THE AMERICAN
UNIVERSITY OF ATHENS

THE SCHOOL OF

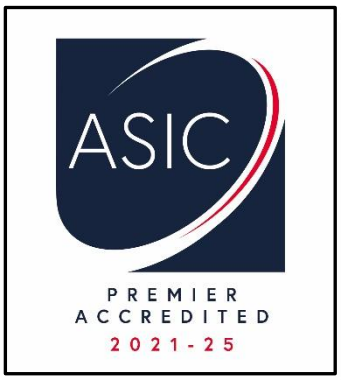
GRADUATE

STUDIES

BULLETIN

2024-2025

Accreditation



American University of Athens holds International Accreditation from ASIC (Accreditation Service for International Schools, Colleges, and Universities) with Premier Status for its commendable Areas of Operation. ASIC Accreditation is a leading, globally recognised quality standard in international education. Institutions undergo an impartial and independent external assessment process to confirm their provision meets rigorous internationally accepted standards, covering the whole spectrum of its administration, governance, and educational offering. Achieving ASIC Accreditation demonstrates to students and stakeholders that an institution is a high-quality education provider that delivers safe and rewarding educational experiences and is committed to continuous improvement throughout its operation.

About ASIC: One of the largest international accreditation agencies operating in 70+ countries, ASIC is recognised in the UK by UKVI - UK Visas and Immigration (part of the Home Office of the UK Government), is ISO 9001:2015 (Quality Management Systems) Accredited and is a Full Member of The International Network for Quality Assurance Agencies in Higher Education (INQAAHE), a member of the BQF (British Quality Foundation), a member of the International Schools Association (ISA), and an institutional member of EDEN (European Distance and E-Learning Network).

GRADUATE PROGRAMS

MASTER OF SCIENCE

- BIOMEDICAL SCIENCES
- BIOMEDICAL SCIENCES (PHARMACY OPTION)
- COMPUTER SCIENCE ENGINEERING AND APPLIED SCIENCES
- ARCHITECTURAL ENGINEERING
- COMPUTER SYSTEMS ENGINEERING
- TELECOMMUNICATIONS
- PETROLEUM ENGINEERING
- ROBOTICS
- RENEWABLE ENERGY ENGINEERING

MASTEROF BUSINESS ADMINISTRATION

- BUSINESS ADMINISTRATION
- DIGITAL INNOVATION MARKETING AND ENTERPRENEURSHIP
- SHIPPING

MASTER OF ARTS

- BUSINESS COMMUNICATION
- POLITICS AND POLICY-MAKING
- PSYCHOLOGY
- POST-ROMAN MIDDLE EASTERN STUDIES
- TESOL
- EDUCATION IN ORGANIZATIONAL LEADERSHIP

Table of Contents

COURSE ABBREVIATIONS

BC	Business Communication
BIO	Biology
CS	Computer Sciences
DM	Digital Marketing
EC	Economics
EK	General Engineering
FIN	Finance
HIST	History
MAN	Management
ME	Mechanical Engineering
MED	Education
MK	Marketing
PEN	Petroleum Engineering
PSC	Political Science
PSY	Psychology
QM	Quantitative Methods
RE	Renewable Energy
SE	Systems Engineering
SST	Shipping Management
TEL	Telecommunications
TESOL	Teaching English to Speakers of Other Languages

INTRODUCTION

Mission

The online and/or open learning programs in ***The American University of Athens (AUA)*** exist to enable students to realize their educational goals. AUA's first priority is to promote the welfare and intellectual progress of students. To fulfill its mission, we design programs and activities to help students develop the academic competencies, professional skills, critical and creative abilities, and ethical values of learned persons who live in a democratic society, an interdependent world, and a technological age; we seek to foster a rigorous and contemporary understanding of the liberal arts, sciences, and professional disciplines. Ina challenging yet supportive environment, at an affordable cost, AUA provides programs as follows:1) Accounting, Finance and Economics 2) Management 3) Marketing and General Business 4) Computers 5) Natural Sciences and Engineering 6) Mathematics 7) Humanities 8) Social Sciences and Communication.

The student's university experience will be powerfully rewarding. The rewards will come not only in intellectual satisfaction, but also in philosophical enrichment and in the benefits of social life.

1. To preserve, foster and transmit the cultural and intellectual heritage of our pluralistic, interdependent, and changing world.

2. To foster academic freedom by assuring that its members may express their ideas openly and freely.

3. To provide a setting in which students may acquire and develop skills of intellectual inquiry and values of human understanding.

4. Toencouragestudentstorealizetheirgreatestcreativepotentialandmakesubstantialcontributionstos ocietyaseducatedpersons, skilled professionals, and thoughtful citizens.

5. To provide opportunities for students and faculty to challenge their abilities and to examine critically the values of culture and society.

6. To cultivate in the student an understanding that the university experience is a segment of a life long process of study and learning.

7. To provide programs supporting the admission, retention, and education of populations that have not had equal education opportunity, and to provide all students with a meaningful range of services, facilities, and opportunities for personal development.

Goals and Objectives

1. AUA recognizes teaching, research, and public service as its major responsibilities. Of these, undergraduate instruction has first priority. A second major priority is to offer quality graduate and post-graduate instruction and programs in areas in which there is particular faculty strength and an important social need. Research that advances and encourages learning is integral to all instruction and is supported by The American University of Athens. AUA fulfils its major responsibility in public service through its teaching and research. It also serves its community as a center of culture, science, and technology, and encourages the community to draw on the special talent of its faculty and students.

2. AUA recognizes that the primary goals of the instructional program are to increase the ability of the students to learn, to think critically, to express their ideas clearly and cogently, to understand themselves, their culture and their society, both past and present, and to appreciate the multicultural diversity of their world. Students must also demonstrate competency in analytical skills and methods of intellectual inquiry and develop an appreciation of aesthetic values.

In maintaining these goals, the AUA is committed to providing a foundation in the liberal arts and sciences for all baccalaureate degrees. AUA maintains the quality of this foundation through the high priority placed on the liberal arts and sciences.

Upon this foundation of liberal education, the AUA offers a choice of courses, majors, minors, and professional and career curricula to meet the needs and interests of its students. The professional and applied fields are an important part of AUA. It offers opportunities in disciplines or fields of study which have proven their value, or which promise a significant new value for society, or which serve a substantial public need, or which can achieve and maintain distinction. AUA will limit the variety of its offerings to assure that the programs it offers are of the highest quality possible.

3. AUA recognizes that education is not restricted to formal learning in a classroom setting. AUA therefore supports a wide variety of instructionally related programs designed to provide students with opportunities for diverse human and cultural experiences and for the development of personal skills and creativity.

Educational Philosophy

In its undergraduate program, The American University of Athens stresses the broader character of general education. During the first two years a student spends his/her class time in mathematics, natural sciences, social sciences, humanities, foreign language, and fine arts. These two years of structured liberal-arts courses help to establish a strong educational foundation. Throughout the final two years, students concentrate on developing professional competence in one academic discipline and a basic understanding of another unrelated academic field (minor), if they choose to.

The curriculum develops three main skills which are essential for a well-rounded education: learning to use the language of scholarship and science, learning how to think creatively, and learning how to learn.

To this end, a lower-division curriculum has been established which should enable students to acquire an understanding of the fundamental problems, methods and powers of the humanities and the arts, the social and behavioral sciences, mathematics, and the natural sciences.

The educational philosophy of ***The American University of Athens (AUA)*** is based upon maintaining close ties between faculty and students as a way of ensuring the optimization of the learning process while carefully counseling them in the choice of a study plan which not only complies with AUA requirements but reflects at the same time their own personal aspirations. Emphasis is placed upon promoting flexibility in the development of new programs consistent with the never-ending evolution of knowledge. As a result, AUA offers a number of Master's and Doctorate programs in the School of Graduate Studies.

SCHOOL OF GRADUATE STUDIES

GENERAL INFORMATION

The School of Graduate Studies at ***The American University of Athens***, AUA, through its online and/or open learning programs, seeks to admit highly motivated, creative, intelligent, cooperative and career-focused leaders.

Admission to study towards a Master's degree requires an appropriate Bachelor's degree from a recognized institution and evidence of capacity for productive work in the field selected, such as may be indicated by undergraduate grades.

Graduate programs at AUA are supervised by the Chairman of the School of Graduate Studies, assisted by the Steering Committee consisting of coordinators of the different program areas.

The Graduate Program Committee has the entire responsibility of developing, modifying and maintaining the graduate program with the approval of the Senate. This committee consists of the Chairman of the School of Graduate Studies, members of the Steering Committee, faculty teaching at AUA, librarian, provost, career officer, and one student representative from each program.

Faculty members participating in graduate programs are listed at the back of this catalog in accordance to academic rank, year of appointment at AUA, degrees and dates received, and the institutions granting the degrees.

ADMISSION INFORMATION

APPLICATION

Application to the School of Graduate Studies requires special forms.

A complete graduation application includes the following items:

- **Application**
- **University degree- certified copy**
- **Official translation in English from the Ministry of Foreign Affairs for Greek students or a similar official translation for other nationals**
- **Two recommendation forms to be completed by professors and or employers**
- **Resume or curriculum vitae**
- **A TOEFL score of 550, or equivalent ,if English is your second language**
- **Personal interview**

ADMISSION OF TRANSFER STUDENTS

Credits and course work of incoming transfer students are evaluated by the Dean and Chair person of the School of Graduate Studies to determine eligibility. Transfer students with a GPA of "B" or above are allowed to transfer no more than eight credits. They are encouraged to file applications two months prior to the beginning of the semester of enrollment to ensure adequate time for all necessary records to be received and evaluated. Applicants must arrange for official transcripts of all previous college/university records to be sent directly to AUA. International students are required to submit additional documentation for immigration purposes.

REQUIREMENTS FOR THE MASTER OF BUSINESS ADMINISTRATION DEGREE (M.B.A.)

In order to qualify for an M.B.A. degree a student must complete 44 semester credit hours of course work and attain a minimum grade point average of "B".

REQUIREMENTS FOR THE MASTER OF ARTS DEGREE

In order to qualify for the M.A. degree a student must complete 40 semester credit hours of course work and attain a minimum grade point average of "B".

REQUIREMENTS FOR THE MASTER OF SCIENCE DEGREE

In order to qualify for the M.S. degreea student must complete 40 semester credit hours of course work and attain a minimum grade point average of "B-".

PREREQUISITES FOR ALL STUDENTS

Students must attend the following non-credit seminars during the first semester:

CS	**5000**	**Computer Basics**
EN	**5000**	**Academic Writing**
MA	**5000**	**Mathematics Basics**
RM	**5000**	**Research Methodology**

CS 5000 Computer Basics (Non-credit)

This course provides an overview of computer hardware and software and discusses the range of current applications including database management systems, spreadsheets and project management.

EN 5000 Academic Writing (Non-credit)

This course is designed to give postgraduate students an overview of advanced methods of academic writing and research common to different disciplines. Based on the recommendations of the Modern Language Association of America, the course outlines the most recent conventions of written and oral presentation.

MA 5000 Mathematics Basics (Non-credit)

This workshop is intended to help students to review basic mathematics concepts that are needed for their graduate studies. The focus will be on calculus concepts and linear algebra.

RM 5000 Research Methodology (Non-credit)

This course investigates theories and methods, related to conducting research and equips students with the tools to conduct primary and secondary research. It also provides students with the analytical tools and different techniques to conduct original research.

THESIS REQUIREMENTS

Students are required to submit a master's thesis at the end of their program which is equivalent to 8 to 12 credit hours. The range in the credit hours allocated to the thesis is designed to accommodate the students' professional needs since they can select the minimum number of credits if they wish to do less research and writing. Alternatively, they may select the thesis with 12 credit hours if they prefer less class time.

FINANCIAL INFORMATION

WITHDRAWALS AND REFUNDS

AUA operates on an academic term basis by which commitments are made to teaching staff and to others whose services are essential to AUA's operation. The application fee is not refundable under any circumstances. Continuing students, who withdraw from class, or from ***The American University of Athens***, are entitled to refunds of both tuition and fees (according to the stated "Refund Schedule") which will be computed on the basis of the last day of class attendance. However, for more efficient processing of the refund it is recommended that withdrawing students complete and submit the appropriate forms to the Office of Records and Office of Student Accounts. The amount refunded or credited is computed with reference to the date the student filed a withdrawal form. Tuition and fees will be refunded to students with drawing during a regular semester as follows:

REFUND SCHEDULE FOR CONTINUING STUDENTS

Time of Withdrawal	**Percentage of Tuition and Fees Refundable**
Before classes start	100% less Euro 75
During the first week of classes	75%
During the second week of classes	60%
During the third week of classes	40%
During the fourth week of classes	25%
After the fourth week of classes	0%

Tuition and fees will be refunded to students withdrawing during a short Winter/Summer Intersession as follows:

Time of Withdrawal	**Percentage of Tuition and Fees Refundable**
Before classes start	100%less Euro 75
After one class meeting	75%
After two class meetings	60%
After three class meetings	40%
After four class meetings	25%
After five class meetings	0%

FINANCIAL ASSISTANCE

Applications for assistantships must be submitted by May15th each year.

GRADUATE ASSISTANTSHIP CENTER

Teaching, research and other graduate assistantships are available in most AUA programs. The total maximum workload for full-time graduate students is 15 hours per week. Graduate assistants must be full-time matriculated students with a GPA of 3.00 or higher.

General Academic Information and Courses of Instruction

LEARNING RESOURCES CENTER

The Learning Resources Center is a strategic academic service organization, whose purpose is to enhance the teaching research and mission at AUA.
In partnership with academic departments and schools, the LRC facilitates the AUA mission through three separate functions:

1) Creating and maintaining core resources including library and information services, computing services and telecommunications.
2) Facilitating and contributing to the development of the AUA educational programs.
3) Establishing global access to informational, educational, research and management resources.

INTERNATIONAL PROGRAMS AND STUDIES

The American University of Athens is one of the institutions representing the experience and development of American university education and the historical, cultural and geographical characteristics of the ancient capital of Greece, Athens. AUA is fully prepared to meet the challenges of globalization, creating high academic quality graduate programs in the southeastern European Union countries for students from all over the world.

CAREER PLANNING AND DEVELOPMENT

Based on the Graduate Department's strong commitment of getting to know students on a personal basis and working with them as individuals, the Career Planning and Development Office (CPPO) assists students in clarifying career choices, defining job-search strategies, and in pursuing challenging employment opportunities. The CPPO is totally committed to supporting student job efforts, and is focused on working with them as partners in developing challenging lifetime careers.

COURSE NUMBERING SYSTEM

All courses have a 4-digit number which identifies the level of the course.

5xxx Courses that are usually taken during the first year, without any prerequisite(s).
6xxx Courses usually taken during the second year of the program.

A combination of the second, third and fourth digits may refer to undergraduate courses containing the same subject matter; however, the course code beginning with 5 or 6 refers to graduate courses. The last two digits of the course number may refer to sequential courses. For example, a course ending with 1 might be followed by a course having the same first three digits but ending with 2.

School of Natural & Health Sciences

MASTER OF SCIENCE IN BIOMEDICAL SCIENCES

MISSION OF THE PROGRAM

The program aims to prepare students for careers in the field of biology through online and/or open learning programs while linking it with medicine, drug design and human disease diagnosis. AUA focuses on these areas since they are critical for today's knowledge of biology.

PREREQUISITES

Basic knowledge of Microsoft Office. Use of Internet resources.

Students majoring in biomedical sciences must satisfy the graduation requirements by taking the following non-credit seminars during the first semester:

EN	5000	Academic Writing
CIS	5000	Computer Basics
MA	5000	Mathematics Basics
RM	5000	Research Methodology

GRADUATION REQUIREMENTS

They should complete a total of 40 credits including the M.S. thesis which is 8-12 credits. The total GPA must be at least 3.00.

MASTER'S THESIS REQUIREMENTS

Students must complete 40 credit hours of core courses and electives. If they take the thesis option, they should submit a thesis of 15,000–30,000 words.

CORE COURSES

BIO	5101	Biophysics
BIO	5110	Molecular Biology/Biochemistry
BIO	5120	Current Topics in Cell Biology
BIO	5130	Fundamentals of Physiology

ELECTIVES

Students can select from the following courses to satisfy their elective requirements.

BIO	5215	Applied Microbiology
BIO	5216	Current Topics in Immunology
BIO	5225	Human Genetics and Inherited Disease
BIO	5235	Essentials of Neural Sciences
BIO	6117	Molecular and Clinical Virology
BIO	6118	Seminar in Biotechnology
BIO	6136	Human Nervous System Neurochemistry
BIO	6137	Advanced Course in Neurochemistry
BIO	6226	Clinical Laboratory Methods
BIO	6227	Advanced Cell Culture Techniques
BIO	6228	Operation of the Scanning Electron Microscope and Materials Specimen Preparation
BIO	6238	Psychiatric Disorders

COURSE DESCRIPTIONS

BIO 5101 Biophysics (4)

The course familiarizes students with the physics behind biological processes. It updates students with the latest advances in the physics of complex biological systems.

BIO 5110 Molecular Biology/Biochemistry (4)

The emphasis of this course is on eukaryotes. Topics covered include modern techniques in molecular analysis of biomolecules, levels and mechanisms of gene regulation, including transcription and translation, genome organization, chromosome structure, and gene structure. Subjects such as RNA processing, protein processing, viruses, cancer, yeast and drosophila molecular genetics, and the immune system are also covered.

BIO 5120 Current Topics in Cell Biology (4)

The course explores the current topics in the study of cells, the basic unit of life. It discusses their components and their different types and the chemical processes that occur within them.

BIO 5130 Fundamentals of Physiology (4)

This course discusses the fundamental aspects of physiological processes and explains the function of the human and animal organ systems. Emphasis on homeostatic mechanisms and deregulation during disease. Topics include: muscles, nervous system, cardiovascular and respiratory system, blood, body fluids and excretion, digestion, hormones, reproduction.

BIO 5215 Applied Microbiology (4)

Both the basic and applied aspects of microbiology are covered in an integrated fashion. The experimental basis of microbiology is discussed; the general principles of cell structure and function, the classification and diversity of microorganisms, biochemical processes in cells, and the genetic basis of microbial growth and evolution. From an applied viewpoint, wediscussdiseaseprocessesinhumansthatarecausedbymicroorganismsinfoodandagriculture,and industrial (biotechnological) processes employing the microorganisms.

BIO 5216 Current Topics in Immunology (4)

This course presents the basic concepts underlying the immune processes. Emphasis on the human immune system and the immune response regulation. Topics include: immune tissues, chemokines, antibodies, T-cell receptors, antigen presentation, B-T-macrophages interaction, cell-mediated cytotoxicity, regulation of immune response, autoimmunity, tumor and transplantation immunology, hypersensitivity, immunological techniques.

BIO 5225 Human Genetics and Inherited Disease (4)

Methods of evolutionary inference from comparisons of nucleic acid and protein sequence data, as well as the impact of molecular phylogenetics on evolutionary biology. Emphasis on current recombinant DNA techniques, including polymerase chain reaction methodologies and cloning strategies.

BIO 5235 Essentials of Neural Sciences (4)

Presents the basic concepts of nervous system biology, anatomy and physiology and the relevant scientific methods. Topics include: CNS anatomy, synaptic organization, somatic sensation, vision, hearing, balance, chemical senses, motor systems, autonomic nervous system, cognitive functions, development, and aging.

BIO 6117 Molecular and Clinical Virology (4)

The course bridges the gap between biophysics and biochemistry. It involves the study of the building blocks of life. It examines the infectious agents found in all life forms.

BIO 6118 Seminar in Biotechnology (4)

The focus of the course is on how biotechnology helps in the manipulation of biological organisms to make products that benefit human beings. Biotechnology contributes to such diverse areas as food production, waste disposal, mining, and medicine.

BIO 6136 Human Nervous System Neurochemistry (4)

Examines the biochemistry of the mammalian nervous systems with special emphasis on neurotransmitter synthesis and action and the chemical base of nervous system disorders. Topics include: molecular structure of the synapse, neurotransmitter metabolism, CNS metabolism, acetylcholine, catecholamines, excitatory and inhibitory aminoacids, unconventional neurotransmitters, related diseases, pharmacology and therapeutics.

BIO 6137 Advanced Course in Neurochemistry (4)

Covers topics of mammalian physiology with special emphasis on the neuronal control of physiological processes and the related neuroanatomical pathways. Topics include: muscles-movement and reflexes, senses, sympathetic and parasympathetic systems, heart, respiration, neuroendocrine integration, higher cognitive functions-speech, learning and memory.

BIO 6226 Clinical Laboratory Methods (4)

Students will have the opportunity to develop technical skills and practical knowledge sufficient to perform basic procedures commonly used in the field of molecular biology. In addition, students will develop the ability to analyze experimental results obtained with these techniques.

BIO 6227 Advanced Cell Culture Techniques (4)

This technique enables researchers to establish in vitro cultures of animal and plant cells. In this module, the fundamental cell culture concepts and practices are covered. The subject integrates the different types of cell cultures with their applications. The module includes three major sections: Aseptic Techniques, Human (cancer cell lines) Animal Cell lines and cloning. Oncompletion of this module, students should be able to a) possess a basic knowledge regarding aseptic techniques, tissue culture of cells and their application and b) perform basic aseptic techniques to establish different types of cultures.

BIO 6228 Operation of the Scanning Electron Microscope and Materials Specimen Preparation (4)

This course provides a theoretical background and practical knowledge of basic routine specimen preparation techniques for electron microscopy. It covers biological specimen preparation for SEM, including fixing, embedding, sectioning, drying, coating and staining techniques. An introduction to cryo-techniques and immuno-methodologies is included. On completion of this module, students should be able to become competent SEM operators at a basic skills level.

BIO 6238 Psychiatric Disorders (4)

Studies human mental disorders with special emphasis on neurotransmitter involvement, clinical symptoms and pharmacological treatments. Topics include: depression (uni-polar and bi-polar), schizophrenia, psychotic disorders, anxiety, sleep disorders, drug addiction, and medication-induced disorders.

MASTER OF SCIENCE
IN
BIOMEDICAL SCIENCES (PHARMACY OPTION)

MISSION OF THE PROGRAM

The program aims to prepare students through online and/or open learning programs for careers in the field of biology while linking it with medicine, drug design and human disease diagnosis. Pharmacy is a complex, exciting profession and an integral part of the interdisciplinary healthcare environment. The responsibilities and scope of practice of the pharmacist continues to change. This requires a serious commitment to life-long learning in order to serve best the public interest.

PREREQUISITES

Basic knowledge of Microsoft Office and use of Internet resources. Students majoring in biomedical sciences must satisfy requirements by taking the following non-credit seminars during the first semester:

EN	5000	Academic Writing
CIS	5000	Computer Basics
MA	5000	Mathematics Basics
RM	5000	Research Methodology

GRADUATION REQUIREMENTS

They should complete a total of 40 credits including the M.S. thesis which is 8-12 credits. The total GPA mustbeatleast3.00.

MASTER'S THESIS REQUIREMENTS

Students must complete 40 credit hours of core courses and electives. If they take the thesis option, they should submit a thesis of 15,000–30,000 words.

CORE COURSES

BIO	5101	Biophysics
BIO	5110	Molecular Biology/Biochemistry
BIO	5120	Current Topics in Cell Biology
BIO	5130	Fundamentals of Physiology

ELECTIVES

Students can select from the following courses to satisfy their elective requirements.

BIO	5215	Applied Microbiology
BIO	5216	Current Topics in Immunology
BIO	5225	Human Genetics and Inherited Disease
BIO	5235	Essentials of Neural Sciences
BIO	6117	Molecular and Clinical Virology
BIO	6118	Seminar in Biotechnology
BIO	6136	Human Nervous System Neurochemistry
BIO	6137	Advanced Course in Neurochemistry
BIO	6226	Clinical Laboratory Methods
BIO	6227	Advanced Cell Culture Techniques
BIO	6228	Operation of the Scanning Electron Microscope and Materials Specimen Preparation
BIO	6238	Psychiatric Disorders

COURSE DESCRIPTIONS

BIO 5101 Biophysics (4)

The course familiarizes students with the physics behind biological processes. It updates students with the latest advances in the physics of complex biological systems.

BIO 5110 Molecular Biology/Biochemistry (4)

The emphasis of this course is on eukaryotes. Topics covered include modern techniques in molecular analysis of biomolecules, levels and mechanisms of gene regulation, including transcription and translation, genome organization, chromosome structure, and gene structure.

BIO 5120 Current Topics in Cell Biology (4)

The course explores the current topics in the study of cells, the basic unit of life. It discusses their components and their different types and the chemical processes that occur within them.

BIO 5130 Fundamentals of Physiology (4)

This course discusses the fundamental aspects of physiological processes and explains the function of the human and animal organ systems.

BIO 5215 Applied Microbiology (4)

Both the basic and applied aspects of microbiology are covered in an integrated fashion. From an applied viewpoint, we discuss disease processes in humans that are caused by microorganisms in food and agriculture, and industrial (biotechnological) processes employing the microorganisms.

BIO 5216 Current Topics in Immunology (4)

This course presents the basic concepts underlying the immune processes. Emphasis on the human immune system and the immune response regulation.

BIO 5225 Human Genetics and Inherited Disease (4)

Methods of evolutionary inference from comparisons of nucleic acid and protein sequence data, as well as the impact of molecular phylogenetics on evolutionary biology. Emphasis on current recombinant DNA techniques, including polymerase chain reaction methodologies and cloning strategies.

BIO 5235 Essentials of Neural Sciences (4)

Presents the basic concepts of nervous system biology, anatomy and physiology and the relevant scientific methods. Topics include: CNS anatomy, synaptic organization, somatic sensation, vision, hearing, balance, chemical senses, motor systems, autonomic nervous system, cognitive functions, development, and aging.

BIO 6117 Molecular and Clinical Virology (4)

The course bridges the gap between biophysics and biochemistry. It involves the study of the building blocks of life. It examines the infectious agents found in all life forms.

BIO 6118 Seminar in Biotechnology (4)

The focus of the course is on how biotechnology helps in the manipulation of biological organisms to make products that benefit human beings. Biotechnology contributes to such diverse areas as food production, waste disposal, mining, and medicine.

BIO 6136 Human Nervous System Neurochemistry (4)

Examines the biochemistry of the mammalian nervous systems with special emphasis on neurotransmitter synthesis and action and the chemical base of nervous system disorders.

BIO 6137 Advanced Course in Neurochemistry (4)

Covers topics of mammalian physiology with special emphasis on the neuronal control of physiological processes and the related neuroanatomical pathways.

BIO 6226 Clinical Laboratory Methods (4)

Students will have the opportunity to develop technical skills and practical knowledge sufficient to perform basic procedures commonly used in the field of molecular biology.

BIO 6227 Advanced Cell Culture Techniques (4)

This technique enables researchers to establish in vitro cultures of animal and plant cells. In this module, the fundamental cell culture concepts and practices are covered. The subject integrates the different types of cell cultures with their applications. The module includes three major sections: Aseptic Techniques, Human (cancer cell lines) Animal Cell lines and cloning. On completion of this module, students should be able to a) possess a basic knowledge regarding aseptic techniques, tissue culture of cells and their application and b) perform basic aseptic techniques to establish different types of cultures.

BIO 6228 Operation of the Scanning Electron Microscope and Materials Specimen Preparation (4)

This course provides a theoretical background and practical knowledge of basic routine specimen preparation techniques for electron microscopy. It covers biological specimen preparation for SEM, including fixing, embedding, sectioning, drying, coating and staining techniques. An introduction to cryo-techniques and immuno-methodologies is included. On completion of this module, students should be able to become competent SEM operators at a basic skills level.

BIO 6238 Psychiatric Disorders (4)

Studies human mental disorders with special emphasis on neurotransmitter involvement, clinical symptoms and pharmacological treatments.

School of Sciences & Engineering

MASTER OF SCIENCE IN COMPUTER SCIENCE

MISSION OF THE PROGRAM

The graduate program in computer science prepares students through online and/or open learning programs for careers at the forefront of computing research, business applications and industrial progress. Computer science has become a highly active and fast changing discipline and Master's degree students have the opportunity to work at the cutting edge of this fundamental and exciting field.

Computer science deals with the programming, use, management, and organization of computers. Graduate students specialize in many different areas, several of which have strong ties to other disciplines such as mathematics, electrical engineering, statistics, accounting, and business administration.

PREREQUISITES

Basic knowledge of computers. To receive an M.S. in Computer Science, students must take the following non-credit seminars during the first semester:

CIS	5000	Computer Basics
EN	5000	Academic Writing
MA	5000	Mathematics Basics
RM	5000	Research Methodology

GRADUATION REQUIREMENTS

They should complete a total of 40 credits including the M.S. thesis which is 8-12 credits. The total GPA mustbeatleast3.00.

MASTER'S THESIS REQUIREMENTS

The thesis should have an originality of work and offer a contribution to computer sciences either in a theoretical way or in application.

SPECIALIZATIONS OFFERED

- Advanced Information Systems and Software Engineering
- Algorithms and Computer Systems
- Network Systems and Advanced Computer Technology

CORE COURSES

Master's candidates are required to complete all the core courses for each specialization:

SPECIALIZATION 1– Advanced Information Systems and Software Engineering

CS 5520 Programming Languages
CS 5540 Artificial Intelligence
CS 5551 Software Engineering
CS 5560 Introduction to Data Base Systems

SPECIALIZATION 2 –Algorithms and Computer Sciences

CS 5530 AnalysisofAlgorithms
CS 5535 ComplexityTheory
CS 5537 ProbabilityinComputing
CS 5552 IntrotoOperatingSystems II

SPECIALIZATION 3–Network Systems and Advanced Computer Technology

CS 5550 Computer Architecture
CS 5555 ComputerNetworks
CS 5580 Advanced Computer Graphics
CS 5585 Image and Video Computing

ELECTIVES

Students can select any of the above courses as electives in addition to the following courses. Electives also include courses from other departments with the approval of the Chairman of the Graduate School.

CS 5904 Advanced Data Structure
CS 5908 Process Control
CS 6890 Topics in Computer Sciences
CS 6900 Seminar in Information Systems

COURSE DESCRIPTIONS

CS 5520 Programming Languages (4)

Concepts of programming languages: data, storage control, and definition structures; concurrent and distributed programming; functional and logic programming.

CS 5530 Analysis of Algorithms (4)

Studies the design and efficiency of algorithms in several areas of computer sciences. Topics may be chosen from: graph algorithms, sorting and searching, NP-complete problems, pattern-matching, parallel algorithms, and dynamic programming.

CS 5535 Complexity Theory (4)

The topics for this course cover various aspects of complexity theory, such as the basic timeand space classes, the polynomial-time hierarchy and the randomized classes. This is a pure theory class, so no applications were involved.

CS 5537 Probability in Computing (4)

Survey of probabilistic ideas of the theory of computation. Topics may include Monte Carloand Las Vegas probabilistic computations, average case complexity analysis, random and pseudorandom strings, games and cryptographic protocols, information, inductive inference, reliability; and others.

CS 5540 Artificial Intelligence (4)

Presents a survey of topics in artificial intelligence, including heuristic programming; hill climbing, searching in solution space and policy space; game playing, pattern recognition and scene analysis, theorem proving; machine learning.

CS 5550 Computer Architecture (4)

Overview of concepts underlying the design of high-performance computer architectures, with emphasis on quantitative evaluation and effect on compiler and operating system design. Topics include pipelined, superscalar, vector, and parallel processors; hard-wired scheduling and branch prediction; cache and virtual-memory hierarchy design; shared memory and message-passing scalable multiprocessors. Case studies including RISC/CIS Cand SIMD/MIMD architectures.

CS 5551 Software Engineering (4)

Introduction to the construction of reliable software testing methodologies, retrofitting, regression testing, structured design and structured programming, software characteristics and quality, complexity, entropy, deadlock, fault tolerance, formal proofs of program correctness, chief program teams, and structured walk-throughs.

CS 5552 Introduction to Operating Systems II (4)

Examines process synchronization, I/O techniques, buffering, file systems; processor scheduling, memory management, virtual memory, job scheduling, resource allocation; system modeling; performance measurement and evaluation.

CS 5555 Computer Networks (4)

Discusses the concepts underlying the design of high-performance computer networks and scalable network protocols. Topics include Internet design principles andmethodology, TCP/IP implementation, packet switching and routine algorithms, multicast, quality of service (QoS) considerations, error detection and correction, network security and performance evaluation.

CS 5560 Introduction to Database Systems (4)

Examines data models: entity-relationship, hierarchical, network, and mainly relational; commercial relational languages, relational database design, file organization, indexing and hashing, query optimization, transaction processing, concurrency and recovery techniques, integrity, security.

CS 5580 Advanced Computer Graphics (4)

Survey of advanced modeling, rendering, and animation algorithms. Emphasis on implementation and underlying theory for simulating various phenomena. Topics include photorealistic image synthesis, modeling natural objects and phenomena, character animation, virtual reality, and advanced computer-human interface techniques.

CS 5585 Imageand Video Computing (4)

Introduction to image computation within context of image and video as multimedia data types. Provide background in image processing and image formation. Focus on algorithms forimage and videoanalysis basedoncolor, texture, shading, stereo, and motion.

CS 5904 Advanced Data Structure (4)

Review of basic data structures and Java syntax. Data abstraction and object-oriented designin the context of high-level languages and databases. Design implementation from the perspective of data structure efficiency and distributed control. Tailoring priority queues, balanced search trees, and graph algorithms to real-world problems, such as network routing, database management, and transaction processing.

CS 5908 Process Control (4)

Integrated study of process control and modern control theory. Includes process modeling and simulation, analysis if linear and non-linear dynamics evaluation and selection of actuators and measurements, control structure design for single and multiple variable systems, and control algorithm design. Examples drawn from variety of process control applications.

CS 6890 Topics in Computer Sciences (4)

Current topics in computer sciences asdetermined by advances in the field.

CS 6900 Seminar (4)

Series of one-hour seminars on current research topics presented by computer science faculty.

MASTER OF

SCIENCEIN

ENGINEERING AND APPLIED SCIENCES

MISSION OF THE PROGRAM

The Master of Science is a graduate degree with emphas is on advanced training in engineering and applied sciences and prepares students through online and/or open learning programs for careers at the forefront of computing, research, business application and industrial progress. Students receiving the Master of Science degree may choose to continue studies toward a doctoral degree or to enter the engineering or applied sciences field.

The Master of Science degree may be earned in one of the following specializations:

- General Engineering and Applied Sciences
- Computer Systems Engineering
- Mechanical Engineering and Electrical Engineering
- Civil and Environmental Engineering

The general engineering program designation is appropriate when the program of study does not conform to one of the other designated areas of specialization listed above and involves course work from several different areas of engineering and applied sciences.

As part of their studies, students normally participate in research with supporting faculty andare encouraged to publish their research results in journals or present them in conferences. Students complete either a formal thesis or a project as part of their requirements.

There is a program that focuses on the Civil and Environmental Engineering. Research projects may include:

1. Waste water treatment, recycling and reuse.
2. Stormwater management and sustainable urban drainage systems (SUDS).
3. Water scarcity and desalination.

PREREQUISITES

Basic knowledge of engineering. If the students have no prior knowledge then there is a need for extra courses from the undergraduate level.

To receive an M.S. in Engineering, students must take the following non-credit seminars during the first semester:

CIS	5000	Computer Basics
EN	5000	Academic Writing
MA	5000	Mathematics Basics
RM	5000	Research Methodology

GRADUATION REQUIREMENTS

Students must complete 40 credit hours with the following distribution:

1) The successful completion of 28-32 credit hours of courses that fall within the specialization areas or within the general engineering courses.
2) Submission of a thesis of 15,000-30,000 words equivalent to 8-12 credit hours.

MASTER'S THESIS REQUIREMENTS

Students must fulfill the following requirements:

1) Complete at least eight credits of graduate course work with an overall GPA of 3.00 or above and no more than two class grades below "B".
2) Complete and defend a Master's thesis proposal by a two-person committee (the Chairman and the supervisor).
3) Complete and defend a Master's thesis that is equivalent to 8-12 credit hours.
4) The Master's thesis must demonstrate the student's ability to effectively communicate in writing the results of a graduate study. Students are expected to prepare a thesis, which integrates the knowledge they acquired with original research. They are expected to choose a topic that captures the latest developments in the engineering field and to carry out primary and secondary data collection in this area, use scientific methods for analysis of data and then produce a professional report which constitutes original work. Students work on this project under the close supervision of assigned professors depending on the area of specialization.
5) The student has to defend the thesis in front of a three-person committee, which includes two instructors in the same field and one from another department.

SPECIALIZATIONS OFFERED

The School offers three specialization areas which respond to the contemporary demands of today's world. Students must take at least four courses within the specific specialization to satisfy the requirements. Students may take a fifth course if they wish to prepare an 8-credit thesis rather than a 12-credit one. The specialization areas offered by AUA are:

- General Engineering and Applied Sciences
- Mechanical Engineering (fluid mechanics, dynamics and controls, materials)
- Computer Systems Engineering (signal processing and communication, systems and controls, computer communications and networks,software engineering)

CORE COURSES

Each specialization of the Master of Science programs contains no core courses; students select from the courses listed within the specialization areas.

SPECIALIZATION 1– General Engineering

EK	5301	Introduction to Transportation Systems
EK	5500	Probability with Statistical Applications
EK	5501	Mathematical Methods I: Linear Algebra and Complex Analysis
EK	5502	Mathematical Methods II: DifferentialEquations and Numerical Algorithms
EK	5510	Fourier Transforms
EK	5542	Advanced Fluid Mechanics
EK	5701	Advanced Fluid Dynamics of the Environment
EK	5702	Advanced Structural Dynamics
EK	6005	Engineering Analysis
EK	6330	Transportation Policy and Environmental Limits

EK	6334	Urban Transportation Planning
EK	6504	Numerical Methods for Engineering
EK	6506	Statisticomechanical Concepts in Engineering
EK	6508	Advanced Mechanical Behavior of Materials
EK	6519	Theory of Heat Transfer
EK	6541	Classical Thermo dynamics

SPECIALIZATION 2–Mechanical Engineering

ME	5201	Mechanics of Materials (An Energy Approach)
ME	5828	Optimization Theory and Methods
ME	5829	Thermo dynamics and Kinetics of Materials and Processes
ME	5830	Materials and Processes in Manufacturing
ME	5831	Phase Transformations
ME	5832	Mechanical Behavior of Materials
ME	5901	Aerodynamics
ME	5902	Aerodynamics of Viscous Fluids
ME	5903	Computational Mechanics of Materials
ME	5904	Computer Methodsin Dynamics
ME	5907	Process Modeling and Control
ME	5909	Dynamics of Non-linear Systems
ME	6101	Mechanical Transmissions
ME	6102	Ship Structural Analysis and Design
ME	6901	Advanced Fracture Mechanics
ME	6902	Advanced Stress Analysis
ME	6903	Advanced Vibration Engineering
ME	6904	Finite Element Analysis of Solids and Fluids
ME	6905	Fracture and Fatigue
ME	6906	Electronicand Mechanical Properties of Materials
ME	6909	Process Control
ME	6910	Introduction to Naval Architecture
ME	6913	Product Development
ME	6914	Simulation
ME	6917	Computational Fluid Dynamics for Civil Engineering
ME	6918	Computational Fluid Dynamics for Environmental Engineering
ME	6919	Turbulent Flow and Transport
ME	6928	Numerical Fluid Mechanics
ME	7811	Computational Fluid Dynamics

SPECIALIZATION 3– Computer Systems Engineering

CS	5904	Advanced Data Structure
CS	5908	Process Control
EK	5660	Introduction to Photonics
EK	5663	Fiber-optic Communication Systems
EK	5665	Electromagnetic Energy Transmission
EK	5911	Software Systems Design
EK	5916	Digital Signal Processing
EK	5917	Applications of Formal Methods
EK	5935	Advanced Discrete Mathematics
EK	6560	Introduction to Robotics

SPECIALIZATION 4– Civil and Environmental Engineering

EK	5501	Mathematical Methods I:Linear Algebra and Complex Analysis
EK	5502	Mathematical Methods II: Differential Equations and Numerical Algorithms
EK	5849	Environmental Management in Developing Countries
EK	6921	Waste Water Treatment, Recycling and Reuse

EK	6922	Storm Water Management and Sustainable Urban Drainage Systems (SUDS)
EK	7812	Water Scarcity and Desalination
EK	7818	Design for Sustainability
EK	7839	Fundamentals of Ecology

ELECTIVES

Students can select electives from the different specialization areas if they do not wish to fulfill a specific specialization.

GENERAL ENGINEERING

COURSE DESCRIPTIONS

EK 5301 Introductionto Transportation Systems (4)
The subject focuses on fundamental principles of transportation systems, introduces transportation systems components and networks, and addresses how one invests in and operates them effectively. The tie between transportation and related systems is emphasized.

EK 5701 Advanced Fluid Dynamics of the Environment (4)
Designed to familiarize students with theories and analytical tools useful for studying fluid mechanical problems in the water environment. Because of the inherent nonlinearities in thegoverning equations, emphasize is given on making analytical approximations not only for facilitating calculations but also for gaining deeper physical insight. The importance of scales will also be discussed.

EK 5702 Advanced Structural Dynamics (4)
This course begins with the foundations of 3D elasticity, fluid and elastic wave equations, elastic and plastic waves in rods and beams, waves in plates, and dynamics and acoustics ofcylindrical shells. The course considers acoustic fluids effects such as radiation and scatteringby submerged plates and shells, and interaction between structural elements. Finally, it covers the response of plates and shells to high-intensity loads, dynamic plasticity and fracture, and structural damage caused by implosive and impact loads.

EK 5500 ProbabilitywithStatisticalApplications(4)

A first course in probability and statistics for students with a level of mathematical maturityand experience comparable to that normally found in entering graduate students. Sample spaces, probability measures, random variables, expectation, applications of transform methods, limit theorems, second order statistics, statistical testing, estimation theory, introduction to random processes, stochastic forecasting, communications theory, and decision analysis.

EK 5501 Mathematical Methods I: Linear Algebra and Complex Analysis (4)

Introduction to basic applied mathematics for science and engineering, emphasizing practical methods and unifying geometrical concepts. Topics include linear algebra for real and complex matrices. Quadratic forms, Lagrange multipliers and elementary properties of the rotation group.Vector differential and integral calculus. Compiles function theory, singularities and multi-valued functions, contour integration and series expansions. Fourier and Laplace transforms. Elementary methods for solving ordinary linear differential and systems of differential equations with applications to electrical circuits and mechanical structures.

EK 5502 Mathematical Methods II: Differential Equations and Numerical Algorithms (4)

Analytic and computational methods for physical models encountered in science and engineering. Basic elliptic, parabolic and hyperbolic partial differential equations for physical system. Solutions by separation of variables, eigen functions expansions, Green's function, integral representations and variational methods. Lattice and finite element discrimination, linear iterative methods. Matrix inversions. Fast Fourier and wavelet transforms. ODE, phase place, stability and chaos. Molecular dynamics, integrations and MonteCarlo/Langev in dynamics. Optional project on large scale numerical imulations.

EK 5510 Fourier Transforms (4)

Fourier transform as a tool for solving physical problems. Develops the properties of the Fourier transform and the discrete Fourier transform. These transforms are applied to the analysis of linear systems; sampled signals and systems; digital filtering; solution of partial differential equations, and antenna theory; two-dimensional systems; optics; medical imaging; mechanical systems; and statistics. Recommended for graduates and advanced undergraduates in engineering, physics, astronomy, and psychology.

EK 5542 Advanced Fluid Mechanics (4)

Incompressible fluid flow. Review of control-volume approach to fluids engineering problems, with advanced applications. Differential analysis of fluid motion. Derivation of full Navier-Stokes, Euler, and Bernoulli equation. Velocity potential and its application to steady 2D flows. Vorticity and vortex motion. Eularian vs. Lagrangian analysis.

EK 6005 Engineering Analysis(4)

Mathematical methods in aerospace and mechanical engineering; vectors and tensors; partial differential equations of heat and mass transfer, wave motion and potential theory, classification of second order PDEs; eigen functions expansions, method of characteristics, Fourier and Laplace transforms; complex variable theory, residue integration, conformal mapping; Green's functions, integral equations, variational methods; perturbation methods for non-linear differential equations.

EK 6330 Transportation Policyand Environmental Limits (4)

Through a combination of lectures, cases, and class discussions this subject examines the economicand political conflict between transportation and the environment. It investigates the role of government regulation, green business and transportation policy as facilitators of economic development and environmental sustainability. It analyzes a variety of international policy problems including government-business relations, the role of interest groups, non-governmental organizations, and the public and media in the regulation of the automobile, sustainable development, global warming, the politics of risk associated with the transport facilities, environmental justice, equity and transportation and public health in the urban metropolis.

EK 6334 Urban Transportation Planning (4)

This course is an introduction to planning transportation in metropolitan areas. This means starting from a scan of the site, its history and its current trends, in order to frame properly the problem,including the relevant actors, institutions, roles and interests. The design and evaluation of alternatives considers this complexity, in addition to construction, operation and maintenance issues.The decision-making and implementation process, including the needed feedback mechanisms, focuses as well on the need to build constituencies and alliances. The course topics include the history of urban transportation, highway finance, environmental and planning regulations, air quality, modal characteristics, land use and transportation interaction and emerging information technologies for transportation planning.

EK 6504 Numerical Methods for Engineering (4)

Survey of numerical methods with examples selected from aerospace and mechanical engineering. Numerical solution ofsystems oflinear and non-linear algebraic equations, interpolation and extrapolation, computation of eigen values and eigen vectors, numerical integration, techniques for numerical solution of ordinary differential equations and partial differential equations. Required projects involve extensive student use of computers.

EK 6506 Statisticomechanical Concepts in Engineering (4)

Specific prerequisites vary according to topic, but do not extend beyond what is covered in the core courses in the undergraduate curriculum in mechanical engineering. Elementary introduction to selected fundamental concepts in probability, random processes, signal processing, and statistical mechanics with strong emphasis on their applications to aerospace and mechanical engineering. Examples taken from acoustics, mechanics, thermodynamics, and fluid dynamics.

EK 6508 Advanced Mechanical Behavior of Materials (4)

Basic concepts of modern materials engineering. Emphasis is placed on understanding the relationships between solids tructure and material properties.Thermodynamics, kinetics, statistical mechanics, deformation, and fracture are explored. Covers the concepts that are essential for graduate research in materials science or an allied field.

EK 6519 Theory of Heat Transfer (4)

Analytical, numerical, and physical aspects of heat transfer phenomena, with emphasis on non-dimensionalization and scaling. Mathematical treatment of steady and unsteady conduction, including finite difference methods. Forced and natural convection in internal and external flows. Thermal radiation and multimode heat transfer. Melting and solidification. Applications to aerospace heat transfer, energy systems, manufacturing, and biological heat transfer.

EK 6541 Classical Thermodynamics (4)

Principles and formulation of classical thermodynamics; concept of equilibrium, postulates of macroscopic thermodynamics, Euler equations and Gibbs-Duhemrelation, alternative formulations, Maxwell’s relations, gas mixtures, phase transitions, applications to processes, cycles and engines. Introduction to irreversible thermodynamics: theory of fluctuations, entropy generation, availability, and second law analysis.

MECHANICAL ENGINEERING

COURSE DESCRIPTIONS

ME 5201 Mechanics of Materials (An Energy Approach) (4)

It provides an introduction to continuum mechanics and material modeling of engineering materials based on first energy principles (deformation and strain, momentum balance, stressand stress states, elasticity and elasticity bounds, plasticity and yield design). The over arching theme is a unified mechanistic language using thermodynamics, which allows understanding, modeling and design of a large range of engineering materials.

ME 5828 Optimization Theory and Methods (4)

Introduction to optimization problems and algorithms emphasizing problem formulation, basic methodologies, and the under lying mathematical structures. Covers classical optimization theory as well as recent advances in the field. Topics include modeling issues and formulations, simpl exmethod, duality theory, sensitivity analysis, large-scale optimization, Integer programming, interior-pointmethods, non-linear programming optimality conditions, gradient methods, and conjugate direction methods. Particular applications are considered, and a few case studies covered. In addition to extensive paradigms from production planning and scheduling in manufacturing systems, other illustrative applications include fleet management, air traffic flow management, optimal routing incommunication networks, and optimal portfolio selection.

ME 5829 ThermodynamicsandKineticsofMaterialsandProcesses(4)

Provides a basic understanding of the laws of thermodynamics as they apply to differentelements and compounds and their interactions in the solid, liquid, and gaseous forms as afunction of various extensive and intensive variables. Analysis of the path to thermodynamicequilibrium or process kinetics will be covered by discussing reaction kinetics and the lawsthat govern mass transfer in solids and fluids. Mass transfer through membranes/cellularmaterials will also be covered. The course primarily covers thermodynamics and kinetics astheyapply to thestudy ofmaterialsstructureand synthesis.

ME 5830 Materials andProcesses inManufacturing(4)

Graduate-levelintroductiontomanufacturingprocessesandtheirrelationshiptothestructure/properties of materials. Detailed development of structure of solids, equilibriumthermodynamics,kinetics,mechanicalproperties,andsomekeyprocesses,suchasmachining,consolidation, and surfacemodification.

ME 5831 PhaseTransformations(4)

Graduate-levelintroductiontophasetransformations;solutionthermodynamics;phasediagrams; kinetics of mass transport and chemical reactions; atomistic models of diffusion;nucleation and growth; spinodal decomposition; martens tic transformations; order-disorderreactions;pointdefects andtheirrelation totransportkinetics.

ME 5832 MechanicalBehaviorof Materials(4)

This course relates mechanical behavior of crystalline materials to processes occurring atmicroscopic and/or atomic levels. Topics covered include structure of materials and theirdetermination by X-ray diffraction; dislocations and their relationship to plastic deformationsandstrength ofmaterials;fractureandcreep.

ME 5901 Aerodynamics(4)
This course extends fluid mechanic concepts from Unified Engineering to the aerodynamicperformance of wings and bodies in sub/supersonic regimes. It includes subsonic potentialflows (source/vortex panel methods), viscous flows (laminar and turbulent boundary layers),aerodynamics of airfoils and wings (including thin airfoil theory, lifting line theory), panelmethod/interactingboundarylayer methodsandsupersonicandhypersonicairfoiltheory.

ME 5902 Aerodynamics ofViscous Fluids(4)
The major focus is on boundary layers, and boundary layer theory subject to various flowassumptions,suchascompressibility,turbulence,dimensionality,andheattransfer.Parameters influencing aerodynamic flows and transition and influence of boundary layers onouterpotentialflowarepresented,alongwithassociatedstallanddragmechanisms.Numericalsolution techniques and exercisesareincluded.

ME 5903 ComputationalMechanics ofMaterials(4)
The primary focus of this course is on the teaching of state-of-the-art numerical methods forthe analysis of the nonlinear continuum response of materials. The range of material behaviorconsidered in this course includes linear and finite deformation elasticity, inelasticity anddynamics.Numericalformulationandalgorithmsincludevariationalformulationandvariational constitutive updates, finite element discretization, error estimation, constrainedproblems,timeintegrationalgorithmsandconvergenceanalysis.Thereisastrongemphasison the (parallel) computer implementation of algorithms in programming assignments. Theapplication to real engineering applications and problems in engineering science is stressedthroughoutthecourse.

ME 5904 ComputerMethodsinDynamics(4)
Formulation of finite element methods for analysis of dynamic problems in solids, structures,fluid mechanics, and heat transfer. Computer calculation of matrices andnumerical solutionofequilibriumequationsbydirectintegrationandmodesuperposition.Effectiveeigen solution techniques for calculation of frequencies and mode shapes. Digital computercoding techniques and use of an existing general purpose finite element analysis program.Modelingofproblemsand interpretationofnumericalresults.

ME 5907 ProcessModeling andControl(4)
An introduction to modeling and control as applied to industrial unit processes providing thebasisforprocessdevelopmentandimprovement.Majorthemesincludeanintegratedtreatmentof modelingmulti-
domainphysicalsystems(electrical,mechanical,fluid,andthermal),applicationofclassicalcontroltechniques,andsystemdesign.Topicsincludemodelingtechniques,analysisoflineardynamics,controlfundamentalsinthetimeandfrequency domain, and actuator selection and control structure design. Examples are drawnfromavariety ofmanufacturingprocesses andcase4studies.

ME 5909 DynamicsofNon-linearSystems (4)
This course provides an introduction to nonlinear deterministic dynamical systems. Topicscoveredincludenonlinearordinarydifferentialequations,planarautonomoussystems,fundamental theory (Picard iteration, contraction mapping theorem, and Bellman-Gronwalllemma), and stability of equilibrium by Lyapunov's first and second methods and feedbacklinearization.

ME 6101 MechanicalTransmissions (4)
The course aims to cover the fundamentals of drive system and gear design and technology.This advanced applications' course builds on compulsory Engineering Science courses inearlierpartsoftheundergraduatecurriculum,suchasStressAnalysis,Vibration,andMaterialstogetherwithasmalleramountofHeatTransferandFluidMechanics.Lecturesare

aimed at providing a basic understanding of transmission system and machine element design,analysis and manufacture. There are short laboratory seasons in gear measurement, finiteelement modeling, gear failure analysis and in profile correction and transmission error. Atransmissiondesign projectis carriedoutby students in smallgroups.

ME 6102 ShipStructuralAnalysisandDesign(4)
This course is intended for graduate students and advanced undergraduates with an interest indesignofshipsoroffshorestructures.Itrequiresasufficientbackgroundinstructuralmechanics. Hydrostatic loading, shear load and bending moment, and resulting primary hullprimary stresses will be developed. Topics include ship structural design concepts, effect ofsuperstructures and dissimilar materials on primary strength, transverse shear stresses in thehullgirder, andtorsion strength amongothers. Failure mechanismsand designlimitstateswill be developed for plate bending, column and panel buckling, panel ultimate strength, andplastic analysis.Matrixstiffness,grillage,andfiniteelementanalysiswillbe introduced.

ME 6901 AdvancedFractureMechanics(4)
Definition of strain energy density, strain energy and energy release rate. Determination ofelasticandelastic-plasticcracktips.Definitionanduseofcrackopeningdisplacement.Concept of cleavage fracture. Examination of fracture under mixed mode conditions, andcrack branching, non-linear fracture mechanics. Determination of elastic-plastic crack tip.Definition of limit load and its application in fracture mechanics. Concept of ductile fractureand the competition between cleavage and ductile fracture. Derivation of Failure AssessmentDiagrams and use of Standards in fracture assessments. Creep fracture mechanics. Predictionof crackinitiationandgrowthunder creepconditions.Mechanismsof creepfracture.

ME 6902 AdvancedStressAnalysis(4)
Introduces to the students the fundamental theory of elasticity, stress function formulation andmethods for plane stress, plane strain and torsion loading. Furthermore, the analysis of torsionwill include thin-walled sections of arbitrary but uniform cross section. The course will alsointroducedynamicanalysisandelasticwaveeffects.TheConvolutionIntegralwillbedevelopeda nd used to analyzetimedependenteffects.

ME 6903 AdvancedVibrationEngineering(4)
To teach students how to use the theoretical principles of vibration, and vibration analysistechniques for the practical solution of vibration problems. A key feature is that students workon identifying and defining the problems to be solved. This includes choices of assumptions,choices of measurements to be made and information to be investigated, and choices ofanalysis techniques to beemployed.

ME 6904 FiniteElement Analysis ofSolidsandFluids(4)
Basic principles of continuum mechanics and finite element methods, modern application tosolution of practical problems in solid, structural, and fluid mechanics, heat and mass transfer,other field problems. Kinematics of deformation, strain and stress measures, constitutive relations,conservation laws, virtual work, and variational principles. Discretization of governing equationsusingfiniteelementmethods.Solutionofcentralproblemsusingexistingcomputerprograms.

ME 6905 FractureandFatigue(4)
Investigation of linear elastic and elastic-plastic fracture mechanics. Topics include microstructural effects on fracturein metals, ceramics, polymers, thin films, biological materialsand composites, toughening mechanisms, crack growth resistance and creep fracture. It alsocovers interface fracture mechanics, fatigue damage and dislocation substructures in singlecrystals,stress-andstrain-
lifeapproachtofatigue,fatiguecrackgrowthmodelsandmechanisms, variable amplitude fatigue, corrosion fatigue and case studies of fracture andfatiguein structural.

ME 6906 ElectronicandMechanicalPropertiesofMaterials (4)

This course covers the fundamental concepts that determine the electrical, optical, magneticand mechanical properties of metals, semiconductors, ceramics and polymers. The roles ofbonding, structure (crystalline, defect, energy band and microstructure) and composition ininfluencing and controlling physical properties are discussed. It also includes case studiesdrawn from a variety of applications i.e. semiconductor diodes and optical detectors, sensors,thinfilms, biomaterials,composites andcellularmaterials,and others.

ME 6909 ProcessControl(4)

Integrated study of process control and modern control theory. Includes process modeling andsimulation, analysis of linear and non-linear dynamics, evaluation and selection of actuatorsand measurements, control structure design for single and multiple variable systems, andcontrolalgorithmdesign. Examplesdrawnfromavarietyof processcontrolapplications.

ME 6910 Introductionto NavalArchitecture(4)

This course is an introduction to principles of naval architecture, ship geometry, hydrostatics,calculation and drawing of curves of form. It also explores concepts of intact and damagedstability, hull structure strength calculations and ship resistance. Topics include analysis ofshiplines drawings and ship modeltesting.

ME 6913 ProductDevelopment(4)

Dynamics of converting ideas into marketable products. Choosing products and defining theirspecificationstoachievecompetitiveadvantage.Theproductdevelopmentprocessisdecompos ed, and its elements are examined critically in the context of actual case studies; riskevaluation, concurrent engineering, and impact of new product decisions on the factory. Astep-by-stepmethodology fornew productdevelopmentis derived.

ME 6914 Simulation(4)

Modeling of discrete event systems and their analysis through simulation. Systems consideredinclude,butarenotlimitedto,manufacturingsystems,computer-communicationnetworksand computer systems. Simulating random environments and output analysis in such contexts.Asimulationlanguageisintroducedandisthemaintoolfor simulationexperimentation.

ME 6917 ComputationalFluidDynamicsforCivilEngineering (4)

This course provides knowledge to the students regarding the reaction of the civil structureswith their environment (wind, water etc). It is very important in the design to consider factorsassociated with fluid-structure interaction, (Le. large buildings) in which tremendous forces isproduced. These forces are characterized by continuous sudden changein direction. Theefficiency of the design of the structure therefore is highly affected by the type of the analysiswhich this course introduces. Prerequisites: Advanced Numerical Methods for Engineers,FluidMechanics

ME 6918 ComputationalFluidDynamicsfor EnvironmentalEngineering(4)

Advanced treatment of fluid dynamics to natural physical phenomena and/or engineeringprocesses. A wide range of topics and mathematical techniques are discussed. Prerequisites:intermediatelevelcourseinFluidMechanics,advancedlevelengineering,mathemati cs.

ME 6919 Turbulent Flow andTransport (4)

Turbulentflows,withemphasisonengineeringmethods.Governingequationsformomentum,energ y,andspeciestransfer.Prerequisites:ComputationalFluidDynamics,AdvancedlevelEngineering Mathematics.

ME 6928 NumericalFluidMechanics (4)

This course introduces students to numerical methods including number representation anderrors,interpolation,differentiation,integration,systemsoflinearequations,andFourierinterpolation and transforms. Students will study partial and ordinary differential equations aswell as elliptic and parabolic differential equations, and solutions by numerical integration,finitedifferencemethods, finiteelement methods, boundary element methods, and panelmethods.Prerequisites:Advanced Numericalmethods forEngineers.

ME 7811 ComputationalFluidDynamics(4)

TheuseofCFD to predict internal and external flows has risen dramatically in thepastdecade. The purpose of this course is to fill the gap in the available literature for novice CFDusers who, whilst developing CFD skills by using commercially available software. Althoughthe material has been developed from first principles, the course is of great benefit to thosewho are familiar with the ideas of calculus, elementary vector, matrix algebra and basicnumericalmethods.Prerequisites:AdvancedNumericalMethodsforEngineers,FluidMechanics.

COMPUTER SYSTEMS ENGINEERING

COURSE DESCRIPTIONS

EK 5660 Introductionto Photonics(4)

Introduction to ray optics, wave optics, Fourier optics and holography, absorption, dispersion.Polarization, anisotropic media, and crystal optics. Guided wave and fiber optics. Elements ofphotonoptics.Laboratoryexperiments:interference;diffractionandspatialfiltering;polarizers,retarders,andliquid-crystaldisplays;fiber-opticcommunicationlinks.

EK 5663 Fiber-opticCommunicationSystems(4)

Introduction to fiberoptics; components, concepts, and systems design techniques requiredfor the planning, design, and installation of fiber-optic communication systems. Single- andmulti-mode LED and semiconductor lasers, detectors, connectors and splices, terminal andrepeater electronics, wavelength division multiplexing optical amplifiers and solutions, andsystems architecture for point-to-point and local area networks. Laboratory work on fiber andelectronicmeasurements.

EK 5665 ElectromagneticEnergyTransmission (4)

Electromagneticwavesandpropagation;boundaryvalveproblemapproach;boundaryinterfaces;transmissionlinesandwaveguides;cavityresonators;impedancematching;physicaloptics andphysicalbasisof fiber optics;antennas andradiation;microwavedevices.

CS 5904 AdvancedDataStructure(4)

ReviewofbasicdatastructuresandJavasyntax.Dataabstractionandobject-orienteddesigninthecontextofhigh-levellanguagesanddatabases.Designimplementationfromtheperspective of data structure efficiency and distributed control. Tailoring priority queues,balanced search trees, and graph algorithms to real-world problems, such as network routing,databasemanagement, and transaction processing.

CS 5908 ProcessControl (4)

Integrated study of process control and modern control theory. Includes process modeling andsimulation, analysis of linear and non-linear dynamics evaluation and selection of actuatorsand measurements, control structure design for single and multiple variable systems, andcontrolalgorithmdesign.Examplesdrawnfromvarietyof processcontrolapplications.

EK 5911 SoftwareSystems Design(4)

Conceptofsoftwareproductlifecycle.Variousformsofasoftwareproductfromrequirementsdefinitionthroughoperationandmaintenance.Lifecyclemodelsandtheactivities performed in each phase. Role of rapid prototyping in requirements analysis anddesign.Designconceptsanddesignstrategies.Comparativeevaluationofrequirementsdefinition and design methods. Analysis and design validation. Small-team projects involvingarchitecturaldesign and softwarespecification.

EK 5916 DigitalSignalProcessing(4)

Advancedstructuresandtechniquesfordigitalsignal processingandtheirpropertiesinrelationtoapplicationrequirementssuchasreal-time,low-bandwidth,andlow-poweroperation.OptimalFIRfilterdesign:time-dependent Fouriertransform andfilterbanks;Hilbert transform relations; cepstral analysis and deconvolution; parametric signal modeling;multidimensionalsignalprocessing;multiratesignalprocessing.

EK 5917 ApplicationsofFormalMethods(4)

Formalfoundationsforthetheoryandpracticeofsoftwareengineering.Specificationlanguages and verification techniques for showing that an implementation is consistent with aspecification.StatetransitionandPetrinetmodelsofcomputation.Proofsofprogramproperties; limitations of program testing. Fundamental techniques for the analysis of spaceand time complexity of algorithms. Applications of formal methods in a variety of systemdevelopmentcontexts.

EK 5935 Advanced DiscreteMathematics(4)

Selected topics in discrete mathematics. Formal systems. Mathematical deduction. Logicalconcepts. Theorem proving. Sets, relations on sets, operations on sets. Functions, graphs,mathematicalstructures,morphemes,algebraicstructures,semigroups,quotientgroups,finite-state machines, their homomorphism, and simulation. Machines as recognizers, regularsets.Kleenetheorem.

EK 6560 IntroductiontoRobotics(4)

An introduction to the kinematics, dynamics, and control of robot manipulators and to robotmotionplanning.Specifically,forwardkinematicsandserialchainmanipulatorsusingDenavit-Hartenbergparametersandproductofexponentials.Inversekinematics.Themanipulator Jacobian. Manipulator dynamics using the Euler-Lagrange equations and theNewton-Eulerformulation.PID,computedtorque,andforcecontrol.Thebasicmotionplanning problem. Configuration space. Motion planning methods such as visibility graphs,Voronoi diagrams, cell decomposition, and potential fields. Introduction to non-holonomicmotionplanning. Handlinguncertainty through preimageback chaining.

CIVIL AND ENVIRONMENTAL ENGINEERING

COURSE DESCRIPTIONS

EK 5849 EnvironmentalManagement in DevelopingCountries(4)
Study Goals for this course are the following: define projects in several phases of the projectcycle(feasibility,identification,designandconstruction,evaluation,operationalmanagement)withintheirrespectivefieldofspecializationexplainhowotherthancivilengineeringdisciplinescancontributetoprojectactivitiesabroaddistinguishdifferentworkingenvironmentsforcivilengineersabroad(management,designandconstruction,research, financing etcetera) distinguish main organizations involved in development aid atnationalandinternationallevelintermsoftheirgoals,financingpoliciesandactionsrecognize localworkingandliving environmentsin socio-economicand technicalterms.

EK 6921 WasteWaterTreatment,RecyclingandReuse(4)
Thecourseintroduceswastewatertreatmentandsystems,emphasizingfundamentalbiological,chemicalandphysicalprocessesrelatedtoprotectionofpublichealthenvironmental quality and water reuse. Process analysis of the configuration and sizing ofmajortypesoftreatmentprocessesfor varioussizesofplantsandeffluentrequirements.

EK6922StormwaterManagementandSustainableUrbanDrainageSystems(SUDS)(4)
The course provides students with knowledge of site design and water conservation strategies,methods and tools. Based on understanding ecological principles, students will research newapproaches to integrated site and building design. Exercises, case studies, and application oftoolsprovidestudentshands-onopportunitiestoinvestigatedesignissuesanddetermineoutcomes. Before urban development, the water was in balance in its watershed.Currenturban development has disrupted the water cycle, separated the unified aspect of water anddegradedthehealth androbustnessofthenaturalurbanenvironment.

EK 7812 WaterScarcityandDesalination(4)
This course surveys the state-of-the-art in water purification by desalination and filtration.Fundamentalthermodynamic andtransportprocesses whichgovern the creationoffreshwater from seawater and brackish ground water are developed. The technologies of
existingdesalinationsystemsarediscussedandfactorswhichlimittheperformance,ortheaffordability of these systems will be highlighted. Energy efficiency is a focus. Nanofiltrationandemerging technologies for desalination areconsidered.

EK 7818 DesignforSustainability(4)
The concept of "green design" is introduced and integrated into design projects. Specifictechniques, guidelines and examples are used to emphasize the practical aspects of greendesign. Valuable case studies are included. While considering the profitability of the product,students are required to design in a way that benefits the global environment.This coursefocuses on the major impact of buildings on the environment, the role of high-performancebuildings in more efficient use of natural resources and lessening of negative impacts on theenvironment.

EK 7839 Fundamentals of Ecology (4)
This is abasicsubject inecology that seeks to improvetheunderstanding oftheflow ofenergy and materials through ecosystems and the regulation of the distribution and abundanceoforganisms.Thecoursecoversproductivityandbiogeochemicalcyclesinecosystems,trophicdynamics,communitystructureandstability,competitionandpredation,evolutionandnatural selection, population growthandphysiologicalecology.

MASTER OF SCIENCE
IN
SYSTEMS ENGINEERING

MISSIONOFTHEPROGRAM

The program places emphasis on state-of-the-art developments through online and/or openlearning programs in engineering concepts. It partakes on the multi-disciplinary engineeringapproach,fromtheperspectiveofsystemsanalysis,development,andoptimization.Itex amines the interdependencies of sub-systems of design mechanisms and processes andintegrates the improvements into new coherent engineering systems. The program's scopeextendstotheutilizationandfamiliarizationwithcommerciallyavailableengineeringsoftware packages for solving complex problems, as well as to an extensive use of an array ofonline engineering resources. Emphasis is placed on the development of the "Systems PointofView" in engineering applications. The program is so structured as to keep step withrecent engineering developments that require strong integrated knowledge both within a field,as well as across disciplines. Focus is placed on design, and strong foundations are providedonelectro-mechanicalmodels.

Thefollowing areas are as well incorporated, in orderto providethe modern-day engineerwithasolid baseofcapabilities:

ComputerAidedDesignandManufacturing

- FiniteElementAnalysis
- UsageofCommerciallyAvailable EngineeringPackages
- QualityAssurance,andISO Procedures
- EngineeringProjectManagement
- FailureAnalysis,Re-engineering

PREREQUISITES

Basic knowledge of engineering.If the students have no prior knowledge, then there is a needfor extracourses fromtheundergraduatelevel.

To receive an M.S. in Systems Engineering, students must take the following non-creditseminarsduring thefirstsemester:

CIS	5000	ComputerBasics
EN	5000	AcademicWriting
MA	5000	MathematicsBasics
RM	5000	ResearchMethodology

GRADUATIONREQUIREMENTS

Studentsmustcomplete40credithourswiththefollowingdistribution:

1) Thesuccessfulcompletionof28-32credithoursofcoursesthatfallwithinthespecializationareasorwithin thegeneralengineeringcourses.
2) Submissionofa thesis of15,000-30,000wordsequivalentto 8-12credithours.

MASTER'STHESISREQUIREMENTS

Studentsmustfulfillthe followingrequirements:

1) Completeatleasteightcreditsofgraduatecourseworkwithanoverall GPAof3.00orabove and no morethan two class gradesbelow "B".
2) CompleteanddefendaMaster'sthesisproposalbyatwo-personcommittee(theChairmanand thesupervisor).
3) CompleteanddefendaMaster's thesis thatcountsfor8-12credithours.
4) The Master's thesis must demonstrate the student's ability to effectively communicate inwriting the results of a graduate study.Students are expected to prepare a thesis, whichintegrates the knowledge they acquired with original research.They are expected tochoose a topic that captures the latest developments in the engineering field and to carryout primary and secondary data collection in this area, use scientific methods for analysisof data and then produce a professional report which constitutes original work.Studentswork on this project under the close supervision of assigned professors depending on theareaofspecialization.
5) The student must defend the thesis to a three-person committee, which includes twoinstructorsin thesamefieldandonefromanotherdepartment.

CORECOURSES

TherearenocorecoursesforthisMasterofScience.Studentsmayselectfromthefollowingcourses.

ELECTIVES

Students can selectany ofthefollowing coursesas electives:

SE	5000	Systems EngineeringI
SE	5010	GeneralEngineeringI
SE	5020	GeneralEngineeringII
SE	5030	Mechatronics
SE	5040	ControlSystemsandRobotics
SE	5050	AdvancedBiotechnologyEngineeringConcepts andApplications
SE	5060	FailureAnalysis,Re-engineering,QualityandProjectManagement
SE	5080	CAD/CAMandFEAI
SE	6000	SystemsEngineeringII
SE	6080	CAD/CAMandFEAII

COURSEDESCRIPTIONS

SE 5000 Systems EngineeringI (4)

The Systems Point of View, definitions, methodological frameworks. Systems Engineeringprocesses: logical steps, life cycle phases, a two-dimensional framework, processes, othermethodologies.Formulation ofissues: situation assessment, problem/issue identification,value system design examples, requirements statement, generation of alternative or systemsynthesis,feasibilitystudies.Analysisofsystemswithuncertainand/orimperfectinformation, structural modeling trees, causal loops and influence diagrams, systems dynamicmodels,economicmodelsandeconomicsystems.Analysisreliability,availability,maintainabilityandsupportabilitymodels,discreteeventsmodels,networksandgraphs,evaluation of large-scale models. Alternative courses of action and decision makingformaldecisions,group decisionsand voting, SystemsEngineering Management.

SE 5010 GeneralEngineering I (4)

Mechanics:Statics,kinematics,dynamics,vibrations,hydrostatics,hydrodynamicsandaerodynamics. Strength of Materials: stress and strain, stresses in bars and beams, theory ofelasticity,platesandshells,rotatingcomponents,stabilityproblembuilding.Thermodynamics: definitions, first law, second law, processes. Heat transfer:conduction,convection, radiation, heat exchangers.Materials: properties, testing, plastics and tribology.Engineeringdesign-Mechanicalmachinecomponents:connections,springs,couplings,clutches andbrakes,bearings,gears,drives,kinematics.Machine dynamics: forcesandmomentsofinertia,vibrations.Manufacturingprocesses:shaping andforming,cutting,assembly.Manufacturing systems:machine tool components, control systems, shearing andblanking machines, processor and harnesses for metal forging, metal cutting, welding andsoldering,robotics.

SE 5020 GeneralEngineering II(4)

Circuits:components, RL, RC, RLC, circuits, node equations and mesh equations, sinusoidalexcitationandphasors,threephasecircuits,filters,powerdistribution,groundingandshielding, operational amplifiers, active RC filters, diodes and transistors, analog integratedcircuit optoelectronic devices, power electronics, A/D and D/A converters.Digital systems:logicdevices,countersandsequences,microprocessorsandmicrocontrollers,memorysystem, CAD and simulators, logic analyzers.Communications and signal processing: digitalfilters,modulationanddetectioncoding,computercommunicationnetworks,satellites,mobile and cellular radio communication, optical communication.Computers:architecture,operating systems, languages, I/O devices, memory and mass storage devices.MeasurementandInstrumentation:sensorsandtransducers,erroranalysisandaccuracy,signalconditioning, telemetry, recording instruments, data acquisition.Control systems:feedback,root locus, error analysis and stability, systems compensation, process control, digital control,robots andcontrol.

SE 5030 Mechatronics (4)

Generatorsandmotors,brakesand clutches,amplifiers,actuators,transducers-controlledmotion,contactmakersandelectrodes,computercomponents,soundmanufacturing,assembling and connecting, military devices, common devices, passive electrical component.Design:constructiondesign,designformanufacturing,userfriendlydesign,accuracy,adjustment and gauging, reliability, defects, abuse failure and maintenance, barriers, filters,conduits and valves, cost reduction and product improvement, people engineering, ecology,designparameters, productclasses and familiarpatents.

SE 5040 ControlSystemsandRobotics(4)

Introduction to control systems, mathematical modeling of systems, state variable models,feedback control system characteristics, performance of feedback control systems, stability oflinear feedback systems, root locus method, frequency response methods, stability in thefrequencydomain, design offeedback controlsystems.

SE 5050 AdvancedBiotechnologyEngineeringConceptsandApplications(4)

Physiologicalsystems,bioelectricphenomena,biomechanics,biomaterials,biomedicalsensors, biomedical signal analysis, imaging, medical instruments, and devices, biologicaleffects of non-ionizing electromagnetic fields, tissue engineering, prostheses and artificialorgans, rehabilitation engineering, human performance engineering, physiological modeling,simulationandcontrol,clinicalengineering,medicalinformatics,artificialintelligence,regulationand organizations.

SE 5060 FailureAnalysis,Re-engineering,Quality andProjectManagement

This course combines the process reengineering and change management. The topics coveredinthiscontextincludemasscustomization,businessprocessreengineering,andchangemanagement for process change. Cases are studied to provide a unifying theme in terms oforganizationalchange, supply chainreengineeringand integration aspects.

SE 5080 CAD/CAMandFEA I(4)

Introduction, hardware, software, microprocessor-based CAD/CAM, geometricmodeling,typesofsurfacesandmathematicalrepresentation,typesofsolidsandmathematicalrepresentations, CAD/CAM exchange of data, 2-D and 3-D graphic concepts, visual realism,graphic aids,graphics aidsandgraphics manipulationsandediting, computer animation,mechanicalassembly, interactivecomputerprogramming.

SE 6000 SystemsEngineering II(4)

Views ofsystems approach, systems, computer-based systems, modeling, specific tasks,systems development activity, development life cycle, configuration management, projectmanagement,quality,non-functionalaspects,systemsperformance,evaluators,selectedmethods,formaltheory,quality,qualityactivitylevels,totalqualitymanagement,developmentand monitoring ofprocesses.

SE 6080 CAD/CAMandFEAII(4)

Mechanical applications, mass property calculations, finite element modeling and analysis,designprojects, CAD/CAM integration.

EK 5401 DrawingsandNumbers- FiveCenturiesofDigitalDesign(4)

The aim of this course is to highlight some technical aspects of the classical tradition inarchitecturethathavesofarreceivedonlysporadicattention.Itiswellknownthatquantificationhasalwaysbeenanessentialcomponentofclassicaldesign:proportionalsystems in particular have been keenly investigated.But the actual technical tools wherebyquantitativeprecisionwasconceived,represented,transmitted,andimplementedinpre-modern relationship between architectural theory and data-processing technologies was ascrucial in the past as it is today.This course hopes to promote a more historically awareunderstandingof thecurrentcomputer-inducedtransformationsinarchitecturaldesign.

EK 5445 SelectedTopicsinArchitecturefrom 1800tothePresent (4)

This class is a general study of modern architecture as a response to important technological,cultural, environmental, aesthetic, and theoretical challenges, the main highlight after theEuropeanEnlightenment.Itfocusesonthetheoretical,historiographic,anddesignapproaches to architectural problems encountered in the age of industrial and post-industrialexpansion across the globe, with specific attention to the dominance of European modernisminsettingtheagendaforthediscourseofaglobalmodernityatlarge.Itexploresmodern

architecturalhistorythroughthematicexpositionratherthanasasimplechronologicalsuccessionofideas.

EK 5465 ContemporaryArchitectureandCriticalDebate(4)
This course presents a critical review of works, theories, and polemics in architecture in theaftermathofWorldWarII.Theaimistopresentahistoricalunderstandingoftheperiod,andtodevelop a meaningful framework to assess contemporary issues in architecture.Special attentionwillbepaid tohistoriographicquestionsofhowarchitectsconstruethetermsof their"present".

EK 6420 ComputationalDesign: TheoryandApplications(4)
This class introduces design as a computational enterprise in which rules are developed tocompose and describe architectural and other designs.The class covers topics such as shapes,shape arithmetic, symmetry, spatial relations, shape computations, and shape grammars.Itfocuses on the application of shape grammars in creative design, and teaches shape grammarfundamentals through in-class, hands-on exercises with abstract shape grammars.The classdiscussesissues related topracticalapplications of shapegrammars.

EK 6431 ArchitecturalDesign- PerceptionsandProcesses (4)
Thiscourseexploresthenotionofin-betweenbyengagingseveralrelationships:therelationship between intervention and perception, between representation and notation andbetweenthefixedand thetemporal.

EK 6432 ArchitecturalDesign-MaterialEssence- TheGlassHouse (4)
The theme that unites the design is a focus upon the 'making of architecture and built form' asa tectonic, technical and materially driven endeavor.It is a design investigation that is rootedin a larger culture of materiality and the associated phenomena, but a study of the languageand production of built form as an integrated response to the conceptual proposition of theproject.The studio will look to works of architecture where the material tectonic and itsresultant technology or fabrication become instrumental to the realization of the ideas, inwhatever form they mat take.This becomes the "art of technology"— suggesting a level ofinnovation and creative manipulation as part of the design process to transform material into acompositionofbeauty and poetryas wellas environmentalcontrol.

EK 6436 System and Project Management(4)
This course is designed for students in the System Design and Management (SDM) program andtherefore assumes that you already have a basic knowledge of project management.The objectiveis to introduce advanced methods and tools of project management in a realistic context such thatthey can be taken back to the workplace to improve management of development projects.Incontrast to traditional courses on the subject we will emphasize scenarios that cannot be fullypredicted such as task iterations, unplanned rework, perceived versus actual progress andmisalignmentsbetweentasks,productarchitecturesandorganizations.

EK 6483 SustainableDesignandTechnologyResearch Workshop(4)
This workshop investigates the current state of sustainability in regard to architecture, fromthe level of the tectonic detail to the urban environment.Current research and case studieswill be investigated, and students will propose their own solutions as part of the final project.Casesin "IntelligentBuildings"arealsoexamined.

EK 6491 Building StructuralSystems(4)
Thiscourseservesasanintroductiontothehistory,theory,andconstructionofbasicstructural systems with an introduction to energy issues in buildings.Emphasis is placed ondevelopinganunderstandingofbasicsystematicandelementalbehavior;principlesofstructuralbehaviorand
analysisofindividualstructuralelementsandstrategiesforloadcarrying.Thesubjectintroducesfundamentalenergytopicsincludingthermodynamics,psychometrics,andcomfort,as they relateto buildingdesign and construction.

MASTER OF SCIENCEIN TELECOMMUNICATIONS

MISSIONOFTHEPROGRAM

The mission of the graduate program in telecommunications is to prepare students throughonline and/or open learning programs for careers in the exciting area of telecommunications.Uponcompletionofthisprogram,thestudent will haveastrongunderstandingofdatacommunications,telecommunicationsprinciples,telecommunications managementandregulations,network management and wirelesscommunications.

COMPUTERKNOWLEDGEREQUIREMENTS

KnowledgeofM.S. Office,E-mailandWebaccess.

PREREQUISITES

ToearnanM.S.inTelecommunications,studentsmusttakethefollowingnon-creditseminarsduring thefirstsemester:

CIS	5000	Computer BasicsEN 5000 Academic WritingMA 5000 MathematicsBasics
RM	5000	ResearchMethodology

GRADUATIONREQUIREMENTS

TosatisfytheirM.S.degreeinTelecommunications,studentsmustcompleteathesisequivalentto 8 to 12 credithours and haveagradeof‘‘B”orabove.

MASTER’STHESIS

The Master’s thesis must demonstrate the student’s ability to effectively communicate inwritingtheresultsofagraduatestudyorconstructiveworkinafieldrelatedtotelecommunications.The writing of the Master’s thesis may be performed on or off campus,provided that the student’s graduate advisor is kept informed at all times about the progress ofthe thesisandthathe/sheisatalltimesabletoexamineandsupervise thestudent’swork.

CORECOURSES

TEL	5510	TelecommunicationsSystems
TEL	5520	StrategicManagementinTelecommunications
TEL	5530	DataCommunications
TEL	6540	NetworkManagementSystems
TEL	6550	Wireless,Cellularand PersonalCommunications

ELECTIVES

TEL	5611	FiberOptic Telecommunications
TEL	5621	Antenna Systems
TEL	5631	SatelliteCommunications Systems
TEL	5641	TransmissionSystems
TEL	5651	Network Design
TEL	5661	Microwave Systems
TEL	5671	NetworkProtocols andStandards
TEL	5711	ATM Networks
TEL	6681	Internet/IntranetTelecommunications
TEL	6691	Image andVideoCompression
TEL	6800	SpecialTopicsinTelecommunications
TEL	6900	SeminarinTelecommunications

COURSEDESCRIPTIONS

TEL 5510 TelecommunicationSystems(4)

Discusses the basic technical concepts of telecommunications, including an in-depth look atbasic telecommunications terminology and concepts.Topics include an introduction to voiceanddatanetworks,signaling,modulation(AM,FM,PMandPCM),signalpropagationcharacteristics,digitalcoding,detection,transmissionsystemsandswitchingsystems.

TEL 5520 StrategicManagementinTelecommunications(4)

Examines the fundamentals of strategic management in telecommunications with an emphasis onthe gathering and analysis of competitive intelligence, various forms and methods of forecasting,thesettingofgoalsandobjectivesandestablishingsuitableprojectmanagementplans.

TEL 5530 Data Communications(4)

Introduces data and computer communications standards, terminology and models.Topicsinclude the description of protocols that apply to LANs, MANs and WANs including framerelayand SONET, theInternet,routers, andtheEthernet.

TEL 5611 FiberOpticTelecommunications(4)

Describes the basic aspects of fiber-optic communication systems. Topics include sourcesand receivers, optical fibers and their propagation characteristics, optical fiber systems, theprinciplesofoperationandpropertiesofoperationandpropertiesofoptoelectroniccomponents,signalguiding characteristics ofglassfibers,andsystemdesign issues.

TEL 5621 AntennaSystems(4)

Introduces the fundamental antenna concepts and uses them to analyze basic antenna systems.Topics include physical principles of radiation, wire radiators, linear and planar arrays, horns,reflecting and nonreflecting apertures, lenses, broad-band systems, printed circuit antennas,andantennameasurements.

TEL 5631 SatelliteCommunicationsSystems(4)

Presents the theoretical and practical considerations of satellite communications systems.Topics include satellite orbits, link equations, communications payload, system performance,modulationtechniques,on-boardprocessing, earthstations,and propagationeffects.

TEL 5641 TransmissionSystems(4)

Provides a description of transmission systems for TV, telephone, and data-using satellites,microwaverepeaters, mobileradio, and broadcast transmitters.Topics includecommondigital schemes and spread-spectrum modulation, time, frequency, and codemultiplexing,linkperformance,capacity, totalsystemdesign, andcostoptimization.

TEL 5651 NetworkDesign(4)

Discusses the tools and techniques for the economic design of telecommunication networksthat meet the requirement (for example, reliability or performance) goals of an organization.Topicsincludetheapplicationofqueuingmethods,optimizationandnetworkmodels,heuristic search techniques for the design of modern communication networks, call centerdesign,virtualprivatenetwork design,and localnetworks.

TEL 5661 MicrowaveSystems(4)

Describes the practical aspects of microwave systems. Topics include radar systems andelectronicsystemsoperatinginheavilyinterferingenvironments,linearandnonlinearcharacteristics of individual components and their relation to system performance, amplifiers,mixers,filters, and frequency sources.

TEL 5671 NetworkProtocolsandStandards(4)

Examines the telecommunications protocols and standards for fixed and mobile networks,fixed/mobile integration technology, and design of telecommunications networks.Topicsincluderesolutionofequipment incompatibilities, sender/receivercoordination,reliabilitymaximization,errorminimization,performanceoptimization,fixed/mobilenetworks,interfacedesign,mediumaccesscontrol,synchronizationanderrorcontrol,datalayerprotocol,and internetworkingoffixedand mobilenetworks.

TEL 5711 ATMNetworks(4)

Presentsthebasicconceptsandtechniquesusedinasynchronoustransfermode(ATM)communications networks.Topics include circuit and packing switching techniques, local areanetworks (LAN), N-ISDN, B-ISDN, ATM standards and protocols, ATM layer, ATM adaptationlayer, and physical layer, ATM switching architectures, call and connection control, traffic control,andnetworkmanagement,packetvideo,signalmodeling,andpacketlossprotectionandrecovery.

TEL 6540 NetworkManagementSystems(4)

Current Networking courses are broad in scope. This course goes in depth into a narrowersubtopicthattraditionallydoesnotreceiveasmuchattention butisemergingasanincreasinglyimportantdirectionintheresearch communityandintheindustry.

TEL 6550 Wireless,Cellular and PersonalCommunications(4)

Anoverviewofwirelesscommunicationsystems.Propagationandnoises.Free-space,terrestrialIndoorpropagations.Multipathcharacteristicsofradio-wave.Fading.ModelstopredictPropagationloss.Fundamentalofcellularcommunications.Cellularsystemdesign.Cochannelinterferences.Digitalmodulationinwirelesssystems.Accesstechnologies.Narrowbandandwidebandsystems.Antennas,diversityandLinkanalysis.Spectralefficiency.ComparisonofFDMA,TDMAandCDMA.Spread-spectrumtechnique.European,JapaneseandNorthAmericanCellularsystems.Securityandprivacyinwirelesssystems.Securityalgorithms.Internetworkinginwirelesssystems.Cellulardigitalpacketdatanetwork.Wirelessprotocolsandstandards.

TEL 6681 Internet/IntranetTelecommunications(4)

Describes Internet/Intranet technology, structure, protocols, access, and applications in the context ofreal world uses. Topics include Internet engineering, the parameters of the technical aspects ofInternet/Intranet,thenewdirectionsalreadyemerging,andsurveyingtheimminentWebtechnologies.

TEL 6691 Image and VideoCompression (4)

Introduces the basic concepts and techniques used for the compression of digital images andvideo.Topicsinclude2-Dsamplingandquantization,andcodingtechniquessuchasdifferentialpulsecodemodulation,transformcoding,subband/waveletcoding,vectorquantization,motioncompensationvideocoding,entropycodingtechniques,andcodingstandardssuchas JPEG,MPEG, MPEG1, MPEG2,andMPEG4.

TEL 6800 SpecialTopicsin Telecommunications(4)

Selectedtopicsofcurrentimportance intelecommunications.

TEL 6900 SeminarinTelecommunications(4)

A series of five seminars presented by telecommunications experts.The student must presenta2-pagereporton each seminar.

MASTER OF SCIENCE
IN
PETROLEUM ENGINEERING

MISSIONOFTHEPROGRAM

The Master of Science in Petroleum Engineering has been created to train existing staff andnew employees through online and/or open learning programs with skills in oil-field industry.Parallel research taking place at AUA offers the cutting-edge course content in the area ofPetroleumEngineering.ThreespeciallypreparedcoursesareofferedforEngineeringGraduatesof otherthanPetroleumEngineeringspecializations,suchasMechanicalEngineering,ChemicalEngineering etc.

PETROLEUMENGINEERINGCOURSES

PEN	5101	FormationEvaluation
PEN	5117	TestingofWellsandLiquefiers
PEN	5211	EnhancedOilRecovery
*PEN	5401	IntroductiontoTransportProcessesinPorousMedia (*Requiredfor GraduateswithoutPetroleumEngineeringBatchelor'sDegree)
PEN	5402	PetroleumReservoirEngineeringEvaluation
PEN	5406	Engineering&EconomicEvaluationofSubsurface Reservoirs
PEN	6115	FluidFlowandTransportProcessesinPorousMedia
PEN	6581	EnvironmentalTechnologyinthe PetroleumIndustry
PEN	6901	EngineeringGeostatistics
PEN	6911	AdvancedOilfieldOperations
PEN	6991	IntelligentOilfieldSystems-Characterization& Management

COURSEDESCRIPTIONS

PEN 5101 FormationEvaluation(4)

Concepts of petroleum geology, interpretation of down whole surveys and measurementsincludingwelllogs, MWD, mud logs and samples.

PEN 5117 Testingof Wellsand Aquifers(4)

Principles of well testing; down hole device; Aquifer tests; slug tests; DST; pressure transient modelinginhomogeneousandheterogeneoussystems;parameterestimation;computeraidedtechniques.

PEN 5211 EnhancedOilRecovery(4)

Thiscoursesurveyscurrentenhancedoilrecoveryprocesses,includingwater-flooding,miscibledisplacement, and thermaloilrecovery.

PEN 5401 IntroductiontoTransportProcessesin PorousMedia(4)

Properties of porous rocks; capillary effect, single phase and multiphase flow through porousmedia;diffusion and dispersion,miscibledisplacement, heattransfer.

PEN 5402 PetroleumReservoirEngineering(4)

Properties of reservoir fluids, volumetric and material balances for gas and oil reservoirs;reservoir modeling concepts.

PEN 5406 Engineeringand Economic EvaluationofSubsurfaceReservoirs(4)

Studies, data and methods for estimating size of underground fluid deposits for predictingphysicalandeconomicbehaviorof designedflowschemes,andforquantifyinguncertainty.

PEN 6115 FluidFlowand TransportProcessesin PorousMedia(4)

Principles of single and multiphase flow through porous media; mechanisms of immiscibleandmiscibledisplacement;momentum, heatandmasstransportin porous media.

PEN 6581 EnvironmentalTechnologyinthePetroleum Industry(4)

Thiscourseexaminesengineeringandscientificprinciplesnecessaryforunderstanding,assessing, and premeditating environmental problems in the petroleum industry includingdrilling,production,transportationandrefiningoperations.Prerequisite:graduatestanding.

PEN 6901 EngineeringGeostatistics(4)

Use of geostatistical methods for exploration and development of mineral and petroleumresources,applicationofsemi-variogram,kriging,cokriging,nonlinearandparametricestimationand conditionalstimulation.

PEN 6911 AdvancedOilfield Operations(4)

Immersivesubsurfaceandsurfaceenvironments,web-basedmonitoringandfeedback,visualizingrisk,unattendedoperation.Limitedtostudentswithgraduatestanding.Recommendedpreparation:prerequisites fornon-majors.

PEN 6991 Intelligent Oilfield Systems Characterization and Management (4) Reviewofsoftcomputingmethodssuchasneuralnetworks,fuzzylogic,problematicreasoninginreservoircharacterization,dynamicreservoirmodeling,oilfielddataintegrationandanalysisofuncertaintyinprediction.Limitedtostudentswithgraduatestanding.Recommendedpreparation:prerequisites fornon-majors.

MASTER OF SCIENCE
IN
ROBOTICS

MISSIONOFTHEPROGRAM

Master of Science Degree Program of Robotics gives students an edge in competitive and innovative profession, dealing with design, modeling, research and implementation skills. It exposes students to both mathematical foundations of robotics and mechatronics. Its coursework includes the study of fundamentals in robot modeling, analysis, design and control. The MS in Robotics is training engineers for careers evolving robotics, automation and autonomous and intelligent systems. Graduates of this program are expected to solve original and complex problems, position emerging technologies, and maintain exacting standards in a fast-evolving economy

Career opportunities include:

- Automotive Engineer (Self-driving Vehicles);
- Controls Engineer (Renewable Energy Applications);
- Medical Robotics Engineer (Biomedical Engineering Applications);
- Mechatronics Engineer;
- Unmanned Vehicle System Engineer.

The 44-credit curriculum for the Master of Science Degree in Robotics incudes topics such as, the physical and mathematical modelling, analysis and design, the Geometry and Kinematics and dynamics of robotic systems, the sensors, actuators, algorithms, computing, and the required energy resources. Real-world tasks are presented, such as teleoperated, automated fully autonomous or performed in cooperation with humans. Special applications of automation and robotics are examined for the Oil and Gas Industry, focusing upon Offshore Gas and Oil Applications, as well as on Floating Production and Storage Units.

Courses & Curriculum description (44 Credits)

ME	5908	Introduction to Robotics (4 credits/60 hours)
ME	6211	Introduction to Control Engineering (4 credits/60 hours)
ME	6914	Advanced Robotics (4 credits/60 hours)
ME	6996	Autonomous Navigation for Mobile Robots (4 credits/60 hours)
ME	6993	Sensors and Robots (4 credits/60 hours)
CS	5540	Artificial Intelligence (4 credits/60 hours)
ME	6555	Microprocessor Applications (4 credits/60 hours)
CS	5559	Machine Learning (4 credits/60 hours)
ME	6685	Mobile Micro-robotic Systems (4 credits/60 hours)
CS	5530	Analysis and Algorithms (4 credits/60 hours)
CS	5552	Process Control (4 credits/60 hours)
CS	5552	Introduction to Operating Systems (4 credits/60 hours)
CS	5551	Computer Engineering Applications (4 credits/60 hours)

Eight-4 credit courses and a 12-credit thesis; or Professional Mode ten-4 credit courses and a capstone Project.

Non-Engineering Applicants, (e.g. Physics, Mathematics etc.), may take 2 to 3 undergraduate courses.

The allocation of the elective courses will be determined on the basis of the qualifications of each student, and the specific specialization for his/her future responsibilities.

***The detailed Course Descriptions for the courses can be supplied upon requestfor the program applicants**

MASTER OF SCIENCE
IN
RENEABLE ENERGY ENGINEERING

MISSIONOFTHEPROGRAM

Apply now and obtain a degree in this competitive and in-demand field. The program has been created in a way which offers a great career opportunities for your future, and by applying today, you can become a part of this exciting program.

The **Master of Science in Renewable Energy Engineering (MSREE)** is now offered by the University of Athens, and has been structured to accommodate both, full-time students and working professionals.

The program has been designed to prepare graduates to become an energy engineering professional, who will obtain an advanced knowledge and skills-set, which will allow them to acquire a broad range of technical leadership roles in renewable energy applications.

Courses & Curriculum description (48 Credits)

RE 5001 Energy Engineering (4 credits/60 hours)
RE 5111 Hydrogen Production & Storage (4 credits/60 hours)
RE 5211 Advanced Batteries (4 credits/60 hours)
RE 6001 Power System Analysis (4 credits/60 hours)
RE 6111 Energy Storage Fundamentals (4 credits/60 hours)
RE 6501 Geothermal Energy; Ground-Source Heat Pumps (4 credits/60 hours)
RE 6921 Sustainability/ Energy Issues (4 credits/60 hours)
RE 6922 Costing Renewable Energy (4 credits/60 hours)

Elective courses – Specializations

Photovoltaic systems & Processes

RE 6301 Solid State Physics of Photovoltaic Materials (4 credits/60 hours)
RE 6302 Applied Photovoltaics (4 credits/60 hours)
RE 6303 Semiconductor Process Engineering (4 credits/60 hours)
RE 6401 Wind Power Systems; Wind Power Generators (4 credits/60 hours)
RE 6402 Wind Energy Systems Integration (4 credits/60 hours)

Biofuels & Biomass

RE 6701 Production of Biomass and Biofuels (4 credits/60 hours)
RE 6702 Utilization Strategies of Bioenergy (4 credits/60 hours)
RE 6703 Process Design and Evaluation for Biomass Energy Systems (4 credits/60 hours)

The allocation of the elective courses will be determined on the basis of the qualifications of each student, and the specific specialization for his/her future responsibilities.

***The detailed Course Descriptions for the courses can be supplied upon requestfor the program applicants**

School of BusinessAdministration

MASTER OF BUSINESS ADMINISTRATION

MISSIONOFTHEPROGRAM

The mission of the graduate program in business administration at ***The American Universityof Athens*** is to offer an educational program which enables students through online and/oropen learning programs to develop skills and proficiencies essential for contribution to adynamic professional and social environment and global economy. The rapid growth andmultifaceted development of contemporary business has created the need for executives tocombine multidisciplinary academic backgrounds and to respond to a global economy, rapidlychanging markets, and powerful technological innovation. Today's managers, investors andpolicy-makers need to understand the interactions of dozens of markets, work cultures, andinvestmentopportunities.TheM.B.A.programthusaimstotrainexecutivesandfuturemanagers by the successful integration of this knowledge. Meeting this challenge, AUA offersanM.B.A. with thefollowing programspecializations:

- InternationalBusiness
- GlobalFinancialAnalysisandManagement
- Managementwitha focuson:
  a. ITandE-Commerce
  b. Operations
  c. People andOrganizations

PREREQUISITES

Basic knowledge of business administration, management or economics.If the students haveno prior knowledge then there is a need for extra courses from the undergraduate level.Thesecoursesinclude:accounting,finance, marketing andmanagement.

To receive an M.B.A., students must take the following non-credit seminars during the firstsemester:

CIS	5000	ComputerBasics
EN	5000	AcademicWriting
MA	5000	MathematicsBasics
RM	5000	ResearchMethodology

GRADUATIONREQUIREMENTS

Studentsmustcomplete44credithourswiththefollowingdistribution:

1) The successfulcompletionof5corecoursesforatotalof20credithours.
2) Thesuccessfulcompletionof3-4specializationcoursesforatotalof12-16credithoursor,asanalternative, 3-4 electivesforthesametotalofcredits.
3) Submissionofa thesis of15,000-30,000wordsequivalentto 8-12credithours.

MASTER'STHESISREQUIREMENTS

Studentsmustfulfillthefollowingrequirements:

1) Have a GPA of3.00 orabove.
2) CompleteanddefendaMaster'sthesisproposalbyatwo-personcommittee(theChairmanandthesupervisor).
3) CompleteanddefendaMaster's thesis thatcountsfor8-12credithours.
4) The Master's thesis must demonstrate the student's ability to effectively communicate inwriting the results of a graduate study.Students are expected to prepare a thesis whichintegrates the knowledge they acquired with original research.They are expected to choose atopic that captures the latest developments in the business field and to carry out primary andsecondary data collection in this area, use scientific methods for analysis of data and thenproduce a professional report which constitutes original work.Students work on this projectunderthe closesupervisionofassignedprofessorsdepending onthearea ofspecialization.
5) The student must defend the thesis to a three-person committee which includes two instructorsfromthesamefieldand onefromanotherdepartment.

CORECOURSES

ThefollowingcoursesaretobetakenbyM.B.A.studentsregardlessoftheirspecialization:

EC	5482	WorldEconomyandGlobalCompetitive Strategies
FIN	5371	CorporateFinance forthe Knowledge Age
MAN	5511	GlobalPerspectives onOrganizationalManagementandBehavior
MAN	5601	Strategic Management
MK	5526	Decision-makingonMarketingConcepts

SPECIALIZATIONSOFFERED

The School offers three specialization areas which respond to the contemporary demands oftoday'sbusinessworld.Studentsmusttakeatleastthreecourseswithinthespecificspecialization to satisfy the requirements.Students may take a fourth course if they wish toprepare an 8-credit thesis instead of a 12-credit one.The specialization areas offered by AUAare:

1) InternationalBusiness
2) GlobalFinancialAnalysisandManagement
3) Management
    a. IT andE-commerce
    b. Operations
    c. People andOrganizations

For satisfying the specialization in **International Business** students must take at least four ofthefollowing courses:

FIN	6001	GlobalFinancialMarkets andInstitutions
MAN	6013	InternationalBusiness
MAN	6202	Cross-culturalManagement
MAN	6503	DevelopingBusinessandMarketingPlansforNewVentures
MAN	6633	ManagementofInternationalOperations
MAN	6904	E-commerceandInternet
MK	6620	GlobalPerspectivesonConsumerBehavior

For satisfying the specialization in **Global Financial Analysis and Management** studentsmustselectCorporateFinance fromthe core courses andatleastfourof the followingcourses:

EC	6680	ManagerialEconomics
FIN	5372	Money,BankingandFinancialStrategies
FIN	5500	Financial Management
FIN	6001	GlobalFinancialMarkets andInstitutions
FIN	6410	PortfolioTheory andManagement
FIN	6510	Risk Management
FIN	6615	InternationalTrade andInvestments
FIN	6618	SecurityInvestmentsAnalysis
FIN	6671	InternationalBusiness Finance

Forsatisfyingthespecializationin**ManagementwithafocusonITandE-commerce** studentsmustselectatleastthreeof thefollowingcourses:

BC	5592	Usingthe InternetinBusiness
MAN	6901	Emerging Strategies in Information
ManagementMAN	6904	E-commerce and Internet
QM	5502	Quantitative Methodsin BusinessandManagement

For satisfying the specialization in **Management with a focus on Operations** students mustselectatleastthreeofthefollowing courses:

BC	5566	TotalQualityManagement
EC	6680	ManagerialEconomics
FIN	5381	Managerial Accounting
MAN	6633	ManagementofInternationalOperations
QM	5502	Quantitative Methodsin BusinessandManagement

Forsatisfyingthespecializationin**Managementwithafocus onOrganizationsandPeople** studentsmustselectfourofthefollowing courses:

BC	5441	TeamEffectiveness
BC	5628	PerfectingthePresentation
MAN	5631	Ethics inBusiness andtheProfessions andinGlobalOperations
MAN	6202	Cross-culturalManagement
MAN	6501	FundamentalsofEntrepreneurship
MAN	6632	Human ResourceManagement

ELECTIVES

If the student does not select a specialization, she/he may select 4-5 courses of the abovecourses as electives in addition to completing the core courses.Electives also include coursesfromother departments withtheapprovaloftheChairman of theGraduateSchool.

COURSEDESCRIPTIONS

BC 5441 TeamEffectiveness(4)

This course helps students to discover the qualities and characteristics of effective teams bystudyingtheoriesofteamcommunication,stagesofteamdevelopmentandstrategiestoincrease productivity.The course explores the concept of teamwork and theability of teamsto work together and to accomplish tasks.It also provides techniques to transform groups intoworking,successfulteams.

BC 5592 UsingtheInternet inBusiness(4)

This course focuses on the application of the Internet to business.A case study approach isemployed to illustrate real life examples of how and why business enterprises are using theInternet to add value.Though students are expected to use the Internet for class assignments,the discussion will center on broader organizational, financial and communication topics.Specific topics that are covered include marketing and sales, customer service, human factors,financialdecisionsandtransactions,organizationalcommunication,andchangeintherelatio nshipto new technologies.

BC 5628 Perfecting thePresentation(4)

This course helps students to learn the conceptual and practical tools necessary for preparing,organizing and presenting polished and professional presentations.The course is intended todevelop excellent public speaking and written report skills and is intended to give both
therelativenoviceandtheexperiencedpresenternewskillsandtechniquestoperfecttheirencounter with thepublic.

EC 6680 ManagerialEconomics (4)

Application of economicprinciples to managerial decision making. Topics may includedemand, costs and market structure and their relation to pricing, product choice and resourceallocation;industrialorganization;agencytheoryandpersonneleconomics.Cannotbecoun tedtowards majors in economics.

EC 5482 World EconomyandGlobalCompetitiveStrategies(4)

Key dimensions oftheglobal economy, including international opportunities and risks, arethe focus of this course.Trade theory and policy, the balance of payments, foreign exchangemarkets, exchange rate systems and risks and international payment systems, foreign directinvestment are also discussed in the course.The changing rate of multinational corporations;andelements of internationalcorporatestrategiesareexamined.

FIN 5371 CorporateFinancefortheKnowledgeAge(4)

This course offers a second-level treatment of financial management for advanced students.The emphasis is given on the blending of conceptual and technical tools in solving actual caseproblems. It is intended to provide students with greater familiarity of actual case problemsas facedby thefinancialofficer.

FIN 5372 Money,BankingandFinancialStrategies(4)

Thiscourseexaminestheroleofmoneyintheeconomyandthefunctionoffinancialinstitutionsandma rkets.Itexploresfinancialtheory andthefunctionofregulationandcontrol. Students learn how to follow changes in the supply of money and credit and howtheyaffectthegrowthoftheeconomy,thelevelofemployment,andtherateofinflation.They also understand the role of banks and other financial institutions and how they providethe mechanismfor allowingmoneytoperformitsfunctionoffacilitatingtheeconomy.

FIN 5381 ManagerialAccounting(4)

The study of management accounting for internal reporting and decision-making. The courseintroducesabusiness-managementapproachtothedevelopmentanduseofaccountinginformation. Major topics include cost behavior, cost analysis, profit planning and controlmeasures. Accounting for decentralized operations, capital budgeting decisions, and ethicalchallengesin managerialaccounting arealsocovered.

FIN 5500 FinancialManagement (4)

A study of the theory of assembling and investing capital.The course provides principles fordecidingwhichcapital-usingprojectstoundertakeandhowmuchtospendonthem,principles for determining the best combination of short-time debt, long-term debt, and equitywithwhich to carry outtheseprojects.

BC 5566 TotalQuality Management (TQM)(4)

Learn how to integrate TQM into planning and project management, strategic management,process improvement, and how to modify an organizations behavior. Assess supervisor's rolesand responsibilities related to quality including identifying and meeting customer's needs,applying tools and techniques for improving systems and processes, developing a qualitytraining plan for work group members and enhancing work group commitment to continuousqualityimprovement.

FIN 6001 FinancialMarkets(4)

Everyone in today's international marketplace - investors and corporate end-users, brokers,traders, and commercial and investment bankers - must not only know the products and themarkets they trade, but they must also understand the economics that drive demand and themathematics that explain it. And as new markets open in Europe, Latin America, and Asia,students must understand all of this from a complex global perspective. This course providesstudents with the opportunity to study global markets from different perspectives and to useeconomicconcepts forthis purpose.

FIN 6410 PortfolioTheoryandManagement(4)

Thiscoursefocusesoninvestmentenvironmentandconceptsusedtomanagesecurityportfolios.Issuessuch asportfolio/securityrisk/return tradeoffs, portfoliodiversification,assetallocation,activeportfoliomanagementversusindexedportfoliosand portfolioperformance evaluation are to be discussed in this course.Students will also have hands-onexperiencein theseareas.

FIN 6510 RiskManagement(4)

This course aims to educate students in the theory and practice of risk management andinsurance at an advanced level. The course is designed to prepare students for analytical andtechnical staff, consulting, and appliedresearch positions in riskmanagement, employeebenefits, or insurance. It is also designed to provide students with a solid understanding of theapplicationofmathematicsineconomicsandfinancetoaddresscontemporaryriskmanagementissues.Emphasisisplacedonthediagnosis,analysis,pricing,andthecustomization of solutions to risk management problems, broadly defined to include bothfinancialand operationalrisk exposures.

FIN 6615 InternationalTradeandInvestments(4)

The course focuses on the development of exports and imports in the context of changinginternational trade and investment relations. There will be analyses of: domestic and foreignenvironmentsandinternationalsalesanddecisionsintermsofproductselection,riskminimization, choice of distribution channels and trade intermediaries, shipping terms andfacilities, supporting documentation, necessary licenses, exchange and export-import controls,taxincentives,financingoptions,insurance,customs clearing,andotherrequirements.

FIN 6618 SecurityInvestments Analysis(4)

Focuses primarily upon analysis of securities from both the fundamental and technical sides.The methodology for analyzing financial reports, valuing securities, selecting investments andmanagingaportfolio arealso discussed.

FIN 6671 InternationalBusinessFinance(4)

The course analyzes the international environment and its influence on corporate financialmanagementofinternationaloperations,motivationfordirectforeigninvestment,internationalbankingoperations;governmentprogramstoencourageexportsarealsoexplored.Problems relatedto multinationalcompaniesarediscussed.

MAN 5511 GlobalPerspectiveson OrganizationalManagementandBehavior (4)

Obtaining, mobilizing, and managing an organization's human and intellectual capital is the key toshort- and long-term business success.In this course students will develop a conceptualframework for understanding the human elements of working and managing in organizationalsettings.Recent psychology research and organizational behavior theory will help studentsdevelop effective management skills.The students will discuss the fundamental tenets ofmanaging human capital and identify and list challenges to effective organizational management.Theywillalsodesignstrategyforidentifyingproblemsandthewell-beingofaworkgroup.

MAN 5601 StrategicManagement (4)

This course helps students to understand the functioning of organizations as a whole and theintegration of marketing, finance, human resources and information and control systems into acommon mission.The course provides students with competencies which include the abilityto analyze industries and societal environments; the ability to assess patterns or developstrategy over time and across functional subsystems; and the ability to monitor organizationaleffectivenessand tomanagethestrategicchangeprocess.

MAN 5631 EthicsinBusinessand theProfessionsand inGlobalOperations(4)

The course covers the basic concepts and theories for analysis of moral issues arising inbusinessandprofessionalpractice;personalandorganizationalcodeofethics;ethicaldilemmas with an understanding of the social, economic and political contexts.Issues of theglobalelectroniccommunication arealso discussed.

MAN 6013 InternationalBusiness(4)

The course introduces students to the issues involved in doing business in the growing worldmarket of the 21st century.Topics include international trade, the international monetarysystemand political, legalandculturalconsiderations ofworld business.

MAN 6202 Cross-culturalManagement (4)

Cross-cultural management is a topic that is receiving increasing attention as a result of growingdiversity in the workplace.This course will focus on cultural differences in effective managementstyles andintroducesmethodsforpreparingemployeesforoverseasassignments.

MAN 6501 FundamentalsofEntrepreneurship(4)

Successful entrepreneurial ventures bring together a visionary leader, a committed team and amarketable idea.This course examines the characteristics, knowledge, skills and abilitiesnecessary to successful entrepreneurship.It explores how entrepreneurs select others forinvolvement, development of an entrepreneurial culture, and find, screen and evaluate ideasfor new businessopportunities.

MAN 6503 Developing BusinessandMarketingPlansforNew Ventures(4)

New ventures start with an idea, but they succeed through careful planning.In this coursestudents will write a business plan to launch and operate a new venture.In addition, thiscourse will emphasize strategies to identify, attract, and sell to customers.The resultingbusiness and marketing plan provides a basis for raising capital and attracting commitmentsfrompotentialcustomers, suppliers,and employees.

MAN 6632 HumanResource Management (4)

This course combines emphasis on the advanced personnel functions and current issues inhumanresource management.Thefunctional focusincludeshuman resourcesplanning,techniquesforpredictingjobsuccess,evaluationofaprogram'seffectiveness,car eermanagement and costing human resources. Case studies are assigned and discussed to linkthetheory to practice.

MAN 6633 Management of InternationalOperations(4)

The course provides an understanding of the role of operations management in the successfuloperation of any organization concerned with the production of goods and/or services. Itfocuses on the problems of management decisions in such areas as European Union settings.Evaluates operations management decisions in such areas as process and selection, choice oftechnology, flow and output and capacity.Demand strategies are analyzed along with controltechniquesofMRP,SFC,andDRP,theworkforceonrelationshiptojobdesign,jobenrichment and issues of measurement and productivity.Topics include the internationalenvironment,internationalstrategiesandrisks,andmanaginghumanresourcesintheint ernationalenvironment.

MAN 6901 EmergingStrategies inInformationManagement(4)

Strategicplanninganddecision-makingarecrucialtoallorganizations.Informationmanagement is particularly subject to changes in public policy and social expectations.Thelegal and social environment regarding privacy and the ownership of information is constantlychanging.This course will focus on the interplay of internal and external factors in planningfor thefutureofinformationmanagement.

MAN 6904 E-commerceand Internet (4)

This course focuses on the development of e-commerce and e-business.It illustrates how theInternet helps to develop businesses and how it transforms the business environment.Thereare real-life cases to show students how the processes of selling and buying takes place on theInternetandhoworganizationsneedtoadapttheirstrategies,tacticsandtechnologytotransformth emselves andthesuccessand failurethey faceduring thisprocess.

MK 5526 Decision-Making onMarketing Concepts(4)

The course is designed to explore fully the change of the marketing department in a businessorganization with the objective of identifying marketing decision and problems areas.Thecourse has in-depth coverage of the marketing mix strategies along with an understanding thatthe marketingconceptispracticalandadaptabletobothprofitandnon-profitorganizations.

MK 6620 GlobalPerspectiveson ConsumerBehavior(4)

Why people buy is a matter of critical interest to marketing management, thus the consumer isthe focus of the marketing system. Marketing activities such as pricing, product development,branding, promotion and relations among channel members are analyzed and developed toreflectacommitmentfor providing consumersatisfaction.

QM 5502 Quantitative MethodsinBusinessandManagement(4)

Large amounts of quantitative data are produced by and for business. This course helps you tomake sense of them and their analysis. Students will learn to perform simple quantitativeanalyses, and to understand and interpret the results of them. Wherever there is uncertainty,quantitativemethodsarestatisticalmethods,andthecoursegivesagoodgroundinginstatisticsforbusinessandeconomics.Otherquantitativetoolsareoperationalresearch(management science) methods which will be covered as well in this course. Students areexpectedto havebasicmathematicalskills.

MASTER OF BUSINESS ADMINISTRATION IN DIGITAL INNOVATION MARKETING AND ENTERPRENEURSHIP

MISSIONOFTHEPROGRAM

The Master degree in Digital Innovation Marketing and Entrepreneurship Program is designed to provide graduates with the skills and understanding of modern technologies and how they can be applied in the post financial crisis of the second decade of the 21st century. The holders of the MDIME Degree are expected to apply the latest global developments of the complex marketing development.

The fundamentals of Marketing, Information Systems, Brand management, Data user design, content marketing design, as well as entrepreneurship are presented by doctoral level and professionally experience Instructors. The Program is supported by the Digital. Innovation in marketing Task Force, made up by specialists in the digital field who provide mentorship and course guidance to students.

This Program provides the skills needed for:

- become a leader in driving the technology _enabled transformation of the marketing function, in a wide area of activities, from the services industry to agribusiness.
- develop a digital marketing plan and analyze the key performance indicators to support it.
- apply the latest digital innovations, such as mobile location-based services and big data to marketing campaign.
- intergrade marketing, advertising, sales, and logistics, across physical and digital channels.
- collect, analyze, and interpret digital marketing data to inform decision making.

Through coursework and engagement with peers and Instructors, students will gain foundational knowledge in marketing and an understanding of how digital technology supports its various components, such as data analysis, brand development, user experience, social media and more with hands-on training tools, like Google Analytics, or HOOTSUITE, and more. Students learn to take the latest digital innovations, as required for a cohesive, effective digital strategy.

The 44 credit Master Degree covers different elements of marketing providing students with a solid foundation in the field. In addition to the comprehensive coursework, students complete an 8-credit capstone activity, in which they develop skills necessary for a successful career in marketing and/or entrepreneurship.

Courses & Curriculum description (44 Credits)

DM	5001	Data Analytics/Business Intelligence
DM	5111	Digital Brand Management
DM	6301	Digital Innovation in Mobile Marketing and Communication
DM	6002	Digital Marketing
CIS	6111	Information Technology Management
MAN	6222	Process Improvement and Innovation
DM	6777	Social media Marketing
DM	6555	User Experience Design
MAN	6888	Innovation Management

The Program is offered remotely (i.e. online, synchronous and interactive mode), and/or on a Hybrid Mode.

The allocation of the elective courses will be determined based on the qualifications of each student, and the specific specialization for his/her future responsibilities.

***The detailed Course Descriptions for the courses can be supplied upon requestfor the program applicants**

MASTEROFBUSINESSADMINISTRATIONI N SHIPPING

MISSIONOFTHEPROGRAM

The mission of the graduate program in Business Administration at ***The American Universityof Athens*** is to offer an educational program which enables students through online and/oropen learning programs to develop skills and proficiencies essential for contribution to adynamic professional and social environment and global economy. The rapid growth andmultifaceted development of contemporary business has created the need for executives tocombine multidisciplinary academic backgrounds and to respond to a global economy, rapidlychanging markets, and powerful technological innovation. Today's managers, investors andpolicy-makers need to understand the interactions of dozens of markets, work cultures, andinvestmentopportunities.TheM.B.A.programthusaimstotrainexecutivesandfuturemanagers by the successful integration of this knowledge. Meeting this challenge, AUA offersanM.B.A. with thefollowing programspecializations:

- InternationalBusiness
- GlobalFinancialAnalysisandManagement
- Managementwithafocuson:
  d. IT andE-Commerce
  e. Operations
  f. People andOrganizations

PREREQUISITES

Basic knowledge of business administration, management or economics.If the students haveno prior knowledge then there is a need for extra courses from the undergraduate level.Thesecoursesinclude:accounting,finance, marketing andmanagement.

To receive an M.B.A., students must take the following non-credit seminars during the firstsemester:

CIS	5000	Computer BasicsEN 5000 Academic WritingMA 5000 MathematicsBasics
RM	5000	ResearchMethodology

GRADUATIONREQUIREMENTS

Studentsmustcomplete44credithourswiththefollowingdistribution:

- The successfulcompletionof5corecoursesforatotalof20credithours.
- Thesuccessfulcompletionof3-4specializationcoursesforatotalof12-16credithoursor,asanalternative, 3-4 electivesforthesametotalofcredits.
- Submissionofa thesis of15,000-30,000wordsequivalentto 8-12credithours.

MASTER'STHESISREQUIREMENTS

Studentsmustfulfillthe followingrequirements:

- Have a GPA of3.00 orabove.
- CompleteanddefendaMaster'sthesisproposalbyatwo-personcommittee(theChairmanandthesupervisor).
- CompleteanddefendaMaster's thesis thatcountsfor8-12credithours.
- The Master's thesis must demonstrate the student's ability to effectively communicate inwriting the results of a graduate study.Students are expected to prepare a thesis whichintegrates the knowledge they acquired with original research.They are expected to choose atopic that captures the latest developments in the business field and to carry out primary andsecondary data collection in this area, use scientific methods for analysis of data and thenproduce a professional report which constitutes original work.Students work on this projectunderthe closesupervisionofassignedprofessorsdepending onthearea ofspecialization.
- The student must defend the thesis to a three-person committee which includes two instructorsfromthesamefieldand onefromanotherdepartment.

SPECIALIZATIONSOFFERED

The School offers three specialization areas which respond to the contemporary demands oftoday'sbusinessworld.Studentsmusttakeatleastthreecourseswithinthespecificspecialization to satisfy the requirements.Students may take a fourth course if they wish toprepare an 8-credit thesis instead of a 12-credit one.The specialization areas offered by AUAare:

- InternationalBusiness
- GlobalFinancialAnalysisandManagement
- Management
  - IT andE-commerce
  - Operations
  - People andOrganizations
- Shipping

This program provides students with a combination of conceptual, analytical and managerialtraining in Shipping.A sound understanding of the application of techniques in ShippingOperationsand MaritimeLaw isoffered.

ML5301	MaritimeLaw
ML5401	MarineInsurance
ML4406	Collisions, Limitations and Liabilitiesand
SST 5301	Introduction to Ship Operation and ManagementSST 5501 Chartering Policy and Analysis
SST 5502	Management of Maritime OperationsSST 5999 Maritime Environmental PrinciplesSST 6001 Shipping Policies
SST 6401	Advanced ShipOperation

COURSEDESCRIPTIONS

ML 4406 Collisions,LimitationsandLiabilities(4)
Itfocusesoncomparativeinternationalandcommerciallegalenvironmentforvesselmanagers. Course considers such topics as control (dispute resolution, ownership, maritimeliens,mortgages,registry,portstatecontrol);liability(maritimeworkers,marineenvironment,collisions,limitationofliability);andcontracts(carriageofgoodsandpassengers,charterparties, generalaverage,towage, pilotage,salvage).

ML 5301 MaritimeLaw(4)
Initial consideration of peculiarly American Admiralty jurisdiction and practice, after which asurvey of substantive rules of the general maritime law respected by shipping and tradingnations is essayed. Carriage of goods by water (including bills of lading, charter parties, andgeneral average), collisions, salvage, and seafarers' personal injuries are treated as discretesubjects with warranties of seaworthiness, applicability of multilateral treaties, harmonizingeffectsofworldwideLondoninsurancemarkets,andmodernEnglishprecedentbeingrecurring themes.

ML 5401 MarineInsurance(4)
This course examines the legal principles which underpin relationships between parties to theinsurancecontract(includingintermediariesandthirdparties)andevaluatestheroleofstandard terms in marine insurance contracts. While much of the general law of insurance isbasedonprinciplesdevelopedinconnectionwithinsuringcargoandshipsagainstperilsofthe sea, those general principles now coexist alongside a codified statutory regime which isapplicableonly to marineinsurancecontracts.

SST 5301 IntroductiontoShipOperationandManagement(4)
Principles of ship operation and management. Ship procurement, planning sailing schedules,ship's paper, custom procedures, expenses and freight rates, chartering, lines conferences andportoperations.

SST 5501 Chartering PolicyandAnalysis(4)
The aim ofthis course is to describeand analyzethe chartering theory and practice in drybulkandtanker operationsfromtheship-owner,chartered andshipbroker'spointofview.

SST 5502 Management of MaritimeOperations(4)
The aim of this course is to provide a detailed introduction to the efficient and effectivemethodsofShipManagementandShipOperationsinordertorunthevesselswithininternationalstandards.

SST 5999 MaritimeEnvironmentalPrinciples(4)
The environmental protection and pollution prevention regulatory framework is presented inthis course.

SST 6001 Shipping Policies(4)
The aim of this course is to present the international regulatory framework of the shippingbusinessand to analyzeallinternationalconventionsandregulations.

SST 6401 AdvancedShipOperation(4)
This course will provide students with a conceptual understanding of owning or managing amarine shipping company from a Canadian perspective. Topics covered include basic tradetheory, the structure of marine transportation companies, marine markets, charter parties, riskmanagement,shipfinance,budgeting,laborrelations,crewing,shipconstructionandrepair,anintroductiontomarineinsuranceandcurrentspecialtytopicsinthe shippingbusiness.

SchoolofLiberalArts

MASTER OF ARTSIN BUSINESSCOMMUNICATION

COORDINATOR:

MISSIONOFTHEPROGRAM

Communications are critical to businesses especially with the advancement in informationtechnologies.AMaster'sinBusinessCommunicationprovidesstudentsthrough onlineand/oropenlearningprogramswiththetoolsandskillsforexcellinginthewaysofcommunicating their messages.It also strengthens their skills in presentations, informationtechnologiesandunderstandingthecommunicationprocess.Thisiscarriedoutbyaninterdisciplinary process of learning experiences augmented by field study and internships asthey pursue their degrees with a great emphasis on computer, Internet and Web applications.Thecourseexploresabroadrangeoftopicsimporttanttobusinessleaders,suchasinterpersonalandinterculturalcommunication,organizationalmanagement,technologicalexpertise, businessacumen,and leadership.

PREREQUISITES

Basic knowledge of business administration, management or economics.If the students haveno prior knowledge then they need to take extra courses from the undergraduate level.Thesecoursesinclude:accounting,finance, marketing andmanagement.

To receive an M.A. in Business Communication, students must take the following non-creditseminarsduring thefirstsemester:

CIS	5000	Computer BasicsEN 5000 Academic WritingMA 5000 MathematicsBasics
RM	5000	ResearchMethodology

GRADUATIONREQUIREMENTS

Studentsmustcomplete40credithourswiththefollowingdistribution:

1. The successfulcompletionof5corecoursesfora totalof20 credithours.
2. The successfulcompletion of2-3 electivesfora totalof8-12 credithours.
3. Submissionofa thesisof15,000-30,000 wordsequivalentto 8-12credithours.

MASTER'STHESISREQUIREMENTS

Studentsmustfulfillthe followingrequirements:

1) Completeatleasteightcreditsofgraduatecourseworkwithanoverall GPAof3.00oraboveandno morethan two classgradesbelow"B".
2) CompleteanddefendaMaster'sthesisproposalbyatwo-personcommittee(theChairmanandthesupervisor).
3) CompleteanddefendaMaster's thesis thatcountsfor8-12credithours.
4) The Master's thesis must demonstrate the student's ability to effectively communicate inwritingtheresultsofgraduatestudy.Studentsareexpectedtoprepareathesiswhichintegrates the knowledge they have acquired with original research.They are expected tochoose a topic that capturesthe latest developments in the business communication field andto carry out primary and secondary data collection in this area, use scientific methods foranalysis of data and produce a professional report which constitutes original work.Studentswork on this project under the close supervision of assigned professors depending on the areaofspecialization.
5) Thestudentmustdefendthethesistoathree-personcommittee,whichincludestwoinstructorsfromthesamefieldand onefromanotherdepartment.

CORECOURSES

BC	5331	DynamicsofPerson-to-PersonCommunication
BC	5441	TeamEffectiveness
BC	5592	Usingthe InternetinBusiness
BC	5628	PerfectingthePresentation
MAN	6202	Cross-culturalManagement

ELECTIVES

Studentscanchoosefromthefollowingelectivesorfromthecoursesofferedin theM.B.A.department,o rotherdepartments,withthe approvalofthe Chairmanofthe GraduateSchool.

BC	5562	CreatingBusiness Solutions withTelecommunications Technologies
BC	5625	AdvancedOralandWrittenBusinessCommunication
MAN	5631	Ethics inBusiness andtheProfessions,andinGlobalOperations

COURSEDESCRIPTIONS

BC 5331 Dynamicsof Person-to-PersonCommunication(4)

The course explores important principles of effective interpersonal communication. It helpsto discover and use the various modes of communication in developing and maintainingrelationships.Thecourseprovidesstudentswiththebackgroundforunderstandingcommunication at the workplace and it provides them with the skills needed to improveindividualcommunication.

BC 5441 TeamEffectiveness(4)

Discover the qualities and characteristics of effective teams by studying theories of teamcommunication, stages of team development and strategies to increase productivity.Thecourse explores the concept of teamwork and the ability of teams to work together and toaccomplish tasks.It also provides techniques to transform groups into working, successfulteams.

BC 5562 Creating BusinessSolutionswithTelecommunicationsTechnologies(4)

Thecoursegivesanunderstandingofengineeringtechniques,includingqueuing/traffictheory, and an appreciation of the tradeoffs of various kinds of network design used to solve avariety of business problems.It familiarizes students with how to conduct an internal marketstudy,howtoprepareaRequestfor Proposal(RFP) andhow toanalyzevendorresponses.

BC 5592 UsingtheInternet inBusiness(4)

This course focuses on the application of the Internet to business.A case study approach isemployed to illustrate real life examples of how and why business enterprises are using theInternet to add value.Though students are expected to use the Internet for class assignments,the discussion will center on broader organizational, financial and communication topics.Specific topics that are covered include marketing and sales, customer service, human factors,financialdecisionsandtransactions,organizationalcommunication,andchangeintherelationshipto new technologies.

BC 5625 AdvancedOralandWrittenBusinessCommunication(4)

Morebeyondbasicoralandwrittenskillstoadeeperunderstandingofcommunicationpatterns. Practiceidentifying different types of audiences to build competencein targetingoraland written communicationforincreasedeffectiveness.

BC 5628 Perfecting thePresentation(4)

This course helps students to learn the conceptual and practical tools necessary for preparing,organizing and presenting polished and professional presentations.The course is intended todevelop excellent public speaking and written report skills and is intended to give both
therelativenoviceandtheexperiencedpresenternewskillsandtechniquestoperfecttheirencounter with thepublic.

MAN 5631 EthicsinBusinessand theProfessions,andinGlobalOperations(4)

Basic concepts and theories for analysis of moral issues arising in business and professionalpractice; personal and organizational code of ethics; ethical dilemmas with an understandingofthesocial,economicandpoliticalcontexts;ethicalissuesoftheglobalelectroniccommunicationissues.

MAN 6202Cross-culturalManagement (4)

Cross-cultural management is a topic that is receiving increasing attention as a result ofgrowing diversity in the workplace.This course will focus on cultural differences in effectivemanagementstylesandintroducemethodsforpreparingemployeesforoverseasassignments.

MASTER OF ARTSIN POLITICSANDPOLICY-MAKING

MISSIONOFTHEPROGRAM

Themissionoftheprogram istoprovidestudentsthroughonlineand/oropenlearningprograms with the core skills and knowledge of politics, international relations and policy-making.The unique location of AUA in Greece, with its proximity to Southern Europe, theBalkansandtheMiddleEast,offersstudentsexposuretoexclusivepolitical,regional,European and world developments.It helps students develop a critical understanding of themethods and epistemologies of political science, the art and science of policy-making and thefieldofinternationalrelations.

PREREQUISITES

AB.A.degreeinPoliticalorSocialSciences;or extra non-creditcoursesinpoliticalscience.

To receive an M.A. in Politics and Policy-making, students must take the following non-creditseminarsduring thefirstsemester:

CIS	5000	ComputerBasics
EN	5000	AcademicWriting
MA	5000	MathematicsBasics
RM	5000	ResearchMethodology

GRADUATIONREQUIREMENTS

Studentsmustcomplete40credithourswiththefollowing distribution:

1) The successfulcompletionofthe 5core courseswithinone selected area ofspecialization.
2) The successfulcompletionof2-3electivesforatotalof8-12credithours.
3) Submissionofa thesisof15,000-30,000 wordsequivalentto 8-12credithours.

MASTER'STHESISREQUIREMENTS

Studentsmustfulfillthe followingrequirements:

1) Have a GPA of3.00 orabove.
2) CompleteanddefendaMaster'sthesisproposalbyatwo-personcommittee(theChairmanandthesupervisor).
3) Completeand defend aMaster'sthesisthatisequivalentfor8-12 credithours.
4) The Master's thesis must demonstrate the student's ability to effectively communicate inwriting the results of a graduate study.Students are expected to prepare a thesis, whichintegrates the knowledge they acquired with original research. They are expected to choose atopic that captures the latest developments in political science or a policy-making field, and tocarryoutprimaryandsecondarydatacollectioninthisarea,usescientificmethodsforanalysis ofdata andproduce aprofessionalreportwhich constitutestheir originalwork.Students work on this project under the close supervision of assigned professors depending onthe areaofspecialization.
5) The student has to defend the thesis to a three-person committee, which includes twoinstructorsfromthesame fieldand one fromanotherdepartment.

SPECIALIZATIONSOFFERED

- ComparativePolitics:theobjectiveofthisspecializationistotrainstudentsincomparative political development in Western Europe, Eastern Europe, the Balkans,the Middle East, East and South Asia, and Latin America; italso examinestheoriesofdevelopment, underdevelopment, and democratization.

- PoliticalTheory:thisspecializationisfocusedonthestudyofmajorpoliticaltheorists from the Ancient Greeks until the present.Issues discussed include naturallawsand rights, justice,andhuman natureand politicalinstitutions.

- International Relations (IR): this specialization focuses on the history and theories ofinternational relations, on contemporary issues and approaches to IR in addition tolookingatconflictintheserelations.

- Policy-making: the objective of this specialization is to train students on how theprocesses of policy-making develop.It examines the different approaches used forpolicy-making, and decision-making in addition to focusing on specific areas such associalpoliciesand economicpolicies.

CORECOURSES

Students must select one of the specialization areas mentioned above.The core courses forthe**ComparativePolitics**specialization are:

PSC	5600	ComparativePolitics
PSC	5615	State,EthnicityandReligionsinthe Balkans
PSC	5700	Politics andthe StudyofDemocracy
PSC	6500	Politics andCultureinthe EuropeanUnion
PSC	6657	Problems inComparativePoliticalAnalysis
PSC	6842	North-SouthRelations andComparativeDevelopmentIssues

Thecorecoursesforthe**InternationalRelations**specializationare:

PSC	5510	ContemporaryInternationalRelations
PSC	5511	Approachestothe StudyofInternationalRelations
PSC	6510	ResearchMethodsin InternationalRelations
PSC	6610	Ethics andInternationalRelations
PSC	6710	ConflictinInternationalRelations

Thecorecoursesforthe**Policy-making**specializationare:

PSC	5310	PolicyAnalysis andDecision-making
PSC	5410	Policy-makingintheEuropeanUnion
PSC	5660	PoliticsandEconomicPolicy-making
PSC	6300	SocialPolicy
PSC	6400	Migrationpolicies

Thecorecoursesforthe**PoliticalTheory**specializationare:

PSC	5210	Approaches toClassicalandModernPoliticalTheory
PSC	5350	MulticulturalismandPolitics intheAgeofGlobalization
PSC	6250	PoliticalViolence andTerrorism

ELECTIVES

Studentsmaytakeanyof thefollowingcoursestocompletetheirgraduationrequirements.

PSC	5610	TheNewEasternEurope
PSC	5720	ContemporaryPoliticalDevelopmentofChina
PSC	6300	SocialPolicy
PSC	6301	EnvironmentalPolicy
PSC	6755	Stateand CivilSocietyintheMiddle East

COURSEDESCRIPTIONS

PSC 5210 Approaches toClassicalandModernPoliticalTheory(4)

Focuses on the nature, functions, and goals of political organization. Among other worksPlato'sRepublic,Aristotle'sPolitics,Machiavelli'sThePrince, Hobbes'TheLeviathan,Locke's Second Treatise on Government, Rousseau's The Social Contract, Mill's On Libertyand Marx's The Communist Manifesto will be examined.The principal objective is to showhowpoliticalthinkingdealswithtensionsandcongruenciesbetweenhumannatureandinstitutions,themeaningof society, happiness,legitimacy,power,andauthority.

PSC 5310 Policy AnalysisandDecision-making(4)

Seminar in analytical concepts and rational policy-making models applies to each of severalissueareas: education, welfare, health care, economy, and the environment in theUnitedStates and Europe.

PSC 5350 MulticulturalismandPoliticsinthe AgeofGlobalization(4)

Exploreshowandwhygeneraldemocratictheory,keypoliticalinstitutions,non-governmental pressure groups, the corporate world and socio-political attitudes generate orattempt to eliminate injustice, prejudice, and discrimination. Problems of racism, sexism,classicism,ageism,religion-ethnicconflicts,andideasforarightfulworldwillbeinvestigatedwith regard to globalization.

PSC 5410 Policy-makingintheEuropean Union(4)

This course equips students to better understand the workings of the European Union and itsdifferent directorates, departments and units.It exposes students to the details of the policy-making processes, the procedures, regulations, and relations among member states decision-makerswhichhaveconsequencesonthepolitical,socialandeconomicfieldsofthesecountries.

PSC 5510 ContemporaryInternationalRelations(4)

This course examines the main theoretical literature of the international relations field. Issuesdiscussed include arms races and military security through international political economy,global environmental concerns, population dynamics, questions of development, and the roleof new international actors such as multinational corporations and the UN. Students learn thefundamentalterms and themes ofthediscipline.

PSC 5511 Approaches totheStudyof InternationalRelations(4)

This course continues the discussion of contemporary approaches to the study of internationalrelations.Itpresentsnewtheoriesusedtoanalyzethefieldsuchasfeminismandpostmodernism.It also incorporates the local level of analysis with the global level andfocusesoncontemporaryissuessuchasthesecurityarrangementsandglobalsocialmovements. It compares historical, descriptive, normative, and scientific approaches. It alsosurveysa varietyof theoriesoninternationalconflictof internationalintegration.

PSC 5600 ComparativePolitics(4)

The course prepares students for the comparative analysis of political entities on any level. Itdiscusses the political approaches to the study ofcomparative politics. Students becomeacquainted with the key writings that have been used to analyze comparative politics. Casestudiesfromdifferentareasoftheworld areusedto presentthebasicconcepts.

PSC 5660 Politics andEconomicPolicy-making(4)

Political systems and institutions influence the policy-making processes of fiscal policies,budgets and public finance.Globalization has also affected the role of the important playersandtheircontribution to theformulationoffiscalpolicies.

PSC 5610 TheNewEasternEuropean(4)

Domestic and foreign policies of Eastern European states, their relations with the formerSoviet Union and with each other. Analysis of the formation and subsequent implosion of theSoviet sphere in Europe. The collapse of communism in Poland, Germany, Czechoslovakia,Hungary, Romania, and Bulgaria and its impact on the Soviet crisis, the Western alliance, andinternationalrelations.

PSC 5615 State,EthnicityandReligionsintheBalkans(4)

The Balkan countries have been characterized in the 20th century by their violent ethnicdisputes and wars. These disputes and wars can be explained by the multiplicity of ethnicities,religionsand raceslivinginthe Balkansorby their geo-political location.The courseexploresalltheseinterpretationsand discusses theroleofGreecein theregion.

PSC 5700 PoliticsandtheStudyof Democracy(4)

Historyof democracyasanidea andhowithasdevelopedfromancientGreeceuntilthisday.Concepts of democracy by different schools of thought have influenced the developments inthe political arena.The role of parliaments, the media, civil society and the idea of socialpluralismarealso to beanalyzed.

PSC 5720 ContemporaryPoliticalDevelopmentof China(4)

An in-depth examination of politics in post-Mao China, this course focuses on several criticalissues and uses various conceptual frameworks to understand why the reform process brokedownand examines prospects forthefuture.

PSC 6250 PoliticalViolenceand Terrorism(4)

This course is designed to examine in terms of theories, attitudes, strategies and consequencesvarious forms of political violence, such as assassinations, terrorism by sub-national andtransnationalorganizations,stateterror,masskilling, andsocalledethniccleansing.

PSC 6300 SocialPolicy (4)

The study of social policy is focused on the ways that society and polity respond to specificsocial needs. It deals with how society's organizations and institutions respond to issues ofsocial welfare, health care, unemployment, disabilities and gender differences in order toimprovethequality oflifeand standards of living.

PSC 6301 EnvironmentalPolicy (4)

The purpose of this course is to map, examine and analyze various issues concerning theformulation ofenvironmental policy. Environmental policies arebecoming morecentral onthe global, intergovernmental and local levels.The course will examine the responses ofpolitical institutions, society and nongovernmental organizationsto issues concerning theenvironment.

PSC 6400 MigrationPolicy (4)

Globalization has affected labor markets and the movement of people from less developedcountries compared with Western countries.Despite the initial acceptance of many of thesecountries to foreign laborers, the influx of workers and economic crises has led these states orsupra states to change their migration policies.This course will analyze these changes and theimpactofnew policieson receiving andsending societies.

PSC 6500 Politics andCultureintheEuropeanUnion(4)

This course examines theimpact of cultural differences onpolitical systemsandinstitutionsof the European Union.It explores the interaction among the member states from the culturalperspectiveand howpoliticalchangesmightreflecton culturalvariables.

PSC 6510 ResearchMethodsinInternationalRelations(4)

This course acquaints students with the wide range of techniques available for investigatinginternational relations. Through innovative assignments, use of the Internet, and databaseanalysis,studentsareexposed tousefulapproaches tounderstandinginternationalrelations.

PSC 6610 Ethics andInternationalRelations(4)

Seminar examining and employing important approaches of international ethics to understandselected normative controversies of contemporary world politics. Is my country, always right?Can war be justified? Is terrorism always wrong? What is the place of human rights in foreignpolicy?

PSC 6657 Problems inComparativePoliticalAnalysis(4)

Focusesontheproblemofnationalism.Distinguishesbetweenandcomparestypesofnationalism,examinestheirorigins,andanalyzestheirpolitical,social,andeconomicimplications using as examples England, France, Germany, Russia, and the United States.Particular emphasis will be placed on the possible role of national consciousness as a stimulusof radical political change. Also discussed is the extent to which various nationals may beaffectedbyeconomictrendssuchasglobalizationandtheemergenceofsupra-nationalidentities.

PSC 6710 Conflict inInternationalRelations(4)

The primary goal of international conflict resolution is to use means other than violence tosettle both inter-state and intra-state disputes, and to transform the relationships of disputingpartiessuchthatviolenceisnotlikelyinthefuture.Thetheoryisdrawnfrommanydisciplines, including law and many of the social sciences. Research focuses on understandingthedynamics of conflict in theinternational system as it manifests at theinterpersonal,intergroup,andintergovernmentallevels.Italsoinvolvesanalysisofwhatkindsofinterventions are most effective at preventing, settling and resolving such conflicts. Thiscourse will provide an in-depth look at the theories of conflict and the theories of conflictresolution that address such conflicts.It will also explore some of the major theoreticaldebatesin thefield.

PSC 6755 StateandCivilSocietyintheMiddleEast(4)

This course examines the reasons for the fluctuation in the relationship between states andcivil societies in the Middle East.It examines the debate on whether there are active civilsocieties in the Middle East or whether there are political movementsonly triggered by theaimto expressapoliticalstance.

PSC 6842 North-SouthRelationsandComparativeDevelopmentIssues(4)

A course designed for students interested in the analysis of differences between the North andSouth from the perspective of development studies. It discusses the practical problems andcontroversiesindevelopmentandthedifferentapproachesusedtoovercometheseshortcomings.

MASTER OF ARTS
IN
PSYCHOLOGY

MISSIONOFTHEPROGRAM

Psychology contributes to a general understanding of human behavior through online and/oropen learning programs. It is a science, a set of procedures for systematically observing factsabout behavior and for organizing these facts into generalizations of laws that seek to explainwhy human beings and other animals act as they do. In addition, psychology is a means ofpromoting human welfare, a body of information that can be applied to help solve a variety ofindividualand group problems.

The psychology curriculum offers an eight-course program of study leading to an M.A. inPsychology.The program provides the flexibility to pursue a variety of areas in psychology,building on a common foundation of scientific methodologies.Exploration of the applicationof psychology to various behavioral, cognitive, and societal issues is the strength of theprogram.Most graduate-level courses offered by the department are open to M.A. studentsandallfacultyareavailableforacademicsupervision.Facultyisactivelyengagedinpsycholo gicalresearch,whichprovidesampleopportunityforstudentstoparticipateinongoing projects.

PREREQUISITES

AB.A.degreeinPsychology;or extranon-creditcoursesinpoliticalscience.

To receive an M.A. in Psychology, students must take the following non-credit seminarsduringthefirstsemester:

CIS	5000	Computer Basics
EN	5000	Academic Writing
MA	5000	Mathematics Basics
RM	5000	Research Methodology

GRADUATIONREQUIREMENTS

Studentsmustcomplete40credithoursasfollows:

- The successfulcompletion ofthe5-6core courseswithinoneselectedareaofspecialization.
- The successfulcompletionof2-3electivesforatotalof8-12credithours.
- Submissionofa thesisof15,000-30,000 wordsequivalentto 8-12credithours.

MASTER'STHESISREQUIREMENTS

Studentsmustfulfillthe followingrequirements:

- Have a GPA of3.00 orabove.
- CompleteanddefendaMaster'sthesisproposalbyatwo-personcommittee(theChairmanandthesupervisor).
- Completeand defend aMaster'sthesisthatisequivalentto 8-12 credithours.
- The Master's thesis must demonstrate the student's ability to effectively communicate inwriting the results of a graduate study.Students are expected to prepare a thesis, whichintegrates the knowledge they acquired with original research.They are expected to choose atopicthatcapturesthelatestdevelopmentsinpsychologyandtocarryoutprimaryandsecondary data collection in this area, use scientific methods for analysis of data and produce aprofessional report which constitutes their original work.Students work on this project underthe closesupervision ofassigned professorsdepending on the areaofspecialization.
- The student has to defend the thesis to a three-person committee, which includes twoinstructorsfromthesame fieldand one fromanotherdepartment.

Thefollowingthreetracksareoffered:

General
Personality Theory/Social
PsychologyExperimental/BiologicalPs
ychology

CourseRequirements

PSY5550 Psychological Research
PSY5505 AdvancedPersonalityTheory
PSY5514 Industrial/Organizational
PsychologyPSY5533 CognitiveBehaviorTherapy
PSY5540 AdvancedSocialPsychology
PSY5551 Psychotherapy: Theory and
ResearchPSY5560 Advanced Child Psychology

PSY6333 Topicsin Psychology
(PersonalityTheory/SocialPsychology)

Twocoursesfromthefollowing:

PSY5501 PhysiologicalPsychology
PSY5513 Neuro-pharmacology:TheBiochemistry
ofBehavior
PSY5518 Advanced Human Neuro-
psychologyPSY6530 Conditioning and Learning
PSY6675 Advanced Memory and
CognitionPSY6697 Topicsin Psychology
(Experimental/Biological
Psychology)PSY6618
TopicsinNeuropsychologicalAssessment

COURSEDESCRIPTIONS

PSY 5501 PhysiologicalPsychology (4)
This course examines a wide range of brain-behavior relationships with specific emphasis onaspects of psychological development and clinical practice. The long-term effects ofchildhood trauma; the effects of head injury; and the neurological aspects of disorders such asautism,schizophrenia, and depression arealsodiscussed.

PSY 5505 AdvancedPersonalityTheory(4)
Course surveys major theoretical approaches to the study of personality. Applying theories ofpersonalitystructure,studentsexaminetopicssuchashumannature,motivation,development,learning,andchange.Instructionexaminestraditionalpersonalitymodels,including psychoanalytic, and behavioral, and more recent models, such as transactional,analytic,gestalt, andcognitive.

PSY 5513 Neuro-pharmacology: TheBiochemistryof Behavior(4)
Thiscourseexaminesthefieldofbehavioralpharmacology:thesystematicstudyoftheeffectsofdrugs onbehaviorandthewayinwhichbehavioralprinciplescanhelpinunderstanding how drugs work. The focus is on the neurophysiological mechanisms of actionof various psychoactive drugs and on the various neurotransmitter systems within the nervoussystem.Prerequisite:Consentofinstructor.

PSY 5514 IndustrialandOrganizationalPsychology(4)
Examination of application of psychological principles and methods to problems commonlyencounteredin businessandindustry.

PSY 5518 AdvancedHumanNeuropsychology(4)
This course introduces to you the basic principles of Neuropsychology.The objectives of thecourseare:(1)tointroducebasicconceptsofneurophysiologyandfunctionalneuroanatomy, (2) to review models describing different cognitive functions discussed in this course, and (3)to introduce the concept of brain-behavior connection via reviewing the neuro-anatomical andneuropsychological mechanisms underlying some common brain disorders. Students willeachdoan independentempiricalresearch project.

PSY 5533 CognitiveBehaviorTherapy(4)
This course covers therapeutic situations. Outlining problems such as personality disorders,anxiety,emotionaldisturbances,anddepressiontothemanypsychologicalproblemsconnectedwith physicalsickness.

PSY 5540 AdvancedSocialPsychology(4)
This course examines social factors that influence individual behavior. Integrative theoreticalperspectivesand emergingprogramsofresearch withinthedisciplinearegivenspecificconsideration.Readings includeavariety oforiginalsources.

PSY 5550 PsychologicalResearch(4)
Principles of psychological test construction: norms, reliability, validity, item analysis; ethicalissues in psychological testing; survey of intelligence, aptitude, achievement, personality,interest,and clinicalmeasures.

PSY 5551 Psychotherapy:Theory andResearch(4)

This course will focus on the construct of mindfulness and its application to psychotherapy.Anexperientialandacademicunderstandingofmindfulnesswillbeemphasized.The experiential component will involve training in meditation and mindfulness practices. Theacademiccomponentwillinvolverigorousexaminationofcurrentresearchontheapplicationsof mindfulnessinhealthcare,as wellas explorationof currenttheoriesofmindfulness and its applications to clinical work. The intention of the course is to helpstudents better understand the construct of mindfulness and how it can be applied in clinicalpractice as a technique for clients, a theoretical frame for therapists, and as a means ofenhancingtherapistskills.

PSY 5560 AdvancedChildPsychology(4)
Students will gain in-depth practical experience in the comprehensive assessment of infants,children,andadolescents.Avarietyofindividualtestinginstrumentswillbereviewed,includi ngthoseusedtoevaluatecognitive,social-
emotional,behavioralandexecutivefunctioning.Alternativemethodsofassessment,suchastransdis ciplinaryplay-basedassessment, dynamic assessment, and curriculum-based measurement, as well as techniquesandinstrumentsspecificallydesignedfortheevaluationofAutismandotherdisabledpopu lations,willbeemphasized.

PSY 6333 TopicsinPsychology(PersonalityTheory/SocialPsychology)(4)
Selectedtopicsreflectinginterestinspecializedareas.Announcedinadvance.

PSY 6530 ConditioningandLearning(4)
This course focuses on behavioral principles and their applications to diverse populations.Bothclassicalandoperantconditioningisreviewed
withaheavyemphasisonoperant.Candidates will learn behavioral principles and procedures to increase, reduce, or promote thegeneralizations and maintenance of behavior. This is a course that relates to fieldwork andprevious courses.

PSY 6618 Topics inNeuropsychologicalAssessment(4)
This course emphasizes clinical application of neuropsychological research knowledge forassessment. Classroom presentations and discussion will emphasize evaluation of clinical andcasematerials.Itwillcoversuchissuesasconceptualandproceduralissuesinneuropsychological assessment,neuropsychologicalassessmentapproachesandmethods,empiricalfindingsinselected disorders,andtheneuropsychologist'sroleinprognosisestimation,treatmentplanning, and rehabilitation.

PSY 6675 AdvancedMemoryandCognition(4)
Thisseminar-stylecourseexaminesthemajorpsychologicalissuesrelatedtocognition.Topics
covered include attentional processes, memory, language, knowledge representations,decisionmaking,problemsolving,andcognitiveneuroscience.Bycombiningreadi ngassignments in the textbook and current research articles, in-class discussions explore therelationship between empirical evidence and theoretical explanations of cognitive processes.This course includes a specific focus on the practical applications of cognitive theories andresearch.

PSY 6697 TopicsinPsychology(Experimental/BiologicalPsychology)(4)
Selectedtopicsreflectinginterestinspecializedareas.Announcedinadvance.

MASTER OF ARTSIN POSTROMAN-MIDDLEEASTERNSTUDIES

MISSIONOFTHEPROGRAM

TheMasterofArtsinPostRoman-MiddleEasternStudiesthroughonlineand/oropenlearning programs deals with teaching, research and consultant skills in the Middle EasternregionoftheRoman Empire.

The near and Middle Eastern region remained under the rule of the Roman Empire until theOttomans seized the already weakened Eastern Roman Empire and conquered Constantinoplein 1453. After the rule of the Roman Empire, the political power in the near and MiddleEastern region was solidified for the second time in the period of the Ottoman rule. Fivecenturies of the Ottoman Rule in the Balkans and Anatolia, and four centuries in the near andMiddle East created an Ottoman legacy that marked the political and economic transformationof the region after the First World War (WWI). The Ottomans conquered the Balkans-Eastern Europe- and capital of the Byzantine -Eastern Roman Empire- by the middle of the15th century and the Mamluk State of Syria and Egypt by the second decade of the 16thcentury.

ConqueringConstantinopleprovidedOttomansnotonlytoobtaineconomicallyandstrategically the most important center of the eastern Mediterranean, but also to inherentprofound political, ideological and commercial tradition of the Byzantine Empire. Moreover,consolidation of the Ottoman power in the Arab lands (Syria, Egypt and Iraq) also had twocrucial meanings for the Ottoman Empire: it became the defender of the faith -Islam- andprotector of the common holy cities of the three world religions, basically, Mecca, Medina,and Jerusalem. As a result of the changing economic and political balance among Europeanstates, Russia and dissolving Ottoman Empire, the near and Middle East partitioned intovariousstates attheend oftheWWI.

Growing Arab nationalism of the early 20th century, resistance to the European colonialismand Palestinian and Israeli conflict became the main debate in the post Second World Waryears. As far as colonialism and Western penetration into the region is considered, the recentinvasion of Afghanistan and Iraq by the American State led to the one of the most contentiousdiscussions about political, social-cultural, administrative and economic history and future oftheregion.Thatistosay,thecontroversialdiscussionofdemocracyandeconomicdevelopment in the near and Middle East had a prominent place in social sciences since 2001,namely after the 9/11. Understanding the language, social, political and economic structureand institutions of the region could help us make sense of this region and produceeconomic,political and social-cultural programs to calm down social and political tension and direct theregion towards democratic development. All these factors make an academic study of theMiddleEastrewardingforthosewhoworkingovernmentagenciesandinternationalorganizations andwhowanttowork insectors thatdealwiththeMiddleEast.

Post-RomanMiddleEasternStudiesProgram(PR-MESP)ISaninterdisciplinaryandcomparative study of the histories and cultures of the Middle East from the Post-Roman erauntilpresent.Itisatwo-yearmaster'sprogramwithfocusonhistoricaltransformationsin

MiddleEasternpolitics,societyandeconomics.Studentsconcentratinginhistoricaltransformations in state and society will study Ottoman historical heritage as well as majortransformationsinpolitics,politicalideologiesandeconomicandsocialissuesinacomparative perspective.
Training or knowledge in one of the main Middle Eastern languages (Arabic, Persian, ModemHebrew or Turkish) is necessary. This program provides students with a comparative andinternational perspective in the modem Middle East and a view of how this region fits into theworldcommunitypolitically,historically,andeconomically.PR-MESP offerscoursesincollaboration with the department of history and political science. PR-MESP offers historycourses that range from the general history of the region to such topics as the expansion ofIslam, Ottoman history, political and economic institutions, history and development of theMiddle East, the modem Middle East, and the Arab-Israeli conflict, and advanced readingseminars. The Department of Political Science of the university offers basic courses aboutinternational relations, multiculturalism, democracy, and state and civil society in the MiddleEast.TheDepartmentofHistoryofAUAalsooffersgeneralcoursesonEuropeanCivilization, Roman World, 20th Century World History, Theories of History, DiplomaticHistory and Methodology in History. This program is intended for students preparing for anon-academiccareerandofficersindiplomacy,governmentservice,business,orthe media.

PREREQUISITES

PR-MESP is a two-year program. To receive an M.A. in PR-MESP, students should fulfilthefollowing requirements:

FirstYear:

* Language traininginoneofthe MiddleEasternlanguagesinordertousefirsthandsources.
* Course work: **one must course** about general history of European Civilization and WorldHistory in the 20th century (offered by the department of History), **one must course** onOttoman History, **two courses** about history, politics, economy, and social structure of theMiddle East and its Ottoman past, which for purposes of this program is defined to includetheentireArab world, aswellas Iran, Israel,and Turkey.

SecondYear:

* Secondyear languagecourse inadvancedleveltousefirsthandsourcesinMAthesis.
* Course work: European Diplomatic History (offered by the department of history), twoMiddle Eastern Related courses according to interest of the student. (Courses about Westernpoliticalthought,internationalrelationsare offeredbythedepartmentofpoliticalscience).
* Aseminarcourserelatedtothe topicofthethesis.

Students present a thesis by the end of the academic year at their second year of study andmade an oral defense of it. The curriculum is adjustable to the individual needs of studentswho are considering careers in diplomacy, business, the media, or international public andprivateagenciesas relatedto theNearandMiddleEast.

COURSEDESCRIPTIONS

HIST 5101 OttomanImperialSocio-Economic HistoryI,1453-1600(4)
Mehmet the Conqueror and the establishment of the Ottoman Empire. Ottoman administrationin its classical form. The Cift-Hane system. The Shari'a and Orf The Clergy, ulema, andreligiousorthodoxy. Heterodox movements.

HIST5102Ottoman Imperial Socio-Economic History 11, 1600-1918 (4)HIST5103EconomyoftheMiddleEastinthe19thand 20thcenturies(4)
Major Issues in Medieval and Early Modem Economies: Study of the main transformations inthe economies of Europe and the Near East from late Roman times to the mid-17th century.Examination ofthedisappearanceofmonetary economy, emergenceofmanorialism, andtrade life in the Mediterranean basin. Development of markets and the domination of theAtlantic economy.Priceinflation.Reasonsforandconsequencesof thesedevelopments.

HIST 5310 OttomanHistory:1300-1600(4)
GeneralhistoryoftheEmpire,transformationofafrontierintoaworldEmpire,administrative,econo micand religious institutions.

HIST 5312 OttomanHistory:1600-1914(4)
From the expansion of the Empire into the Balkans and Middle East until the First World War(WWI). Economic crisis of the 16th century, internal problems, Celali Revolts, territory lost,internal and external questioning of Ottoman legitimacy -the ayan, land notable, problem,Balkan separatist Movements, the Syrian Question 183133, the provincial organization inLebanon, Question of Egypt, problem of Mehmed Ali Pasha of Egypt, Rebels in Syria in1840s and 'events' of 1860s in the Middle East, Ottoman reforms, new Provincial organizationof theEmpire,and political, economicIssues.

HIST 5333 IntroductiontoOttomanDiplomatics(4)
History and development of the field of archival research. Archives and archival sources inTurkey.DevelopmentofthefieldofOttomandiplomatics.TypesandclassificationsofOttomandoc uments.InternalstructureofOttomanofficialcorrespondence,decreesanddiplomapriortotheTanzi matperiod.OttomanofficialdocumentationintheperiodofreformsuntilthedissolutionoftheOttoma nEmpire.

HIST 5334 Transitionfrom LateByzantiumtoEarly OttomanHistory(4) ComparisonoftheinstitutionsoftheByzantineEmpireandthoseofitssuccesso rstate,theOttomanEmpire.Discussionofcontinuityandchange.Examinationsofinstitutionssuchas the palace, pious endowments, land regime, taxation, guilds, armed forces based on ByzantineandOttoman documents.

HIST 5441 Feudalism:East andWest(4)
Examination of the origins and development of the diverse modem concepts of "Feudal" and"Feudalism" from late medieval and early-modem legal theory through the Enlightenment andMarxism down to modem times. The courses will go on to deal with the elements of theseconcepts as historical phenomena in medieval and early-modem Europe and in the Byzantineand Ottomanempires.

HIST 5442 OttomanSocialandEconomicHistoryI,II(4)

Ottoman Beylik as a frontier state. Hegemony in Anatolia and the Balkans. The Battle ofAnkaraandstruggleforRevival.TheconquestofConstantinople.Thedefinitivefoundationof the classical Ottoman Empire. The Ottoman Empire as a world power, internal disorders,social,economicand religious institutions.

HIST 6101 Sourcesof OttomanSocialand EconomicHistory(4)
The Ottoman land regime. Social and legal changes throughout periods. Reading and analysisof sourcesberats, mtihimmes,sicils, tahrirs,temetttiats andvakfiyyes.

HIST 6102 TheConstitutionalPeriodsinthe OttomanEmpire(4)
ThedevelopmentofOttomangovernmentandsocietyduringthereignofSultanAbdulamidII (1876-1909), with special attention to the role he played in completing the work of theTanzimat reform movement carried out earlier in the 19th century, while at the same timesuppressingmany of thepoliticalandsocialramificationsof reform.

HIST 6111 CulturalHistoryoftheOttomanEmpireI-II(4)
Analysis of the cultural history of the Ottoman Empire from 1453 to the period of the TurkishRepublic. Topics include social and cultural structures of the Ottoman I Empire, language,literature and artistic tradition, and analysis and interpretation ofsome significant works(divans,biographies ofpoets, kasides, memoirs).

HIST 6112 Seminar inOttomanHistoryI(4)
Readingandinterpretationofselectedsetsofdocumentsaccordingtothe interestsofstudents.

HIST 6113 SeminarinOttomanHistoryII(4)
Independent work on the periods of transition and modernization of the Ottoman state andsociety.

HIST 6114 RebellionsandRevolutionsinEarlyModernHistory(4)
The concept of the General Crisis of the seventeenth century. Dissolution of feudal structures.Popular upheavals, revolutions and civil wars. Explanation of the importance of this conceptfor the political, religious, social and economic histories of European states as well as of theOttomanEmpire.

HIST 6115 FamilyandGenderin theMiddle East(4)
Thecoursefocuses on theroleofthefamilies in thepolicy making and relations with thelocal authorities, and also their economic role for the development of the country. It alsoelaboratedonthegenderrelationsinMiddleEasterncountriesundertheOttomanrule.

HIST 6116 SocialMovementsintheMiddleEast(4)
Social movementsintheMiddleEast asoneofthe determinantsofsocial andpoliticalchange, political structure and democratization process toward 2000s. Whether civil societyinstitutions contribute to the democratization process or not and to what extent they aresuccessfulin theregion.

HIST 6117 HumanRightsinthe MiddleEast(4)
Thiscourseexaminestheemergenceanddevelopmentofaninternationalmovementdedicated to the promotion of human rights since World War 11. Special attention will begiven to the legal institutions in the Middle East, national or international that influenced itsevolutionand character.

HIST 6118 Egypt inModernTimes(4)
Modem Egyptian history from the end of the Ottoman-Mamluk period to the present, largelythrough an exploration ofthescholarly literature and ofvarious paradigms that have beenusedto interpretthathistory.

HIST 6301 Afghanistan and the Great Powers, from the 18th century to the present(4)
The course deals with struggle of the Great Powers for the control over the Middle East with aspecificfocusonAfghanistan.ThetribalAfghankingdominthe18th century,rivalriesbetween Russia and Britain in the 19th ("the Great Game"), and on those between the SovietUnion and the US in the 20th century, and Washington's support in the 1980's for IslamistgroupsfightingtheSovietoccupationofAfghanistan,itsconsequences,theTalibanmovement aretheissues thatthiscoursedeals with.

HIST6302 Syria and Iraq under the Ottoman Rule and the Great Powers, from thelate19thcenturytothepresent. WarandPoliticsintheModemMiddleEast(4)
The course introduces Clausewitz's theory of war and examples of conventional state warfarein the Middle East. The goal of the course is to compel students to think seriously andcriticallyaboutwar andthewaysinwhichitisandisnotchanginginthetwenty-firstcentury.

HIST 6401 Conflict over Kuwait: Iraq, Britain and V.S from the early 19th centurytothepresent.Modernity andtheMiddleEast(4)
The course deals with the how the Ottoman Modernization appeared in the Middle East whenthe Ottoman Reforms at work especially after the middle of the 19th century under the reformprogramsof 1839and 1856 imperialreformedicts.

HIST6501Revolutions in the Middle EastNationalisms and Nation-States in theMiddleEast(4)
Emergence of national identities, nationalist movements, and nation-states in the modemMiddle East, studied comparatively and in relation to various approaches to understandingnationalismand stateformation.

MASTEROFARTSINTEACHING

A. Master ofArtsin TESOL
B. MasterinEducationinOrganizationalLeadership

A. Master ofArtsinTESOL

COORDINATORS:

MISSIONOFTHEPROGRAM

The demand for English teachers to speakers of other languages has markedly increased aschanging national systems and global concerns have created an interdependent world.TheAmerican University of Athens TESOL program is distinctive in its focus on experientiallearningthroughonlineand/oropenlearningprograms– studentsplanlessons,observeclasses, and design tests for English language classes.Faculty draws on their extensiveteaching experience, research, and interaction with other cultures to provide pragmatic lessonsandadviceto TESOL students.

PREREQUISITES

To receive an M.A. in TESOL, students must take the following non-credit seminars duringthefirstsemester:

CIS5000	ComputerBasics
EN5000	AcademicWriting
MA5000	Mathematics
BasicsRM5000	ResearchMethodology

GRADUATIONREQUIREMENTS

Studentsmustcomplete40credithourswiththefollowingdistribution:

1. Thesuccessfulcompletion of5corecourses foratotalof20 credithours.
2. Thesuccessfulcompletionof 2-3electivesforatotalof 8-12credithours.
3. Submissionof athesis of35-40pages equivalentto8-12credithours.

MASTER'STHESISREQUIREMENTS

Studentsmustfulfilthefollowingrequirements:

1. Complete at least eight credits of graduate coursework with an overall GPA of 3.00 oraboveand no morethan twoclassgradesbelow"B".
2. CompleteanddefendaMaster'sthesisproposal bya two-personcommittee(theChairmanand theSupervisor).
3. Complete anddefendaMaster'sthesisthatcountsfor 8-12credithours.
4. The Master's thesis must demonstrate the student's ability to effectively communicatein writing the results of graduate study.Students are expected to prepare a thesiswhich integrates the knowledge they have acquired with original research.They areexpected to choose a topic that captures the latest developments in the TESOL fieldand to carry out primary and secondary data collection in this area, use scientificmethods for analysis of data and produce a professional report which constitutesoriginal work.Students work on this project under the close supervision of assignedprofessorsdepending on theareaofspecialization.
5. The student must defend the thesis to a three-person committee, which includes twoinstructorsfromthesamefield andonefromanotherdepartment.

CORECOURSES

TESL5500	PrinciplesofLinguistics
TESL5501	English LanguageTeaching I
TESL5502	English Language Teaching II
TESL5503	Structure ofEnglish
TESL6620	English Language Teaching III

ELECTIVES

Studentscanchoosefromthefollowingelectivesorfromthecoursesofferedinotherdepartments,with theapprovalof theChairmanoftheGraduateSchool.

TESL5522	SecondLanguageAcquisition
TESL5528	BilingualEducation
TESL5531	Languageand Cross-CulturalCommunication
TESL5541	Teaching Pronunciation
TESL5554	TechnologyforLanguage Learning andTeaching

COURSEDESCRIPTIONS

TESL5500 PrinciplesofLinguistics(4)
Thiscourseexaminesthewaysinwhichtheanalysisoflanguagerevealsaspeaker'sunconscious knowledge, serving as a "window on the mind." It looks at data from languageuse, language learning, and language choice in order to discover the underlying principles oflanguage:structures of words (morphology), sounds (phonology), sentences (syntax), andmeaning (semantics), as well as theirusein context (sociolinguistics) and representation inthe mind (psycholinguistics).We will collect, examine, and analyze data from English and awidevariety ofotherlanguages.

TESL5501 English LanguageTeachingI(4)
TheprimarypurposeofthiscourseistohelpstudentspreparethemselvestoteachEnglishasa second language by reflecting on broad questions about the school setting, curriculum, andassessment.They will examine, analyze, and explore ways to put into practice traditional andcurrent methods as well as address the four skill areas of speaking, listening, reading, andwritingallin thecontextoftheinternationalstandards forESL.

TESL5502 English LanguageTeachingII(4)
ThiscoursewillexplorestrategiesforteachingESLlearnersinformalandinformaleducational settings.Students will be introduced to foundational theories and current researchonthesocialandacademicfactorsthatinfluenceESLlearners learningexperiences.

TESL5503 Structureof English (4)
This course describes how English sentences are constructed and you will develop the skillsnecessary to analyze sentence structure.In doing so, you will use some of the tools andmethodsofmodernlinguistics.Nativespeakers'competenceincludesknowledgeabouthowto pronounce words and sentences (phonology), how to break down a complex word like"supercalifragilisticexpialidocious" into its component parts (morphology), and how to relatewords and sentences to their meanings (semantics). This course directs our attention tosyntax.

TESL5522 SecondLanguage Acquisition (4)
This course examines how people do and do not learn a second language.The major theoriesofsecondlanguageacquisitionwillbereviewed,andtheirimplicationsforthesecondlanguag e classroom will be discussed.The primary goals of this course are (a) to familiarizeyou with major theoretical issues in second/foreign language learning in formal and informalsituations; (b) to provide you with opportunities to observe and reflect on language learningsituations and second language learners; (c) to help you become moreskilful at makingappropriateteachingdecisionsthatwillnurturelanguagelearningamongculturallyandlingui sticallydiversestudents.

TESL5528 BilingualEducation(4)
This course focuses on the sociolinguistic and psycholinguistic properties of bilingualism,legal history, and educational foundations of bilingual education.Bilingual education will becompared to other approaches.An emphasis is placed on the implications of bilingualism forESLand/orliteracy teachers.

TESL5531 Languageand Cross-CulturalCommunication (4)
This course looks at the acquisition and use of non-native languages from a cross-culturalperspective.Introduction to research on how non-nativespeakers learn thesociolinguisticandpragmaticrulesofthetargetlanguageandhowinappropriateuseofsuchrulesof ten

results in miscommunication between native and non-native speakers.It develops effectivepedagogicaltechniquesinteaching communicativecompetenceto ESLlearners.

TESL5541 TeachingPronunciation(4)
This course is designed to help students deliver effective pronunciation instruction to childrenand adults learning English as a Second Language.Students will gain a foundation in thescientific study of speech, including but not limited to phonology and articulation.Studentswill also learn howtospot hearing problems becauselearners cannot replicatesounds thatthey do not hear.Students will learn a variety of pronunciation strategies that they can usewithpupils and students of differentages.

TESL5554 TechnologyforLanguageLearningandTeaching(4)
This course explores the role of technology in second language learning and teaching.Itexamines attributes of effective technology-enhanced language learning environments
andtheirrelationshiptosecondlanguageacquisitiontheoriesandconstructs.Itfocusesonresearch and practices for using technology to support communicative language teaching,content-area instruction, the development of listening, speaking, reading and writing skills,inquiry-basedlearningand thedevelopmentof learning communities.

TESL6620 English Language TeachingIII(4)
This final course serves as a bridge between previous TESOL coursework and actual, situatedteaching.Therefore, one focus of the course is to help students learn (through reflection) whothey are as teachers and to gain practice in thinking about thewide range of considerationsand decisions that make teaching the very complex and extremely situated process it is. Thesecond focus is to review current trends in classroom practice to provide student teachers withpracticalclassroomteaching tools.

B. MasterofEducationinOrganizational Leadership

COORDINATOR:

I. ProgramDescription

Thefieldofeducationtodayisgoingthroughcriticalperiodoftransitionfromtheconventional methods of teaching and learning to innovative learning environmentsenhancedbytechnology.Theeducationalorganizationnowneedsnewleaderswhoare conversantwithboththetraditionalandnon-traditionaleducationalmethods.Theorganizational leadership needs strong skills of leading the organization while bringing thenecessarychangethathas positiveeffecton thelearningoutcome.

MasterinEducationinOrganizationalLeadershipprogramisdesignedforstudents andprofessionals preparing to work at aleadership position in theschool systems and be theleader that will bring the necessary change to address the changing demands of educationtoday.

Theprogramisdesignedtoprovidestudentswithstrongbackgroundinorganizationalmanagement principles with emphasis on leadership theories.This program also providesfinancialmanagementcourseswhichalloworganizationalleaderstoimplementthetechnol ogical enhancements within the educational system. This program will provide an in-depthunderstandingofdigitaltoolsforclassroomandonlineinstructions,designofcurriculum and assessments, also dealing with the ethical issues.The leader should also havetools for research methods for making data-driven decisions that lead to success based onevidencenotheuristics.

Theorganizationalleaderalsoneedstohavegoodunderstandingofhumanresourcemanagement, management information systems that will allow collection and integration oflearningparadigmtodealwiththecurrentandemerging issueof educationalleadership.

Thestudentswill also engagein a cap-stoneinternshipproject relatedtoorganizationalleadershipenablinghands onexperiencetoaddressorganizationalleadershipproblem.

II. CurriculumStructure

The semester I courses are designed to provide in-depth background in the basic skills relatedto research methods, curriculum design and technology integration along with introduction toeducationalethics.

ThesecondsemestercoursesfocusonOrganizationalManagementandLeadership,Budgeting and Finance, Emerging Technology for Educational Leaders. The third semestercourses deal with management of Human Resources, Information Systems, Current topics andtheCap-Stoneproject. Thefourth and last semester deals with theThesis ofthespecifiedtopicthattheDeanwillapprove.

III. DeliveryofProgram

The M.Ed. – Organizational Leadership Program consists of 44 credits which are delivered infoursemester(12months)acceleratedprogram.Theprogramstartswitha1creditintroductoryonlin eseminardeliveredthroughonlineconferencingsoftware.Thenthecourses are delivered with eight week cycle comprising two courses.The students go throughsix cycles of two courses each to complete 36 credits. The semester is 4 months long wherestudent finish 4 courses in each semester with 13 credits in semester 1 and 12 credits each insemester 2and semester3.

IV. ProgramDesign,Courses,andDeliverySchedule

(DevelopedbySynapticGlobalLearning)

	SemesterI	
MED 601	IntroductorySeminar(SBLtraining/Teambuilding)	1Credit
MED501	EducationalResearchMethods	3Credits
MED 502	OrganizationalManagementofLeaders	3
CreditsMED 503	Assessment and Evaluation for Educational Leadership	3
CreditsMED504	EmergingTechnologiesforEducationalLeadership	3Credits
TotalCreditsSemesterI		**13Credits**
	SemesterII	
MED 611	ManagementPrincipleandPracticesfor EducationalLeaders	3Credits
MED 612	VisionaryLeadershipforEducationalLeadersin ProblemSolving	3Credits
MED 602	FinancialManagementforEducationalLeaders	3
CreditsMED 603		Digital
ToolsforEducationalLeaders		3Credits
TotalCredits SemesterII		**12Credits**
	SemesterIII	
MED 710	HumanResourceDevelopmentforLeaders	3
CreditsMED 712	CurrentTopics inOrganizationalLeadership	3
CreditsMED705	ManagementInformationSystems forLeaders	3
~~CreditsMED 900~~	~~EducationalLeadershipInternship~~	~~3Credits~~
TotalCredits SemesterIII		**12Credits**
	SemesterIV	
MED 999	Thesis	7Credits
TotalCredits SemesterIV		**7Credits**
TotalCredits Program		**44Credits**

COURSEDESCRIPTIONS

MED 501 EducationalResearch Methods (4)

This course details the research process and shows how research is used in managementdecision-making.The researchmethodologieswillhelpthestudenttoapplytheminamanagerial role. Students learn how to write a research proposal, determine the appropriateresearch strategy for their research, collect data and analyze the results using a variety ofmethods.They also learn the various formats in which to present the results.The course isveryrelevantintoday'seconomywheretheadministratorslearntheseresearchmethodologies to implement in the educational field. The focus of this course is to makestudents adept in research where they can become efficient in problem solving and learn howtousethetechniquestofurtherunderstandmanagementissues.Studentswillalsohaveopportunity tolearnhowtopresentresearchresultsinwrittenandoralpresentationsformat.

MED 502 OrganizationalManagementforSchoolLeaders (4)

This concept model is designed to improve organizational effectiveness. The goal of thisevolving discipline is to bring to the forefront for the students the importance of a process andfunctioning of an effective organization. The student is made familiar with the process that isinvolved in the development of an effective and collaborative manager. A manager is facedwithmanysituationsandisaffectedbymanyfactorssuchassocial,politicalandenvironmental. As a collaborative leader, the manager combines the collective skills of thehuman resources in the workplace. They build a coalition within the structural framework ofthe organization, motivating and mobilizing the employees. This critical role functions as abridge between individual conceptual philosophy and organizational goals leading to effectiveorganizational development and behavior. This course will allow students in the educationsystemtodevelopleadershipqualitiesbyunderstandingvariousgroupdynamicsandorganizational behavioracrosscultures.

MED 503 Assessment and Evaluations for Educational Leadership (4)

Assessmentand evaluationofthedistancelearningprogramsisan importantelementtoascertainsuccessfuldeliveryandimplementation.Thecoursesevaluationsleadtoanunderstandingofthepedagogicaleffectivenessofthecourse,whiletheassessmentsallowdetermination ofthelearner'sperformance.Thetechniques,suchasformative,summarizeanddiagnosticevaluations,areusedfordeterminingthesuccessofthedistancelearningprogram.Thepre-test,diagnostictestandexamsareusedtoassessthecompetencyofthelearnertomastertheconcepts.Themulti-dimensionalpedagogicaleffectivenessindexisamethodologythatallowsevaluationoftheblendedlearningmethodfordistancelearning.Studentswilllearncollectionandusageofstudentdataanddevelopingassessments.Thiscourseenablesstudentstounderstandcornerstoneofcollection,analyzingandreportingdata.Thecoursewillallowstudentstounderstandemergingtrendsintechnologybygaining knowledgeaboutassessmentandevaluationleadingtobettermanagementprocessesineducationalsystem.

MED 504 EmergingTechnologies forEducationalLeadership (4)

Since the early development of Internet followed by the burst of World Wide Web thetechnologies available for eTeaching has grown enormously.The Universities and Collegestoday increasingly use learning management systems (LMS), learning content managementsystems(LCMS),databasedrivencontent repositories,richmultimedialearningobjects,animations,simulations,virtualreality,3-Dvisualization.Thedeliveryofeducationalcontentcanbedoneon CD-ROM,DVD,eBook,WWW,SmartPhones(iPhone,G1,Blackberry) andahostofnew Ultra-Thin PCs.

The eTeachers can now use multimedia creation tools, such as, adobe Photoshop, WYSWIGHTML editors such as Dreamweaver, illuminate, captivate, flash animations etc. and put therelearningobjects onLMS, suchas, Blackboard,Angel, Moodle,Sakai, Desire2Learnetc.

Now eTeachers can also use Web 2.0 for creating course Wiki, Blogs, Chats, DiscussionBoards, Instant Messaging, You Tube, Face book as means of creating online electroniccommunities of learners. Streaming server now allow deployment of video, audio and flashanimations, to be incorporated into the online courses. This course will allow students toexplore various technology tools and applications with emphasis on Ethical Frameworks andEmerging technologies. There is growth of games in education with single player game tomassivelymultiplayeronlinegames(MMOG).

MED 602 FinancialManagementforEducationalLeaders (4)

Financial Management for Educational Leaders is an introductory course designed to acquaintthe graduate student with current issues which are important for financial managers, providingapplicationandopportunityincareeradvancement.Theelementsoffinancialmanagement are explored in a mathematical framework, enabling the student to develop competencies inareas such as determining break-even points, working capital management, calculating thetime value of money, financial and investment analysis and long-term financing. While thecourse focuses oncorporationfinance,manyofthe conceptscanbe appliedtopersonalfinance and investment matters. The course is designed to familiarize students with FinancialPlanning and Projecting cash flows and estimating Risks. The knowledge about valuation ofStocks, Bonds and Rates of Return are very useful in the business environment. This coursewill allow the students to understand the financial sector better and become leaders in thebusinessworld

MED 603 DigitalToolsforEducationalLeaders (4)

Digital Tools for Educational Leaders course is focused on the twentieth century which notonly brought us the dawn of the Information Age, but also continues to bring us rapid changesininformationtechnology.Thereisnoindicationthat thisrapidrateof changewill beslowing— it may even be increasing. As we begin the 21st century, computer literacy willundoubtedly become prerequisite for whatever career a student chooses. The goal of theO'Leary Series is to assist students in attaining the necessary skills to efficiently use theseapplications. Equally important is our goal to provide a foundation for students to readily andeasily learn to use future versions of this software. We do this by providing detailed step-bystep instructions combined with careful selection and presentation of essential concepts. Thiscourse also discusses all the Office applications including Office Word, Office Excel, OfficeAccess,PowerPoint,Outlook,andWordandcoupledwithadvancedapplicationsnecessaryfir excelling in businessenvironment.

MED 611 Foundations ofManagementforEducationalLeaders (4)

Designed to provide with fundamental knowledge in the field of management, this courseintroduces students to concepts and methods used in managing organizations. The course is astudy ofthefunctions ofmanagerial processes in an organizational context. In each sessionwe will explore different aspects of management theories and their application(s) to thepractical problems facing us as managers and employees. This will enable students to graspthecentralissuesandchallengesthatareassociatedwiththemanagementofanorganization.

MED 612 Visionary Leadership for Educational Leaders in Problem Solving

(4) VisionaryLeadershipforEducationalLeadersisanappliedbookthatcombinesbehaviortheorywi thbusinesspractice.Eachconceptteachescentralconceptsandskillsinanimportantareaofleadership development,andthenprovidesexercisesandself-evaluationstoapplythatknowledge.Inthisway,thiscourseactivelyinvolvesthestudentsintheactivel earningprocess.Thisbookintroducesprinciplesandskillsofleadershipinawaythatis

appropriate for both new and experienced leaders, and it is suitable for students and everydaypeople who must influence others to get things done. This course also discusses LeadershipVariables, Leadership Principles and Importance of Ethics.It enables students to understandpeople, their behaviors in business environment and encourages to evaluate through creatingeffectiveperformancemanagement.

MED 705 ManagementInformation TechnologyforLeaders(4)

This course provides an understanding of how information technology may be efficiently andeffectively used in the business environment. This course presents an overview of hardware,software, networks, database systems, and data analysis and decision support systems. Thecourse describes the integration of hardware, software, data, procedures and personnel that arerequired for managing information systems. The impact of constantly changing informationtechnology upon the organization and its management is analyzed. This course also discussesNetworkandDatabaseManagementleadingtoComputersecurityandtransaction.Thecou rses go in-depth with Enterprise integration and managing Electronic businesses. A lot ofemphasis is given to theteamwork, business and strategicdecisions. The most importanttopics are for the organizing school and educational businesses and various systems withemphasis on Information Management. Education leaders of today need to be conversantwith the tools that allow effective management of school and colleges with the informationtechnology.

MED712 CurrentTopics inOrganizationalLeadership (4)

Current Topics in Organizational Leadership offers varying perspectives on important issuesand provides students with balanced and fair coverage of a topic to form their own opinion ortosupporttheirresearch.ThiscoursewillcovertopicsfromNewapproachestoOrganizationalleade rshiptoroleofSocialResponsibilityinOrganizations.Eachissuequestion is relevant to the topic and guides students through various topics on DiscussionaroundOrganizational culture andhowGlobalizationsaffectsall theorganizations.Thiscourse also focuses on Operational issues in Organizational leadership giving students theopportunity to understand in greater details about the leadership qualities. This course alsodiscussesStrategicplanningand variousorganizations inthefuture.

MMG740 Human Resources PlanningforEducationalLeaders(4)

Today's strategic and legal environment, along with the changing nature of the workforce,presents special challenges for organizations in effectively managing their human resource.The human resource department needs to be able to formulate human resource policies thatenable an organization to strategically compete in today's global environment. Toward thatend,thehumanresourcemanagermustsuccessfullyacquire,develop,compensateandmanage the human resource. The special interests of various groups, including the employees,unions and government organizations, must be considered in the development of effectivehuman resource policies. Through subject-area knowledge and experiential exercises, thiscourse enables students to gain an in-depth understanding of the issues relating to the humanresource and to develop strategies to effectively manage them. This course will allow studentsto understand Work Analysis and design with emphasis on Human Resource Planning andRecruitment. The course also goes indetail about Training and Career development withfocusonManagingEmploymentRelationship.ItisalsoimportanttounderstandaboutEmployee Health and Safety which this course addresses with focus on leadership qualitiesfor Human Resources. The educational leaders must understand the management of humanresourcesthatincludesfaculty, administrators, supportstaffand students.

MED 900 EducationalLeadership CapstoneProject(4)

This course is designed for students to work on an independent research projects based onmost current topics in the area of organizational leadership for educational institutes. Thecapstoneprojectrequiresstudentstoreviewallcoursesthattheyhavedoneintheprogram

and choose a topic area that they wish to develop their advanced skills and create a workproduct that they can use for further studies or for prospective employers as a sample of theirwork.

In the Capstone Project students will be required to develop and present their research topicanddefendtheirproposaltotheircapstonefaculty.Theprojectwillincluderesearchquestion and topic of study, literature search, proposed hypothesis for proposed outcome,methodologyanddatacollectionfortheproposedresearchissue,dataanalysiswithdiscussi onon results and finallyconclusions drawn fromthestudy.

The students will work under the supervision of capstone project faculty but will have todevelop and execute the research project independently. The capstone faculty may provide alist of potential current organizational leadership project titles as suggested topics for studentsto choose from.However, student will be free to choose and defend their own project topicand research question. At the end of the course each student will be required to present theirproject in front of fallow students and peers on a videoconferencing session and defend theirresults.

Accreditation

American University of Athens holds International Accreditation from ASIC (Accreditation Service for International Schools, Colleges, and Universities) with Premier Status for its commendable Areas of Operation. ASIC Accreditation is a leading, globally recognised quality standard in international education. Institutions undergo an impartial and independent external assessment process to confirm their provision meets rigorous internationally accepted standards, covering the whole spectrum of its administration, governance, and educational offering. Achieving ASIC Accreditation demonstrates to students and stakeholders that an institution is a high-quality education provider that delivers safe and rewarding educational experiences and is committed to continuous improvement throughout its operation.

About ASIC: One of the largest international accreditation agencies operating in 70+ countries, ASIC is recognised in the UK by UKVI - UK Visas and Immigration (part of the Home Office of the UK Government), is ISO 9001:2015 (Quality Management Systems) Accredited and is a Full Member of The International Network for Quality Assurance Agencies in Higher Education (INQAAHE), a member of the BQF (British Quality Foundation), a member of the International Schools Association (ISA), and an institutional member of EDEN (European Distance and E-Learning Network).