EDUC 321 General Research Methodology in Education 3.0; 3 cr.
A course that aims at the development of a scientific orientation in the solution of educational problems. This course develops students' skills in identifying and developing research problems dealing with a variety of research designs. Basic statistical concepts are included. Annually.

EDUC 322 Applied Behavior Analysis 3.0; 3 cr.
An analysis of respondent, instrumental and social learning theory as well as the application of experimentally derived principles of learning to problems of educational and social significance. Annually.

EDUC 324 Principles and Practices of Teaching Reading and Literature 3.0; 3 cr.
Models of the reading process, research and pedagogical implications, and issues of comprehension and appreciation of literature. Annually.

EDUC 325 Principles and Practices of Teaching Writing and Composition 3.0; 3 cr.
A consideration of various current approaches to teaching writing and the relationship of language, logic, rhetoric and culture. Annually.

EDUC 326 Theory and Design of Curriculum 3.0; 3 cr.
An examination of the organization, scope and sequence of curricula, with special emphasis on various approaches to curriculum development. Annually.

EDUC 328 Seminar in TEFL 3.0; 3 cr.
A seminar on selected topics in linguistics, psychology, or instructional aids and technology, and the application to classroom problems of teaching and evaluation. Annually.

EDUC 329 Seminar in Education and Social Change 3.0; 3 cr.
A seminar on the different theories of social change, followed by an examination of the school system and the teacher as an agent of social change. Annually.

EDUC 330 Theories in Guidance and Counseling 3.0; 3 cr.
A survey of various theories and approaches to the study and practice of guidance and counseling. Annually.

EDUC 331 Field Experience in Guidance and Counseling 1.4; 3 cr.
Supervised experience in counseling in the school setting; observing, interviewing, and testing as needed for educational and vocational objectives to meet pupil needs. Prerequisite: EDUC 330 or EDUC 322. Annually.

EDUC 332 Seminar in Educational Planning for Social and Economic Development 3.0; 3 cr.
Theory and practice of educational planning for social and economic development; techniques of assessing manpower needs and translating these into educational strategies and plans. Alternate years.

EDUC 333 Professional Development in Education 2.2; 3 cr.
Survey of major models of professional development used primarily in schools and other educational settings. Students gain experience in designing, conducting and evaluating professional development for education practitioners. Includes a field-based experience and should be taken late in the program. Alternate years.

EDUC 334 Qualitative Research Methods in Education 3.0; 3 cr.
Aims primarily at developing students' skills in conducting cyclic, participative, qualitative, and reflective research, with an emphasis on data collection and analysis methods. Alternate years.

EDUC 335 Curricula and Methodologies in Elementary Education Language Arts 3.0; 3 cr.
Recent research, curricular and methodological developments in elementary language arts education. Alternate years.

EDUC 336 Curricula and Methodologies in Elementary Education: Science and Math 3.0; 3 cr.
Recent research as well as curricular and methodological developments in elementary science and mathematics education. Alternate years.

EDUC 380 Graduate Tutorial in Education 3.0; 3 cr.
A course offered to students on an individual basis. The topic can include any aspect of educational studies which may vary from term to term. May not be repeated for credit. Occasionally.

EDUC 390 Special Topics 3.0; 1-3 cr.
A course that deals with special issues and concerns that are not included in regular courses. Topics offered during the last few years include the economics of education in Lebanon.

EDUC 395A Comprehensive Exam 0 cr.

EDUC 398 Project 3 cr.
Project.

EDUC 399 Thesis 9 cr.
Thesis.

Graduate Diploma in Online Education (Online)

The graduate diploma in online education is a unique program that delivers world-class AUB education in an online asynchronous format providing students with the flexibility to learn the foundations of online teaching and instructional design at their own pace. It is designed for working educators and aspiring instructional designers in the MENA region who want to learn how to design and develop active, collaborative, and engaging learning experiences catered to this digital age, while using the latest tools, techniques, and technologies.

As the first program of its kind in the region, the graduate diploma in online education delivers an innovative learning experience that will accelerate students' career growth and offer them a competitive edge in several high-demand fields by preparing them for roles in education, business, as well as non-profit and governmental organizations.

Candidates from all backgrounds are encouraged to apply as no previous experience is required for this diploma.

Admission Requirements

This program is open to students from all backgrounds. Since this is a graduate diploma, applicants must possess a bachelor's degree in any field of study. The admission requirements are the same as the Faculty of Arts and Sciences' requirements for a master's degree admission:

- An undergraduate GPA of at 3.3 (or standardized equivalent) in the major field of study and a cumulative GPA of at least 3.0 (or standardized equivalent) for all work done at the undergraduate level.
- Applicants other than AUB graduates and graduates of recognized colleges or universities in North America, Great Britain, Australia, and New Zealand, must demonstrate proficiency in the English language through standardized tests.

Program Requirements

The graduate diploma in online education follows an online asynchronous format delivered through a set of engaging self-paced modules within a structured learning path to provide students with the flexibility of balancing their learning experience with their busy schedules. Pre-scheduled live office hours allow students to interact with professors and peers in real-time.

This 12-credit diploma is composed of four courses. Participants may join this program during either the fall or the spring term and can complete the diploma over one year (i.e., two academic terms).

Course Descriptions

EDUC 371 Digital Citizenship 3.0; 3 cr.
This course introduces the ethics of technology related to responsible behavior when accessing, managing, exchanging, and disseminating information electronically. Topics covered include fair information practices as well as various ethical, legal, privacy, and security issues across disciplines.

EDUC 372 Foundations in Distance Education 3.0; 3 cr.
This course provides participants with the academic and practical fundamentals of online learning. It focuses on distance education in formal and informal settings, particularly for students in K-12 settings and adult learners in higher education.

EDUC 373 Instructional Design and Development 3.0; 3 cr.
This course introduces the basic principles, tools, and techniques required for instructional design and development while focusing on strategies at the curricular and classroom levels.

EDUC 374 Technology and Information Systems for Teachers and Administrators 3.0; 3 cr.
This course explores the use of technology and information systems in schools at the administrative level, addressing how different information systems' tools and applications are used in the educational environment for decision-making, planning, and communication.

Additional Relevant Information

Graduates of this program may have all 12 diploma credits transferred towards the MA in computing in education.

MA in Computing in Education (Online)

The MA in computing in education is an exclusive program that delivers world-class AUB education in an online asynchronous format, providing students with the flexibility to learn at their own pace. It is tailored for aspiring instructional designers in the MENA region interested in building a strong foundation in the field of educational technology.

This MA is an interdisciplinary degree bringing together education and computer science to produce graduates who will act as key players in innovating teaching and learning practices and advancing core computer science curricula in schools.

As the first program of its kind in the region, this MA will train students to become highly-skilled instructional designers with exposure to career opportunities in several high-demand fields. By using the latest research theories and emerging educational technologies, students will develop the computational thinking skills required to design and deliver computer science courses in K-12 settings, while also working in diverse fields including higher education, educational administration, non-governmental institutions, and international organizations.

Candidates from all backgrounds are encouraged to apply as no previous experience is required for this MA.

Admission Requirements

This program is open to students from all backgrounds. Applicants must possess a bachelor's degree in any field of study. The admission requirements are the same as the Faculty of Arts and Sciences' requirements for a master's degree admission:

- An undergraduate GPA of at least 3.3 (or standardized equivalent) in the major field of study and a cumulative GPA of at least 3.0 (or standardized equivalent) for all work done at the undergraduate level.
- Applicants other than AUB graduates and graduates of recognized colleges or universities in North America, Great Britain, Australia, and New Zealand, must demonstrate proficiency in the English language through standardized tests.

Program Requirements

The MA in computing in education follows an online asynchronous format delivered through a set of engaging self-paced modules within a structured learning path to provide students with the flexibility of balancing their learning experience with their busy schedule. Pre-scheduled live office hours allow students to interact with professors and peers in real-time. This program is composed of 11 courses and a master's project. However, students with backgrounds in education or computer science can be exempt from specific courses enabling them to earn this degree by completing 30 credits.

Course Descriptions

EDUC 300 Introduction to Educational Foundations and Practice 3.0; 3 cr.
This course introduces students to the theoretical and practical underpinnings of organizational structures, curriculum delivery, external examinations, and ethical and legal aspects of the teaching profession.

EDUC 315 Psychology of Education 3.0; 3 cr.
This course presents a comprehensive analysis of instructional theories, measurement skills, cognitive development, learning theory, and the methods of applying behavior modification in classrooms.

EDUC 321 General Research Methodologies in Education 3.0; 3 cr.
This course aims to develop a scientific approach to solve educational problems. Students will acquire the skills needed to identify and develop research problems while dealing with a variety of research designs. Basic statistical concepts are included in this course.

EDUC 371 Digital Citizenship 3.0; 3 cr.
This course introduces the ethics of technology related to responsible behavior when accessing, managing, exchanging, and disseminating information electronically. Topics covered include fair information practices as well as various ethical, legal, privacy, and security issues across disciplines.

EDUC 372 Foundations in Distance Education 3.0; 3 cr.
This course provides participants with the academic and practical fundamentals of online learning. It focuses on distance education in formal and informal settings, particularly for students in K-12 settings and adult learners in higher education.

EDUC 373 Instructional Design and Development 3.0; 3 cr.
This course introduces the basic principles, tools, and techniques required for instructional design and development while focusing on strategies at the curricular and classroom levels.

EDUC 374 Technology and Information Systems for Teachers and Administrators 3.0; 3 cr.
This course explores the use of technology and information systems in schools at the administrative level, addressing how different information systems' tools and applications are used in the educational environment for decision-making, planning, and communication.

EDUC 375 Trends and Issues in Educational Technology 3.0; 3 cr.
This course allows students to reflect on the roles various forms of digital technology play in the teaching and learning processes and highlights how instructors can engage these processes in classroom settings. Students will be able to critically analyze the implications of past, current, and future developments in educational technology.

CMPS 301 Programming and Computational Thinking 3.0; 3 cr.
This course provides students with a brief introduction to many topics in computer science and prepares them to teach programming and computational thinking in schools. The class will use the Python programming language.

CMPS 302 Computing Systems 3.0; 3 cr.
This is a computer science course that introduces students to computers and to their role in society. Topics covered include the principles of computer operations from both the hardware and software perspectives, basic networking concepts, web authoring concepts including HTML, cascading style sheets, and data manipulation using spreadsheets and databases.

CMPS 303 Gaming and Robotics 3.0; 3 cr.
The objective of this course is to use proven research-based best practices to improve the integration of science, technology, engineering, and mathematics to help students master rigorous, real-world learning experiences including gaming, robotics, and design technology

EDUC 395A Comprehensive Exam 0 cr.

EDUC 398 Project 3 cr.
Project.

EDUC 399 Thesis 9 cr.
Thesis.

Additional Relevant Information:

Students who have already completed the graduate diploma in online education can have all 12 diploma credits transferred towards this MA.

The Certificate in Teaching in Higher Education (C-THE)

The Certificate in Teaching in Higher Education (C-THE) provides training in teaching for PhD students at AUB. The certificate aims at equipping students with best practices and professional skills in teaching in higher education. It consists of two courses, one taken in the fall term (C-THE I) and the other taken in the spring term (C-THE II). PhD students are required to enroll in the C-THE in the fall term that follows their first term of enrollment.

Course Descriptions

EDUC 401 C-THE I: Teaching in Higher Education – Theory I 0 cr.
This course is an introduction to teaching in higher education, face-to-face and online. The course covers topics such as course syllabus design, learning outcomes, and teaching methodologies such as transformative learning, learner-centered classes, and flipped classrooms. Annually in the fall term.

EDUC 402 C-THE II: Teaching in Higher Education – Theory II & Practicum 0 cr.
This course is a combination of in-class sessions and teaching field experience. The first part covers topics such as assessment, presentation skills, and teaching portfolio. The second part consists of practical observations and practice teaching under the supervision of designated mentors. Annually in spring term. Prerequisite: EDUC 401.

Department of English

Chairperson	Avant, Doyle R.
Professors	Choueiri, Lina G. ; Hout, Syrine C. ; Mejcher-Atassi, Sonja ; Myers, Robert E. ; Shaaban, Kassim A.
Associate Professors	Avant, Doyle R.; Gonsalves, Joshua D.; Harb, Sirène H.; Mehmood Ali, Tariq
Assistant Professors	Ard-Keyser, Devan; Dasgupta, Sreemoyee; Niederman, Halle Michelle; Sfeir, Maya

The Department of English offers one writing course, ENGL 300, to all graduate students in the university who did not meet the RUSE.

ENGL 300 Writing in the Disciplines 3.0; 0 cr.
A course that prepares students for graduate-level academic writing, and covers such topics as academic writing in different disciplines, the writing process, argumentation and working with sources. Prerequisite: 500-529 on the AUB EEE (new EEE: 32-39) or 573-582 on the TOEFL (PBT) or 88-96 on the TOEFL (IBT). Each term.

The Department of English offers two graduate degree programs: the MA in English literature and the MA in English language.

Mission Statement

The Department of English at AUB offers two graduate degree programs, which include an MA in English literature and an MA in English language. These graduate programs aim to ground students in literature and language studies. They provide students with opportunities to pursue advanced study in multiple linguistic, literary, and cultural traditions through engagement with texts in English, in translation, between languages and across media. The programs provide a solid academic basis for those who wish to continue towards a PhD in literature or language studies, as well as for those who wish to pursue a career in writing, publishing, editing, teaching, and related areas. Through an ongoing process of critical self-reflection, students will attain experience and abilities in linguistic and textual analysis, critical thought, writing and aesthetic appreciation that will contribute to their personal, academic, and professional growth.

The requirements for an MA degree in English consist of 21 credit hours in courses numbered 300 or above, successful completion of a comprehensive examination, and a thesis along with any additional prerequisite courses determined by the department to make up for deficiencies in undergraduate preparation. General requirements for graduate study are found in the Office of Admissions section of this catalogue and on the departmental website.

MA in English Literature

Students working for an MA degree in English literature must complete ENGL 301A. Other literature courses are listed using one of the course numbers below (ENGL 302-315), with an additional letter suffix and course title reflecting the specific themes and readings of that course. Up to two courses with the same number but different letter suffixes and titles reflecting different themes and readings may be taken for credit.

In addition to ENGL 301A, students must take a minimum of one course in each of the following three categories: Literary history (courses in the range ENGL 302-305), comparative literature (courses in the range ENGL 306-309) and literary and cultural studies (courses in the range ENGL 310-13). The remaining three courses may comprise any courses in English literature with the additional provision that up to two may be taken in other programs or departments, subject to approval by the Department of English.

All students must complete the general requirements for graduate study detailed in the General University Academic Information section of this catalogue. Further details about the format of the comprehensive examination and the requirements of the thesis can be found on the departmental website.

Literature Course Descriptions

ENGL 301A Introduction to Bibliography and Research Methods 3.0; 3 cr.
An introduction to bibliography and research methodologies in the study of literature, as well as elements of advanced literary theory. Annually.

Literary History

ENGL 302 (A, B, C, D, E…) Literatures of the Middle Ages 3.0; 3 cr.
A course that covers major works of medieval literature, with attention to both form and cultural context. Some attention may be given to texts' original languages. Themes and readings may vary from term to term. Occasionally. May be repeated for credit for a maximum of 6 credits.

ENGL 303 (A, B, C, D, E…) Early Modern Literatures 3.0; 3 cr.
A course that covers major works of Renaissance literature, including theatre, with attention to both form and cultural context. Themes and readings may vary from term to term. Occasionally. May be repeated for credit for a maximum of 6 credits.

ENGL 304 (A, B, C, D, E…) British Literatures 3.0; 3 cr.
A course that covers major works of British literature, including theatre, from the 18th century to the contemporary period. Themes and readings may vary from term to term. Occasionally. May be repeated for credit for a maximum of 6 credits.

ENGL 305 (A, B, C, D, E…) American Literatures 3.0; 3 cr.
A course that covers major works of American literature, including theatre and film, with some emphasis given to relations among the wide array of American literary traditions. Themes and readings may vary from term to term. Occasionally. May be repeated for credit for a maximum of 6 credits.

Comparative Literature

ENGL 306 (A, B, C, D, E…) Transnational Literatures 3.0; 3 cr.
A course exploring relationships among texts, including theatre, film, and other narrative and visual forms, emerging from a range of different locales, with an emphasis on historical contexts of migration, diaspora, and crisis. Themes and readings may vary from term to term. Occasionally. May be repeated for credit for a maximum of 6 credits.

ENGL 307 (A, B, C, D, E…) Colonial and Postcolonial Literatures 3.0; 3 cr.
A course exploring relationships among texts that circulate between the colonized and formerly colonized world, and sites of imperial and neo-imperial power. Themes and readings may vary from term to term. Occasionally. May be repeated for credit for a maximum of 6 credits.

ENGL 308 (A, B, C, D, E…) Literatures of the Global South 3.0; 3 cr.
A course exploring relationships among texts that circulate through networks that link different sites of the colonized and formerly colonized world. Themes and readings may vary from term to term. Occasionally. May be repeated for credit for a maximum of 6 credits.

ENGL 309 (A, B, C, D, E…) World Literatures 3.0; 3 cr.
A course exploring relationships among significant texts from different origins, time periods and genres, as well as their resonance in global contexts via translation, adaptation, and rewriting. Themes and readings may vary from term to term. Occasionally. May be repeated for credit for a maximum of 6 credits.

Literary and Cultural Studies

ENGL 310 (A, B, C, D, E…) Literature, Technology and Media 3.0; 3 cr.
A course exploring relationships between established (e.g. theatre, print, film, and visual media) and emergent media, and the changing conventions of genre, period, and form. Themes and readings may vary from term to term, and might include interrogations of the histories of cinematic, theatrical, and literary culture. Occasionally. May be repeated for credit for a maximum of 6 credits.

ENGL 311 (A, B, C, D, E…) Literature and Material Culture 3.0; 3 cr.
A course exploring relationships between literary culture and the physical manifestations of culture in made objects. Themes and readings may vary from term to term, and might include examinations of capitalism and consumer culture as manifest in the representation of the domestic interior, or relations between the visual arts and literary, theatrical or cinematic representation. Occasionally. May be repeated for credit for a maximum of 6 credits.

ENGL 312 (A, B, C, D, E…) Literature, Gender, and Sexuality 3.0; 3 cr.
A course exploring literary cultures from the perspectives of gender and sexuality as interpretive frameworks and representational strategies. Themes and readings may vary from term to term, and might include considerations of third world feminisms, gender and performance theory, queer and post-queer theory. Occasionally. May be repeated for credit for a maximum of 6 credits.

ENGL 313 (A, B, C, D, E…) Literature and Translation 3.0; 3 cr.
A course exploring translation as a technology of literary production and meaning-making. Works in translation will be considered through the lens of theories of translation and their practical applications. Themes and readings may vary from term to term. Occasionally. May be repeated for credit for a maximum of 6 credits.

Additional Course Options

ENGL 314 (A, B, C, D, E…) Special Topics in Literature 3.0; 3 cr.
A course offered to students on an individual basis. The topic can include any aspect of literary study. Themes and readings may vary from term to term. Occasionally. May be repeated for credit for a maximum of 6 credits.

ENGL 315 (A, B, C, D, E…) Graduate Tutorial in Literature 3.0; 3 cr.
A course offered to students on an individual basis. The topic can include any aspect of literary study. Themes and readings may vary from term to term. Occasionally.

ENGL 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

ENGL 399 Thesis 9 cr.
Thesis.

MA in English Language

Students working for an MA degree in English language must take ENGL 301B, ENGL 327, ENGL 341 or ENGL 342; and ENGL 345. Two additional elective English language graduate courses from among those offered in the department must be taken. Students must take a further graduate course, which may be from outside the English language course offerings, subject to approval by the Department of English. Students working for the degree of MA in the teaching of English as a foreign language (TEFL) should refer to the Department of Education catalogue section.

All students must complete the general requirements for graduate study detailed in the General University Academic Information section of this catalogue. Further details about the format of the comprehensive examination and the requirements of the thesis can be found on the departmental website.

Language Course Descriptions

ENGL 301B Introduction to Bibliography and Research Methods 3.0; 3 cr.
An introduction to bibliography and research methodologies in the study of language. Annually.

ENGL 326 Advanced Translation Theory and Practice 3.0; 3 cr.
A close examination of major translation theories, both traditional and linguistic, and an application of these theories to the practice of translation, both literary and technical, in Arabic and English. Annually.

ENGL 327 Sociolinguistics 3.0; 3 cr.
A course intended to provide in-depth analysis of issues related to the study of the interaction between language and society. This course covers such topics as geographical and social dialects, multilingualism, language and gender, ethnography of speaking, discourse analysis, language planning, and language attitudes. Annually.

ENGL 329 Grammatical Studies in Old and Middle English Literature 3.0; 3 cr.
A close reading and grammatical examination of selected texts in the original. Exact content to be determined by the instructor. May not be repeated for credit. Occasionally.

ENGL 341 Phonology 3.0; 3 cr.
A survey of theories of phonological description including phonemics, distinctive features, and generative phonology; an application of these theories to actual linguistic data from various languages with concentration by each student on one specific problem. Annually.

ENGL 342 Theoretical Linguistics 3.0; 3 cr.
A study of readings in advanced grammar that have contributed to the formulation of theories of language description; e.g. transformational grammar, stratificational grammar, generative semantics, pragmatics, government and binding. Annually.

ENGL 344 (A, B, C, D, E…) Graduate Tutorial in Linguistics 3.0; 3 cr.
A tutorial offered to students on an individual basis. The topics can include any aspect of the study of linguistics that both instructor and students agree upon. Occasionally.

ENGL 345 Language Acquisition 3.0; 3 cr.
A survey of studies in first and second language acquisition. Emphasis is placed on stages of acquisition and the strategies used by children in acquiring their native language. Comparisons between first and second language acquisition are drawn with implications for language teaching. Annually.

ENGL 346 (A, B, C, D, E…) Issues in Applied Linguistics 3.0; 3 cr.
A course whose topic varies from term to term. The course deals with major topics and issues in language study such as multilingualism and multiculturalism, assessment and evaluation, language and education, and intercultural communication. Annually.

ENGL 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

ENGL 399 Thesis 9 cr.
Thesis.

Department of Fine Arts and Art History

Chairperson	Sadek, Walid
Professors	Dahdah, Farès; Sadek, Walid
Associate Professor	Esanu, Octavian
Assistant Professors	Al-Bahloly, Saleem; Hammond, Joseph; Saadawi, Ghalya; Youssef, Jad
Lecturers	Garo El Khoury, Joelle; Raad, Joanna; Schell, Sarah Elizabeth
Instructors	Abela, Joe-Pietro; Abou Samra, Nidal; Abrahamian, Panos; Al-Amine, Gheith; Bou Rjeily, Lucien; Dib, Mansour; Gorra, Paul; Haddad, Bernard; Harb, Nazha; Hassoun, Lina; Khcheich, Rima; Maalouf, Maya; Osseiran, Nour; Sabbah, Yasmina; Yassine, Khaled; Youssef, Shawki
Artist in Residence	Kahwagi, Bassam

MA in Art History and Curating

The general requirements for graduate study can be found in the Office of Admissions section of the catalogue.

Students are required to successfully complete 30 credit hours for graduation: 12 credits of core concentration in AHIS (AHIS 301, AHIS 311, AHIS 302, AHIS 325); 6 credits of core electives in AHIS; 6 credits of general electives; and 6 credits for the graduation thesis or exhibition.

Students who choose to specialize in Art History are required to submit a research-based argumentative art history or theory thesis for graduation. Students who specialize in Curating are required to submit a curatorial research paper and organize an exhibition in collaboration with art institutions and art spaces in Lebanon of the students' choosing.

Course Descriptions

AHIS 301 Seminar in Practices of Art History (Research Methods, Theories, Historiography) 3.0; 3 cr.
The seminar acquaints students with the main methods, theories, and practices of art historical research. Bi-annually.

AHIS 302 Seminar Critical Art History 2.2;3 cr.
The seminar discusses the critical turn in Art History since the 1970s informed by linguistic formalism, structuralism, psychoanalysis, and Marxism. Bi-annually.

AHIS 311 Issues in Contemporary Art and Theory 2.2; 3 cr.
The course is about the relationship of contemporary art (artistic and institutional practices) to theory. Annually.

AHIS 312 Seminar: Issues in Modern and Contemp. Art in the Middle East and the Arab World 3.0; 3 cr.
The seminar offers a topical treatment of issues related to modern and contemporary art in the Middle East and the Arab World. Occasionally.

AHIS 315 Seminar: Issues in Global Art History 2.2; 3 cr.
The seminar situates the art historiographical canon and exhibition-making practices in the wake of the global turn. Occasionally.

AHIS 318 Modernism and Its Discontents 3.0; 3 cr.
The course investigates 19th and 20th century canonical modernism from a comparative perspective, in relation to other modernisms and avant-gardes. Occasionally.

AHIS 323 European Collections, Exhibitions, and Institutions 2.2, 3 cr.
This course introduces students to collecting practices and to the history of institutionalization of collections in various historical contexts in the Western tradition. Occasionally.

AHIS 324 Collecting and Exhibition Practices in the Islamic and Arab World 2.2, 3 cr.
This course offers a historiographical and theoretical approach to representations of art in museums, collections and expositions/fairs across various historical and geographic contexts pertaining to the Islamic and Arab world. Occasionally.

AHIS 325 Issues in Curating: Practicum 3.0; 3 cr.
The course is a practicum in curating exhibitions. It offers a hands-on experience in organizing art exhibitions and related events. Students conduct curatorial research and implement their ideas practically, from writing curatorial concepts to selecting artworks and designing exhibitions at the AUB Art Galleries. Annually.

AHIS 331 Workshop in Modalities of Art Writing (curatorial, critical, creative) 3.0; 3 cr.
The course is based on active participation and engagement in art writing practices. Occasionally.

AHIS 335 Materials, Techniques, Technologies of Exhibition-Making 2.2; 3 cr.
Students will learn to work with spaces, design exhibitions and install art works, amongst other relevant technical skills. Occasionally.

AHIS 313 Graduate Tutorial in Art History and Curating 1-3 cr.
May not be repeated for credits.

AHIS 349 Special Topics in Art History 3.0; 3 cr.
The course focuses on specific topics of art historical significance and is framed around a key debate or discussion in the discipline.

AHIS 350 Special Topics in Art Theory and Aesthetics 3.0; 3 cr.
The course deals with key concepts of aesthetics and theories of art from the epoch of Enlightenment to the present. Introduction to concepts and aesthetic theories is examined in the context of specific debates.

AHIS 385 Special Topics in Curating 3.0; 3 cr.
The course offers a close study of curatorial practices framed around particular art historical and art institutional constellations, both historically and in contemporary times. The course includes methodological, theoretical, and practical components.

AHIS 390 Internship 0 cr.
Students are required to take a minimum of 40 hours of internship in an art and cultural institution. The internship program should be approved by the students' advisers and the graduate program director.

AHIS 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

AHIS 399 Thesis 6 cr.
Thesis

Department of History and Archaeology

Chairperson	Lyall Armstrong
Professor Emerita	Seeden, Helga
Professor Emeritus	Seikaly, Samir
Professors	Genz, Hermann P.; Sader, Helene S.; Saliba, George; Sheikh, Nadia
Associate Professors	Armstrong, Lyall; Newson, Paul G.
Associate Professor of Practice	Panayot, Nadine
Assistant Professors	Abou Hussein, Tarek A.; Ketsamanian, Varak; Kitlas, Peter; Malleson, Claire; Rabah, Makram

The department offers programs leading to the BA, MA and PhD in Arab and Middle Eastern history. The department also offers programs leading to the BA and MA in archaeology. For admission and graduation requirements, refer to the faculty and department web pages.

MA in History

Mission Statement

By means of a broad and diversified curriculum, our graduate program introduces students to the richness and complexity of Arab and Middle Eastern history. That program is intended to develop not only essential knowledge of the past, but also awareness of the methodological and theoretical complexities involved in the study of history as a discipline in the humanities. Students are motivated to be reflexive, to read, research and write critically, analytically and without prejudice or preconceptions.

Requirements

Students registered in the master's program in history are required to take a minimum of 21 graduate credit hours and to present a thesis based on independent research.

Doctor of Philosophy in Arab and Middle Eastern History

Mission Statement

The doctoral program in Arab and Middle Eastern history aims to create top-rank professional historians. Students in this program will acquire critical, interpretive and research skills, which will enable them to achieve excellence in their chosen field of specialization.

Learning Outcomes

Upon receiving their degree, graduates of the program will be equipped with the methodological, language and research skills that will qualify them to serve as academicians or professional researchers in local, regional, and international universities; in other advanced centers of higher learning in their fields of specialization; or in related cultural and inter-disciplinary studies. Their training will enable them to become eligible for administrative, journalistic, diplomatic, and non-governmental posts as well.

Admission Requirements

Admission to the doctoral program is competitive and selective and is dependent upon the recommendation of the Department of History and Archaeology and the approval of the faculty Graduate Studies Committee. Applicants normally hold an MA and have demonstrated outstanding academic ability (minimum GPA of 3.3 or its equivalent) and the potential to conduct scholarly research. In certain cases, BA recipients whose academic performance is superior (minimum GPA of 3.7 or its equivalent) will be considered for admission into the program. Depending on their point of entry, the completion of the program will extend between 3 to 5 years.

Financial Assistance

The university will cover the cost of tuition and will provide stipends to PhD candidates in the form of Graduate Assistantship support on a merit or need basis. In addition to a housing subsidy, it will also assist in covering the cost of language education and research should this be sought outside the AUB campus. Student participation in scholarly conferences, which can lead to publications, is encouraged and will be supported financially.

Study and Course Requirements

18 credits of graduate level courses are required for MA holders. 36 credits of graduate level courses are required for BA holders admitted directly into the program. The department may require students to take additional graduate or undergraduate courses if necessary. The language of instruction is English. Arabic, however, may be substituted for English depending on the area of specialization. Additionally, all students are required to attain working knowledge of either French or German and any other language required by their field of specialization. All students must submit a thesis.

Admission to Candidacy

See section entitled Admission to Candidacy under the General University Academic Information section in this catalogue.

Graduate Curriculum

The history graduate curriculum is subject to periodic departmental review. Overall, it is a flexible and individually-driven program, designed to build up a critical mass of knowledge based on the historical literature relating to the area of specialization. The curriculum adopts a problem-solving approach to historical research and writing, enabling graduates to think critically, work independently and take conscious ownership of their learning activity and align it with their own educational, academic and career aspirations.

Course Descriptions

Following is a list of existing graduate courses offered by the department:

HIST 303/304 Graduate Seminar in Arab and Middle Eastern History 3.0; 3 cr. (each)
A collaborative investigation of select topics in Arab and Middle Eastern History viewed from multiple perspectives. Periodic progress reports and the incorporation of findings in an interpretive term paper are required. Students can receive credit for both HIST 303 and HIST 304.

HIST 305/306 Graduate Seminar in European History 3.0; 3 cr. (each)
In-depth analysis of selected topics entailing extensive research and the submission of a final analytical term paper. Students can receive credit for both HIST 305 and HIST 306.

HIST 321/322 The Arab Historians, I and II 3.0; 3 cr. (each)
A systematic analysis of a select Arab historian in the context of his time, employing primary sources and recent secondary literature on the subject. Students can receive credit for both HIST 321 and HIST 322.

HIST 323/324 Advanced Documentation and Research, I and II 3.0; 3 cr. (each)
An applied training course in the identification, critical evaluation, and utilization of primary and secondary sources; the techniques for their retrieval and modes of incorporation into a historical account. Students can receive credit for either HIST 323 or HIST 324.

HIST 325/326 Social and Intellectual History of the Arabs, I and II 3.0; 3 cr. (each)
A systematic study of social and intellectual trends in Arab history. Primary sources and recent theories and interpretations are emphasized. Students can receive credit for both HIST 325 and HIST 326.

HIST 327/328 Social and Economic History of the Modern Middle East, I and II 3.0; 3 cr. (each)
A detailed analysis of socioeconomic transformations in the modern Middle East based upon primary sources, considered in view of recent theories of development, modernization, and globalization. Students can receive credit for both HIST 327 and HIST 328.

HIST 330 Advanced Historical Interpretation 3.0; 3 cr.
A systematic examination of key modern interpretations of history and their impact upon historical methodology and historiography.

HIST 331 Tutorial Topics in Arab and Middle Eastern History 3.0; 3 cr. (each)
A directed individual examination of a selected topic entailing an intensive reading program, research, and the submission of a model term paper. May not be repeated for a credit.

HIST 332 Special Topics in History 3.0; 3 cr.
An in-depth course involving a detailed and systematic analysis of the history of a particular topic, area, or region. May be repeated for credit.

HIST 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

HIST 399 Thesis 9 cr.
Thesis.

HIST 480 Qualifying Exam Part I: Comprehensive Exam 0 cr.
Every term.

HIST 481 Qualifying Exam Part II: Defense of Thesis Proposal 0 cr.
Every term.

HIST 484 PhD Thesis 30 cr.
Every term. To be taken by regular track PhD students. Taken at first thesis registration, then registered for every subsequent term with sequential letter annotations (A-L; 0 credits) until completion of thesis work. The choice to register for HIST 484 should be done in consultation with the thesis adviser to ensure that the total number of PhD thesis credits and PhD course credits are met as per AUB rules and regulations.

HIST 488 PhD Thesis 42 cr.
Every term. To be taken by accelerated track PhD students. Taken at first thesis registration, then registered for every subsequent term with sequential letter annotations (A-L; 0 credits) until completion of thesis work.

MA in Archaeology

Mission Statement

The graduate program in archaeology provides students with advanced working knowledge and critical understanding of the methodological and theoretical principles of archaeological investigation and fieldwork. In addition to developing essential knowledge about the material and cultural roots of past societies, the program enhances student awareness about the value and relevance of Lebanon's and the region's archaeological heritage.

Requirements

Students registered in the master's program in archaeology are required to take a minimum of 21 graduate credit hours and to present a thesis based on independent research.

Course Descriptions

AROL 301 Graduate Seminar: Introduction to Theory in Archaeology 3.0; 3 cr.
A seminar to introduce students to key theories and debates in archaeology. Alternate years.

AROL 302 Advanced Seminar in Current Approaches to Archaeological Theory 3.0; 3 cr.
A seminar on current key theories and debates in archaeology, such as center/periphery, economics and world systems analysis, power and hierarchy, cognitive archaeology, critiques of ideology or the politics of interpretation and presentation of the past, native peoples, and gender issues. Alternate years.

AROL 303 Readings in Ancient Texts I 3.0; 3 cr.
An introduction to ancient Semitic epigraphy in general, and to one of the ancient Eastern or Western Semitic languages in particular. Alternately, Akkadian, Phoenician or Aramaic texts are studied. Occasionally.

AROL 304 Readings in Ancient Texts II 3.0; 3 cr.
An in-depth study of a particular ancient Semitic language based on grammar and text analysis. Alternately, Akkadian, Phoenician or Aramaic texts are studied. Occasionally.

AROL 305 Artifact Technology and Representation 3.0; 3 cr.
A technical analysis and representation of archaeological artifacts, including composition, production technique, description and drawing for publication of ceramic, metal, stone, and bone artifacts. May be repeated for credit.

AROL 307 Seminar in the Bronze Age Archaeology of the Near East 3.0; 3 cr.
A seminar that examines selected problems of the Bronze Age in the Levant during the 3rd and 2nd millennia BC. The course addresses topics such as the development of complex societies in urban communities and incipient territorial states, the incorporation of the Levant into larger empires, the development of palace economies, craft specialization, international trade and political relations as well as the breakdown of the Bronze Age system during the last centuries of the 2nd millennium BC. May be repeated for credit.

AROL 308 Seminar in Iron Age Archaeology of the Near East 3.0; 3 cr.
A seminar that examines important features of the material culture of the Near East from the 12th to the 4th century BC. The course addresses questions such as state formation, trade expansion and networks, international political relations, and the creation of new forms of art and architecture. May be repeated for credit.

AROL 309 Seminar in Graeco-Roman Archaeology of the Near East 3.0; 3 cr.
A seminar that examines important features of the material culture of the Near East from the 12th to the 4th century AD. The course addresses questions such as the growth of urbanization, local responses to Greek and Roman cultural institutions and the creation of new forms of art and architecture. May be repeated for credit.

AROL 310 Seminar in Mediterranean Archaeology 3.0; 3 cr.
This seminar explores the richness and complexity of past societies of the Mediterranean through aspects of the material culture. Through analysis of the development of prehistoric and historic Mediterranean peoples, the seminar considers how archaeological evidence reflects encounters and developments in major issues such as exchange, migration, identity, and colonialism. May be repeated for credit.

AROL 321 Graduate Tutorial 3.0; 3 cr.
A study of particular sites and materials to train students in archaeological research and analysis.

AROL 323 Advanced Fieldwork and Data Collection 3.0; 3 cr.
A course of advanced training in archaeological surveys, excavations, artifact recording or ethnographic data collection related to archaeological fieldwork. May be repeated for credit.

AROL 327 Special Topics in Archaeology 3.0; 3 cr.
An in-depth course involving the detailed and systematic analysis of the archaeology of a particular area, region (e.g. Anatolia, the Arabian Peninsula, Egypt, Iran, the Mediterranean, etc.) or subject. May be repeated for credit.

AROL 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

AROL 399 Thesis 9 cr.
Thesis.

Department of Mathematics

Chairperson	Bertrand, Florian J.
Professor Emeritus	Muwafı, Amin
Professors	Abi-Khuzam, Faruk F.; Abu-Khuzam, Hazar M.; Khuri-Makdisi, Kamal F.; Nassif, Nabil R.; Raji, Wissam V.; Shayya, Bassam H.
Associate Professors	Alhakim, Abbas M.; Bertrand, Florian J.; Della Sala, Giuseppe; Roy, Tristan Cyrus; Tlas, Tamer M.
Assistant Professors	Abdo, Elie; Monni, Stefano; Moufawad, Sophie M.; Sabra, Ahmad A.; Taati, Siamak;
Lecturers	Mroue, Fatima K.; Yamani, Hossam A.
Instructors	Ashkar, Alice N.; Bou Eid, Michella J.; Fleihan, Najwa S.; Itani-Hatab, Maha S.; Khachadourian, Zadour A.; Nassif, Rana G.; Rahhal, Lina A.; Tannous, Joumana A.

The Department of Mathematics offers programs leading to the degree of master of science (MS) in mathematics.

Under mathematics, students may choose between two tracks: a track in pure mathematics and a track in applied mathematics.

MS in Mathematics

Students who are admitted to one of the two MATH tracks, pure or applied, must complete the university requirements for graduate study in the Faculty of Arts and Sciences with at least 24 credits at the graduate level and a thesis. These 24 credits must include the following required core courses for both tracks: MATH 303, MATH 304, MATH 309, and MATH 341.

Students following the pure mathematics track are required to take at least one of MATH 306 or MATH 314 and complete the 24 credits by choosing any 3 elective courses offered in the department, totaling 9 credits, in addition to writing and defending a thesis in an area of pure mathematics.

Students following the applied mathematics track are required to take at least one of MATH 350 or MATH/STAT 338 and complete the 24 credits by choosing any 3 elective courses offered in the department, totaling 9 credits, in addition to writing and defending a thesis in an area of applied mathematics.

MA or MS in Statistics

Students must complete the university requirements for graduate study in the Faculty of Arts and Sciences, at least 24 credits at the graduate level and a thesis. At least 18 of the 24 credits must be taken in the department and must include MATH 303, STAT 331, STAT 332, STAT 333 and STAT 334. Students interested in taking courses outside the department may do so after obtaining approval from the department. The graduate program in statistics is currently frozen.

Course Descriptions

Mathematics courses

MATH 301 Graduate Tutorial Courses 1–3 cr.
Prerequisite: Graduate standing or consent of instructor. May not be repeated for credit.

MATH 303 Measure and Integration 3.0; 3 cr.
A first course in measure theory, including general properties of measures, construction of Lebesgue measure in Rn, Lebesgue integration and convergence theorems, Lp-spaces, Hardy-Littlewood maximal function, Fubini's theorem, and convolutions. Prerequisite: MATH 223 or graduate standing. Annually.

MATH 304 Complex Analysis 3.0; 3 cr.
A second course in complex analysis, covering the homotopy version of Cauchy's theorem, the open mapping theorem, maximum principle, Schwarz's lemma, harmonic functions, normal families, Riemann mapping theorem, Riemannian metrics, method of negative curvature, Picard's theorem, analytic continuation, monodromy and modular function. Prerequisite: MATH 227 or graduate standing. Annually.

MATH 305 Functional Analysis 3.0; 3 cr.
Vector spaces, Hamel basis, Hahn-Banach theorem, Banach spaces, continuous linear operators and functionals, Hilbert spaces and weak topologies. Prerequisite: MATH 223 or graduate standing. Occasionally.

MATH 306 Calculus on Manifolds 3.0; 3 cr.
Manifolds, differentiable structure, vector fields, flows, differential forms, Stokes' theorem, basic Lie group theory. Prerequisite: MATH 223 or graduate standing. Biennially.

MATH 307 Topics in Analysis 3.0; 3 cr.
Topics in Analysis.

MATH 309 Functional Analysis and Partial Differential Equations 3.0; 3 cr.
The course aims to introduce students to deterministic/analytic tools to study problems which appear in several areas of science. The course introduces mathematical notions and objects such as: Hilbert spaces, weak derivatives, distributions and Soboley spaces, adjoints of linear operators on infinite dimensional spaces, bounded linear operators, fixed point arguments, convolution and Fourier transform. This course connects to partial differential equations where the existence of solutions to those elliptic/parabolic/hyperbolic uses the theory introduced in the first part of the course. Applications to these linear differential equations in diffusion processes and population dynamics will be discussed throughout the course via examples from the literature. This course is self-contained. Annually.

MATH 310 Analysis of Partial Differential equations 3.0; 3 cr.
In this course, the study of Partial Differential Equations (PDEs) will be conducted by developing a proper weak formulation of PDEs and introducing the notion of generalized or weak solutions. After a short review on properties of weak solutions and Lax-Milgram theorem, the regularity of the weak solutions for elliptic, parabolic, and hyperbolic PDEs will be studied, with particular consideration given to the standard examples of the respective classes: the Laplacian, the heat, and the wave equations. In the second part of the course, some of the main tools used to study weak solutions of nonlinear PDEs will be introduced. Prerequisites: MATH 303 and MATH 309. Occasionally.

MATH 311 Dynamical Systems 3.0; 3 cr.
The field of Dynamical systems involves the study of the long-term behavior of evolving systems, with wide applications to natural sciences, applied and pure Mathematics such as Partial Differential Equations, Topology and Geometry, Combinatorics and Diophantine Number Theory. This course will serve as an introduction to some of the most important topics of the field, including a treatment of hyperbolic dynamical systems and of the basics of ergodic theory. The last part of the course will deal with some of the modern developments of the subject, such as its applications to PDEs and to the study of homogeneous spaces. Prerequisite: MATH 303 or consent of the instructor. Occasionally.

MATH 312 Harmonic Analysis 3.0; 3 cr.
This is a graduate level course in harmonic analysis. After an introduction to complex measures, the course will present the theory of the (multi-dimensional) Fourier transform on the Schwartz space as well as on L1 and L2 spaces. Further topics treated in the course will include Oscillatory integrals and an introduction to geometric measure theory. Finally, applications to some deep results in the theory of distance sets will be discussed. Prerequisite: MATH 303 or consent of the instructor. Occasionally.

MATH 313 Several Complex Variables 3.0; 3 cr.
This is an introduction to the theory of holomorphic functions in several variables. The course will begin with a review of Complex Analysis in one variable, and then it will introduce holomorphic functions in several variables, starting with the aspects in common with the one-dimensional setting (such as the Cauchy formula and power series expansion). Next, features which are peculiar to several variables will be discussed, including Hartogs' phenomenon and the notion of pseudo-convexity. The course will end with a treatment of some more modern topics. Prerequisite: MATH 304 or consent of the instructor. Occasionally.

MATH 314 Algebraic Topology I 3.0; 3 cr.
Homotopy, fundamental group, Seifert-van Kampen theorem, covering spaces, singular homology. Prerequisites: MATH 214 and MATH 241, or graduate standing. Biennially.

MATH 315 Algebraic Topology II 3.0; 3 cr.
Singular cohomology, Poincare duality, higher homotopy theory, fiber bundles. Prerequisite: MATH 314. Occasionally.

MATH 316 Topics in Topology 3.0; 3 cr.
Topics in Topology.

MATH 317 Introduction to Algebraic Geometry 3.0; 3 cr.
The main purpose of the course is to provide an introduction to the principal notions of Algebraic Geometry, with a treatment flexible enough to allow for expansion in several directions, both towards the algebraic and the analytic side. After a brief review of commutative algebra, the course will introduce (affine and projective) algebraic sets, the Zariski topology, regular and rational maps, as well as notions of smoothness and dimension. A discussion of the main classical examples of algebraic sets and maps will be included in the development of the materials. Prerequisite: MATH 341 or consent of the instructor. Occasionally.

MATH 318 Differential Geometry 3.0; 3 cr.
This course builds on MATH 306 and with examples drawn from Riemannian geometry. Students will be introduced to the theory of fiber bundles, Riemannian metrics, connections, and curvature. The last part of the course will be devoted to some more advanced subjects, such as the theory of principal bundles or the study of spaces of constant curvature. The topics covered in the course are also essential to a modern treatment of mathematical and theoretical physics. Prerequisite: MATH 306 or consent of the instructor. Occasionally.

MATH 330 Probability Theory 3.0; 3 cr.
This first course in probability theory will be devoted to the main properties of random variables (such as its moments and the notion of independence), with special emphasis put on classical results of convergence of sequence of random variables (for instance in LP, in probability, and in law). The law of large numbers and the central limit theorem will be treated as well, and the last part of the course will deal with the theory of martingales. Prerequisite: MATH 303. Occasionally.

MATH 338 Introduction to Stochastic Processes 3.0; 3 cr.
This course gives an overview of stochastic processes. Topics will include discrete and continuous-time Markov chains with discrete and continuous state space, basic martingale theory and Brownian motion. If time permits, integration with respect to Brownian motion will be covered to provide students with a first idea of stochastic integration. Annually.

MATH 340 Groups and Geometry 3.0; 3 cr.
The goal of this course is to familiarize the students with the connection between the algebraic structure of groups and their actions on geometric objects, in the spirit of Felix Klein's Erlangen program. The course will illustrate how groups can be used to understand geometry and topology and, conversely, how one can study abstract groups by using geometric techniques and ultimately by treating groups themselves as geometric objects. Prerequisite: graduate standing or consent of the instructor. Occasionally.

MATH 341 Modules and Rings 3.0; 3 cr.
Fundamental concepts of modules and rings, projective and injective modules, modules over a PID, Artinian and Noetherian modules and rings, semi-simplicity, and tensor products. Prerequisite: MATH 241 or graduate standing. Annually.

MATH 342 Modules and Rings II 3.0; 3 cr.
A course covering more advanced topics in modules and rings. Prerequisite: MATH 341. Occasionally.

MATH 343 Field Theory 3.0; 3 cr.
Prerequisite: MATH 242. Occasionally.

MATH 344 Commutative Algebra 3.0; 3 cr.
Prerequisites: MATH 242 and MATH 341. Occasionally.

MATH 345 Topics in Algebra 3.0; 3 cr.
Occasionally.

MATH 346 Algebraic Number Theory 3.0; 3 cr.
The subject of this course can be understood in two ways, as algebra applied to number theory, but also as the study of algebraic numbers, that is the roots of polynomials with integer coefficients. These numbers occur naturally when one attempts to solve Diophantine equations. Alongside a review of the relevant algebra (such as field theory and ideal factorization), the course will introduce and discuss algebraic integers, the class group, and units. The last part of the course will revolve around more advanced topics such as the Dedekind zeta function. Prerequisite: MATH 341 or consent of the instructor. Occasionally.

MATH 347 Elliptic Curves and Modular Forms 3.0; 3 cr.
This course focuses on two interrelated notions: first, elliptic curves and their arithmetic aspects, and second, modular curves, which are spaces classifying elliptic curves, and modular forms, which are objects living on these modular curves. The course culminates with the statement of the modularity theorem, which expresses a second relation between modular curves and modular forms. Prerequisites: MATH 227 or 304, MATH 261, MATH 341 or MATH 220, MATH 306 or 223, MATH 220; or consent of the instructor. Occasionally.

MATH 348 Monte Carlo Methods 3.0; 3 cr.
Common techniques and basic principles of Monte Carlo simulations, including an overview of random number generation, rejection methods, importance sampling and variance reduction techniques, Monte Carlo integration, Markov chain Monte Carlo (Metropolis-Hastings and Gibbs sampler and some variants, e.g., cluster algorithms and multilevel samplers, as time allows). Annually.

MATH 350 Discrete Models for Differential Equations 3.1; 3 cr.
A detailed study of methods and tools used in deriving discrete algebraic systems of equations for ordinary and partial differential equations: finite difference and finite element discretization procedures; generation and decomposition of sparse matrices, finite-precision arithmetic, ill-conditioning and pre-conditioning, scalar, vector, and parallelized versions of the algorithms. The course includes tutorial immersion sessions in which students become acquainted with state-of-the-art scientific software tools on standard computational platforms. Prerequisites: Linear algebra and the equivalent of MATH/CMPS 251 (which can be taken concurrently) or consent of instructor. Same as CMPS 350. Annually

MATH 351 Optimization and Nonlinear Problems 3.1; 3 cr.
A study of practical methods for formulating and solving numerical optimization problems that arise in science, engineering, and business applications. Newton's method for nonlinear equations and unconstrained optimization. Simplex and interior-point methods for linear programming. Equality and inequality-constrained optimization. Sequential quadratic programming. Emphasis is on algorithmic description and analysis. The course includes an implementation component where students develop software and use state-of-the-art numerical libraries. Prerequisite: graduate standing. Same as CMPS 351. Occasionally.

MATH 352 Computational Linear Algebra with Applications 3.0; 3 cr.
This course mostly focuses on problems that involve sparse matrix computations. It underlies the fundamental methods for efficiently solving (sequentially and in parallel) sparse systems of linear equations using direct methods with fill-in phenomena, together with iterative methods such as Krylov subspace methods, with several types of preconditioning. It also treats comprehensively the numerical eigenvalue problems and their applications such as computation of the PageRank Vector for Google matrices. Prerequisite: MATH 350. Occasionally.

MATH 353 Computational Methods for Time-Dependent Systems 3.0; 3 cr.
This course covers numerical methods for time-dependent linear and nonlinear partial differential equations starting with hyperbolic conservation law models such as wave propagation in gases and fluids. Topics include the method of characteristics, difference methods, CFL conditions, weak solutions and finite volume methods for hyperbolic systems. Computation of solutions of other types of time-dependent partial differential equations will also be considered. Implementation is illustrated through computational models using MATLAB to solve problems arising in fluid dynamics and wave propagation. Prerequisite: MATH 350. Occasionally.

MATH 358 Introduction to Symbolic Computing 3.0; 3 cr.
Introductory topics in computer algebra and algorithmic number theory that include fast multiplication of polynomials and integers, fast Fourier transforms, primality testing and integers factorization. Applications to cryptography and pseudo-random number generation. Linear algebra and polynomial factorization over finite fields. Applications to error-correcting codes. Introduction to Grobner bases. Prerequisite: Good background in programming, linear algebra, discrete mathematics, or consent of instructor. Same as CMPS 358. Occasionally.

MATH 360 Special Topics in Computational Science 3.0; 3 cr.
A course on selected topics in computational science that changes according to the interests of visiting faculty, instructors, and students. Selected topics cover state-of-the-art tools and applications in computational science. Prerequisite: consent of instructor. Same as CMPS 360. Occasionally.

MATH 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

MATH 399 MS Thesis 6 cr.
MS Thesis.

Statistics

The graduate program in statistics is currently frozen.

Statistics courses

STAT 331 Advanced Probability Theory 3.0; 3 cr.
Characteristic functions, types of convergence, limiting properties of distribution and characteristic functions, limit theorems, and multivariate functions. Prerequisites: MATH 227, STAT 238, and MATH 303. Annually.

STAT 332 Advanced Mathematical Statistics 3.0; 3 cr.
Distribution theory, decision theory, and advanced topics in estimation and inference. Prerequisites: STAT 235 and STAT 238. Annually.

STAT 333 Multivariate Analysis 3.0; 3 cr.
Multivariate distributions, correlation coefficients, classification, and discrimination, Hotelling's T2, tests of hypotheses for multivariate distributions and canonical variables. Prerequisite: STAT 238. Annually.

STAT 334 Advanced Topics in Statistics 3.0; 3 cr.
Annually.

STAT 335 Special Topics from Probability and Statistics 3.0; 3 cr.
May be repeated for credit. Annually.

STAT 338 Introduction to Stochastic Processes 3.0; 3 cr.
This course gives an overview of stochastic processes. Topics will include discrete and continuous-time Markov chains with discrete and continuous state space, basic martingale theory and Brownian motion. If time permits, integration with respect to Brownian motion will be covered to provide students with a first idea of stochastic integration. Annually.

STAT 348 Monte Carlo Methods 3.0; 3 cr.
Common techniques and basic principles of Monte Carlo simulations, including an overview of random number generation, rejection methods, importance sampling and variance reduction techniques, Monte Carlo integration, Markov chain Monte Carlo (Metropolis-Hastings and Gibbs sampler and some variants, e.g., cluster algorithms and multilevel samplers, as time allows). Annually.

STAT 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

STAT 399 Thesis 6 cr.
MA or MS Thesis.

Department of Philosophy

Chairperson	Gannagé, Emma
Professors	Brassier, Ray; Haydar, Bashshar H.
Associate Professors	Bashour, Bana M.; Gannagé, Emma; Johns, Christopher; Muller, Hans D.
Assistant Professors	Mohammadian, Mousa; Turan, Caner
Lecturers	Agha, Saleh J.; Baasiri, Mahmoud; Barakat, Karim; Chehayeb, Fidaa; Hasan, Hani; Talhouk, Omar
Instructors	Kasab, Jana; Sabra, Zainab; Salloum, Rabih; Samaha, Raid; Wahab, Karam

MA in Philosophy

General requirements for graduate study are found in the Office of Admissions section of this catalogue. The requirements for an MA in philosophy consist of 21 credit hours in philosophy courses numbered 300 or above, a thesis proposal and defense, and a thesis and defense, together with any additional prerequisite courses required by the department to make up for deficiencies in undergraduate preparation.

Philosophy courses

PHIL 300 Special Topics in Logic 3.0; 3 cr.
Prerequisite: consent of instructor. May be repeated for credit. Occasionally.

PHIL 301 Special Topics in Ethics 3.0; 3 cr.
Prerequisite: consent of instructor. May be repeated for credit. Occasionally.

PHIL 302 Special Topics in Political Philosophy 3.0; 3 cr.
Prerequisite: consent of instructor. May be repeated for credit. Occasionally.

PHIL 303 Special Topics in Aesthetics 3.0; 3 cr.
Prerequisite: consent of instructor. May be repeated for credit. Occasionally.

PHIL 304 Special Topics in Metaphysics 3.0; 3 cr.
Prerequisite: consent of instructor. May be repeated for credit. Occasionally.

PHIL 305 Special Topics in Epistemology 3.0; 3 cr.
Prerequisite: consent of instructor. May be repeated for credit. Occasionally.

PHIL 306 Special Topics in the Philosophy of Science 3.0; 3 cr.
Prerequisite: consent of instructor. May be repeated for credit. Occasionally.

PHIL 307 Special Topics in the Philosophy of Language 3.0; 3 cr.
Prerequisite: consent of instructor. May be repeated for credit. Occasionally.

PHIL 308 Special Topics in the Philosophy of Mind 3.0; 3 cr.
Prerequisite: consent of instructor. May be repeated for credit. Occasionally.

PHIL 310 Special Topics in the History of Philosophy 3.0; 3 cr.
Prerequisite: consent of instructor. May be repeated for credit. Occasionally.

PHIL 312 Special Topics in Contemporary Philosophy 3.0; 3 cr.
Prerequisite: consent of instructor. May be repeated for credit. Occasionally.

PHIL 320 Graduate Tutorials 3.0; 3 cr.
Prerequisite: consent of instructor. May not be repeated for credit. Occasionally.

PHIL 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

PHIL 399 Thesis 9 cr.
Thesis

Department of Physics

Chairperson	Kazan, Michel J.
Professor Emeritus	Mavromatis, Harry A.
Professors	Antar, Ghassan Y.; Chamseddine, Ali H.; Isber, Samih T.; Kazan, Michel J.; Klushin, Leonid I.; Sabra, Wafic A.; Tabbal, Malek D.; Touma, Jihad R.
Assistant Professors	Haidar, Mohammad J.; Najem, Sara A.
Lecturers	Al-Sayegh, Amara A.; Harajli, Zainab; Malaeb, Ola; Rahbani, Nancy

The department provides courses and facilities for graduate work leading to the MS and PhD degrees. The research activities of the department include material science, condensed and soft matter physics, plasma physics, paramagnetic resonance, nonlinear dynamics, astrophysics, high-energy physics, superstring theory and quantum gravity.

MS in Physics

Admission Requirements

Refer to the Faculty of Arts and Sciences section.

Course Work

The MS program requires the completion of 21 credits of courses and a research thesis. The courses consist of four core courses: PHYS 301, PHYS 302, PHYS 303 and PHYS 305, and 9 credits of physics graduate electives. After completion of the four core courses, the students must pass the GRE subject test, considered by the Physics Department as the master's Comprehensive Exam.

Master Thesis Proposal and Thesis Defense

Refer to the section on Thesis Proposal, Thesis Format and Thesis Defense under General University Academic Information.

Residency Requirements

Refer to Residency Requirements section under General University Academic Information.

Doctor of Philosophy in Theoretical Physics

Mission Statement

The PhD program in the Department of Physics is intended to produce competent, independent researchers who are able to make original contributions to physical sciences. The program prepares students for careers in research, teaching or industry and thus provides qualified scientists for Lebanon and the region. It serves the AUB mission of promoting research and participating in the advancement of knowledge.

Admission

Admission to the PhD program is done on a competitive basis. To be eligible for admission, applicants must have an excellent academic record and must demonstrate exceptional motivation and ability to pursue research in physics. The following items are required for an application:

- Degrees:
  - For the regular track, a master of science (MS) degree in physics or related fields from an institution recognized by AUB is required.
  - For the accelerated track, a bachelor of science (BS) degree in physics or related fields from an institution recognized by AUB is required.
- Three letters of recommendation.
- GRE General Test as per AUB requirements. Subject GRE is required as per Physics Department requirements (No GRE is required for applicants to the MS program.)
- For English, refer to the Readiness for University Studies in English (RUSE) section in this catalogue.
- A statement of purpose.
- A recommendation for admission by the AUB Department of Physics.

A departmental committee may require an interview with the applicant before giving a recommendation.

Governance

Refer to the section on the Supervision of Doctoral Thesis under General University Academic Information.

Supervision of PhD Thesis

Refer to the section on the Supervision of Doctoral Thesis under General University Academic Information.

PhD Publication Requirements

Refer to PhD Publication Requirements under General University Academic Information.

Course Work

The PhD program requires the completion of at least 36 credit hours of course work for students admitted on the accelerated track (BS holders) and a minimum of 18 credit hours of course work for students admitted on the regular track (MS holders).

The required courses for students admitted on the regular track are PHYS 306 and 308 (6 credits) and at least 12 credits beyond the core program, out of which one course must be in the concentration area, while the others can be taken as electives. Students may take relevant courses outside the department provided they secure departmental approval.

The required courses for students admitted on the accelerated track are PHYS 301, PHYS 302, PHYS 303, PHYS 305, PHYS 306 and PHYS 308 (18 credits) and at least 18 credits beyond the core program, out of which one course must be in the concentration area, while the others can be taken as electives. Students may take relevant courses outside the department provided they secure departmental approval.

PhD Qualification Exam Part I and Part II

Upon completion of a minimum of 15 credits of graduate courses with a cumulative GPA of 3.7 or above in the four core courses, students should sit for PhD Qualification Exam Part I (written comprehensive examination) to determine whether they have acquired the background necessary to continue in the PhD program.

After choosing a thesis adviser, the students should pass the PhD Qualification Exam Part II; the students must formulate, submit, and defend a thesis research proposal to demonstrate a capacity to pursue and complete a doctoral research project.

For more information, refer to the section on PhD Qualifying Exam under General University Academic Information.

Candidacy

Refer to the section on Admission to Candidacy under General University Academic Information.

PhD Thesis and Thesis Defense

Refer to the section on PhD Thesis Format and PhD Thesis Defense under General University Academic Information.

Residency Requirements

Refer to the Residency Requirements section under General University Academic Information.

Graduation Requirements

Students are granted the PhD degree upon approval of the PhD Thesis Committee in a public session. In addition to the general graduation guidelines specified by the university, the Physics Department also requires that part of the PhD thesis work be published or accepted for publication in a refereed journal by the time of graduation.

Timetable

Students are expected to abide by the following timetable:

- Finish the graduate course work (a minimum of 36 credits after the BS) within 8 terms of starting the graduate study program.
- Pass the qualifying exam upon completion of 15 credits, within 3 terms of starting the graduate study program.
- Students in the accelerated track should choose a thesis adviser within four terms of starting the graduate study program.
- Defend the PhD thesis proposal within 6 terms and advance to candidacy within 7 terms of starting the graduate study program.
- Present research work by submitting their thesis to the thesis committee and defending it in a public session. The total length of the PhD should not exceed 5 years for the regular track and 6 years for the accelerated track.

Financial Support

The Department of Physics offers, on a competitive basis, substantial financial support. For full-time students, it covers tuition and includes a monthly stipend. There are also some funds available to support participation in two international conferences during PhD study. In return, students help in teaching undergraduate labs and recitations of introductory courses. Their duties may also include help in proctoring and correcting exams.

Course Descriptions

PHYS 301 Classical Mechanics 3.0; 3 cr.
D'Alembert's principle, variational principles and Euler Lagrange's equations, rigid bodies and small oscillations, Hamilton's mechanics, canonical transformations, and Hamilton- Jacobi theory, stability, integrable systems and chaotic motion. Annually.

PHYS 302 Statistical Mechanics 3.0; 3 cr.
Statistical ensembles, Boltzmann distribution, density matrix, Fermi-Dirac and Bose-Einstein statistics and applications, phase transitions, mean-field theory, and applications. Annually.

PHYS 303 Electromagnetic Theory 3.0; 3 cr.
Boundary-value problems in electrostatics, multipoles, dielectrics, magnetostatics, time-varying fields and Maxwell's equations, electromagnetic waves. Annually.

PHYS 305 Quantum Mechanics 3.0; 3 cr.
Hilbert space formulation of quantum mechanics; theory of angular momentum; Euler rotation; addition of angular momenta; symmetries and conservation laws: time reversal, parity, discrete symmetry, path-integral formulation of quantum mechanics, approximation methods, identical particles, elementary scattering theory. Annually.

PHYS 306 Introduction to Quantum Field Theory 3.0; 3 cr.
Unifying quantum theory and relativity; relativistic quantum mechanics: Klein- Gordon equation, scalar field, second quantization, Dirac's equation, and Dirac's field. Interaction fields and Feynman diagrams, quantization of the electromagnetic field. Prerequisite: PHYS 305.

PHYS 307 Mathematical Methodsof Physics 3.0; 3 cr.
The course provides an intensive overview of mathematical methods which are essential to the toolbox of any graduate student of physics, whether pursuing experimental or theoretical research. Topics covered include: Complex Variable Techniques, Special Functions, Integral Transforms, Hilbert Spaces, Ordinary and Partial Differential Equations, Green's Functions, Calculus of Variations, Transformation Groups. The course is open to graduates and advanced undergraduates in mathematics, the natural sciences and engineering with instructor permission.

PHYS 308 Advanced Mathematical Methods of Physics 3.0; 3 cr.
The course will equip students with the requisite mathematical tools in analysis, algebra, geometry and topology to appreciate current developments and pursue research in theoretical physics.It covers elements of topology, group theory, linear algebra, Lie groups, Lie algebras and their representations, differentiable manifolds, tensor analysis, differential forms, pseudo-Riemannian geometry, connections and covariant derivatives, curvature and torsion. Computational skills acquired after reading the course will surely prove essential for research in gravitational and theoretical high energy physics, but also for working through fundamental problems in the fields of dynamical systems theory, fluid mechanics and/or thermodynamics. The course is of natural interest to graduate and advanced undergraduate students of physics, but should be equally relevant to students in mathematics, the natural sciences and engineering.

PHYS 309 Advanced Experimental Physics 1.6; 3 cr.
A weekly lecture on laboratory techniques and data analysis, and a selection of three experiments based on current research at AUB: fluid dynamics, thin films and nanostructured materials, Plasma physics, Thermal physics and opto- thermal techniques, magnetism and magnetic resonance, Microscopy for material characterization.

PHYS 310 Special Topics 3.0; 3 cr. (each)
May be repeated for credit.

PHYS 311 Astrophysics I 3.0; 3 cr.
Stars: observational properties, population, spectra analysis; stellar matter: atomic processes, equation of state including degeneracy effects; stellar structure: differential equations of stellar structure, radiative and convective energy transport, thermonuclear reactions nuclear fusion processes; stellar evolution: discussion of the evolutionary phases of stars, stellar stability and pulsations; final stages of stars: supernovae, white dwarfs, neutron stars and black holes; star formation.

PHYS 312 Astrophysics II 3.0; 3 cr.
Close binary stars and accretion disks. Physics of interstellar medium: heating, cooling, radiative transfer, physics of interstellar dust grains. Dynamics of stellar systems: morphology and dynamics of stellar populations in Galaxies, N-body simulation, spiral structure. Galaxies: galactic morphology, stellar content of galaxies, general properties of galaxies. Galactic evolution: formation of galaxies, stellar populations. Expanding universe: cosmological models, primeval fireball, cosmological red shift.

PHYS 313 Differential Geometry and General Relativity 3.0; 3 cr.
Differential manifolds. Tangent vectors. Vectors and tensor fields. Lie derivatives. Differential forms. Affine connections: covariant derivatives. Curvature and torsion Tensors. Principal of equivalence. Einstein filed equations. Schwarzschild solutions and classical test of general relativity. Weak gravitational fields. Post-Newtonian approximation.

PHYS 314 Non-Equilibrium Statistical Mechanics 3.0; 3 cr.
Phenomenological description of transport processes: diffusion, thermal conduction, and Brownian motion. General microscopic approaches: Liouville's and von Neumann's equations. Boltzmann's equation and H-Theorem. Linear response theory: time- dependent correlation function, Green-Kubo formula, fluctuation-dissipation theorems. Stochastic evolution: Markoff process and master equation, correspondence between Langevin and Fokker-Planck pictures, kinetics of phase transitions. Prerequisite: PHYS 302.

PHYS 315 Particle Cosmology 3.0; 3 cr.
Relativistic cosmology: Friedmann equations and their solutions, Hubble diagram. Hot Big Bang model: statistical mechanics of the expanding universe, microwave background, primordial nucleosynthesis, GUT model for baryon asymmetry. Structure formation: Newtonian perturbation theory, gauge invariant relativistic perturbation theory, the large-scale structure of the universe. Inflation theory. Prerequisite: PHYS 313.

PHYS 316 Physics of Soft Matter 3.0; 3 cr.
Overview: liquid crystals, polymers, colloids. Statistical mechanics of correlation and order: scattering, structure factor, response function. Application to liquid crystals: generalized elasticity, nematic-to-smectic transitions. Application to polymers: random and self-voiding walks, coil-to-globe transitions, self-organization of amphiphylic macromolecules. Application to colloids and foams. Prerequisite: PHYS 302.

PHYS 317 Group Theory and Symmetry in Physics 3.0; 3 cr.
Group theory: subgroups, conjugate cases, direct products. Group representation: unitary spaces, unitary representations, Shur's Lemma, orthogonality, tensor products, conjugate classes, young tableaux. Group theory and quantum mechanics. Point groups: proper rotation group, crystallographic point groups. Space groups. Continuous groups: transformation groups, generators, Lie groups and algebras, Yacobi identity. Application of SU(2). Isospin. Tensor products. Tensor methods: irreducible representations and symmetry, invariant tensors, Clebsch-Gordon decomposition. Application of Lie groups to particle classifications: SU(5) and SO(10).

PHYS 318 Standard Model of Particle Physics 3.0, 3 cr.
Renormalization and renormalization group. Group theory and the quark model. Chiral anomaly. Gauge theories and quantization. Quantum Chromodynamics. Spontaneous symmetry braking. Electroweak symmetry. Standard model of elementary particles. One loop structure and one loop processes.

PHYS 319 String Theory 3.0; 3 cr.
Classical Bosonic string. Quantized bosonic string. Conformal field theory. String Perturbation Theory. Classical Fermionic string. Quantized fermionic string. Spin structures and superstring partition functions. Heterotic strings. D-branes. Orbifolds. Calabi-Yau compactification.

PHYS 322 Thin Films Physics 3.0; 3 cr.
Introduction to surface and thin films physics: definitions, importance in basic research, impact on technology and society. Ultra high vacuum techniques and processes: kinetic theory concepts, surface preparation procedures; surface chemical composition: XPS, AES, SIMS, GIXRD. Thin film deposition: evaporation, plasma, laser, and ion beam processing; physical and chemical vapor deposition techniques. Surface morphology and physical structure: surface energy, reconstruction, 2-D lattices, nucleation and growth of thin films, microscopy techniques. Theory of surface scattering; inelastic scattering and dielectric theory; electron-based techniques: LEED and RHEED, RBS. Epitaxy: atomistic models and rate equations; steps, ripening and interdiffusion; HRXRD. Conduction and magnetism in thin films; superconductivity; optical and mechanical properties. Pre/corequisite: PHYS 302.

PHYS 323 Plasma Physics 3.0; 3 cr.
The motion of a single particle (electron or ion) subject to electromagnetic forces; fluid equations for electrons and ions; guiding center description; collisional phenomena occurring in plasmas and the resultant diffusion; propagation of high and low frequency electromagnetic waves in plasmas; description of the plasma as a single fluid; the magneto-hydromagnetic (MHD) equations; MHD instabilities and their effects on the plasma; applications of plasma physics. Pre/corequisite: PHYS 303.

PHYS 324 Electron Paramagnetic Resonance 3.0; 3 cr.
The electronic Zeeman interaction and the resonance phenomenon, group theory: the rotation group, the spin-Hamiltonian and the spectrum, the lanthanide 4f group, the actinide 5f, ions of the 3d group in intermediate ligand fields and some experimental aspects of EPR. Pre/corequisite: PHYS 305.

PHYS 330 Principles of Environmental Physics 3.0; 3 cr.
Scope of environmental physics, review of gas laws, transport laws, radiation environment, microclimatology of radiation, momentum transfer, heat transfer, mass transfer, steady state heat balance, crop meteorology, energy for human use and environmental spectroscopy. Not open to physics graduate students. Prerequisites: PHYS 204 and PHYS 205 or equivalent, and some knowledge of calculus.

PHYS 391 Graduate Tutorial 1-3 cr. (each)
May not be repeated for credit.

PHYS 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

PHYS 399 Thesis 9 cr.
Thesis

PHYS 480 Qualifying Exam Part I: Comprehensive Exam 0 cr.
Every term.

PHYS 481 Qualifying Exam Part II: Defense of Thesis Proposal 0 cr.
Every term.

PHYS 484 PhD Thesis 30 cr.

The choice to register for PHYS 484 or PHYS 488 should be done in consultation with the thesis adviser to ensure that the total number of PhD thesis credits and PhD course credits are met as per AUB rules and regulations.

Every term. To be taken only by regular track PhD students. Taken at first thesis registration, then registered for every subsequent term with sequential letter annotations (A-L; 0 credits) until completion of thesis work.

PHYS 488 PhD Thesis 42 cr.

The choice to register for PHYS 484 or PHYS 488 should be done in consultation with the thesis adviser to ensure that the total number of PhD thesis credits and PhD course credits are met as per AUB rules and regulations.

Every term. To be taken only by accelerated track PhD students. Taken at first thesis registration, then registered for every subsequent term with sequential letter annotations (A-L; 0 credits) until completion of thesis work.

Department of Political Studies and Public Administration (PSPA)

Chairperson	Tell, Tariq
Professor	Khashan, Hilal
Associate Professors	Frangie, Samer; Geukjian, Ohannes; Haddad, Tania; Khodr, Hiba; Kosmatopoulos, Nikolas Makdisi, Karim; Tell, Tariq
Associate Professor of Practice	Bahout, Joseph
Assistant Professors	Jallad, Zaina; Mouawad, Jamil
Distinguished Practitioner of Public Policy	Nahas, Charbel
Faculty teaching on a Part-time basis	
Lecturers	Al-Maleh, Rand; Awada, Ghada; Bayrakdarian, Nora; El Debek, Amer; Kachar, Simon; Mohanna, Zeina; Shaar, Rima; Smaira, Dima
Instructors	Ajamian, Melissa; Choulhadjian, Vera; Hankir, Samer; Tashjian, Yeghia

The Department of Political Studies and Public Administration (PSPA) offers three graduate programs: one leading to the degree of master of arts in political studies (POLS), one leading to the degree of master of arts in public administration (PUBA), and one leading to the degree of master of arts in public policy and international affairs (PPIA).

Graduate students in POLS and PUBA are required to complete 21 credit hours of courses (of which no more than 6 credit hours can be taken outside the major) and defend a thesis (worth 9 credits) in front of a thesis committee. PPIA students are required to complete 24 credit hours of courses (of which no more than 9 credits can be taken outside the program with the director's permission) and defend either a thesis (worth 6 credits) or a project (worth 3 credits) and internship (3 credits).

MA in Political Studies

Students majoring in political studies are required to take two core courses, which must include PSPA 300 and one of: PSPA 301, PSPA 310, PSPA 320. Students are encouraged to complete all core courses by the end of their second term. Other major courses can be taken from the following list in Political Theory: PSPA 301 to PSPA 309, International Politics: PSPA 310 to PSPA 319, Comparative Politics: PSPA 320 to PSPA 329, Environmental Politics: PSPA 341 to PSPA 346, and Public Administration: 350 - 383. The remaining elective course can be taken within the major or any other relevant field (including a foreign language).

Course Descriptions

PSPA 300 Methodology and Research Design 3.0; 3 cr.
An introduction to the philosophy of science and how it influences the choice of research design. Emphasis is on developing skills that are useful for any method (survey, research, comparative historical analysis, game theory). The objective is to provide students with the practical tools they need to successfully complete original research. Core course. Annually.

PSPA 301 Political Theory 3.0; 3 cr.
A course that provides critical examination and analysis of the theoretical bases and perennial issues of political theory and ideologies. Core course. Annually.

PSPA 302 The Modern Project 3.0; 3 cr.
The aim of this course is to explore the various intellectual, academic, and political debates around the notion of modernity. Topics covered in this seminar include: modernity; modernization and the modern project; reason and rationalization; religion and secularization; knowledge, post-colonialism and post-modernism; and other related topics. Occasionally.

PSPA 303 Islamic Political Thought 3.0; 3 cr.
An in-depth course on modern Islamic political thought. This course focuses on the historical and intellectual developments that have fueled both revolutionary and conservative trends in Islamic political movements and states. Discussions cover issues such as the relationships between religion and politics, political philosophy and ideology, and political action and revolution. Occasionally.

PSPA 304 Theories of Political Economy 3.0; 3 cr.
A course that surveys various theories and theorists such as Marxism, Polyani, rational choice and the new institutionalism. It introduces students to the study of how the political system and economy interact. Occasionally.

PSPA 305 Political Theory in the Arab World 3.0; 3 cr.
The aim of this course is to explore various intellectual and political debates in the modern Arab world. The course will provide an overview of the development of modern Arab political thought and will present some of the main intellectual and academic debates in this domain. Topics covered in this seminar include: modernity and tradition, orientalism and the West, nationalism, Marxism, liberalism and other related topics. Alternate years.

PSPA 306 Research Methods and Techniques 3.0; 3 cr.
A course that deals with various methods of data collection and analysis. Specific research methods include both quantitative and qualitative techniques such as experimental, survey, field observation, content analysis, historical/comparative, and evaluation. Occasionally.

PSPA 307 Knowledge and Power 3.0; 3 cr.
The course explores different aspects of the relationship between knowledge and power. It draws on different philosophical and sociological traditions in political theory to shed light on core cognitive, social, and ethical aspects and dilemmas that concern social scientists both as knowledge-producers who reflect onto power as a conceptual and empirical reality, and as social agents who are themselves inscribed in structures and relations of power. Occasionally.

PSPA 309 Special Topics in Political Theory 3.0; 3 cr.
May be repeated for credit. Occasionally.

PSPA 310 International Politics 3.0; 3 cr.
This seminar provides a survey of the discipline of international politics and contemporary research in the field. In addition to covering central theoretical perspectives in international relations theory, the course will introduce students to contemporary debates in international politics and policy with an emphasis on topics and themes relating to the Middle East. Students will develop critical thinking and analytical writing skills through close reading of key texts and writing exercises. Core course. Annually.

PSPA 311 International Politics and the Middle East 3.0; 3 cr.
This seminar deals with issues and themes relevant to contemporary Middle Eastern politics within the context of international relations. It explores how the politics of the Middle East, US policy in the Middle East, and the Middle East as a regional system have been understood and represented through the lens of international relations theory and scholarship. Topics include: the evolution of the Middle East state system, Arab Nationalism and the Cold War, the Arab-Israeli conflict and US policy towards Israel and the Palestinians, the geopolitics of oil and the Gulf, the Iraq War and its regional consequences, Iran's role in the Arab world, the question of empire and the future of US grand strategy, and Lebanon's position in regional politics. Annually.

PSPA 312 Public International Law 3.0; 3 cr.
A course that aims to provide an understanding of the principles underlying public international law, which facilitates relations among states, resolves disputes, protects human rights, allocates resources and restricts conduct during war time. Emphasis is placed on subfields of international law most closely connected to international politics such as the legal consequences of very serious violations of international law, the role played by the United Nations or the legal regulation of the use of force. Reflecting upon the kind of role international law plays in the conduct of international relations, this course includes many recent case studies and tackles some of the major debates in the field. Annually.

PSPA 313 International Security 3.0; 3 cr.
Security motives play an essential role in international politics, particularly in the conduct of international relations. This course deals with major issues in international security that may include arms control, disarmament, as well as new types of threats, such as terrorism or environmental degradation. It covers traditional and less traditional perspectives on the field. Occasionally.

PSPA 314 The UN and International Politics 3.0; 3 cr.
This seminar examines the role of the United Nations (UN) within the context of international politics, security, and development. It focuses on the UN role in the Global South, particularly the Arab region. The course explores theoretical perspectives on the role of the UN in world politics and traces the evolution of UN institutions, in particular UN peacekeeping, from the Cold War to post-Cold War period including the war on terror. It then considers a series of case studies in depth. The course will include, when possible, guest presentations from UN officials and a field trip to better appreciate the conditions within which UN operations work. Occasionally.

PSPA 315 Arab-Israeli Conflict 3.0; 3 cr.
This seminar examines whether a solution between Palestinians and Jewish Israelis is possible in the historic land of Palestine, and if so how. The course takes a historical approach to trace the root causes of the conflict and understand the main narratives that drive the Palestinian and Jewish national movements, as well as to understand the larger context and structure within which these narratives take place. It also tracks the long history of peace initiatives put forward by the great powers – starting with the UN partition plan and ending with the post Cold War, US-sponsored peace process – and how the shifting in international rules and norms that underlie these initiatives have both shaped and reflected the realities on the ground in terms of both power and resistance. Annually.

PSPA 316/ENSC 650 International Environmental Policy 3.0; 3 cr.
A course that seeks to provide a broad overview of the key concepts, actors and issues related to global environmental policy. This course outlines the evolution of environmental policy in facing global environmental challenges and how such policies have become inherently intertwined with government policy, business practice and international trade. Annually.

PSPA 317 International Political Economy 3.0; 3 cr.
This course provides a critical examination of the politics of international economic relations, global economic development, and transnational economic activity with a special emphasis on the position and experiences of the Middle East states in the global political economy. The course offers a survey of theoretical approaches to international political economy and addresses themes critical to the experience of the Middle East such as state-led industrialization, trade and regionalism, finance, oil, labor migration, MNCs, transnational movements, globalization, neo liberalism, and the politics of development and global governance. Occasionally.

PSPA 318 Theories of International Relations 3.0; 3 cr.
The seminar offers a critical study of readings drawn from the major theoretical traditions (realism, liberalism, constructivism) in international relations theory as well as critical approaches and trends. Occasionally.

PSPA 319 Special Topics in International Politics 1.0-3.0; 1-3 cr.
May be repeated for credit. Occasionally.

PSPA 320 Theories of Comparative Politics 3.0; 3 cr.
A survey of various paradigms in comparative politics, focusing on behavioralist, institutional, development and radical approaches. Themes such as structure of power, state-society relations, political development, political culture, and political economy are emphasized. Core course. Annually.

PSPA 321 Contemporary Politics in Middle Eastern States 3.0; 3 cr.
A course that analyzes contemporary politics in selected Middle Eastern states. This course emphasizes the problems of political participation, effective governance, and socio-economic development. Occasionally.

PSPA 322 Contemporary Politics in Non-Middle Eastern States 3.0; 3 cr.
A course that examines political institutions, processes and problems facing governments in selected countries outside the Middle East. This course focuses on topics such as authoritarian systems, relations between the public and private sector, and politics of collective identity. Occasionally.

PSPA 323 Communalism in the Middle East 3.0; 3 cr.
A course that deals with the emergence of ethnic and religious issues in the Middle East, with emphasis on post World War I developments. This course addresses the situation of minority groups, the nature of their demands and their prospects of achieving them. In addition, this course assesses the impact of localism on the nation-state in the region. Annually.

PSPA 324 Government and Politics in Lebanon 3.0; 3 cr.
A course that examines the evolution of the political system and the different approaches to the study of government institutions in Lebanon. This course focuses on patterns of change involving state and society from the founding of the state in the early 1920s to the present. Occasionally.

PSPA 325 Political Trends in the Middle East 3.0; 3 cr.
This course examines the genesis and evolution of major political trends that have been impacting the Middle East and North Africa since the latter part of the nineteenth century, especially colonialism, nationalism and nation-building, transnational political conflict, religious extremism, the politics of oil and security issues. Occasionally.

PSPA 329 Special Topics in Comparative Politics 3.0; 3 cr.
May be repeated for credit. Occasionally.

PSPA 330 Graduate Tutorial in Political Studies 3.0; 3 cr.
A graduate seminar in which selected topics are arranged on an individual basis where existing courses do not offer the required subject matter. May be repeated for credit. Annually.

PSPA 341/ENSC 657 Environmental Regulation and Legislation 3.0; 3 cr.
An introduction to contemporary legislative approaches to environmental protection, the rationales for their embodiment in policies, and their effectiveness in achieving prescribed goals and alleviating environmental degradation. This course also examines the emergence of environmental initiatives in developing countries with a focus on the latest developments in Lebanon. Occasionally.

PSPA 343/ENSC 658 Environmental Conflict Resolution 3.0; 3 cr.
An introduction to contemporary approaches to global environmental negotiation and conflict resolution, including the efforts of international organizations at risk communication, mediation, and facilitation. This course focuses on procedures to manage negotiations of environmental conflicts and disputes between governments, corporations, ecologists, the media, and the general population. Information is also provided on environmental dispute cases successfully resolved. Alternate years.

PSPA 345 Special Topics in Environmental Policy and Politics 3.0; 3 cr.
May be repeated for credit. Occasionally.

PSPA 346 Special Topics in Natural Resource Policy and Politics 3.0; 3 cr.
May be repeated for credit. Occasionally.

MA in Public Administration (Frozen – Program under Review)

Students majoring in public administration are required to take the following core courses which include PSPA 300, PSPA 350, PSPA 351 and PSPA 352. Students are encouraged to complete all core courses by the end of their second term. Three additional graduate courses are required from one of the following sub-disciplines: Public Management: PSPA 363, PSPA 370, PSPA 371, PSPA 372, PSPA 373 and PSPA 374 add PSPA 380; PSPA 382; and Public Policy: PSPA 360, PSPA 361, PSPA 362 and PSPA 381; PSPA 383. **The MA program is currently under review.**

Course Descriptions

PSPA 350 Foundations of Organization Theory 3.0; 3 cr.
This seminar is an advanced study and analysis of the development of organization theory, from its foundations and origins up to the present. It takes an interdisciplinary approach that reviews the key critical readings and debates with their different levels of abstraction and analysis as well as their lasting contributions. It also discusses the contemporary research activities and findings in the field of organization theory. Core course. Annually.

PSPA 351 Foundations of Public Administration 3.0; 3 cr.
This seminar is an advanced study and analysis of the field of public administration, from its foundations and origins up to the present. It covers topics such as: historical public administration, the traditional model of public administration, new public management, and collaborative public administration. The course will also review contemporary research activities and findings related to public administration. Core course. Annually.

PSPA 352 Foundations of Public Policy 3.0; 3 cr.
This seminar covers topics related to the substance, methods, and frameworks of public policy in a variety of disciplines including: welfare economics, political science, political economy, and organization theory. Emphasizing the role of theory in empirical policy research, the course illuminates the various policies and policy challenges in the following substantive areas: economics, education, the environment, national security, and immigration. Core course. Annually.

PSPA 360 Public Policy Research and Analysis 3.0; 3 cr.
This seminar provides an introduction to policy analysis typologies, policy tools and the factors that shape the utilization of policy analysis. It is designed to give students the theoretical and practical exposure to the process of analyzing public policy as well as to its relevant qualitative, survey and mixed method approaches and techniques. Annually.

PSPA 361 Public and Non-Profit Program Evaluation 3.0; 3 cr.
This seminar introduces students to the theoretical and practical foundations underlying the use of program evaluation in the public and non-profit sectors. Based in large part on the logic-model process of program evaluation, it reviews the quantitative and qualitative techniques used by managers to analyze program processes, outputs and outcomes. It also considers issues such as client management, data collection, data presentation and research ethics. Annually.

PSPA 362 Public Policy and Administration 3.0; 3 cr.
This seminar covers topics and frameworks related to the substance and approaches of public policy as they relate to public administration. Students will engage in a serious analysis of the economic, social, and cultural assumptions that underpin government and its relationship to the polity. The course is also designed to give students an organized opportunity to investigate their own interests within a specific key policy area. Annually.

PSPA 363 Public Financial Management 3.0; 3 cr.
This seminar examines the theory, practice, concepts, and problems related to the administrative and political management of public financial resources and public sector budgeting. It reviews how economic, political, social, and institutional factors, and resources are transformed into budgetary policy. It analyzes the organizational, structural, managerial, and legal aspects of the public budget, as well as the most important problems in the phases of the public budget cycle. Annually.

PSPA 370 Human Resource Management and Development 3.0; 3 cr.
This seminar explores theories and models of human resource management, including the policies and processes that relate to governmental personnel. It acquaints students with the authority, responsibility, functions, and problems of the human resource management in areas such as staffing, human resource development, performance appraisal, teamwork, and compensation. The seminar examines personal and professional issues related to modern Human Resource Management (HRM) from recruitment to termination. The emphasis is on developing familiarity with the real-world applications required of employers and managers. Annually.

PSPA 371 Public Management 3.0; 3 cr.
This seminar investigates the conceptual and practical boundaries of public management reform initiatives from a comparative perspective. Moving beyond the foundations of traditional public administration, topics covered include performance and personnel management, privatization, e-government, and accountability. The limits of public management will also be considered. Annually.

PSPA 372 Leadership and Management of Public Organizations 3.0; 3 cr.
This seminar examines the distinction between leadership and management from theoretical and applied perspectives. It also analyzes the major theories of leadership and assesses their impact on group and individual behavior in light of personality differences and cross-cultural management. Alternate years.

PSPA 373 The Ethics of Public Administration 3.0; 3 cr.
This seminar covers contemporary perspectives on ethics and ethical behavior in government. It focuses on the interactions between government and society and analyzes the political, legal, economic, and social environments of societal organizations. Some of the contemporary issues addressed are: transparency, accountability and responsiveness, corruptive practices in public administration, administrative discretion and social justice. Alternate years.

PSPA 374 Non-Profit Management 3.0; 3 cr.
A course that examines the development and characteristics of non-profit management systems, managerial challenges, and the application of theories and mechanisms relevant to non-profit management. This course covers topics such as organizational structure, financial management, board-executive relations, and public-private cooperation. Alternate years.

PSPA 380 Special Topics in Public Administration 3.0; 3 cr.
May be repeated for credit. Occasionally.

PSPA 381 Special Topics in Public Policy 3.0; 3 cr.
May be repeated for credit. Occasionally.

PSPA 382 Graduate Tutorial in Public Administration 3.0; 3 cr.
A tutorial in which selected topics are arranged on an individual basis where existing courses do not offer the required subject matter. May not be repeated for credit. Annually.

PSPA 383 Graduate Tutorial in Public Policy 3.0; 3 cr.
A tutorial in which selected topics are arranged on an individual basis where existing courses do not offer the required subject matter. May not be repeated for credit. Annually.

PSPA 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

PSPA 399 Thesis 9 cr.
Thesis.

MA in Public Policy and International Affairs

The PPIA program is open to graduates from various backgrounds who wish to pursue professional or academic careers in public affairs; as well as to mid-career professionals in Lebanon, the region and internationally who wish to deepen their multidisciplinary knowledge of the relevant fields or acquire new ways of thinking and policy tools.

Program Goals and Learning Outcomes

The program is centered on articulating public and international policy perspectives that are well contextualized in political, economic, social, and structural terms. It incorporates the specificities and particularities of the Arab world and its many constituents; links academia to the various policy communities; and seeks to increase interaction and knowledge production within a South-South context.

On successful completion of this multi-disciplinary course of study, students will be able to:

- explain core theories and processes of public policy and international affairs.
- apply techniques and methodologies in public and international policy research.
- critically analyze key policy and international affairs issues.
- demonstrate oral and written communication skills in public and international policy arenas.
- formulate domestic and international public policy alternatives and arguments.
- critically appraise the validity and limitations of domestic and international public policy theories and arguments.

Admission Requirements

Admission requirements to the program will follow FAS admissions policies. Admission to the MA in PPIA is restricted to the fall term. Applicants are generally expected to have a BA degree in a social science field (broadly defined) or one relevant to public policy and/or international affairs, or else professional experience in public policy and/or international affairs as it relates to the Arab region. In all cases, a minimum of one-year work/policy experience is strongly recommended and more is encouraged.

Applicants must have a strong academic record, two letters of recommendation (at least one must assess academic rather than professional abilities), and a statement of purpose that clearly outlines applicant's background and goals. In addition, applicants are recommended to submit a relevant writing sample of no longer than 5,000 words.

Degree Requirements

The program permits full-time or part-time enrollments. To obtain a master of arts degree in public policy and international affairs, students must complete a minimum of 24 credits of graduate coursework and a thesis (6 cr.) or a final project (3 cr.) plus an internship (3 cr.). Course work must include the two core courses (PPIA 301 and PPIA 302), the required methods course (PPIA 308 or approved equivalent), plus five elective courses including at least two PPIA courses that are relevant to the students' program of study.

Credit Summary

Required courses	
Core courses (2)	6 cr.
PPIA 308 Research Methods (or equivalent approved by director) Upon approval of the PPIA director, students may substitute a relevant methods course for PPIA 308 Research Methods	3 cr.
Additional PPIA courses (2)	6 cr.
Open Elective courses (3)	9 cr.
Thesis (6 cr.) or (Internship (3 cr.) + Project (3 cr.))	6 cr.
	30 cr.

Core Courses	
PPIA 301	Public Policy and Practice
PPIA 302	International Affairs and Policy

Thesis and Project Tracks

Thesis Track

To follow the thesis track, students must first gain approval of a thesis committee that includes members of the PPIA program faculty, and of the FAS Graduate Studies Committee, of a thesis proposal and then defend the completed master's thesis. Students are expected to uphold the highest standards of academic integrity, scientific rigor and professional relevance while presenting their findings. All accepted projects should be deposited at the library.

Project Track

Students are expected to complete an internship (3 cr.) plus a project (3 cr.).

PPIA students are encouraged to pursue a project track as part of their degree requirements. The project allows students to investigate an issue of relevance to public policy or international affairs in line with their personal research interests. It comprises a compulsory written academic part that tests the student's skills in framing a project in scholarly terms (e.g. conduct basic relevant literature review) and analyzing relevant lessons learned in terms of experience, communication, collaboration, impact and ethics in regards to the project. The remainder of the project depends on the type agreed with the faculty chair and committee, and can be professional, policy or community based. Students are assigned a committee consisting of an adviser (first reader) and a second reader who jointly supervise and guide the student throughout. It is the responsibility of the students to select a topic and submit a project proposal to be approved by their readers and then by the FAS Graduate Studies Committee. While the projects can be presented in diverse forms, students are expected to uphold the highest standards of academic integrity, scientific rigor and professional relevance while presenting their findings. All accepted projects should be deposited at the library. Students who are unable to finish the project within the allotted time period can petition to be allowed an additional term subject to consent of their committee.

Internship

All project track students are required to complete an internship. Internships offer an exploration of public policy and international affairs through work experience in governmental, non-governmental, or private sector organizations. Students are responsible for securing their internships and having the PPIA program confirm that they meet AUB guidelines. Internships for credit require about 45 contact hours with about 90 hours of work beyond this (total 135 hours or about 10 hr/wk for 3 months). To register for internship the students must have their supervisor confirm to the PPIA program in writing at the beginning of the internships that the internships meet these guidelines. At the end of the internship, the supervisor must confirm in writing that these guidelines have been met. Upon completion, the students will write up a short report about the internship that will form a PPIA internship database. Internships can also be taken as an elective course for those on the thesis track.

Course Descriptions

PPIA 301 Public Policy and Practice 3.0; 3 cr.
The course covers topics related to the formation, development, and evolution of frameworks of public policy. It compares theories and models of policy-making and decision-making to illustrate the special requirements of a country's context and environment. It examines the roles of various participants in the policy process: legislators, political parties, interest groups, civil society groups, media, administrative structures, citizens, and the judiciary. Using a comparative perspective, the course discusses how public policy is formulated, and how and why it changes. The course also examines the role of formal and informal institutions, actors, structures and networks including challenges to the prevailing context. The course provides students with an increased understanding of theories of public policy, and the ability to critically analyze and compare public policy. Annually.

PPIA 302 International Affairs and Policy 3.0; 3 cr.
This course provides a survey of international affairs and policy. In addition to covering central theoretical perspectives, the course will introduce students to contemporary political, economic, social, and/or environmental issues as well as relevant actors and institutions with a special focus on those relevant to Lebanon and the Arab world. Students will develop critical thinking and analytical writing skills through close reading of key texts and writing exercises. Student engagement will include activities such as class presentations and participation in policy simulations. Annually.

PPIA 304 Development 3.0; 3 cr.
This course offers students social, political and policy analysis of development both as a reality and as a concept and discipline in the social sciences. It explains the emergence and continuing relevance of development, offering particular critical attention to the close interdependence between development paradigms, international institutions (UN System, World Bank) and global political economy. The course deepens and broadens students' historical understanding of the antecedents behind contemporaneous global and local development issues and challenges with a critical focus on the interdependence between knowledge, advocacy, and policy. Annually.

PPIA 306 Political Economy 3.0; 3 cr.
This course starts from the premise that history matters and that a long-term view of production, power and social change is essential for understanding enduring patterns of wealth and poverty in the contemporary world. It goes on to provide students with an overview of scholarly debates on the causes and consequences of the rise of Europe, asking whether the historical literature on state formation and capitalist development helps us understand socio-political developmental success and failure in the Global South after WWII. By emphasizing the historical specificity of the structure of social power inherited from the agrarian past, the course tries to highlight the pitfalls of deploying models based on European example for understanding development and social change in other parts of the globe. Annually.

PPIA 307 Politics of Policy-Making 3.0; 3 cr.
The course provides an analysis of the politics of the policy-making process in its different stages, from elaboration to implementation, through the examination of a range of policy case studies (urban/spatial, development, environment, energy, social, health, etc.) at different scales (neighborhood, city, region, state, groups of states) and in different contexts (local, regional and international). It equips students to understand how policy ideas are framed into technical and normative discourses that depoliticize policy issues and neutralize power and inequalities. It trains them to identify, trace and deconstruct the political elements that determine how policy paradigms emerge, how policy windows come to be created, how policy actors mobilize, network, and advocate their positions, and how policy agendas and tools are negotiated and assembled. It also approaches policy-making as a hybrid space between expertise and politics, science and democracy, nature and humanity. Occasionally.

PPIA 308 Research Methods 3.0; 3 cr.
This course provides students with an understanding of research language, concepts and ethics for the purpose of generating evidence-based research for policy-making. It introduces the elements of the research process within quantitative, qualitative, and mixed methods approaches, with an emphasis on problem formulation, research design, data collection, analysis, and reporting. The students will engage in identifying their main research question, selecting appropriate research methods, and designing the relevant data collection and fieldwork to address their research question. They will also learn how to present their research ideas as research proposals for academic, professional, and other audiences. Students will also, throughout the course, be exposed to the variety of public policy tools used to communicate with different publics (memos, briefs, reports, etc.). Annually.

PPIA 309 Evidence, Policy, and Communication 3.0; 3 cr.
This course introduces students to the types of questions that need to be answered to address and make improvements to public policy concerns and priorities, including what's the problem, what policy and programmatic options are best suited to address the problem, and how change can be brought about. This course will train students to use the knowledge translation tools and resources available to public policymakers and stakeholders in order to support their use of research evidence; and will enhance students' skills in assessing, selecting, adapting and applying research evidence. Students will experiment with key tools and resources to communicate with different types of policy makers including priority setting, evidence briefs, policy briefs, policy memos, personalized briefing, and policy dialogues. This course will provide skills on how to prepare briefs and effective tips on how to communicate evidence (both published and tacit) to policy makers and the public. Annually.

PPIA 310 Topics in Public Policy 3.0; 3 cr.
Each term, PPIA provides special topics elective courses in public policy. Courses have included: Humanitarian Intervention in Lebanon, Economic Crisis in Lebanon, Social Policy and Practice in the Arab region, Public Policy in the Arab world, Forced Migration, and Public Policy Analysis and Evaluation. May be repeated for credit. Annually.

PPIA 311 Topics in International Affairs 3.0; 3 cr.
Each term, PPIA provides special topics elective courses in global/international affairs. Courses have included: Humanitarian Intervention in Lebanon, Economic Crisis in Lebanon, Social Policy and Practice in the Arab region, Geopolitics and Policy of Oil and Gas in the East Mediterranean, International law and Security, US and EU Foreign Policy in the Middle East, Public Policy in the Arab world, Forced Migration, International Environmental Policy, Iran and Global Nuclear Policy, and Researching Global. May be repeated for credit. Annually.

PPIA 314 History of the Global South 3.0; 3 cr.
The purpose of this course is to develop greater understanding of the evolution and history of the Global South. The course highlights the nature of changes within global frameworks and structures. The course explores the common historical processes that unify the various states, societies, and peoples within the global south (e.g. imperialism/colonialism; core/periphery; formation of the G77 block within the United Nations; etc.). It goes on to unpack the contradictions of the global order including class, race, and gender discrepancies; power imbalances and other particularities within the Global South and between it and the developed countries of the capitalist core. Occasionally.

PPIA 321 Tutorial in Public Policy 1, 2, or 3 cr.
This course is designed to allow students to pursue a course of directed study with a faculty member. It may consist of independent research, directed reading, or policy-related work. Prerequisite: consent of instructor. Occasionally. May not be repeated for credit.

PPIA 322 Tutorial in International Affairs 1, 2 or 3 cr.
This course is designed to allow students to pursue a course of directed study with a faculty member. It may consist of independent research, directed reading, or policy-related work. Prerequisite: consent of instructor. Occasionally. May not be repeated for credit.

PPIA 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

PPIA 397 Internship 3 cr.
An exploration of public policy and international affairs through work experience in governmental, non-governmental, or private sector organizations. Students perform work for academic credit. Prerequisite: consent of instructor and program director.

PPIA 398 Project 3 cr.
Project.

PPIA 399 Thesis 6 cr.
Thesis.

Department of Psychology

Chairperson	Dietrich, Arne
Professor	Dietrich, Arne
Associate Professor	Bosqui, Tania
Assistant Professors	Agopian, Sarine; Ayoub, Mona; Badaan, Vivienne; Ismail, Ghena; Saade, Sabine
Lecturers	Awaida, May A.K.; Fisher, Jennifer; Ouweidat, Hala
Instructors	Bassil, Margaret; Majzoub, Hana
Professor Emeritus	Kazarian, Shahe

The Department of Psychology offers a master's program in psychology and a master's program in clinical psychology. Applicants to the master's program in clinical psychology are welcome to apply for fall admission only. There will be no spring admission into the clinical psychology program. Applicants to the master's program in clinical psychology must have completed a major, minor or the equivalent (15 credits) in psychology.

MA in Psychology

The graduate program in Psychology is currently frozen.

Mission Statement

The overall mission of the graduate program in psychology is to provide students with a strong foundation in psychological science. The program is characterized by both an emphasis on advanced research and statistical training as well as on a strong commitment to critical thinking. The faculty possesses expertise in social, cultural, and political psychology, and in areas of learning, cognition, and neuroscience. In realizing its mission, the master's program in psychology is committed to the following goals and objectives: to provide education and training in the use of the scientific method in psychological research; to provide education and training in ethical practices in psychology; and to provide supervision of an empirical research study of publishable quality.

Candidates for the MA degree in psychology are required to complete 21 graduate credit hours in addition to 9 thesis hours. The students must complete PSYC 301 and PSYC 302 and five additional graduate-level courses in psychology. One of these courses can be chosen from other graduate-level courses outside the department, according to the students' interest and with the consent of the adviser.

Psychology MA students will follow the following stream of courses:

Psychology Stream

PSYC 301, PSYC 302 and five courses from the following: PSYC 305, PSYC 310, PSYC 312, PSYC 314, PSYC 316, PSYC 318, PSYC 320, PSYC 350, PSYC 352, PSYC 360; in addition to the Comprehensive Exam, PSYC 395 and Thesis, GPSY 399. Students are required to pass PSYC 302 to be allowed to sit for the Comprehensive Exam.

MA in Clinical Psychology

Mission Statement

The mission of the master's program in clinical psychology is to educate and train graduate students in the science and practice of clinical psychology. Following the scientist practitioner model, students will be prepared for doctoral study in clinical psychology or licensure in Lebanon leading to competent, ethical, and socially responsible professional practice. In realizing its mission, the master's program in clinical psychology is committed to the following goals and objectives: to provide education and training in the scientific and professional foundations of the field of clinical psychology; to provide education and training in consideration of cultural diversity in the science and practice of clinical psychology; and to provide education and training in the ethics of research and professional practice.

A candidate for the MA degree in clinical psychology is required to complete 30 graduate credit hours in coursework, in addition to 6 credit hours of Clinical Practicum and 6 credit hours of Thesis, for a total of 42 credits.

Clinical Psychology Stream

PSYC 301, PSYC 302, PSYC 305, PSYC 350, PSYC 352, PSYC 354, PSYC 356, PSYC 358, PSYC 360, PSYC 362, PSYC 364, PSYC 366; in addition to the Comprehensive Exam, PSYC 395 and Thesis, CPSY 399 or Clinical Project, CPSY 398. Students are required to pass PSYC 302 to be allowed to sit for the Comprehensive Exam.

Course Descriptions

PSYC 301 Research Design in Psychology 3.0; 3 cr.
This course is the first part of the core research requirements for graduate students in psychology. It provides students with a solid foundation in the basic quantitative research methods and designs, addresses ethical issues in psychological research, and introduces students to statistical analyses that will be needed for PSYC 302 and the master's thesis. Annually.

PSYC 302 Statistical Analyses in Psychology 3.0; 3 cr.
An advanced course in statistical analyses for the social sciences. The course explores bivariate, multivariate, and structural statistical analysis using SPSS; the course combines both lecture- and lab-based sessions. Prerequisite: PSYC 301. Annually.

PSYC 305 Ethics and Community-Based Learning in Psychology 3.0; 3 cr.
An in-depth-exploration of the ethical and professional issues in scientific and applied psychology, with a special focus on the role psychology plays in civic engagement and community-based learning. Topics include confidentiality, informed consent, competence, integrity, and social responsibility. Optional opportunities to engage in community-based learning are available to students registered in this course. Annually.

PSYC 310 Advanced Social Psychology 3.0; 3 cr.
A critical survey of social-psychological theory and research, with special emphasis on cross-cultural variations; the course covers topics in social cognition and group processes. Alternate years.

PSYC 312 Systems Neuroscience 3.0; 3 cr.
An advanced course on the underlying neural mechanisms of human mental processes. Using primary and secondary literature, topics are approached from a systems level and include but are not limited to: decision-making, social cognition, control of action, creativity, language, cultural evolution, attention, memory, consciousness and brain- computer interfaces. Alternate years.

PSYC 314 Cognitive Methods 3.0; 3 cr.
This course provides students with an in-depth review of a theoretical or computational approach to studying human behavior (e.g., signal detection theory, Bayesian inference), with an emphasis on experimental techniques and procedures used to study one or more aspects of cognition, including perception, attention, memory, and decision-making. Alternate years.

PSYC 316 Experimental Analysis of Behavior 3.0; 3 cr.
An advanced course in the psychology of learning and behavior analysis concerned with the theories of associative learning and operant conditioning. It explores the classical and operant conditioning paradigms from an experimental perspective. Alternate years.

PSYC 318 Special Topics in Psychology 3.0; 3 cr.
The topic varies from term to term. May be repeated for credit. Prerequisite: consent of instructor.

PSYC 320 Graduate Tutorial in Psychology 3.0; 3 cr.
May not be repeated for credit. Prerequisites: graduate standing and consent of instructor. Annually.

PSYC 350 Advanced Psychopathology I 3.0; 3 cr.
A critical examination of the symptomatology, etiology and treatment of adult psychological disorders including but not limited to mood and anxiety, psychotic, personality, eating and substance-related disorders. Annually.

PSYC 352 Advanced Psychopathology II 3.0; 3 cr.
A course on the critical examination of childhood disorders including disruptive behavioral disorders, various anxiety and mood disorders and pervasive development disorders. Focus is placed on diagnosis and etiology including environmental and neurobiological influences of childhood psychopathology. Annually.

PSYC 354 Psychological Assessment 3.0; 3 cr.
The objective of this course is to provide students with the knowledge base and skills required to conduct a psychological assessment of a variety of mental health and neurological disorders. The course covers both psychometric and behavioral approaches to psychological assessment. Annually.

PSYC 356 Introduction to Cognitive and Behavioral Interventions 3.0; 3 cr.
This course provides an introduction to the theory and practice of cognitive and behavioral psychological interventions. These approaches will be contextualized within critical discussion of the empirically supported treatments and evidence-based practice movements. The course will survey key cognitive and behavioral approaches, including mindfulness and acceptance based "third wave" approaches. Annually.

PSYC 358 Introduction to Family Therapy 3.0; 3 cr.
A course on theories and practices of psychotherapy with families, couples, and children. Students will gain a broad theoretical understanding of the various approaches to conducting family and couples therapy, including family systems, structural, strategic, solution-focused, behavioral, and emotion-focused approaches. Annually.

PSYC 360 Psychopharmacology 3.0; 3 cr.
A course on the principles of neuropharmacology, neurochemical systems, and the current medications used to treat psychological disorders, including psychotic disorders, mood disorders, anxiety disorders, eating disorders, drug addictions, conduct disorders and attention deficit hyperactivity disorder. Annually.

PSYC 362A Clinical Practicum 3.12; 3 cr.
Clinical training at AUBMC, an approved clinical setting, under the direct supervision of qualified clinical academic faculty and/or qualified clinical staff in the practicum setting. 14 hours per week. Annually.

PSYC 362B Clinical Practicum 3.12; 3 cr.
Clinical training in an approved clinical setting outside AUBMC, under the direct supervision of qualified clinical academic faculty and/or qualified clinical staff in the practicum setting. 14 hours per week. Annually.

PSYC 364A Advanced Clinical Practicum 3.12; 3 cr.
Advanced clinical training at AUBMC, an approved clinical setting, under the direct supervision of qualified clinical academic faculty and/or qualified clinical staff in the practicum setting. 14 hours per week. Annually.

PSYC 364B Advanced Clinical Practicum 3.12; 3 cr.
Advanced clinical training in an approved clinical setting outside AUBMC under the direct supervision of qualified clinical academic faculty and/or qualified clinical staff in the practicum setting. 14 hours per week. Annually.

PSYC 366 Introduction to Psychodynamic Clinical Methods 3.0; 3 cr.
This course provides an introduction to the theory and practice of contemporary psychodynamic interventions. The course will cover current evidence-based psychodynamic approaches including transference-based psychotherapy, dynamic interpersonal therapy and mentalization therapy. Annually.

PSYC 395A Comprehensive Exam 0.0; 0 cr.
Prerequisite: PSYC 302 and consent of adviser.

PSYC 399 Thesis 9.0; 9 cr.
Annually.

CPSY 399 Thesis 6.0; 6 cr.
Annually.

Department of Sociology, Anthropology, and Media Studies

Chairperson	Atwood, Blake
Professor Emeritus	Dajani, Nabil
Director of Media Studies	Farah, May
Professors	Hanafi, Sari; Scheid, Kirsten
Associate Professors	Atwood, Blake; Kosmatopoulos, Nikolas; Perdigon, Sylvain; Wick, Livia
Assistant Professors	Farah, May; Kassir, Alexandra; Kelada, Mariz; Majed, Rima; Mourad, Sara; Petiwala, Ada; Saleh, Elizabeth; Sukarieh, Rana; Tarraf, Zeina
Lecturers	Fathallah, Zeina; Hamdar, Sarah
Instructors	Azar, George; Ghanem, Samar; Rassi, Rima; Seroujian, Narod
Part-time Instructors	Agha, Dina; Boustany, Nora; Bzeih, Bachar, Dalloul, Ali

Admission

Requirements for admission into the MA program in anthropology or sociology are consistent with those of the Faculty of Arts and Sciences. Admission to the MA in anthropology is restricted to the fall term. Applicants are required to submit two letters of recommendation and a statement of goals/research interests and experiences. Students may be interviewed upon application to determine their background and qualification.

MA in Anthropology

The anthropology MA program offers students general training in sociocultural anthropology. AUB's program, especially with regard to its faculty's expertise in creative expression and arts production; mental health and well-being; cultural ethics; refugees; and medical, legal and historical anthropology, is distinguished by offering students the opportunity to develop a strong foundation in classical anthropological paradigms and to relate them to emerging concerns of modern Arab societies. Students will have the opportunity to study the development of the discipline by exploring classical and contemporary theories and by conducting original fieldwork or doing research on secondary sources. The program is designed to sensitize students to their responsibilities as anthropologists, expose them to fieldwork, help them acquire an understanding of anthropological theory and history, and inspire experimentation with the medium and form of ethnographic writing.

MA in Sociology

The MA in sociology program offers students the opportunity to develop solid training and to acquire the necessary knowledge in the field of sociology. The department's faculty members cover several areas of research expertise, including contemporary sociological theory, comparative sociology, economic and political sociology, and cultural sociology. Other substantive issues include citizenship and civil society, knowledge production, ethnicity and sectarianism, sociology of religion, transnationalism, migration and refugee studies, sexuality and gender studies, and sociology of war and violence. The program provides students with the opportunity to develop their knowledge and understanding of key theoretical approaches in sociology in addition to getting a strong grounding in research methodology with training in both qualitative and quantitative methods of inquiry. Students are expected to further develop their intellectual skills through the critical examination of contemporary social issues, especially as they pertain to the Arab world. In addition, the program encourages students to critically consider the relationship between theory, research, policy, and practice, and to reflect on ethical considerations in doing social research. At the end of the program, students will put their acquired skills and knowledge to conduct original empirical research through a thesis.

Graduate Studies in Anthropology and Sociology

Students pursuing either an MA in anthropology or sociology are encouraged to work with faculty from other humanities and social sciences departments, in particular, media studies, political science, and the Center for Arab and Middle Eastern Studies. A master's degree in either field has a very wide application. Graduates in Anthropology and Sociology will be qualified to pursue doctoral level studies in their field. Alternatively, they will have acquired the research methods, exposure to scholarship and intercultural skills to work effectively in multicultural settings such as non-governmental and governmental organizations, as well as expertise applicable in such domains as business, education, law, and public policy.

Requirements

A candidate for the MA degree in sociology is required to complete 21 graduate credit hours in addition to a thesis. Sociology students must complete two core courses SOAN 300 and SOAN 312 or SOAN 305, in addition to three courses in sociology. Sociology students choosing a concentration in communication are also required to complete SOAN 313. The remainder of the requirements may be selected from other offerings in the department or in the FAS and other schools and faculties on campus, with the consent of the adviser and according to the interest of the graduate students. A candidate for the MA degree in Anthropology must complete two core courses SOAN 304 and SOAN 310 or SOAN 305, in addition to three courses in anthropology. Students in both programs wishing to learn Arabic for purposes of fieldwork may complete up to 6 credits of Arabic language classes towards their MA degree.

Course Descriptions

SOAN 300 Graduate Research Methods 3.0; 3 cr.
An advanced course in the formulation of research problems, research designs, and techniques of data collection including quantitative and qualitative methods and micro versus macro approaches to social reality. Students participate in actual research projects and apply various techniques of data collection and analysis to interpret research findings. Annually.

SOAN 301 The Ethnographer's Craft 3.0; 3 cr.
Anthropology or any sociocultural research is not simply the gathering of data. The course will expose students to the classic and cutting-edge texts in anthropology today. Readings include the works of Mauss, Evans-Pritchard, Malinowski and texts that have had the most impact in the field in the last decade. Close attention to the crafting of ethnographies will teach students an analytical method of reading that will help them understand the choices of theory, methodology and style that have been made to create classic anthropological knowledge. Thus, this course will enable students to conceive, devise and write-up their own ethnographic research. Alternate years.

SOAN 302 Culture and Mental Health 3.0; 3 cr.
This graduate seminar explores anthropological approaches to the study of mental health and illness. It will introduce students to theoretical traditions in medical and psychological anthropology. Addressing ethnographies from different settings, the course treats works on subjective experiences, becoming cultural beings, as well as on mental health as scientific practice and objects of knowledge and intervention. Occasionally.

SOAN 303 Art, Aesthetics, and Social Change 3.0; 3 cr.
This course combines cultural anthropology, art studies, urban studies, and history to look at the role of sensuality and aesthetics in social movements that involve envisioning a different future. Focusing on case studies from the Arab world, the US and the former Soviet Union, the course will expose students to the most recent literature in affect theory, critical art theory and Middle East studies, as well as the classic texts on power, social hierarchy, and structuralism. Occasionally.

SOAN 305/MCOM 305 Seminar in Social and Cultural Theory 3.0; 3cr.
Anthropology, sociology, and media studies share fundamental histories, theories, and aims. This course exposes students to important theories in all three disciplines to lay a strong theoretical foundation for students' own research projects. The course takes advantage of the department's unique alignment of expert diversity and regional focus to provide students with a well-rounded awareness of the multiple ways social scientists have understood cultural problems and cultures have initiated epistemological inquiry.

SOAN 304 Anthropological Research Methods 3.0; 3 cr.
This course is about the various methods of enquiry and interpretation used in anthropological research. Though ethnographic methods are shaped by each research situation and its particular historical and cultural circumstances, they are also guided by broad theoretical questions. This course takes the perspective that research is comprised of three interrelated domains: creative theoretical speculation, methodological 'operationalization' of theoretical questions and concrete research practices. The trick (or 'magic') of ethnographic research is to relate empirical and observational data in many forms to the theories that motivate their collection. We explore the politics and ethics of research, kinds of observation, effective interviewing strategies, note-taking, conducting surveys, examining archives, ways of 'coding' or indexing information, data analysis and approaches to writing. A review of the development of educational thought as expressed in the writings and ideas of major philosophers. This review endeavors to deal with thought in the context of the historical times. Arab thought is included. Annually.

SOAN 307 Graduate Seminar in Transitional Justice 3.0; 3 cr.
The seminar is an exploration of the strategies and courses of action for post-conflict societies. Consistent with the perspectives and premises of transnational justice, this seminar examines the ways in which states and the international community attempt to achieve justice in periods of political transition. Some of the leading theories and applied dimensions will be critically assessed in light of the operation of international and domestic criminal, historical and administrative justice. Annually.

SOAN 308 Empires, Colonialism, Decolonization 3.0; 3 cr.
This course provides students with an overview of the decolonization processes and their main intellectual legacies and outcomes in the formerly colonized world. It engages the main debates in post-colonial and later decolonial theory, and the major themes and thinkers of the anti-colonial struggles of the 20th century. Occasionally.

SOAN 309 Sociology of Islam 3.0; 3 cr.
This course provides students with knowledge on contemporary Islam and Muslim communities from a sociological perspective and explores a critical understanding and analysis of Muslim intellectual, religious, and cultural productions and traditions. By assessing notions of "religion", "modernity", and "secularism", the course inquires how different Islamic trends negotiated these notions in their self-understanding of Islam. This course is cross-listed with ISLM 304. Annually.

SOAN 310 Seminar in Anthropological Theory 3.0; 3 cr.
An in-depth survey of the major theoretical developments in sociocultural anthropology. The seminar focuses on both chronological treatment of issues and theories as well as on the contributions of leading theorists. Prerequisite: graduate standing or consent of instructor. Annually.

SOAN 312 Seminar in Sociological Theory 3.0; 3 cr.
The seminar critically explores some of the enduring controversies and major developments in sociological theory. An effort is first made to elucidate the origins, strategies, and ideological antecedents and components of sociological theory. A special focus is placed on the reformulations of the classic tradition and recent postmodern and other promising directions. Annually.

SOAN 313/MCOM 301 Seminar in Communication Theory and Research 3.0; 3 cr.
The seminar introduces students to trends in mass communication research and theoretical approaches to the communication process and communication context (small group communication, media processing and effects, media and society, culture and communication). Focus is placed on contemporary communication theories that have emerged in the discipline since the 1950s.Annually.

SOAN 314 Palestinians in the Arab World
This course provides an overview of the contemporary social, political, and cultural experience of the Palestinians through case studies of different Palestinian communities. It identifies key events and themes in the modern Palestinian experience, and draws on different full-time and visiting faculty research expertise to examine themes relating to the Nakba and memory, settler-colonialism, transnational Palestine, refugees and migration, art, medicine, religion, and kinship, among others. Occasionally.

SOAN 315 Seminar in Middle Eastern Culture and Society 3.0; 3 cr.
A seminar exploring social structures, cultural patterns, processes, and agents of social and cultural change. This course includes presentation and analysis of field data. Occasionally.

SOAN 317/MCOM 302 Seminar in Middle East Media and Society 3.0; 3 cr.
A seminar on the political, social, and economic effects of the new communication technologies on modern Arab society. Special attention is given to the effects of cultural deviance in the media on children and the effects of communication media on social and cultural change. Alternate years.

SOAN 318 Human Migration 3.0; 3 cr.
This graduate seminar explores sociological and anthropological approaches and theories to the study of migration. A comparative study of the causes and effects of human migration worldwide. This course covers issues concerned with voluntary and forced migration as well as with temporary labor migration and voluntary migration and resettlement, with an emphasis on current refugee crises in the Arab region and diasporic movements. Alternate years.

SOAN 320 Graduate Tutorial in Anthropology 3.0; 3 cr.
This, like other graduate tutorials in sociology and communication, is open to graduate students preferably during the second term of their first year of program study. Tutorials provide opportunities for students to pursue directed readings and preliminary grounded research of relevance to their envisaged fields of concentration. May not be repeated for credit. Occasionally.

SOAN 321 Graduate Tutorial in Sociology 3.0; 3 cr.
May not be repeated for credit. Occasionally.

SOAN 323 Special Topics in Anthropology 3.0; 3 cr.
This, like other special topics in sociology and communication, is normally devoted to SOAN faculty or visiting professors and recognized scholars to explore topics of current interest. May be repeated for credit. Occasionally.

SOAN 324 Special Topics in Sociology 3.0; 3 cr.
May be repeated for credit. Occasionally.

SOAN 395A Comprehensive Exam in Anthropology 0 cr.
Successful defense of thesis proposal. Prerequisite: Consent of adviser.

SOAN 399 Thesis 9 cr.
Thesis.

MA in Media Studies

Mission Statement

The AUB MA in media studies offers students a broad-based multidisciplinary liberal arts curriculum grounded in the social sciences that teaches students media theory and research, and focuses on the role of media in society. The program offers a regional and global scope and stresses a liberal arts approach that emphasizes theory, research, and critical skills. In addition to exploring media theories, students learn different research methods and critical inquiry into the nature, processes, and consequences of traditional and new media. The program stresses the university's commitment "to creative and critical thinking and civic responsibility."

Admission

Requirements for admission into the MA program are consistent with those of the Faculty of Arts and Sciences. Admission to the MA in media studies is restricted to the fall term. Applicants are required to submit the following: two letters of recommendation, and a statement of goals/research interests and experiences. Students may be interviewed upon application to determine their background and qualification.

Requirements

The MA in media studies follows a liberal curriculum grounded in the social sciences. Its curriculum is intended for returning professionals, and AUB and non-AUB graduates who aim to build fundamental knowledge in the theories, research methods and critical skills of the field.

The MA program offers two tracks. Students may choose either a thesis option or a project option. Both options require 30 credits. Students must decide which track they want to pursue by the time they successfully complete the comprehensive exam, which is normally at the end of the second term for full-time students. Based on their comprehensive exam performance, students will be advised to pursue one track or the other.

- The thesis option requires seven courses (21 credits), the comprehensive exam (0 credits) and a 9-credit thesis (MCOM 399).
- The project option requires nine courses (27credits), the comprehensive exam (0 credits) and a 3-credit project (MCOM 398).

All candidates for the MA in media studies must complete MCOM 300, MCOM 301 or 305, MCOM 302 and MCOM 395 (comprehensive exam), and at least three courses from the list of program electives. The remaining courses may be selected from the department electives, or other graduate courses upon the adviser's consent.

Core Courses: MCOM 300, MCOM 301 or 305, and MCOM 302.

Department Electives: MCOM 313, MCOM 314, MCOM 315, MCOM 316, MCOM 317, MCOM 362, MCOM 363, MCOM 390, MCOM 391, SOAN 310, SOAN 312, SOAN 315.

Course Descriptions

MCOM 300 Graduate Research Methods in Media Studies 2.2; 3 cr.
This course teaches students how to critically read, design and implement scientific research and use quantitative, qualitative, and mixed methods and data analysis techniques to address research questions common in the field of media studies. Students participate in actual research projects and apply various techniques of data collection, analysis, and interpretation. Prerequisite: Restricted to major or instructor consent. Annually.

MCOM 301/SOAN 313 Seminar in Communication Theory and Research 3.0; 3 cr.
The seminar introduces students to trends in media studies research and theoretical approaches to the media and communication process. Focus is placed on contemporary media and communication theories. Prerequisite: Restricted to major or instructor consent. Annually.

MCOM 302/SOAN 317 Seminar in Middle East Media and Society 3.0; 3 cr.
A seminar on the political, social, and economic effects of the Arab media on modern Arab society. Special attention is given to the relationship between communication media on social and sociocultural change. Prerequisite: Restricted to major or instructor consent. Annually.

MCOM 305/SOAN 305 Seminar in Social and Cultural Theory 3.0; 3cr.
Anthropology, sociology, and media studies share fundamental histories, theories, and aims. This course exposes students to important theories in all three disciplines to lay a strong theoretical foundation for students' own research projects. The course takes advantage of the department's unique alignment of expert diversity and regional focus to provide students with a well-rounded awareness of the multiple ways social scientists have understood cultural problems and cultures have initiated epistemological inquiry.

MCOM 313 Seminar in Communication and Development 3.0; 3 cr.
A seminar on the role of communication in developing societies, with focus on the media as a modernizing agent and on questions that are relevant to the understanding of the socioeconomic developmental process in less developed cultures. Occasionally.

MCOM 314 Issues in Transnational Media Studies 3.0; 3 cr.
In this graduate seminar, students will be introduced to some of the key debates and issues facing the field of media studies in our increasingly global era. In the last twenty years, "globalization" has become an academic buzzword. What does globalization mean for the production, distribution, and reception of media texts, including film, television, social media, and music? In this course, students will be introduced to a variety of issues in transnational media studies. Readings will deal with questions of media industries, transnational distribution practices, methods of surveillance and security, and social media activism. Occasionally.

MCOM 315 Race and Media 3.0; 3 cr.
In this graduate seminar, students will be introduced to several important ongoing debates regarding the intersection of race and media. After looking at a variety of scholarly approaches to race, students will closely examine an array of contemporary interventions in media and race studies. Topics may include lynching photography, Hollywood orientalism, music videos, race on the Internet, zombie horror cinema and the racialization of bodies in the era of drone warfare. Occasionally.

MCOM 316 Media, Belief, and Conflict 3.0; 3 cr.
This course examines the complex relationship between media, modern forms of belief, and their role in contemporary social and political conflict. The course takes a comparative approach, drawing connections between critical theory and current interdisciplinary conversations to open up the three terms in the title. Occasionally.

MCOM 317 Sex, Gender, and Media in the Middle East 3.0; 3 cr.
This seminar examines the media's central role in the production and circulation of narratives and counter-narratives of gender oppression and sexual liberation in the region. Through critical readings in film, television, and literature, we consider how representations of male dominance, women's emancipation and LGBT rights have shaped Middle Eastern politics with particular emphasis on decolonization, the War on Terror and immigration. Occasionally.

MCOM 362 Media Representations 3.0; 3 cr.
This course examines the role of the media in constructing our social reality through an examination of media practices both historically and in the present. It particularly examines the representations of Arabs and the Arab world in the Western media, and the US in the Arab media. It covers politics of culture and identity as they shape and intersect with today's globalized media. Occasionally.

MCOM 363 Historical Approaches to Media 3.0; 3 cr.
This course situates the history of communication – from the telegraph to today's social media – as more than a history of technology, and discusses the complexity with which the social world is constructed. Both technology and history enter into conversation, opening up points of critical engagement of modern understandings of the world. Occasionally.

MCOM 390 Special Topics in Media Studies 3.0; 3 cr.
This course is normally devoted to MCOM faculty or visiting professors and recognized scholars to explore topics of current interest. May be repeated for credit. Occasionally.

MCOM 391 Graduate Tutorial in Media Studies 3.0; 3 cr.
This course is open to graduate students, preferably during the second term of their first year of program study. Tutorials provide opportunities for students to pursue directed readings and preliminary grounded research of relevance to their envisaged fields of concentration. May not be repeated for credit.

MCOM 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

MCOM 398 Project 3 cr.
Project.

MCOM 399 Thesis 9 cr.
Thesis.

The Anis Makdisi Program in Literature (AMPL)

Director	Jarrar, Maher
Advisory Committee	AbdelMegeed, Maha; Harb, Sirene; Jarrar, Maher; Makdisi, Saree (UCLA)

The Anis Makdisi Program in Literature (AMPL) was inaugurated in October 2002.

Objectives

The AMPL promotes and supports interdisciplinary dialogue and different approaches in the study of literature following the tradition initiated by Anis K. Makdisi. The aim of this program is to encourage and develop scholarly interest in the humanities in general and in literature in particular, and to foster intellectual exchange among members of different departments, students, and visiting scholars.

Activities

Program activities include:

- an annual Anis K. Makdisi memorial lecture by a leading scholar in literature or a noted author of poetry or prose. All lectures are published by the program.
- a series of seminars on various issues and topics in literature and cultural studies offered by local, regional, and international scholars, novelists, and artists. The primary aim of the seminars is to enrich the study and the teaching of literature at AUB by providing wide discussion forums.
- informal gatherings (lectures, discussions, colloquia) as a venue for scholarly debate for the academic community in Beirut.

Scholarships

The Program offers two scholarships every year:

- The Anis K. Makdisi Graduate Fellowship to support graduate studies in literature at AUB
- The Anis K. Makdisi Scholarship in Literature for undergraduate studies

Website: https://www.aub.edu.lb/fas/ampl/Pages/index.aspx

Center for Arab and Middle Eastern Studies (CAMES)

Director	Hanafi, Sari
Assistant Director	Saidi, Aliya R.
Lecturer	Sultani Kanawati, Rima
Instructor	Semaan, Rima
Middle Eastern Studies Steering Committee	Atwood, Blake Robert; Hanafi, Sari; Kitlas, Peter; Mejcher-Atassi, Sonja; Orfali, Bilal; Saidi, Aliya; Tell, Tariq
Islamic Studies Steering Committee	Hanafi, Sari; Haydar, Bashshar; Ismail, Ghena; Khodr, Hiba; Orfali, Bilal; Saidi, Aliya

The Center for Arab and Middle Eastern Studies (CAMES) offers interdisciplinary MA degrees in Middle Eastern studies and Islamic studies. CAMES's goal is to enhance the understanding of the Middle East and Islamic civilization and to encourage informed scholarship in all related academic disciplines. The MA programs aim to assist students in acquiring a sound grounding in one or more aspects of the study of the Middle East and Islamic civilization, and in the Arabic language. The center offers seminars in Middle Eastern and Islamic Studies as well as a full range of Arabic language courses for non-native speakers. CAMES is an interdepartmental, interdisciplinary unit. The MA programs draw on other departments to provide coursework and thesis advising for their students. To complement students' coursework and promote scholarship about Middle Eastern and Islamic studies at AUB, the center also sponsors visiting lectures and conferences and holds occasional events such as film screenings and readings.

CAMES focuses on current methodologies and approaches in the fields of Middle Eastern and Islamic studies. Students structure their own coursework in Middle Eastern and Islamic studies, and in fields such as history, Arabic language and literature, contemporary politics, international relations, archaeology, anthropology, sociology, media studies and philosophy. The courses, thesis and project requirements encourage students to think critically and independently while undertaking analytical, in-depth research.

CAMES is committed to the study of the Arabic language and offers courses at all levels, as well as seven-week intensive language courses in modern standard Arabic and Lebanese colloquial Arabic in the summer, in coordination with the Department of Arabic and Near Eastern Languages.

Requirements

General requirements for graduate study are found in the Office of Admissions section of this catalogue. Applicants to the MA in Islamic studies track must submit an Arabic writing sample with their application. The submission of official GRE scores is optional.

MA in Middle Eastern Studies

The MA program in Middle Eastern studies is designed for students who wish to obtain broad knowledge of the contemporary Middle East and study the Arabic language. The interdisciplinary nature of the program encourages students to develop a critical understanding of the history, culture and politics of the region as well as to conduct in-depth, independent research.

Thesis Option

Students following the thesis option are required to complete a minimum of 21 credit hours in courses numbered 300 and above in addition to a 9-credit thesis. They are also required to take the two core courses, MEST 300 Making of the Modern Middle East and MEST 301 Introduction to Middle Eastern studies. Non-native speakers of Arabic are required to complete a minimum of 6 credits of Arabic language study and may take up to 9 credits of Arabic. Students may take their remaining courses at CAMES or at departments other than CAMES in topics related to Middle Eastern studies.

Project Option

Students following the project option are required to complete a minimum of 27 credit hours in courses numbered 300 and above in addition to a 3-credit project. They are also required to take the two core courses, MEST 300 Making of the Modern Middle East and MEST 301 Introduction to Middle Eastern Studies. Non-native speakers of Arabic are required to complete a minimum of 6 credits of Arabic language study and may take up to 12 credits of Arabic. Students may take their remaining courses at CAMES or at departments other than CAMES in topics related to Middle Eastern Studies.

Courses

MEST 300 Making of the Modern Middle East 3.0; 3 cr.
This course is a survey of the modern history of the Middle East with a focus on the late 18th century to the present. It examines the main political, economic, social and cultural institutions and forces at work, with an emphasis on identifying how specific events as well as long-term processes defined social and political realities in the region. Topics covered include: Ottoman reform and legacy; political ideologies including Arab nationalism, state nationalisms, communism and Islamism, among others; interactions with imperialist and colonial powers; regional conflicts; social movements (including women and peasants); and cultural changes. Annually.

MEST 301 Introduction to Middle Eastern Studies 3.0; 3 cr.
A general course in modern Middle Eastern studies designed to introduce students to the interdisciplinary study of the Middle East. Faculty from the various departments associated with CAMES, such as History and Archaeology, Philosophy, Arabic, Economics, Political Studies, Sociology, Anthropology and Media Studies are asked to present a seminar that illustrates the approaches and methodologies used in their respective fields to study the region. Consent of instructor required. Annually. MEST 302 Tutorial 3 cr. May not be repeated for credit. Every Term.

MEST 310 Seminar in Early Islamic History 3.0; 3 cr.
A seminar course that provides a social and intellectual introduction to approximately the first five hundred years of Arabic Islamic history, using a thematic rather than a chronological approach. Consent of instructor required. Annually.

MEST 311 Special Topics in Medieval Islamic Cultural History 3.0; 3 cr.
Consent of instructor required. Biennially.

MEST 315 Special Topics in Modern Middle Eastern Social and Political History 3.0; 3 cr.
Consent of instructor required. Biennially.

MEST 316 Special Topics in Modern Arabic Cultural and Intellectual History 3.0; 3 cr.
Consent of instructor required. Biennially.

MEST 317 Special Topics in Contemporary Middle Eastern Politics 3.0; 3 cr.
Consent of instructor required. Biennially.

MEST 318 Special Topics in Contemporary Middle Eastern Society 3.0; 3 cr.
Consent of instructor required. Biennially.

MEST 321/322 Arabic as a Foreign Language I and II 5.0; 3 cr. (each)
This sequence of courses introduces students who have no previous knowledge of Arabic to the Arabic language and culture within its Lebanese setting. The course utilizes an integrated approach to Arabic and emphasizes communicative tasks and contexts. By the end of the course, students will be able to speak and write simple connected sentences about themselves, their families, and their immediate environment, and read and listen to short authentic texts. By the end of the course sequence, students reach Intermediate-Low to Intermediate-Mid proficiency in Arabic on the ACTFL scale. Prerequisites: placement based on a placement examination. Each term.

MEST 323/324 Arabic as a Foreign Language III and IV 5.0; 3 cr. (each)
This course sequence aims to further enhance students' proficiency in the various skills by expanding their vocabulary, control of pronunciation and grammatical structures, and cultural knowledge. The course utilizes an integrated approach to Arabic that is based on communicative tasks and contexts. Students' activities at this level involve giving oral presentations and doing writing projects. By the end of this course sequence, students reach Intermediate-Mid to Intermediate-High proficiency in Arabic following the ACTFL scale. Prerequisites: MEST 321 and MEST 322 or equivalent, or placement based on a placement examination. Each term.

MEST 325/326 Arabic as a Foreign Language V and VI 3.0; 3 cr. (each)
This course sequence aims to enable students to reach advanced proficiency in Arabic in all skills. Students are required to do extensive readings on a variety of topics and genres, such as literature, language, and the social sciences. They are also expected to engage in debates, give oral presentations and write short research papers. The course utilizes an integrated approach to Arabic and is based on communicative tasks and contexts. By the end of this course sequence, students reach Advanced-Low to Advanced-Mid proficiency in Arabic following the ACTFL scale. Prerequisites: MEST 323 and MEST 324 or the equivalent, or placement based on a placement examination. Every term.

MEST 327/328 Arabic as a Foreign Language VII and VIII 3.0; 3 cr. (each)
This course sequence aims to take students to the advanced-high level in the various skills in Arabic. Readings at this level are extensive and span a variety of genres. Listening skills are sharpened through extensive work with news broadcasts, documentaries, and television shows in both Standard and Lebanese Arabic. The course also features extended oral presentations in class and extensive writing activities. Special emphasis is placed on understanding the nuances of the language and the use of idiomatic expressions and rhetorical devices in all language skills. Prerequisites: MEST 325 and 326 or the equivalent, or placement based on a placement examination. Every term.

MEST 329 Special Topics in Arabic Language and Literature 3.0; 3 cr.
Occasionally.

MEST 330 Introductory Syriac 3.0; 3 cr.
The course provides students with working knowledge of the Syriac language and grammar. With the help of a lexicon, students are expected to read and translate simple Syriac texts. Occasionally.

MEST 331 Introduction to Syriac Literature 3.0; 3 cr.
The aim of this introductory course is to provide students with an overview of Syriac literature from its origins to the present day. Prerequisite: ARAB 215/MEST 330, or consent of instructor. Occasionally. Students who receive credit for MEST 331 cannot receive credit for ARAB 217.

MEST 332 Intermediate Syriac 3.0; 3 cr.
This course complements ARAB 215/MEST 330 ‹Introduction to Syriac Language›, focusing on the reading, translation, and analysis of Syriac texts from various authors, genres, and time periods. In addition, the course provides a review of Syriac grammar. It is intended for those students who had taken the introductory course ARAB 215/MEST 330 or who already have a basic knowledge of Syriac and wish to continue studying the Syriac language for a second term. Prerequisite: MEST 331 or consent of instructor. Annually.

MEST 340 Introduction to Lebanese Arabic 5.0; 3 cr.
This course is for foreign speakers of Arabic only. The course builds proficiency in Lebanese Arabic through the introduction of grammatical features of the Lebanese dialect and the practice of interactive functional skills, including listening comprehension, conversation tasks and vocabulary building. For undergraduate and graduate students. Prerequisite: placement based on a placement interview. Each term.

MEST 341 Intermediate Lebanese Arabic 5.0; 3 cr.
This course is for foreign speakers of Arabic only. Intermediate Lebanese Arabic is a continuation of MEST 240/340 Introduction to Lebanese Arabic. The course emphasizes the further development of conversational skills in Lebanese Arabic, and therefore primarily targets speaking and listening skills. Knowledge of the Arabic alphabet is required to join MEST 341. This course concentrates on increasing vocabulary and command of syntax enabling students to reach a higher level of fluency. For undergraduate and graduate students. Prerequisite: MEST 240/340 or placement based on a placement interview. Each term.

MEST 342 Advanced Lebanese Arabic 3.0; 3 cr.
This course is the continuation of the sequence begun in MEST 241/341 Intermediate Lebanese Arabic and MEST 240/340 Introduction to Lebanese Arabic. Like the preceding courses, it focuses on spoken rather than written Arabic, and will therefore primarily target the oral/aural skills, speaking and listening. Knowledge of the Arabic alphabet is required to join MEST 342. The course is designed to meet the needs and expectations of non-native young adults and adults who are seeking to develop a comfortable level of proficiency in a variety of complicated communicative tasks and social situations. For undergraduate and graduate students. Prerequisite: MEST 241/341 or placement based on a placement interview. Each term.

MEST 395A Middle Eastern Studies Comprehensive Exam 0 cr.
Prerequisite: Successfully defending the thesis/project proposal. Consent of adviser.

MEST 398 Project 3 cr.
Project.

MEST 399 Thesis 9 cr.
Thesis.

MA in Islamic Studies

The MA program in Islamic studies is an interdisciplinary program with the goal of providing students with the background to expand their knowledge and understanding of classical and modern Islamic religious thought, context, and textual traditions. It highlights ethics as the overarching principle and figh as highly informed by the spirit of ethics. Framed in the paradigm of ethical pluralism, this program will be about text and context and will offer a shared space where social scientists and scholars in Islamic jurisprudence collaborate in an effort to examine maqasidic fiqh and new interpretations of the Islamic corpus.

Students are required to complete 24 credit hours in courses numbered 300 and above, in addition to a 6-credit thesis. They are required to take the 5 core courses: ISLM 300 Seminar in Qur'anic Studies; ISLM 301 Sources and Methods; ISLM 303 Seminar in Islamic Ethics; ISLM 304 Sociology of Islam (or any course that deals with Islam and society, upon the approval of the Islamic studies program director), and ISLM 305 Seminar in Maqasidic Fiqh.

Non-native speakers of Arabic are required to take intensive Arabic language classes, which are not counted as part of the degree credits. The program recommends the study of a second European language other than English, and for native speakers of Arabic to also develop a reading proficiency in a second language central to literature in Islamic civilizations and cultures, or a second Semitic language, depending on the field of specialization.

Course Descriptions

ISLM 300 Graduate Seminar in Qur'anic Studies 3.0; 3 cr.
A survey of the different problems in Qur'anic studies, such as the compilation of the Qur'an, al-nasikh wal-mansukh, the secret letters, and the different schools of tafsir. The language of instruction in this course is Arabic.

ISLM 301 Sources and Methods 3.0; 3 cr.
This course introduces students to the sources, research tools and methods in Islamic studies. Students will explore the history of the discipline and its major research areas including history, language, literature, religious sciences, intellectual sciences and social studies. Arabic native speakers can replace ISLM 301 with the equivalent Arabic course: ARAB 309. Annually.

ISLM 302 Islamic Civilizations 3.0; 3 cr.
This course examines key aspects of Islamic civilizations, cultures and thought. It will focus on the political, social, and religious institutions that shaped Islamic civilizations as well as on the intellectual and scholarly traditions, which characterized the Muslim world from the foundation of Islam onwards, and across various geographical regions and cultures. Beginning with the geographical, cultural, and historical context of the rise of Islam, the life of the Prophet, and the Qur'an, it will extend through modernity and beyond, with a special emphasis on texts. The readings consist of a selection of translated primary sources from languages that are central to the literature of Islam, as well as complementary secondary source literature. Annually.

ISLM 303 Seminar in Islamic Ethics 3.0; 3 cr.
This course covers key concepts, theoretical principles, and the doctrines of Islamic Ethics. The course critically examines how these principles and their applications have been addressing contemporary issues related to various fields including finance and business, social and political affairs, intercultural issues, as well as biomedical sciences. By the end of the course, students will work on developing a framework for ethical reasoning around specific ethical dilemma, as part of the training in problem solving. Annually.

ISLM 304 Sociology of Islam 3.0; 3 cr.
This course provides the students with knowledge on contemporary Islam and Muslim communities from a sociological perspective and explores a critical understanding and analysis of Muslim intellectual, religious, and cultural productions and traditions. By assessing notions of "Religion", "modernity", and "secularism", the course inquires how different Islamic trends negotiated them in their self-understanding of Islam. This course is cross-listed with SOAN 309. Annually.

ISLM 305 Seminar in Maqasidic Fiqh 3.0; 3 cr.
This seminar will undertake to study the Islamic legal theory (usul al-fiqh) and practice (fiqh) in conjunction with Islamic ethics, which serves as an integral part of the juridical tradition of Islam. The sources of figh like the Qur'an, the Tradition (Sunnah), consensus (ijma'), analogy (qiyas) and reason (agl) will be examined in connection with Maqsid al- sharia (high objectives of Islam) and the process by which legal decisions in Islam are made. Annually.

ISLM 315 The Qur'an in History 3.0; 3 cr.
A historical study of the Qur'an and other allied disciplines. Themes include the Islamic concept of the Qur'an; thematic and formal aspects of the Qur'an; modes of interpretation and principles of exegesis; and medieval and modern controversies regarding its history, formal structure, authorship, and authority. Biennially.

ISLM 316 Art and Architecture in Islamic Civilizations 3.0; 3 cr.
This course examines Islamic art, material culture and architecture, with a focus on key cities in the Ottoman and Qajar regions. The course also studies local perceptions of modernity and how these views related to or diverged from those of the European, British, and American colonialists/missionaries in the region. This also includes a study of identity politics, archaeology, collecting practices and museums. Biennially.

ISLM 317 Approaches to the Qur'an 3.0; 3 cr.
This interactive graduate seminar presents an introduction to the corpus of Sunni Islamic exegesis (tafsir) from the 9th to the 20th century. Biennially.

ISLM 321 Graduate Seminar in Islamic Philosophy and Theology 3.0; 3 cr.
This course covers the major debates, concepts, modes of reasoning, figures, and texts of Islamic philosophy (falsafa) and theology (kalam) in their intellectual historical contexts. Biennially.

ISLM 325 Graduate Seminar in Sufism 3.0; 3 cr.
A general presentation of Sufism that, while not aiming at exhaustiveness, will seek to acquaint students with the place and function of Sufism in Islam; the main outlines of its history; doctrinal and ritual features; the relationship between Sufism and literature, especially poetry. The course will give an overview of the sources of classical Sufism. Students will read Islamic mystical texts dealing with the Sufi Path, the nature of God and the hidden meanings of the Qur'an, dreams and miraculous powers, and the different Sufi stations. Biennially.

ISLM 331 Islamic Movements and Reform 3.0; 3 cr.
An in-depth course on modern Islamic political thought. This course focuses on the historical and intellectual developments that have fueled both revolutionary and conservative trends in Islamic political movements and states. Discussions over issues such as the relationships between religion and politics, political philosophy and ideology, and political action and revolution. Biennially.

ISLM 333 Islamic Thought and Modernity 3.0; 3 cr.
This course examines the main reform movements of the eighteenth and nineteenth centuries and the transformations in Islamic thought in the wake of the encounter with Europe. It also explores various models of Islamic political and social activism, and major themes addressed by leading thinkers of Islamic movements in the twentieth century. The focus is on Islamic movements from Egypt and the Arab Middle East, India/Pakistan, and Iran. Topics include the intellectual networks of scholars in the eighteenth century, the contexts of various forms of reform and revival, questions of continuity and European influence, the effects of the encounter with colonialism and imperialism, the attitude towards nationalism and other modern ideologies, and Islamic discussions of modernity and liberalism. In addition to background essays, primary sources in translation will be studied; the selected texts are classics that have wide circulation within contemporary Islamic movements. Biennially.

ISLM 341 Christian-Muslim Encounters 3.0; 3 cr.
A collaborative investigation of select topics in Arab and Middle Eastern History viewed from multiple perspectives. Periodic progress reports and the incorporation of findings in an interpretive term paper are required. Students who receive credit for ISLM 341 cannot receive credit for ARAB 248. Biennially.

ISLM 395A Islamic Studies Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

ISLM 396 Special Topics in Islamic Studies 3.0; 3 cr.
May be repeated for credit.

ISLM 397 Tutorial 3.0; 3 cr.
May not be repeated for credit. Every term.

ISLM 399 Thesis 6 cr.
Thesis.

Graduate Diploma in Islamic Studies

The graduate diploma in Islamic studies is a multidisciplinary program that delivers a world-class AUB education in an online asynchronous format, providing students with the flexibility to learn about Islamic intellectual history, religious thought, culture, and society at their own pace. This diploma provides a comprehensive outlook on the religion and combines theoretical knowledge of Islamic studies with practical research experience, focusing on Islamic ethics and Maqasidic fiqh while simultaneously training students to critically analyze Islamic texts and scriptures across the social sciences and humanities. Graduates of this degree will gain an in-depth understanding of Islamic studies enabling them to pursue careers requiring an advanced knowledge of Islam in multiple high-demand fields in the MENA and Southeast Asia regions and beyond, such as academia, journalism, consulting, and governmental roles.

Admission requirements

Applicants to the graduate diploma in Islamic studies must meet the university's minimum requirements for admission to a graduate degree program.

- An undergraduate bachelor's degree (or its equivalent) in any field of study.
- A GPA of at least 3.0 or the equivalent in the last two years of study.
- English language proficiency.

Exceptions to the above requirements will be made on a case-by-case basis for applicants who have work experience in the field of Islamic Studies, or an advanced knowledge of religious studies.

Upon completion of this diploma, students can pursue the MA in Islamic studies offered at AUB. A maximum of 12 credits from the diploma can be transferred towards the requirements for this MA Provided that the grade is equivalent to B+ or above.

Program requirements

This diploma is made up of five courses, each of which is worth three credits, totaling 15 credits. Participants may complete the diploma in one year or two years. Courses follow an online asynchronous format and require 14 weeks each to complete. However, students can opt for in-person classes. These courses are the same as the required courses in the master of Islamic studies program (see above). Students can replace one of the required courses by any elective upon approval of the Islamic studies diploma director.

Intensive Summer Arabic Programs

Modern Standard Arabic

MEST 360 Elementary Arabic (Intensive) 9 cr.
This course is designed to introduce students who have no previous knowledge of Arabic to the Arabic language and culture within its Lebanese setting. The course utilizes an integrated approach that teaches both Standard and Lebanese Arabic based on communicative tasks and contexts. By the end of the course, students will be able to speak and write simple connected sentences about themselves, their families, and their immediate environment. They will also be able to read and listen to short authentic texts (announcements, advertisements, short weather reports, menus, daily schedules, etc.) During the course, students will become familiar with Arab culture in general and various aspects of Lebanese culture and society. The course will use Alif Baa: Introduction to Arabic Letters and Sounds (3rd Edition) as well as part of Al-Kitaab fii Ta'allum al-'Arabiyya: Part One (3rd Edition). At the end of this course, students are expected to reach Intermediate-Low to Intermediate-Mid proficiency in Arabic on the (ACTFL) scale. Annually.

MEST 361 High Elementary Arabic (Intensive) 9 cr.
This course is designed for students who have had the equivalent of one term of Arabic instruction. It is also appropriate for students who have already had some limited exposure to the Arabic language, for instance, those who have lived in an Arab country or an Arabic-speaking environment, as well as those who have received some tutoring in Arabic. Students who enroll at this level are expected to know the Arabic alphabet and have limited reading, writing and conversational skills. The course utilizes an integrated approach that teaches both Standard and Lebanese Arabic based on communicative tasks and contexts and will use Al-Kitaab fii Ta'allum al-'Arabiyya: Part One (3rd Edition). By the end of the course, students are expected to reach Intermediate-Mid proficiency in Arabic following the ACTFL scale. Annually.

MEST 362 Intermediate Arabic (Intensive) 9 cr.
This course is designed for students who have completed at least two terms of Arabic in an academic setting but whose placement results require that they go at a slower pace than the intermediate class. The course is also appropriate for students who have been away from the language for some time. The objectives of this course, in general, are to further develop the students' skills and strategies, expand active vocabulary in a wide variety of topics and settings, enhance knowledge of basic Arabic grammar, and further develop intercultural competence. The course utilizes an integrated approach that teaches both Standard and Lebanese Arabic based on communicative tasks and contexts and will use Al-Kitaab fii Ta'allum al-'Arabiyya: Part One (3rd Edition) and a part of Al-Kitaab fii Ta'allum al-'Arabiyya: Part Two (3rd Edition). By the end of the course, students are expected to reach Intermediate-Mid to Intermediate-High proficiency in Arabic following the ACTFL scale. Annually.

MEST 363 Intermediate Mid Arabic (Intensive) 9 cr.
This course is designed for students who have had the equivalent of two to three terms of Arabic instruction. The course aims to further enhance students' proficiency in the various skills, expand their cultural knowledge, expand their vocabulary, and enhance their control of grammatical structures and pronunciation. All communications between instructors and students are carried out strictly in Arabic. Part of the students' activities at this level involves giving oral presentations and doing a lengthy writing project. The course utilizes an integrated approach that teaches both Standard and Lebanese Arabic based on communicative tasks and contexts and will use Al-Kitaab fii Ta'allum al-'Arabiyya: Part Two (3rd Edition) and parts of Al-Kitaab fii Ta'allum al- 'Arabiyya: Part Two (2nd Edition). By the end of the course, students are expected to reach Intermediate-High proficiency in Arabic following the ACTFL scale. Annually.

MEST 364 Intermediate High Arabic (Intensive) 9 cr.
This course is designed for students who have already had the equivalent of four to five terms of Arabic instruction. The objective of the course is to further enhance students' proficiency in the various skills, expand their cultural knowledge, expand their vocabulary, and enhance their control of complex grammatical structures and pronunciation. The course utilizes an integrated approach that teaches both Standard and Lebanese Arabic based on communicative tasks and contexts. By the end of the class, students are expected to comprehend lengthy authentic listening material and to give long oral presentations with facility. They are also expected to be able to write extensive compositions and to read authentic Arabic texts for research purposes. The course will use part of Al-Kitaab fii Ta'allum al-'Arabiyya: Part Two (2nd Edition) and part of Al-Kitaab fii Ta'allum al-'Arabiyya: Part Three. By the end of the course, students are expected to reach Advanced-Low to Advanced-Mid proficiency in Arabic following the ACTFL scale. Annually.

MEST 365 Advanced Arabic (Intensive) 9 cr.
This course is designed for students who have already had the equivalent of six terms of Arabic instruction. It aims to enable students to reach higher levels of advanced proficiency in all skills. Students are required to do extensive readings on a variety of topics and genres, such as literature, language and the social sciences. They are also expected to engage in debates, give oral presentations and write short research papers. The course utilizes an integrated approach that teaches both Standard and Lebanese Arabic based on communicative tasks and contexts and will use Al-Kitaab fii Ta'allum al-'Arabiyya: Part Three, to be supplemented by extra material as needed. By the end of the course, students are expected to reach Advanced-Mid to Advanced-High proficiency in Arabic following the ACTFL scale. Annually.

MEST 366 Advanced High Arabic (Intensive) 9 cr.
This course is designed for students who are placed at the advanced-mid level of proficiency of Arabic upon entering the program and it aims to take them to the advanced-high level in the various language skills. Readings at this level are extensive and span a variety of genres; readings will cover at least one novel, short stories, academic articles, lengthy newspaper articles, and selections from medieval texts. Listening skills are sharpened through extensive work with news broadcasts, documentaries, and television shows in both Standard and Lebanese Arabic. Special emphasis is placed on understanding the nuances of the language and the use of idiomatic expressions and rhetorical devices in all the language skills. The course also features extended oral presentations in class where students demonstrate the oral skills of an educated native or near native speaker of Arabic. The course will use Al-Kitaab fii Ta'allum al-'Arabiyya: Part Three in addition to other readings assigned by the teachers. By the end of the course, students are expected to reach Advanced-High proficiency in Arabic following the ACTFL scale. Annually.

MEST 367 Superior Arabic (Intensive) 9 cr.
Students entering this level are expected to have advanced-high proficiency in Arabic and are expected to make progress towards Superior proficiency. This level features extensive readings that cover a wide variety of genres including novels, short stories, academic articles, lengthy newspaper articles, and selections from medieval texts. Listening skills are enhanced through extensive work with news broadcasts, documentaries, and television shows in both Standard and Lebanese Arabic. Special emphasis is placed on understanding the nuances of the language and the use of idiomatic expressions and rhetorical devices in all the language skills. The course also features extended oral presentations in class where students demonstrate the oral skills of an educated native or near native speaker of Arabic. The course will use Al- Kitaab fii Ta'allum al-'Arabiyya: Part Three in addition to other readings assigned by the teachers in a variety of genres. Annually.

Lebanese Colloquial Arabic

MEST 380 Introductory Lebanese Colloquial Arabic (Intensive) 9 cr.
This course is designed for students who have had little or no previous exposure to Arabic and would like to gain basic proficiency in Lebanese Arabic (LA). The course builds proficiency in LA through a communicative-based approach. Through video and text materials that deal with a wide variety of communicative functions and tasks and that are rich in cultural content, students will develop their speaking and listening skills in LA. In addition, they will be able to contextualize these skills in culturally-appropriate contexts and demonstrate their understanding of the diverse products, practices, and perspectives of Lebanese culture and society. The course will introduce students to the Arabic alphabet and to an extensive vocabulary and grammatical structures that will enable them to interact with speakers of LA in contexts related to the Novice and Intermediate levels of proficiency with ease and confidence. The course will focus on discussing topics of personal and public interest, describing, and narrating personal experiences, delivering presentations, watching, and analyzing TV programs, soap operas and films, and listening to songs. The course utilizes a wide variety of instructional materials developed by the CAMES Arabic teaching team. No prior knowledge of Arabic is required for the course. Annually.

MEST 382 Intermediate Lebanese Colloquial Arabic (Intensive) 9 cr.
This course is designed for students who already have some knowledge of Standard Arabic and/or Lebanese Arabic (LA) but want to devote more attention to developing higher level of proficiency in LA. The program provides students with the opportunity to improve their Lebanese colloquial Arabic skills through a wide variety of activities, including discussing topics of personal and public interest, describing and narrating in detail, holding conversations and debates, stating, and supporting opinions, delivering presentations, watching and analyzing TV programs, soap operas and films, and listening to songs and music. In addition, the program helps students develop familiarity with and understanding of the diverse products, practices, and perspectives of Lebanese culture and society. The program utilizes a wide variety of instructional materials developed by the CAMES Arabic teaching team. The prerequisite for this program is one year (two terms or the equivalent) of Arabic study. To ensure proper placement in the program, a Skype oral interview is required of all applicants. Annually.

MEST 384 Advanced Lebanese Colloquial Arabic 9 cr.

The Advanced Lebanese Colloquial Arabic class enables students to further develop their speaking and listening skills in Lebanese Arabic with special attention to expanding their knowledge of Lebanese culture. Students in the course are exposed to a variety of historical, social, economic, touristic, and artistic topics related to Lebanese Arabic language and culture. The class enhances students' listening skills by exposing them to different uses of the Lebanese dialect in authentic frames such as news reports, television, and Internet series. Conversation skills are developed by encouraging students to speak in a participatory manner during the extensive discussions of the materials in class, with emphasis on pronunciation and speaking the Lebanese dialect properly. The class encourages students to use the general vocabulary used in daily life situations in a precise and smooth manner, and enriches their linguistic reserve by exposing them to a large amount of vocabulary and expressions related to the historical, social, economic, touristic, media and artistic fields. This enables students to use more complex and advanced structures and to master the use of certain verbs and words of recurrent use in the Lebanese dialect that have multiple meanings. The class demonstrates the similarities and differences between Lebanese Arabic and Standard Arabic, allowing students to learn how to move between the two with ease and helping them to understand the sociolinguistic contexts in which these Arabic varieties are used. Annually.

The Prince Alwaleed Bin Talal Bin Abdulaziz Alsaud Center for American Studies and Research (CASAR)

Director	Myers, Robert
Program Coordinator and Instructor of American Studies	Baghdadi, Rana

The MA Program is frozen. Please contact CASAR faculty for more details.

MA in Transnational American Studies

The Center for American Studies and Research offers a master of arts in transnational American studies. We conceive of transnational American studies in terms of the cultural, political, and social relations between, among and across the Americas and the Middle East/North Africa region. CASAR's goals are to increase understanding of the interdependencies between America and the MENA region, as well as to understand how culture and US geopolitical power circulate beyond American borders. The MA program aims to assist students in acquiring an academic grounding in the theories and methods of the discipline of American studies, as well as to foster transnational scholarship at the intersections of interdisciplinary American and MENA Studies. The MA program is interdisciplinary: CASAR offers seminars in transnational American studies, and students also draw on faculty expertise in other departments for elective course offerings and thesis advising. To complement students' coursework and promote scholarship related to transnational American studies at AUB, the center sponsors conferences, lectures, and other events.

Students structure their own course of study by specializing in areas such as Arab and Middle East studies, contemporary politics, international relations, history, anthropology, sociology, fine arts, media studies or literary studies. The courses and thesis or project requirements offer students the opportunity to engage in critical, independent thinking and to undertake in-depth research.

Admission to the MA in transnational American studies is restricted to the fall term.

All students are required to take three transnational American studies core courses: AMST 300, AMST 301, and AMST 302.

The MA in transnational American studies offers a thesis option and a project option. Students are strongly encouraged to select the project option.

Project Option

Students following the project option are required to complete a minimum of 27 credit hours in courses numbered 300 and above, as well as a 3-credit project. In addition, students will choose electives in consultation with the director of the program. No more than 3 credits of the program of study can be in Arabic language study, unless the students petition to include additional Arabic credits in their program of study.

Thesis Option

Students following the thesis option are required to complete a minimum of 21 credit hours in courses numbered 300 and above, as well as a 9-credit thesis. In addition, students will choose electives in consultation with the director of CASAR. No more than 3 credits can be in Arabic, unless the students petition to include additional Arabic credits in their program of study.

The MA in transnational American studies is currently frozen.

Course Descriptions

AMST 300 Introduction to Transnational American Studies 3.0; 3 cr.
This graduate seminar introduces students (1) to current theories and methods in the field, (2) to the history of American studies nationally and transnationally and (3) to the participating faculty in the program. It is the required introductory seminar for all Transnational American Studies graduate students and is open only to those who have been accepted into the MA program. During the course of the term, other affiliated American Studies participating faculty members will visit the seminar to introduce themselves and their fields of specialization.

AMST 301 America in the Middle East 3.0; 3 cr.
Although the United States' encounter with the Middle East may appear to be a relatively recent phenomenon, this course illustrates that America has imagined the Middle East ever since the beginning of North American colonization. Moreover, America has been in the Middle East for a period that extends long before US military and diplomatic presence in the region. In addition to documenting various moments of encounter between America and the Middle East, this course also problematizes the very terms "America" and "Middle East" by introducing each region as a geographic imaginary. In this way, the course first asks what are the borders and limits of "America" and "the Middle East" and how and when are these borders and limits produced? Prerequisite: AMST 300.

AMST 302 Theories and Methods of Transnational American Studies 3.0; 3 cr.
This seminar introduces students to interdisciplinary approaches to the study of transnational American culture and social history. During the term, we will examine the history of American Studies, as well as focus on contemporary scholarship in the field. This course explores the political and social meanings of cultural conflict, national identity, and transnational culture and politics through close analysis and classroom discussion of various research methodologies that employ primary source material such as historical documents, literature, ethnography, and visual and popular culture. We will focus on how ideas about race, gender, sexuality, class, region, and nation have shaped contests over the meaning of citizenship and belonging. The seminar will be framed around the following questions: What is distinct about interdisciplinary scholarship? What kinds of questions do American Studies scholars ask and why? What does a comparative and transnational framework require and offer in terms of methodology? Prerequisite: AMST 301.

AMST 375 Special Topics in Transnational American Studies 3.0; 3 cr.
Special Topics in Transnational American Studies

AMST 395A Comprehensive Exam 0 cr.
Prerequisite: consent of adviser.

AMST 397 American Studies Graduate Tutorial 3.0; 3 cr.
American Studies Graduate Tutorial

AMST 398 Project 3 cr.
Project

AMST 399 Thesis 9 cr.
Thesis

Center for Language Research and Teaching (CeLRT)

Director	Shaaban, Kassim A.
Professors	Choueiri, Lina G.; Ghaith, Ghazi M.; Shaaban, Kassim A.
Associate Professors	Hanafi, Sari; Orfali, Bilal W.
Assistant Professors	Allen, Ira J.; Avant, Doyle R.; Kelly, Niamh; Majed, Rima; Nish, Jennifer M.; Vermy, A. Michael; Zimmerman, Erin.

CeLRT is currently inactive. For more information, please contact the center director.

The proposed functions of the center are the following:

- Providing language practitioners with professional support through workshops, panel discussions, forums, seminars, and discussions.
- Establishing connections with professional organizations and supporting their goals and mission.
- Holding a biannual conference on different topics in theoretical and applied linguistics and related fields (sociolinguistics, language acquisition, pragmatics, and mass communication).
- Publishing an electronic journal that addresses generic language issues as well as issues specific to the language situation and language education in the Middle East region.
- Working on offering new postgraduate degrees in language related areas such as Creative Writing, Rhetoric and Composition, and Translation.
- Offering consultation services in language-related areas.
- Hosting visiting scholars and post-doctoral fellows.
- Working on the establishment of new language-based interdisciplinary graduate programs at AUB.
- Engaging in research in theoretical and applied linguistics and in language teaching and language learning.

Kamal A. Shair Central Research Science Laboratory (KAS CRSL)

Interim Director	Ghaddar, Tarek, PhD
Senior Laboratory Manager	Shatila, Rania, MS
Senior Laboratory Scientist	Bou Hamdan, Razan, MS
Senior Laboratory Scientist	Fares, Reina, MS
Senior Laboratory Technologist	Salam, Sally, MS
Laboratory Scientist	Issa, Daniella, MS
Laboratory Scientist	Awad, Jad, MS

The Kamal A. Shair Central Research Science Laboratory (KAS CRSL), commonly known as the CORE facility, at the American University of Beirut is a six-million-dollar Faculty of Arts & Sciences facility housing more than 40 major equipment distributed between Four Areas (Central Wing, East Wing, West Wing, and Basement; ~400 m2) and a multitude of other multi-user equipment and facilities. The KAS CRSL is considered as the pride of FAS and AUB, as it serves research in most disciplines across AUB (mainly FAS, MSFEA, FAFS, FHS, FM) and constitutes a state of-the-art platform essential for a thriving and progressive university research environment.

The KAS CRSL is comprised of Six Main Sections: Bioscience, Chromatography, Magneto-science, Materials Science, Microscopy & Imaging, Spectrophotometry. The KAS CRSL complements other specialized departmental and faculty research laboratories, and as such aims at promoting individual as well as joint and multidisciplinary cooperative research.

The KAS CRSL is designed primarily to serve AUB faculty members, their graduate students, and their collaborators whether from industry or other universities within Lebanon, the MENA region, or internationally. Furthermore, the KAS CRSL contributes to excellence in undergraduate teaching by providing students with hands-on learning experience on advanced instrumentations and a head-start in scientific research.

The KAS CRSL is a testimony to AUB's commitment in advancing science, technology, research, and innovation at the highest levels of quality and safety. There are more than 300 active users working and conducting their research studies at the KAS CRSL and producing more than 250 publications per year. The KAS CRSL is constantly offering its users with top-of-the-line and day-to-day training sessions and workshops, troubleshooting, as well as method validation, equipment calibration, and occasional data analysis. Its mission is to provide cutting-edge technologies and facilities that enables our researchers to compete on the global scale.

The KAS CRSL is located in Emile Bustani Hall, Room 120. Contact the KAS CRSL by email at crsl@aub.edu.lb or by phone at AUB extension 4300.

Graduate Program in Computational Science (GPCS)

Director	Touma, Jihad (Physics, FAS)
Executive Committee Members	Araman, Victor (Decision Science, OSB) Doummar, Joanna (Geology, FAS) Issa, Ibrahim (Electrical and Computer Engineering, MSFEA) Monni, Stefano (Mathematics, FAS) Mouawad, Amer A. (Computer Science, FAS) Najem, Sara A. (Physics, FAS) Taati, Siamak (Mathematics, FAS)

Computational science is a thriving field of study at the interface of computer science, mathematics and statistics, the natural sciences, engineering, and financial engineering. Practitioners of the art develop mathematical models, construct, and optimize numerical algorithms, then deploy them on increasingly powerful computers to address real-life problems in fields where quantitative/compute-intensive modeling and simulation are essential to optimal design, predictive analytics, and inference.

The graduate program in computational science (GPCS) at AUB is open to students with a background in computer science, applied mathematics and statistics, the natural sciences, engineering, economics, or business who wish to further their undergraduate experience with computers and computing via intensive, hands-on study, development, and application of state-of-the-art numerical algorithms.

Having completed core courses in the program, students will then follow a sequence of elective courses, then formulate and tackle problems in computationally-intensive fields currently explored at AUB (e.g., data analytics, computational theory, bioinformatics, biostatistics, computational biosciences, physics, astrophysics, hydrogeology, continuum mechanics, optimization, operations research, and risk analysis).

The program prepares its students for an academic adventure in applied mathematics, computational sciences, and related fields, as well as a career in industries or research centers where numerical modeling, simulation, design, and/or optimization are key

Admission Requirements

Admission to the master's program in computational science follows basic AUB regulations, and will be ultimately based on interview. To be considered, applicants to the program should either: 1) be holders of a bachelor's degree in the natural sciences, business, computer science, economics, engineering, or mathematics; have successfully completed the equivalent of CMPS 201, MATH 201, MATH 202, MATH 218 or 219; and have acquired proficiency in discrete mathematics, numerical analysis and statistics, at a level equivalent to MATH/CMPS 211, MATH/CMPS 251, and STAT 230 (233), respectively; or 2) be holders of a bachelor's degree, and have completed the equivalent of MATH 202, STAT 230 and of the FAS core course requirements for a minor in computational science. Some candidates may be admitted as prospective students until full completion of the required undergraduate courses.

Graduate assistantships (GFAP) are available for some applicants to the program based on qualifications.

Graduation Requirements

- 9 credits consisting of three core courses in advanced numerical methods, optimization, and data science, to be selected from the following three baskets respectively:

1. **Advanced Numerical Methods (3 credits)**

a. **General**

- MATH/CMPS 350 Discrete Models for Differential Equations
- MATH/STAT 348 Monte Carlo Methods

b. **Discipline Specific**

- BIOL 370 Bioinformatics
- PHYS 310A Computational Physics
- MECH 663 Computational fluid dynamics

2. **Optimization (3 credits)**

- MATH/CMPS 351 Optimization and Nonlinear Problems
- ENMG 616 Advanced Optimization Techniques

3. **Data Science (3 credits)**

- CMPS 364 Advanced Machine Learning
- EECE 633 Data Mining
- EECE 664M Introduction to Machine Learning
- EECE 667 Pattern Recognition
- EECE 693 Neural Networks
- 12 credits of electives which the students would typically select within one of the program's approved tracks: Data Analytics, Computational Theory, Bioinformatics, Biostatistics, Computational Biosciences, Computational (Astro)-Physics, Hydrogeology, Continuum Mechanics, Optimization, Operations Research, or Risk Analysis. Alternatively, students can, in coordination with their adviser, and with the approval of the GPCS Committee, define a 12-credit track that best suits their background and research interests.
- A 9-credit thesis (CMTS 399) in which qualified students demonstrate the ability of constructing, implementing and/or proficiently using computational tools to address problems in their chosen track.

Courses that count towards credit in Computational science:

MATH/CMPS 350 Discrete Models for Differential Equations 3.1; 3 cr.
A detailed study of methods and tools used in deriving discrete algebraic systems of equations for ordinary and partial differential equations: finite difference and finite element discretization procedures; generation and decomposition of sparse matrices, finite-precision arithmetic, ill-conditioning and pre-conditioning, scalar, vector, and parallelized versions of the algorithms. The course includes tutorial immersion sessions in which students become acquainted with state-of-the-art scientific software tools on standard computational platforms. Prerequisites: linear algebra and the equivalent of MATH/CMPS 251 (which can be taken concurrently) or consent of instructor. Annually.

PHYS 310 Special Topics 3.0; 3 cr. (each)
May be repeated for credit.

STAT 348 Monte Carlo Methods 3.0; 3 cr.
Common techniques and basic principles of Monte Carlo simulations, including an overview of random number generation, rejection methods, importance sampling and variance reduction techniques, Monte Carlo integration, Markov chain Monte Carlo (Metropolis-Hastings and Gibbs sampler and some variants, e.g., cluster algorithms and multilevel samplers, as time allows). Annually.

BIOL 370 Bioinformatics 2.3; 3 cr.
A project-based course that teaches computer and statistics skills to handle biological data efficiently and creatively. Projects can involve the analysis of any type of biological data, such as image data, survival data, microarray data, sequence data, next-generation sequencing data, etc. Students can either analyze data from their own work or recapitulate parts of a published analysis. During the course, students write analysis scripts in R that automatize an entire workflow from data pre-processing to analysis, output of results and plotting.

MECH 663 Computational Fluid Dynamics 3.0; 3 cr.
A course that deals with the discretization process in fluid dynamics; numerical approaches and applications; iterative and direct matrix methods; numerical implementation of turbulence models. Prerequisites: MECH 314 and MECH 412.

Optimization

MATH/CMPS 351 Optimization and Nonlinear Problems 3.1; 3 cr.
A study of practical methods for formulating and solving numerical optimization problems that arise in science, engineering, and business applications. Newton's method for nonlinear equations and unconstrained optimization. Simplex and interior-point methods for linear programming. Equality and inequality-constrained optimization. Sequential quadratic programming. Emphasis is on algorithmic description and analysis. The course includes an implementation component where students develop software and use state-of-the-art numerical libraries. Annually.

ENMG 616 Advanced Optimization Techniques 3.0; 3 cr.
The course is divided into four parts covering integer programming, nonlinear programming, stochastic programming, and heuristic methods. Students will develop skills in modeling complex systems using mathematical programming, analyzing the structure of mathematical programs, and developing and applying the correct solution techniques. Students will also have hands-on experience in using software packages for solving optimization problems.

Data Analytics

CMPS 364 Advanced Machine Learning 3.0; 3 cr.
This course focuses on Deep Learning and its applications. Deep Learning has revolutionized the field of Machine Learning and has turned Artificial Intelligence from a research endeavor into an actual reality. In this course, students will learn about the fundamentals of Deep Learning, and how to build Deep Learning models for various real-world applications, particularly in Computer Vision and Natural Language Processing. This course was previously numbered CMPS 392. Annually.

EECE 633 Data Mining 3.0; 3 cr.
This course is an introduction to data mining. Data mining refers to knowledge discovery, using huge amounts of data to arrive at non-trivial conclusions. Topics will range from statistics to machine learning to database, with a focus on analysis of large data sets. The course will target at least one new data mining problem involving real data, for which the students will have to find a solution. Prerequisite: EECE 330 or consent of instructor.

EECE 664M Introduction to Machine Learning 3 cr.
The course provides an overview of machine learning theory and algorithms that learn from experience to predict or control yet to be seen instances. The course discusses the intuition and the theory of some selected modern machine learning concepts as well as practical know-how to successfully apply them to new problems. It covers topics in supervised learning such as parametric/ non-parametric, generative/ discriminative algorithms for classification and regression and in unsupervised learning for clustering, dimensionality reduction and reinforcement learning. The course also includes case studies and applications so that students can gain practice on regularization, model selection, parameter estimation, Bayesian networks, hidden Markov models, support vector machines, reinforcement learning, neural networks, and deep learning. Students cannot receive credit for both EECE 664M and EECE 633 and EECE 667. Prerequisites: EECE 330, and MATH 218 or MATH 219, and STAT 230 or STAT 233 or consent of instructor.

EECE 667 Pattern Recognition 3 cr.
The course provides an overview of the algorithms used in machine learning. The course discusses modern concepts for model selection and parameter estimation, decision-making and statistical learning. Special emphasis will be given to regression and classification for supervised modes of learning. Students will be assigned typical machine learning problems to investigate as projects.

EECE 693 Neural Networks 3 cr.
The course provides a comprehensive foundation to artificial neural networks and machine learning with applications to pattern recognition and data mining; learning processes: supervised and unsupervised, deterministic and statistical; clustering; single layer and multilayer perceptrons; least-mean-square, back propagation, deep learning; Al-Alaoui pattern recognition algorithms; radial basis function networks; committee machines; principal component analysis; self-organizing maps; current topics of interest.

CMTS 395A Comprehensive Exam 0 cr.

CMTS 397 Tutorial 3 cr.
May not be repeated for credit. Every term.

CMTS 399 Thesis 9 cr.
Thesis.

Institute of Financial Economics (IFE)

Director	Neaime, Simon
Senior Fellows	Altug, Sumru G.; Makdisi, Samir A.; Saghir, Jamal M.
Fellows	Neaime, Simon E.
Research Fellow	Gaysset, Isabelle P.

Steering Committee

Simon Neaime, Chairperson, Professor, Department of Economics
Sumru Altug, Member, Professor and Senior Fellow, Institute of Financial Economics
Samir Makdisi, Member, Professor Emeritus, Department of Economics
Jamal Saghir, Member, Professor of Practice and Distinguished Fellow, Institute of Financial Economics
Ali Chehab, Member, Professor, Department of Engineering
Assem Safieddine, Member, Professor, Department of Computer Science
Nabil Nassif, Member, Professor, Department of Mathematics

Objectives

Effective October 2001, the Institute of Money and Banking, founded in 1984 at the initiative of Samir Makdisi, was restructured as the Institute of Financial Economics to be engaged in research work, seminars, and workshops primarily in the areas of financial, monetary, international, and political economics.

In tandem with the ongoing process of globalization, there has been a growing emphasis on the fields of financial, monetary, and international economics. A major objective of the Institute is to promote research and other academic activities in these fields and thereby build it up into a major research center with a particular concern in the economy of Arab countries and developing countries. The Institute encourages collaborative work with appropriate national, regional, and international organizations, and research centers.

The principal goals of the Institute may be briefly outlined as follows:

- Its first goal is to conduct, organize and sponsor high-level research work related in particular (but not exclusively) to financial, monetary and international economics as well as to political economy. Emphasis will be placed on policy- oriented empirical work pertaining to the Arab region and other developing areas, and collaborative teamwork will be promoted. Such research will prove beneficial to governments and organizations concerned with the design of economic and financial policies, especially in the Arab region.
- Its second goal is to hold seminars, workshops and lectures on various topics related to the above areas. The first two types of activities will, among other things, bring together academicians, financial managers and experts, and policy makers to analyze issues of relevance at the policy level.
- Finally, it aims to accommodate visiting scholars and experts, for various intervals of time, to conduct research at the Institute and sponsor public lectures in financial, monetary, and related fields.

Activities

- A Seminar Series consisting of lectures given by invited scholars and experts in the field.
- A Working Paper Series which the Institute publishes as part of its role in making available ongoing research within and outside the university.

Membership and Governance

The Institute is an independent academic entity within the Faculty of Arts and Sciences with its own endowment fund. It is managed by a director and staffed with research fellows, visiting scholars, post-doctoral fellows, research assistants and associates, graduate research assistants and an assistant to the director.

Science and Mathematics Education Center (SMEC)

Director	El Mouhayar, Rabih
Professor	BouJaoude, Saouma
Associate Professors	Amin, Tamer; El Mouhayar, Rabih; Khishfe, Rola
Lecturer	Osman, Enja

The overall mission of the Science and Mathematics Education Center is four-fold:

- to conduct and support quality research on the teaching and learning of science and mathematics at the pre-school, elementary, and secondary levels.
- to contribute to the development of quality science and mathematics teaching and research professionals.
- to design and provide ongoing professional development for science and mathematics teachers in Lebanon and abroad.
- to affect a positive influence on the quality and status of school science and mathematics education locally, regionally, and internationally.

The center currently accomplishes its mission through the performance of a variety of functions including, but not limited to:

- designing and teaching science and mathematics education courses for pre-service teachers and master's level graduate students in cooperation with the Department of Education.
- designing and conducting research on teaching, learning, and teacher professional development in science and mathematics.
- designing and developing instructional materials in science and mathematics for students and teachers,
- maintaining a current science and mathematics curriculum library for use by pre-service and in-service teaching professionals.
- providing outreach consultation in science and mathematics education for schools, institutions, and governments regarding curriculum design, design of instructional environments, methods of evaluation, and professional development for teachers.
- providing in-service professional development for teachers and subject-matter coordinators through special courses, workshops, institutes, conferences, or through participation in professional development initiatives sponsored by AUB or other institutions and organizations.

University Preparatory Program (UPP)

Full-time Lecturer	Harkouss, Samar
Part-time Lecturers	Rahme, Joseph; Ramadan, Najwa; Sadaka, Nadine
Full-time Instructors	El-Harake, Rima; Peltekian, Katia
Part-time Instructors	Almekkawi, Rola; Nehme, Samira
Part-time Assistant Instructors	Nabbouh, Salam; Rafeh, Hala

The University Preparatory Program (UPP) is a unit within the Faculty of Arts and Sciences. Its main objective is to address the specific English language needs of students who have completed high school with strong academic records but are unprepared to function in all-English curricula at the university level.

The UPP also offers two intensive English summer courses for newly admitted graduate students coming from outside AUB who have not fulfilled the English language requirement. These courses aim at enabling such students to function effectively in all English curricula.

UPGR 001A First Intensive English Summer Course for Graduate Students 0 cr.
This course is a graduate level intensive English course (a minimum of 34 contact hours per week), which prepares students from various disciplines with the requisite English language skills and competencies to succeed in their graduate studies at AUB. Prerequisite: 25-28 on the EEE or 490-549 on the paper-based TOEFL (or 57-80 on the internet-based TOEFL).

Students who have not yet taken any English test or who have taken the test and achieved the scores below are eligible for enrolment in UPGR 001A.

Students who take this course and pass it with a minimum grade of (C+) will be allowed to directly enroll in ENGL 300 without taking any English entrance exam again.

However, students who had not initially taken an English test will have to pass the course with a minimum grade of (C+) and should take an English test and achieve the scores listed in the table below.

TOEFL IBT	TOEFL PBT	EEE
57-80	490-549	25-28

Students who take this course and pass it with a minimum grade of (C+) will be allowed to directly enroll in ENGL 300 without taking any other English entrance exam.

University Preparatory Program (UPP) Graduate Courses

UPGR 001A First Intensive English Summer Course for Graduate Students 0 cr.
This course is a graduate level intensive English course (a minimum of 34 contact hours per week), which prepares students from various disciplines with the requisite English language skills and competencies to succeed in their graduate studies at AUB. Prerequisite: 25-28 on the EEE or 490-549 on the paper-based TOEFL (or 57-80 on the internet-based TOEFL).

UPGR 001B Intensive English Summer Course for Graduate Students 0 cr.
This course is a graduate level intensive English course (a minimum of 20 contact hours per week) designed to equip students independent of their disciplines with the requisite English language skills and competencies for success in their graduate studies at AUB. Prerequisite: 29-31 on the EEE, or 550 -572 on the paper-based TOEFL (or 213-229 on the computer-based TOEFL or 81-87 on the internet-based TOEFL), or 6.0-6.5 on the IELTS.

The Zaki Nassif Program for Music (ZNPM)

Chairperson	Nassif, Nabil
Academic Committee	Jureidini, Wadi; Sadek, Walid; Kurani, David; Orfali, Bilal; Taher, Ali; Touma, Jihad

The Zaki Nassif Program for Music was inaugurated in December 2004.

Objectives

The program aims to preserve and promote the musical heritage of Zaki Nassif and to foster excellence in the teaching of music by contributing to its advancement through a variety of activities that include:

- Reinstating and sustaining musical studies programs and music curricula at AUB.
- Recruiting scholars and new faculty members to initiate music courses and programs at the department of Fine Arts and Arts History in the AUB Faculty of Arts and Sciences.
- Organizing competitions, concerts, conferences, and seminars.
- Inviting professional musicians and academics to the university.
- Awarding prizes, scholarships, and fellowships to students in the name of Zaki Nassif.

The Center for Arts and Humanities (Mellon Grant)

Director	Orfali, Bilal
Program Manager	Bassil, Rita

The Center for Arts and Humanities (CAH) at the American University of Beirut aims to serve as a focal institution in supporting the creation and dissemination of humanistic knowledge, set within a framework of the rich cultural heritage of the SWANA region. The CAH promotes collaboration across disciplines and serves as an arena of exchange, bringing together scholars, artists, and thinkers from the region and well beyond.

The CAH sponsors and supports a wide-ranging program of academic and artistic events - including lectures, workshops, seminars, exhibitions, and conferences - designed to engage a community that is at once both local and international. These events are designed with a view to have them become a space for interdisciplinary dialogue, bringing together scholars from various disciplines, bridging the arts, humanities, sciences, and social sciences. It invites international scholars to participate in its activities with the aim of giving rise to an active flow of ideas and perceptions that would result in a variety of discussions and collaborations across regional borders.

Over the years, the center has granted funded fellowship programs for faculty and postdoctoral researchers, as well as residencies for artists and writers. The programs of the CAH are designed to foment innovative research and creative expression importantly linked to the Arab world, while informing and engaging with global discourses.

In such a transformative environment, the CAH aims to participate in the preservation and revitalization of humanistic traditions, serving as an interlocutor within the cultural conversation between East and West, at a time when research into the artistic and intellectual production of Arab societies and beyond is rapidly growing in both breadth and depth. This would help further consolidate AUB’s position in the forefront of promoting liberal arts education in the region, enhancing local and regional cultural knowledge, and contributing to the global humanities discourse and community.

Faculty of Arts and Sciences (FAS)

Graduate