THE AMERICAN UNIVERSITY OF ATHENS

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).

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COURSE ABBREVIATIONS

AC	Accounting
AH	Art History
ARC	Classical Archaeology
ART	Art
BAD	Business Administration
BIO	Biology
BPH	Pharmacy
BL	Business Law
CDH	Computer Hardware and Digital Electronics
CH	Chemistry
CIS	Computer Information Systems
CLA	Classics
CS	Computer Sciences
DES	Design-3D Animation
EC	Economics
EE	Electrical Engineering
EK	Engineering
EN	English Language
ENG	English Literature
FIN	Finance
FR	French
GEOL	Geology
GER	German
HIS	History
HMN	Hotel Management
ITA	Italian
JOU	Journalism
LI	Legal Studies
MA	Mathematics
MAN	Management
MAR	Marine Operations Management
ME	Mechanical Engineering
MK	Marketing
ML	Maritime Law
MN	Manufacturing Engineering
OPT	Optometry
PHI	Philosophy
PHO	Photography
PR	Public Relations
PY	Physics
PSC	Political Science
PSY	Psychology
QM	Quantitative Methods
SOC	Sociology
SPA	Spanish
SST	Ship Operation and Management
TH	Theatre
TTM	Travel and Tourism Management

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 fulfil 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. In a 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. To encourage students to realize their greatest creative potential and make substantial contributions to society as educated persons, 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 lifelong 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 counselling 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.

GENERAL INFORMATION

ADMISSION INFORMATION

Selection of Candidates

The American University of Athens seeks a student body that represents diverse backgrounds. Each year students from the U.S., Greece and approximately thirty-eight (38) countries enroll at AUA. In addition to their accredited high school records, recommendation letters, and placement test scores, the candidates' special abilities and interests are also given careful consideration in the evaluation process.

A strong commitment to minority recruitment, equality of the sexes and opportunities for the handicapped guarantee this diversity. AUA is proud of its history of providing opportunities for students from various educational and cultural backgrounds and from many geographic regions.

Requirements for Freshman Students Application

Students are encouraged to file an application approximately sixty (60) days prior to the beginning of the semester of enrolment to ensure adequate time for all necessary records to be received and evaluated. The application must be accompanied by the **€100 application fee** (which covers a part of the processing expense and is not refundable).

The processing of this completed form by the Office of Admissions will immediately designate the student as a final applicant to AUA. Subsequently, a copy of Secondary School Credentials must also be filed with the Office of Admissions: The Personal Statement and Recommendation Letters are most important, but not compulsory.

The evaluation of an applicant's credentials begins as soon as all of the application materials have been received.

A Copy of Secondary School Credentials

International students are eligible to apply for admission to ***The American University of Athens*** as undergraduates if they have completed the equivalent of an accredited American secondary school education (approximately twelve years of formal education starting at age six) and have the appropriate diplomas or satisfactory results on exit examinations. However, some secondary certificates represent varying amounts of total education according to the different educational systems of the world and may either exceed or fall short of the required preparation for college entrance. Applicants should refer to the table below, to find the admission requirements for the country (-ies) in which they have completed their secondary education.

All documents written in a foreign language must be accompanied by a notarized English translation. Please note that both documents are required - the original in the language of the applicant's school and the English translation. These documents must be signed in ink by the appropriate official of the applicant's school and must have the institution's seal.

Country of Secondary Education	Credentials Required for Admission
Algeria	Baccalaureate exam scores and certificate
Australia (New S. Wales)	Higher School Certificate (Matriculation)
Australia (Queensland)	Senior Certificate
Australia South	Matriculation Certificate
Australia (Tasmania)	Higher School Certificate, Ordinary Level Exams
Australia (Victoria)	Matriculation Examination/Higher School Certificate
Australia Western	Leaving Certificate
	(Matriculation)/Certificate of Sec. Education
Belgium	Bekwaamhekisdiploma dat Toegang verleent tot het Hoger Onderwijs, or Certificat d' etudes moyennes Superieurs or Getulgschrift van hoger middel baar onderwijs and transcript
Canada (Quebec)	Transcript of 1 year CEGEP or Secondary V Leaving Certificate and Transcript
Canada (Ontario)	Secondary School Honor graduation Diploma and Transcript
Canada (other provinces)	High School Diploma and Transcript
Cyprus	Apolyterion and School Transcript
Denmark	Studentereksamen scres and Certificate
Egypt	General Secondary Education Certificate and School Transcript
Finland	Yloppilastutkinto or Student Examenbetyg exam scores and Certificate
France	Baccalaureate and exam scores
Germany	Abitur including exam scores
GREECE	Akadimaikon Apolyterion (Official or certified copy by an attorney or police station)
Iceland	Studentsprof (from Verzlunarskoli) and exam scores or Studentsprof (from Manntaskoli) and exam score
India	Senior Secondary Certificate
Iran	Certificate of Completion of Higher Secondary School with Final exam scores
Iraq	Baccalaureate and exam score
Israel	Bagrut and School Transcript
Italy	Maturita and School Transcript
Jordan	General Secondary Certificate and School Transcript
Lebanon	Baccalaureate Part II and exam scores
Libya	General Secondary Education Certificate
Morocco	Baccalaureate II and exam scores
The Netherlands	Eindexamen/V.W.O. and exam scores

Nigeria	**5 academic passes with grades between 1 and 3 on the West African School Certificate**
Pakistan	**Intermediate or Higher Secondary School Certificate**
The Philippines	**National College Entrance Exam and secondary school transcript or transcript from one year full-time post-secondary education and secondary school transcript**
Saudi Arabia	**Saudi Arabian General Secondary Education Certificate**
South Africa	**Senior Certificate/Standard 10 Certificate**
Spain	**Curso de Orientacion Universitaria and school transcript**
Sweden	**Avgangsbetyg/Studentexamen and school transcript**
Switzerland	**Federal Maturitatszeugnis/Certificat de Maturite/Attestato di Maturita**
Turkey	**State Lyceum Diploma**
United Kingdom	**Official GCE: 5 academic Ordinary Level Passes**
USA	**Official transcript of the last four years of secondary school**
Russia and CIS	**Attestat o stednem obrazovnil/Transcript and diploma from secondary education and/or specialized secondary school**

If the applicant's country is not listed and there are questions about the proper accredited credentials, the applicant should contact the Office of Admissions. Students who are applying during their last year of secondary school should clearly state what certificate they expect to receive and when. They should send an official school transcript with the application and send the credentials listed above as soon as they are available.

All documents are kept by AUA and never returned to the applicant. Certified copies of original documents (certified only by the applicant's country's legal authorities, attorney or police station), are accepted in place of the originals. In such a case, the applicant is required to present the originals at least once to an admissions officer.

An applicant **WILL NOT BE ADMITTED** if he/she has not submitted one of the above-mentioned secondary school diplomas.

The following documentation is recommended but NOT required.

1. Personal Statement

The Personal Statement (essay) provides an opportunity to describe the applicant's abilities in ways that grades, and test scores cannot. It shows one's ability to organize thoughts and express oneself in writing. The applicant must respond to one of the following questions:

a. What experience(s) led you to the selection of your professional objectives?

b. In addition to the information on your application, what other factors would you like to be considered in evaluating your candidacy? Feel free to include some of your important accomplishments, your goals or your ideas about education.

2. Letters of Recommendation

All applicants must submit two letters of recommendation from either teachers, counsellors, professors or employers for an estimate of character, maturity, aptitude and readiness for college.

English Understanding Placement Test and Remedial English Course

All courses at AUA are taught in English. It is therefore imperative that the student has a fairly good command of written and oral English. Without this, the student's entire program of study would be in jeopardy.

Freshman students are required to take the AUA English Understanding Placement Test in order to evaluate their level of English. Native speakers or those who attended an English/American school are exempt. The English Understanding Placement Test consists of three parts:

1. Listening Comprehension	**50 questions**	**40 minutes**
2. Structure and Written Comprehension	**25 questions**	**25 minutes**
3. Vocabulary and Reading Comprehension	**60 questions**	**55 minutes**
Total:	**135 questions**	**110 minutes**

SCORE OF TEST	**PLACEMENT CRITERIA**
below 40/135	The student is permitted to register only for the course EN 1012 English as a Second Language (15 lecture hours per week: intensive instruction offered in all four basic skill areas of English as a second language, speaking, listening, reading and writing. No credits will be awarded for this remedial English course).
over 40/135	The student must register for the course EN 1013 English Composition (6 lecture hours per week: the course concentrates on the basics of English composition, sentence and paragraph structure, punctuation, spelling, vocabulary use and grammar. No credits will be awarded for this remedial English course). The student is permitted to register for other courses, with the consent of the student's academic advisor.
over 75/135	The student must register for the course EN 1100 English Composition and Rhetoric I (3 credits).
over 100/135	The student can register for the course EN 1102 English Composition and Rhetoric II (3 credits).

The applicant may want to consider the following equivalencies between tests in English as a Second Language.

AUA English Understanding Placement Test	**100/135**
AEB Test in English for Educational Purposes	**Grade III in listening, reading, writing**
British Council International English Language Testing Systems (IELTS)	**Average score of 6 for each Component 5**
Cambridge Certificate in Advanced English	**Grade A**
Cambridge Certificate of Proficiency in English	**Grade C**
EUROCERT	**TOEFL**
International GAUA English as a Second Language (Cambridge)	**Grade C** **Based on Extended Curriculum**

London Chamber of Commerce English for Commerce Examination	**Third Level**
London Chamber of Commerce English for Business Examination	**Third Level**
NEAB (JMB) Test in English for Speakers	**Pass of other Languages**
Oxford-ARELS Examination (Higher Level)	**Distinction**
Oxford International Business English Certificate	**Pass**
TOEFL (American Test of English as a Foreign Language)	**550**
University of London GCE O Level Syllabus B in English Language	**Grade C**
University of London Certificate of Attainment	**Levels 5 and 6 in English (Graded tests)**

AUA Further Placement Tests

All freshman students are required to take one of the following AUA Further Placement Tests depending on their interest of study. This is not required if the student is a graduate of an English -speaking school.

Business Administration Students

1. **Listening Comprehension:**	50 questions	40 minutes
2. **Structure and Written Expression:**	25 questions	25 minutes
3. **Reading Comprehension:**	60 questions	55 minutes

Engineering and Sciences Students

1. **Listening Comprehension:**	50 questions	40 minutes
2. **Structure and Written Expression:**	25 questions	25 minutes
3. **Reading Comprehension:**	60 questions	55 minutes
4. **Mathematical Reasoning:**	25 questions	30 minutes

Liberal Arts Students

1. **Listening Comprehension:**	50 questions	40 minutes
2. **Structure and Written Expression:**	25 questions	25 minutes
3. **Reading Comprehension:**	60 questions	55 minutes

Students that have scored below 40/135 in the AUA English Understanding Placement Test are required to retake this placement examination after they have successfully completed the remedial course EN 1012 requirement.

Interviews

Each candidate is required to have an interview during which personal qualifications including character and breadth of interest are evaluated.

Orientation Program

The Orientation Program at AUA preceding the commencement of classes each semester includes presentation of policies, AUA Library and Computer Center tours. All new students are expected to be present. Detailed instructions are posted and/or mailed.

Freshmen Academic Counseling

All freshmen are assigned an academic advisor. It is required that the student meets with his/her academic advisor after placement tests for academic orientation discussions and the first registration.

Admission of Transfer Students

Incoming transfer students have their credits and coursework evaluated by the AUA administration in cooperation with the respective Chairperson of the department offering the program to which they have been accepted.

The American University of Athens grants transfer credits for courses to candidates with grades higher than "C", or higher than the minimum passing grades of the relevant grading system.

Example: In some universities in Great Britain the passing grade is 35% and not 50%, thus making the equivalent of "C", 41%.

Undergraduate transfer students are encouraged to file an application at least sixty (60) days prior to the beginning of the semester of enrolment to ensure adequate time for all necessary records to be received and evaluated. Each applicant must arrange for official transcripts of all previous college records to be sent directly to AUA. Current bulletins of all the institutions previously attended may be requested. Additional material may be required for a particular program of study.

The American University of Athens does not grant transfer credit for courses in which the candidate has received grades lower than "C". Also, it does not grant transfer credit for courses in the student's field of study and for the student's native language except for literature courses. Transfer hours are not included in determining the student's cumulative grade point average. Undergraduate transfer students are required to complete a minimum of 45 semester credit hours at AUA. All required courses for the concentration must also be completed at AUA.

International Students

They are required to submit additional documentation for immigration purposes.

ACADEMIC POLICIES AND PROCEDURES

General AUA policies and procedures are stated below. Students are responsible for being familiar with the regulations and policies of AUA.

AUA operates on a semester basis and students earn semester credit hours.

Registration

An officially registered student is one who has submitted course selections on a registration form and has settled all charges according to his/her payment plan. Candidates for admission may not register until they receive a formal statement of acceptance.

Instructions regarding payment of the balance of fees and registration dates are mailed to the students. Registration is complete when the Office of Student Accounts receives full payment or settlement and issues an acknowledgement of this to the student.

A student's schedule of courses must be approved by the department Chairperson before the student may register.

A change in a student's schedule of courses following registration also requires the approval of the faculty advisor. In addition, when class sessions have started, the student is expected to consult with the faculty advisor before dropping or adding a course. The addition of courses is permitted only during the first two weeks of a term. For any change of schedule, the student must submit a "Course Schedule Change Request" form to the Office of Records for processing.

Credit

Credit in the programs of ***The American University of Athens*** is measured in credit hours and is calculated on the following attribution formula. One semester credit hour equals, at a minimum, 15 classroom hours of lecture, 30 hours of laboratory, and 45 hours of practicums. The formula for calculating the number of semester credit hours for each course is:

(hours of lecture/15) + (hours of Lab/30) + (hours of practicums/45).

Classification of Students

Full-time undergraduate students are those carrying 12 to 15 or 12 to 16 (Engineering Science) semester credit hours per academic semester.

Part-time undergraduate students are those carrying fewer than 12 semester credit hours. The term "special student" refers to any student not enrolled in a degree program.

The student's academic status is determined by the number of semester credit hours he/she accumulates. The following lists the classifications:

Freshman	0-29	semester credit hours.
Sophomore	30-59	semester credit hours and a passing score on the English language exit examination. Students not passing the exam will be required to take additional English course(s).
Junior	60-89	semester credit hours.
Senior	90	semester credit hours and over.

Course Load

The normal student course load per semester is 12 semester credit hours. A student who is not on probation and has the permission of his/her advisor may take 18 semester credit hours per semester. Students who work full-time during the day and attend classes during the evening should normally take only two or three courses per semester. A normal load during the Winter Intersession/Summer Sessions is one or two courses, maximum.

Grades and Course Credits

AUA uses a system of letter grades and grade honor point equivalents for evaluating coursework as shown in the chart below:

Grade	***Honor Points***	***Explanation***
A	4.0	Excellent
A-	3.70	
B+	3.30	Very good
B	3.00	
B-	2.70	
C+	2.30	Satisfactory
C	2.00	
C-	1.70	
D+	1.30	Low Pass
D	1.00	
D-	0.70	
F	0.00	Fail, no credit.
FR		Not applicable. No credit. The grades of "F", "UW" and "NC" in a course which was repeated successfully during probationary or non-regular status are not calculated in the student's cumulative grade point average. A student may not have more than six (6) "FR's".
AU		Not applicable. Audit, no credit.
I		Not applicable. Incomplete, no credit.
NC	0.00	No credit. A student who is absent from a final examination is assigned the grade of "NC" if he/she does not make up the "I" grade within one regular academic semester. In this case, no credit is earned and the "NC" is counted in the calculation of the grade point average as an "F".
W		Not applicable. Withdrawal after the drop period, no credit. When a student discontinues attendance at class but fails to officially withdraw from a course, he/she is assigned the grade of "UW". It will count as grades attempted.
UW	0.00	Unauthorized Withdrawal, no credit. When a student either fails to attend class without officially withdrawing or has attained the maximum number of absences stipulated by the University; he/she is assigned the grade of "UW". In this case no credit is earned, and the "UW" is counted in the calculation of the grade point average as an "F" (0.00).
S/US	Not applicable	Satisfactory/Unsatisfactory. All internships and internal transfer courses will be graded on the basis of satisfactory/unsatisfactory. They count towards total semester credit hours required for graduation but are not calculated in the student's cumulative grade point average. There is no effect on the standards of satisfactory progress of satisfactory/unsatisfactory. Satisfactory/unsatisfactory is also used for non-credit courses required for graduation.
RD		Not applicable. Record Delayed. This is used by administration to permit processing of all final grades when grades of an entire class section have not been reported by the instructor. No academic evaluation is implied. Grade reports are mailed to the student's home address approximately three weeks after the last day of Final exams. It should be noted that by the end of June, academic records will be finalized and therefore any inconsistencies or mistakes should be

rectified before this date.

Each semester during registration the Chairperson must discuss with the registering student the relevant Eight-semester Plan to ensure that he/she comprehends the sequence of courses to be taken for graduation.

Subsequently, the Eight-semester Plan must be assessed by the Head of the School, the Provost and finally the President with a copy to be distributed to the student. This procedure will enable the instructor to be aware of what courses need to be taught and the Chairperson, School Heads, Provost and President to determine what courses have been taken and which need to be scheduled.

Scholastic Index

The Scholastic Index, which is a numerical indication of the student's academic record, is determined on the basis of the above numerical values (Honor Points) assigned to the letter grades. In the computation of the Scholastic Index multiply the honor points corresponding to the grade in each course by the semester credit hours of the course, add these products for the courses taken and then divide this sum by the total number of hours represented by the courses considered. In this computation, courses are not considered for which the notation "FR", "W", "I", "AU", "S/US", or "RD" is given. For example:

Course	Credits/Hours	Grade	Honor Points	Product
CIS 1230	3	A	4	3x4=12
MAN 2101	3	B	3	3x3=9
CH 1101	4	C	2	4x2=8
EN 2012	3	B	2.7	3x2.7=8.1
MA 1123	4	C-	1.7	4x1.7=6.8

$$\text{Scholastic Index} = \frac{12 + 9 + 8 + 8.1 + 6.8}{17} = 2.58$$

Auditing Courses

An auditor is a student who attends a class to acquire knowledge but not to earn credits or grades. Audited courses do not count towards completing degree requirements. Auditors must attend classes regularly, do assigned reading and participate in discussions, but they are excused from examinations. Auditors are admitted to a course on a space-available basis and in accordance with the rules of AUA. Auditors are subject to the tuition and fees of the course.

Incomplete Coursework

If for reasons acceptable to the instructor and AUA administration a student fails to complete any required work within a course, the student may receive a grade of "I" (Incomplete) with no other grade indication. Except for a student who is absent from a Final examination, an Incomplete grade is reported if the instructor has submitted the "Incomplete Report" form, including:

i) The coursework which must be completed.
ii) The date (which may be no later than one semester after the "I" grade is reported) by which the specified work must be completed.
iii) The fraction of the final course grade which is represented by the work already completed and the student's grade for the coursework already completed.
iv) The final grade which shall be substituted for the "I" grade if the specified work is not completed by the specified date.

A copy of the foregoing information, using the "Incomplete Report" form, must be filed by the instructor with the Office of Records of AUA when the "I" grade is reported on the Grade Sheet.

If the student completes the specified work by the specified time, the "I" grade is replaced by the final grade awarded by the instructor. If the student does not complete the specified work by the specified time, the "I" grade is replaced by the final grade specified by the instructor on the "Incomplete Report" form.

If a student is absent from a Mid-term examination, he/she will receive the grade "I" and a Make-up examination will be given to the student during the Final examination period of the same semester. The Mid-term Make-up examination is awarded on medical or compassionate grounds and is entirely at the discretion of AUA administration.

If a student is absent from a Final examination, he/she will receive the grade "I" (Incomplete) only if the Final examination was missed for serious reasons acceptable to the instructor and AUA administration. The student must take the Final examination within one regular academic semester during scheduled Final examination periods. If the student fails to take the Final examination within one regular academic semester then the grade will be changed to "NC". No credit is earned and will be calculated in the student's cumulative grade point average as an "F" (0.00).

The grade "I" will count as credits attempted in the calculation of successful course completion percentage.

Points to Consider:

- If a student is making up incomplete work, he/she should not officially register for the course again; otherwise, he/she will be charged for the course twice and the "I" will be replaced by an "NC" grade.
- The "I" grade is not designed to enable a student to re-take a course to improve the original grade.

Dropping or Adding a Course - Withdrawal from a Course

To drop or add a course, a student must complete a "Course Schedule Change Request" form, available at the Office of Records after obtaining approval from the academic advisor.

No course may be added after the first two weeks of classes during a regular Fall/Spring semester or two class meetings during a Winter Intersession/Summer Session.

A course dropped during the first four weeks of classes of a regular semester, or the first four days of a Winter Intersession/Summer Session will not appear on the student's permanent record. Any refund resulting from a reduction in the number of credits registered will be made on the basis of the refund schedule (see "Withdrawals and Refunds" section, page 29). To withdraw from a course, a student must complete a "Course Withdrawal" form. After the first four weeks of a regular semester or the first four days of a Winter Intersession/Summer Session, the dropped course will appear on the student's record as "W", and the student will be charged for the course. No credit is earned, and it is not counted towards the calculation of the grade point average. When a student discontinues attendance at class but fails to officially withdraw from a course or has four consecutive or a total of twelve hours of absences, he/she is assigned the grade of "UW" (Unauthorized Withdrawal) and is not allowed to drop or withdraw from a course. No credit is earned, and "UW" is counted in the calculation of the grade point average as an "F" (0.00).

Courses may be withdrawn up to two weeks prior to the start of Final examinations during a regular semester and two days during Winter Intersession/Summer Session. After that point, no course may be officially withdrawn. "W" and "UW" will count as credits attempted.

Internship Programs

A number of programs within AUA require internship courses in the senior year. An internship is a non-paid training program with a company or organization in the area of study. A letter is issued by a supervisor acknowledging responsibility for the training and the number of hours required. For example, shipping students will be trained at a shipping company, travel and tourism students in the travel and tourism industry. Minimum requirements are 45 hours of work for each semester hour of credit.

Attendance

AUA's attendance policy is mandatory. Students are expected to attend each class session. On the fourth consecutive absence or a total of 12 hours, the student is assigned the grade of "UW", which counts as an "F" (0.00) in the calculation of the grade point average. This policy may be waived for students with extraordinary circumstances upon submission of substantiating documentation, which should be handed in within three working days of the date of absence. Excused absences are not deleted from a student's record but are added to subsequent ones.

Leave of Absence/Withdrawal

A student may choose to voluntarily leave AUA for a specified period of time, with the expectation of returning to complete the degree requirements. In addition, a student may choose to withdraw from AUA. A student wishing to withdraw or take a leave of absence from AUA must complete the "Leave of Absence/Withdrawal" form and file it with administration. The requested leave of absence will be considered on the basis of the student's prior academic performance and gravity of situation. If a refund or credit on paid tuition fees is due, the amount refunded or credited is computed with reference to the last date of attendance.

Undergraduate students who are absent from AUA for more than one academic semester will be reinstated according to the rules, regulations and graduation requirements of the current bulletin. Students who officially transfer to another institution and wish to return must apply for regular transfer admission through the Office of Admissions.

Mid-Term and Final Examinations

Mid-term and Final examinations are required in most undergraduate courses and are given during the scheduled examination period specified in the academic calendar. No student who fails a course is allowed to take a second Final examination until he/she has repeated the course.

Supplementary (Make-Up) Examinations

Supplementary examinations awarded on medical or compassionate grounds of an extraordinary nature are entirely at the discretion of AUA administration.

Standards of Satisfactory (SSP)

All students, full- or part-time, at ***The American University of Athens*** must meet the following minimum standards of academic progress and successful course completion. In order for a student to graduate from AUA, all courses must be successfully completed with a minimum GPA of 2.00 or higher for the entire curriculum as well as the required courses of the concentration. There is no effect on the standards of satisfactory progress of satisfactory/unsatisfactory and remedial courses.

Leaves of Absence

Time for an approved leave of absence will not be included in the calculation of a student's maximum program length.

Remediation

Remedial courses are not included in a student's program of study and therefore will not affect satisfactory progress.

Maximum Degree Completion Time

The maximum time frame in which a full-time student at ***The American University of Athens*** is permitted to complete his/her baccalaureate degree is six years in regular status - 1.5 times the normal program length. The maximum time frame for a part-time student at AUA is adjusted accordingly. For example, one extra semester is granted to the student who has been studying part-time for two academic semesters. Students who fail to complete requirements will be dismissed from AUA. An approved leave of absence may justify the maximum program length such as male students fulfilling military requirements.

Evaluation Points

A student's progress will be evaluated at the end of each academic year, and when the student has reached the 25% and 50% points of the maximum program length, and at 100% of maximum program length, and at the end of maximum program length (anticipated graduation).

Satisfactory Progress Table

A student must achieve the following grade point averages (GPA) and have successfully completed the following percentages of the total semester credit hours (based on the maximum program length) at the specified evaluation points in order to maintain the status of regular student.

Continued Matriculation

Continued matriculation in a program of study as a regular student cannot be granted to a student who fails to meet either minimum academic achievement (GPA) or successful course completion of graduation course credit requirements at 50% of maximum program length evaluation points. However, a student may continue as a non-regular student despite dismissal as long as certain conditions are met.

Probation

A student is placed on probation if his/her GPA, or successful course completion rate, at the evaluation points are just above the GPA requirements and the minimum completion percentage requirements. Students who fail to meet the published standards at 25% of the maximum time frame or at the end of each academic year, assuming the end of an academic year does not coincide with a mandatory dismissal point, are placed on probation. A warning letter is sent out to all students on probationary status. All students placed on probation will be provided special academic tutoring upon request. A student may remain on probation for a maximum of one academic year, including Winter Intersession and Summer Sessions I and II.

A student is placed on probation according to the following table:

Required Evaluation Point:	**Minimum Cumulative GPA**	**Minimum Successful Course Completion % of Courses Attempted**
** 25% of maximum time frame	1.25	55%
*** 50% of maximum time frame	1.5	60%
* 100% of maximum time frame	2.0	
** End of first academic year	2.0	
*** Each subsequent academic year	2.0	

* A minimum 2.00 GPA is required as well in the required courses of the concentration.
** Student not meeting standards does not have to be placed on a non-regular status; probation required.
*** Student may no longer remain on probation. Student is placed on a non-regular status.

Continuation as a Non-Regular Student

A student may no longer continue at AUA as a regular student if he/she fails at the 50% evaluation point to meet either the minimum academic achievement or successful course completion. However, the student may continue as a non-regular student for a period not greater than one academic year (including Winter Intersession and Summer Sessions I and II), and retake courses in which he/she has failed. If at the end of the academic year of the non- regular status the student has not achieved the requirements stated in the section "Reinstatement as a Regular Student" he/she will be dismissed from the respective department with no right of reinstatement.

During the non-regular status, the student pays tuition consistent with the stated tuition fees and earns credits in order to once again meet the satisfactory academic requirements.

Course Repetitions

The grades of a student may be substituted in place of prior course failures in determining the student's GPA. A student may have no more than six (6) "FR's" on his/her academic record signifying that the grade of "F", "UW" or "NC" in a course which was repeated successfully during probationary or non-regular status is not calculated in the student's cumulative grade point average.

Incompletes, withdrawals, course repetitions and failing grades are included in the calculation of satisfactory progress. Leaves of absence are not.

Reinstatement as a Regular Student

The American University of Athens' reinstatement policy provides for the recalculation of the student's GPA if the student, during the non-regular status, has successfully retaken courses previously failed and/or other courses. A student may be reinstated as a regular student if the following requirements are met:

* The student has an overall GPA of at least 2.00 and a successful course completion percentage of 60%.
* At least one Summer Session or a Winter Intersession has elapsed, as applicable.
* The academic advisor has determined that the student has the academic ability and motivation to make satisfactory progress.
* The student will be placed on probation for a period of one academic semester.

Mitigating Circumstances

A student with a serious or chronic illness, a family crisis, or other exceptional circumstances beyond the student's control may be granted leave of absence and/or deferred satisfactory standards for a specified interval. Requests for an exception to the standards of satisfactory progress for mitigating circumstances must be submitted in writing to the President.

Application of Standards

Satisfactory progress standards are applicable to all part-time and full-time students who are enrolled in the standard program.

Appeals

Students in disagreement with the utilization and determination of these satisfactory progress standards may request in writing the problem to be discussed at an AUA Council Committee meeting.

Change of Programs of Studies

A change of program of studies must be approved by the AUA Academic Council Committee. The six-year time frame is calculated from the initial date of enrolment at AUA. Academic rules and regulations as well as graduation requirements in the current bulletin will be applied. The student's tuition, however, will not be affected. If approval is granted the credits and grades earned by the student in order to fulfil the General Education requirements are transferred to the new department and calculated in the GPA.

Concentrations or other courses in which the student has received grades of at least "C" or above may also be transferred as an "S" (satisfactory) and may be counted in fulfilling general electives and/or required courses. Transfer hours, however, in these courses are not included in determining the student's overall GPA. For a student to be able to change his/her program of studies, he/she must have a new overall GPA of 2.00 or above. If, however, a student's new overall GPA is below 2.00, conditional acceptance may be granted for one semester only upon completion of which the GPA should be at least 2.00 or above.

REQUIREMENTS FOR THE DEGREE

B.A., B.S., B.S. IN BUSINESS ADMINISTRATION

In order to qualify for a degree a student must:

i) Complete 140 semester credit hours of coursework.
ii) Complete the graduation requirements for full-time students within a maximum time frame of six years.
iii) Attain a minimum grade point average of 2.00 for the entire curriculum.
iv) Attain a minimum grade point average of 2.00 in the required courses in the concentration.
v) Complete all required courses in the concentration.
vi) Fulfil the English Language Exit Test requirement stated by AUA.
vii) Complete the General Education requirements stated by AUA.
viii) Complete the Dialog Information Retrieval Service Seminar (CIS 1100).
ix) Complete the Career Orientation Seminar (HRM 4999).
x) Complete an "Application for Graduation" form, which will place the student's name on the graduation list at the beginning of his/her final academic year.

A student continuously enrolled with no interruption of academic program longer than one semester is expected to fulfil the requirements of the curriculum at the time of admission to AUA. A student not continuously enrolled, with an interruption of more than one academic semester, is expected to meet the requirements current at the time of readmission.

Combined Bachelor's and Master's Degree

A student admitted to a combined Bachelor's and Master's program (involving tentative admission to graduate standing so that both a Bachelor's and Master's degree may be earned as a result of a planned program of studies during the junior and senior year of studies) must follow a prescribed program of work. Students will be admitted to a combined program at two levels, one for the undergraduate degree and one for the graduate degree.

Tuition and fees will be paid on the basis of the level at which the student is currently registered. When the student has completed the requirements for a Bachelor's degree and has been admitted to the graduate portion of the program, tuition and fees will be charged at the graduate rate. Students are required to complete the graduation application process once for the Bachelor's and once for the Master's degree.

President's Honor Roll

The President's Honor Roll includes those full-time students who have attained the highest possible scholastic achievement (4.00) for the academic year. Students on the President's Honor Roll are permitted to carry one course per academic semester, free of charge, in excess of the normal course load.

Dean's List

The Dean's List includes those full-time students who have achieved a grade point average of 3.50 or higher for the whole academic year (September to May). Students on the Dean's List are permitted to carry one course per semester, free of charge, in excess of the normal academic course load.

Honors

Honors are awarded at graduation for superior scholastic attainment. Students will be recommended for honors if, in addition to satisfying all other requirements for the degree, they have completed a minimum of 60 semester credit hours in residence and have earned the required grade point average. Cum Laude requires a grade point average of at least 3.30. Magna Cum Laude requires a grade point average of at least 3.50. Summa Cum Laude requires a grade point average of at least 3.80.

Student Responsibility

It is the student's responsibility to understand all requirements for graduation in the chosen field of study and to keep abreast of AUA current policies and procedures in order to comply effectively.

Integrity of Scholarship

Honesty in all academic work is expected from every student. This means that each student should submit his/her own answers to all class work, quizzes, and examinations without help from any source not approved by the instructor. Written material is to be the student's original composition. Appropriate credit must be given for outside sources from which ideas, language, or quotations are derived.

Transcripts

To request an academic transcript of grades and coursework, a student should submit a "Transcript Request" form to the Office of Academic Records. Transcripts are mailed approximately two weeks after receipt of the request.

Petitions

A student may seek variance from an academic regulation by submitting a petition to his/her respective academic department. To be granted, the petition must be approved by AUA administration. The Office of the President will then issue the approval.

AUA's Grievance Policy

First Step: Anyone with a grievance or complaint may request an individual conference with the instructor or staff member to discuss the matter.

Second Step: If a satisfactory resolution to the problem is not reached, the aggrieved party should seek guidance from the department Chairperson.

Third Step: If the second step has not resolved the grievance, the aggrieved party should seek guidance from the Academic Dean or Provost, if it is an academic issue. Otherwise, the aggrieved party should proceed to step four.

Fourth Step: If the previous steps have not resolved the grievance within 48 hours of the incident, the aggrieved party must present to the President, in writing, all the facts of the grievance.

Within 24 hours, upon receipt of the written information, the President will schedule a Grievance Committee hearing. The time of the meeting will be communicated in writing to all parties. The Committee will consist of the President, the Academic Dean, the Provost, and two staff or faculty members not involved with the incident in question.

All persons, or their representatives, involved with the incident must be present at the time of the hearing. All parties involved will be given the opportunity to discuss the grievance. The Grievance Committee will excuse all parties involved in the grievance and immediately review and conclude the case. The decision of the Committee will be communicated to those involved in the incident within 48 hours. The Committee's decision will be final.

Counseling Services

AUA years are years of growth, change, major transition, and often bring with them concerns that are not easily or quickly settled. Students may sometimes be confronted with very real questions about themselves, relationships with other people, fields of study and future occupations, and lifetime goals.

By providing a variety of programs and services, the counsellors work with students to clarify questions, and formulate meaningful solutions to their concerns. Counseling services, which are offered on an individual and group basis, are available without cost to all AUA students and include:

* Academic Counseling Services: Educational development and planning as well as assistance in choosing a concentration.
* Personal Counseling Services: Personal development and understanding of self, social and family relationships as well as evaluation of long-term goals.
* Career Planning and Placement Services: The Office of Career Planning and Placement (CPPO) assist students in clarifying their career choices, defining their job-search strategies, and pursuing challenging employment opportunities. The CPPO is totally committed to supporting student job efforts and working with students as partners focused on developing challenging lifetime careers.
* The CPPO offers career forums where corporate representatives interview students on campus and provide them with specific information about individual firms, industries, functional areas, and career opportunities.
* The Career Planning and Placement Office services at AUA also include developing top-notch resume writing and interviewing skills. AUA offers workshops, written guides and, most importantly, individual work on each student's resume.

Student Representative Council (SRC)

This is the governing body of the Student Association which acts on behalf of the students, recommends changes and refers problems to the appropriate heads.

Veteran's Benefits

The American University of Athens' degree programs are approved for the enrollment of veterans (and eligible dependents of deceased or disabled veterans) for educational benefits under the various federal laws relating to veterans.

Veterans entering AUA must file a Veterans Application for VA Educational Benefits (22-1990) with a certified copy of DD-214 via the Office of Records.

Transfer students who have received VA educational benefits at another institution and wish to receive VA benefits for the first time at ***The American University of Athens*** should file a request for Change of Program or Place of Training (22-1995) with the Office of Records.

This form will be sent to the VA with the Enrollment Certification (22-1999). Continuing students must file ***The American University of Athens*** VA claim card for educational benefits each semester with the Office of Records.

Student Life

The American University of Athens encourages students to synthesize their academic goals and personal experience and, in so doing, to develop their potential to the fullest extent. To this end AUA provides a broad spectrum of extracurricular activities whose purpose is to help the student develop curriculum-related skills, study and research skills, analytical and critical thinking skills, effective use of leisure time as well as social and leadership abilities.

Organizations which make this truly possible include the Debating Society, the Political Science Association, the Psychology Association, the Environmental Association, the Thespian Society, the Drama Club, the Creative Writing Club, the Journalism Association, the Public Relations Association, the Photography Club, the Business Association, the Senior Yearbook Club and the Parliamentary Debating Society.

Address Change

Students must notify the Office of Records of any home address and/or telephone number change by completing the appropriate form.

Release of Student Information

The American University of Athens adheres to the belief that information contained in student education records is privileged and as such should not be released to third parties except at the request of the student.

Students have the right to see their own records. If a student finds these records in any way inaccurate, misleading or inappropriate, the student can ask for a hearing with the Academic Council. Information may be released to the parents of students without the consent of the student if it can be proven that the student is financially dependent on the parents. AUA will not give out information concerning a student's address and telephone number unless directed to do so by the student at the start of each semester.

AUA's Policy on Drugs

AUA will not condone violation of the law, including violation of laws concerning the possession, use, sale or distribution of drugs. Administrative action, including dismissal, may be taken to protect the interests of AUA. Smoking in classes is prohibited and is allowed only in certain designated areas.

Equal Opportunity

The American University of Athens' policy prohibits discrimination on the basis of race, color, national or ethnic origin, religion, sex, age, handicapped and veteran status. This policy extends to all rights, privileges, programs and activities, including admission, work-study programs, financial assistance, educational and athletic programs.

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 AUA, 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. Refunds will be made in a timely manner within 30 days of the determination of the last day of attendance, monitored on a daily basis by AUA administration. Tuition and fees will be refunded to students withdrawing 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 €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 Intersession/Summer Session as follows:

Time of Withdrawal	Percentage of Tuition and Fees Refundable
Before classes start	100% less €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%

On the basis of the €4,450 tuition for 12 to 15 or 12 to 16 (Engineering Science) semester credit hours, refunds are calculated on the remaining registered credit hours below 12.
- Example I**:** A student who is registered for 15 semester credit hours and withdraws from one three-credit course is not entitled to a refund as the remaining credit hours total 12.
- Example II**:** A student who is registered for 15 semester credit hours and withdraws from one four-credit course is entitled to a refund for one semester credit hour as the remaining credit hours total 11.

Students who withdraw with an unpaid balance will be financially liable for any amount remaining unpaid after a refund credit has been applied to the balance.

Pro Rata Refund for New Students

A pro rata refund is a refund by the institution to a student attending such institution for the first time, not less than that portion of the tuition (plus fees) equal to the portion of the period of enrolment (for which the student has been charged) that remains on the last day of attendance by the student, rounded downward to the nearest 10% of that period. AUA may subtract a reasonable administrative fee that does not exceed 5% of the registration (plus fees) or €120, whichever is less. (Notice that €120 is 5% of a12-credit undergraduate semester tuition).

Identification Cards

All AUA students are issued an I.D. card which they are obliged to present upon request. A student is entitled to a new card only when there are changes in information. I.D. cards are validated each semester at the Office of Student Accounts.

FINANCIAL ASSISTANCE

Work-Study Program

The American University of Athens offers an arrangement of financial assistance to full-time students through work-study programs. Students are evaluated on the basis of:

*** Financial need**
*** Satisfactory academic progress**
*** Seniority**
*** Coincidence of student's hours with respective departmental needs**

Only students who have completed the first semester of their studies are eligible.
Successful candidates will earn 40% of their semester tuition fees through completion of a 20-hour weekly work schedule during the 15-week semester. When a work-study recipient has completed an excess of the number of hours required in the program, contingent to the needs of the department and upon special permission of his or her academic advisor and the Financial Assistance Officer, he/she is entitled to a greater percentage than 40% of their semester tuition. The proportionate percentage will be determined by the excess numbers worked. A Work-Hour Check-In list will be developed to this effect and submitted to the Office of Student Accounts for follow-up.

How to apply

To receive priority consideration, students interested in applying for a work-study program must submit an application at the beginning of each semester. The application should be given to the Admissions Office no later than 15 days after the start of classes. A continuing student is eligible to reapply if he/she has a cumulative GPA of at least 2.21.

Continuance of financial assistance through the work-study program is dependent upon completion and submission of a renewal application at the beginning of each semester. Inquiries can be made at the Admissions Office for further information and for work-study application forms.

Scholarships

The American University of Athens awards annually several four-year scholarships to freshman students enrolled in a full-time program based upon their academic excellence. These scholarships cover tuition fees of the regular Fall and Spring semesters and not the Winter Intersession or Summer Sessions.

How to apply

Applications for each of the following scholarships are available at the AUA Office of Scholarships and should be submitted as soon as possible, but no later than the indicated deadline date.

AUA Academic Scholarships

To be eligible for consideration for an AUA scholarship, a candidate must be enrolled as a full-time student in an undergraduate program. Academic scholarships are not granted on a need basis but are based on academic excellence. They are annually renewable based on full- time enrollment and satisfactory academic progress.

AUA scholarships are awarded to first time university students based on high school grades.

Source	This scholarship was established by a special fund: ***The American University of Athens Scholarship Fund.***
Terms	Applicants must submit high school grades (average of the last two years).

Application Procedure	An applicant must apply to the AUA Office of Scholarships with the following documents: High School Leaving Certificate, equivalent to the Greek APOLYTERION, (6-year secondary education as per table for admissions at AUA).
Deadline Dates	Not applicable
Number of Scholarships	Not applicable
Volume of Scholarships	Full tuition fees for the Fall and Spring semesters which as of the academic year 2011-2012 are € 10,220 for a full-time academic load for each semester of up to 15 credit hours.
Basis for Selection	The selection of the successful applicant will take place based on academic excellence and performance in the AUA Placement Test. The applicants with the highest average grade on their high school leaving certificate will be chosen.

A student to whom a scholarship is awarded must maintain a regular status in his/her records' evaluation points with a G.P.A. of 3.00 in order to retain it for the period of four years (which is the maximum period of award).

GENERAL ACADEMIC INFORMATION AND COURSES OF INSTRUCTION

Course Numbering System

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

1xxx	**First-year courses, usually without any prerequisite(s).**
2xxx	**Courses usually taken during the 2nd year.**
3xxx	**Third-year courses, usually with prerequisite(s).**
4xxx	**Fourth-year courses.**

An undergraduate student may not normally enroll in an upper level course, one numbered above 3000, unless he/she has junior standing.

Degrees Awarded

Bachelor of Science in Business Administration: All Business Concentrations.
Bachelor of Science: Computer Sciences, Engineering, Natural Sciences and Mathematics Concentrations.
Bachelor of Arts: Humanities, Social Sciences, Communication, Arts and Visual Arts Concentrations.

Engineering Science Laboratory Courses

AUA students enrolled in Engineering Science courses requiring labs must take theory and labs. If a student receives a "UW" or an "F" in a lab then the "UW" or "F" applies to the whole course and vice versa.

English Language Exit Test (ELT 1000)

Students at ***The American University of Athens*** should take the AUA English Language Exit Examination upon completion of the EN 2012 (English Language in Literature) course. In order to successfully pass, students must earn a passing score in each section of the examination. Students not passing the exam will not be awarded junior standing and will be required to take an additional remedial English course (EN 1000 or EN 1001), especially designed to assist them in passing the Exit Examination. No credits will be awarded for EN 1000 or EN 1001.

Information Retrieval Service Seminar (CIS 1100)

The Dialog Information Retrieval Service Seminar is an on-line system providing data in abstract, bibliographical, full-text and numerical forms. With over 450 databases worldwide, students will master search strategies and be able to explore their own field of study. They will learn to analyze queries and perform literature searches, using a modem and computer terminal.

Students at ***The American University of Athens*** are required to successfully complete this seminar course (including both lectures and labs) which can be taken during the freshman year. In order for a student to be awarded junior status, he/she must have passed this course. This course will be graded on the basis of "Satisfactory / Unsatisfactory". Students will be assessed a charge equivalent to two credits. This seminar must be taken during the third semester of study.

Independent Study

An Independent Study is intended for students with strong academic records or a strong professional background, who seek to develop more fully an individual project or research

creative work. Such study may result in a major work such as a thesis, extended project or an assignment containing at least 2000 words or 40 pages. Permission for an independent study is granted by approved committees and the work must be planned with a member of the faculty, who will provide supervision and advice.

Career Orientation Seminar (HRM 4999)

A mandatory 15-hour course seminar to be completed during the senior or junior year. Students will become prepared to deal with the employment search. They will learn to intelligently and objectively plan the first five years of their careers; to develop work attitudes sought by employers; to prepare an effective resume; and how to present themselves before, during and after an interview. Students will be assessed a charge equivalent to one credit.

GENERAL EDUCATION REQUIREMENTS

All students enrolled in a four-year Bachelor's degree program are required to complete 36-39 semester credit hours (12 courses) of General Education courses designed to improve the overall basic education of the student. The only restriction is that a student should not select a course from his area of concentration to meet these requirements. For example, a student with a Psychology concentration may not take psychology courses to fulfil the Social Sciences General Education requirement. The following areas comprise the General Education requirements:

A. **English** (9 semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	English Language in Literature

Note: The requirement is three courses. Students scoring very high on the placement test may start at EN 1102 or EN 2012 and simply substitute an English literature course listed in this section in place of EN 1100 or EN 1102.

B. **Mathematics** (3 semester credit hours)

MA 1108	College Algebra
MA 1123*	Calculus I

Note: Students scoring very high on the placement test may substitute either a higher-level math course or any other course listed in this section. Business math courses are not a substitute.

* The Mathematics requirement only for Computer Sciences, Natural Sciences, and Engineering students fulfilling the General Education requirements.

C. **Natural Sciences** (6 semester credit hours)

Choose any two

BIO 1011	Introductory Biology for Non-science Majors I
BIO 1012	Introductory Biology for Non-science Majors II
CH 1013	General Chemistry for Non-science Majors
PY 1108	College Physics
CH 1101+	General Chemistry I
PY 1211*	General Physics I or
BIO1101*	Introductory Biology for Science Majors

+ The Natural Sciences requirement for students taking an additional chemistry course.

* The Natural Sciences requirement only for Computer Sciences, Natural Sciences and Engineering students fulfilling the General Education requirements.

D. **Social Sciences** (9 semester credit hours)

Three courses: choose two from one area and one from a second area.

1. History

HIS 1039, 1040	European Civilization in Its World Context
HIS 1071, 1072	Introduction to American History
HIS 2108	Early Aegean and Greek Civilizations to 338 B.C.
HIS 2109	Greece and the Near East, 359 B.C. to the Second Century A.D.
HIS 2110	The Roman World to 337 A.D.

2. Psychology

PSY 1001	Introduction to Psychology
PSY 2022	Educational Psychology
PSY 2129	Theories of Personality
PSY 2145	The Psychology of Women

3. Political Science

SC 1001	Scope and Methods of Political Science
PSC 2002	Introduction to American Politics and Government

4. Sociology

SOC 1001	Introductory Sociology
SOC 2101	Development of Social Thought
SOC 2131	Women in Society

E. Humanities (9 semester credit hours)
Three courses: choose one from three of the following areas:

1. English Literature

ENG 1051	Introduction to English Literature
ENG 1071	Introduction to American Literature
ENG 2140	Modern Women Writers

2. Philosophy

PHI 1050	Introduction to Philosophy
PHI 2111	History of Ancient Philosophy
PHI 2112	History of Modern Philosophy

3. Classics

CLA 1013, 1014	Homer: *The Iliad*, Homer: *The Odyssey*
CLA 2071	Greek Literature and Civilization

4. Art History and Archaeology

ARC 1100	Introduction to and History of Archaeology
AH 1031, 1032	Survey of Western Art I, II
ARC 2101	Greek Art and Archaeology
ARC 2102	Roman Art and Archaeology

5. Arts Studies

ART 1001	Principles of Art
ART 1041, 1042	Drawing I, II
ART 1061, 1062	Watercolor I
ART 1065, 1066	Painting I
ART 1130	Principles of Color
DES 1021	Design I Basic
DES 1022	Design II Basic
PHO 1023	Photography: Introduction
PHO 2025	Darkroom Printing
PHO 2181	Introduction to Color Photography

SCHOOL OF BUSINESS ADMINISTRATION

DEPARTMENTS: **Department of Accounting, Finance and Economics**
Department of Management
Department of Marketing and General Business

Mission and Objectives

The mission of the Business Administration curricula is to provide an online and/or open learning educational opportunity for a broad spectrum of students so that they may develop the necessary skills to become effective members of the business communities in Europe, especially Southeastern Europe, and thus prepare them for meaningful and productive roles in society. The primary objective of the Business Administration curricula is to provide a comprehensive program of traditional and continuing education normally leading to undergraduate degrees in business. The various programs provide an environment within which the individual student can develop his/her potential. Additionally, the programs aim to serve the needs of the local, national, European, and multinational business firms and organizations comprising the Southeastern Europe business community.

Objectives for students in business administration include development of:

- Up-to-date knowledge of specific business applications necessary for serving the Southeastern Europe business community in a professional manner.
- Critical ability in managerial decision-making.
- An understanding of human relations enabling effective interpersonal communication in an organizational setting:
- A mature understanding of the historical and contemporary, economic, social, and cultural environment of our international society and the ability to integrate and apply its understanding to the solution of both business and social problems.
- Mature ability to think critically yet with an active intellectual curiosity.
- A combination of skills and motivation required to respond effectively to a fast-changing technological and professional world.

UNDERGRADUATE BUSINESS PROGRAM

The undergraduate business program is divided into three departments, all offering a Bachelor's degree in Business Administration with various concentrations available within the departments as follows:

ACCOUNTING, FINANCE AND ECONOMICS DEPARTMENT:

*** Accounting**
*** Economics**
*** Finance**

MANAGEMENT DEPARTMENT:

*** Management**
*** Management Science and Quantitative Methods**
*** Hotel Management**
*** Shipping Management**
*** Marine Operations Management**
*** Travel and Tourism Management**
*** Human Resource Management**
*** Real Estate Management**

MARKETING AND GENERAL BUSINESS DEPARTMENT:

*** Marketing**
*** General Business**
*** International Business**

Each program includes the General Education requirements outlined on page 34 and a solid core of business courses in addition to the concentration area. Each concentration leads to the degree of Bachelor of Science in Business Administration and is available to both full-time and part-time students through day and evening classes.

A minimum of one hundred and twenty-nine (129) semester hours of appropriate academic credit is required for a B.S. degree in all business concentrations. A minimum of thirty-three (33) semester credit hours of the student's total program must be completed in business courses numbered 3000 or above. In addition, all concentration requirements and elective distributions must be satisfied.

In order to graduate, a student must maintain a 2.00 cumulative grade point average as well as a 2.00 grade point average for each of the major courses.

Course of Study for Freshmen Students

A typical schedule in the freshman year for a business concentration includes English, Humanities and Social Sciences electives and some introductory business courses. The following freshman year curriculum is common to all business programs.

BAD 1100	**Business Communication**
BAD 1251	**Introduction to Business**
CIS 1230	**Introduction to Computing**
CIS 1238	**Computer Concepts and Applications**
EN 1100, 1102	**English Composition and Rhetoric I, II** (Some students will start with a higher or lower English course depending on their score on the placement test)
MA 1108	**College Algebra and Trigonometry** (Math level may also vary depending on placement results)
MA 1111, 1112	**Calculus for Business and Economics I, II**
SOC 1001	**Introduction to Sociology**
	An elective in the area of Humanities

EIGHT-SEMESTER PLAN FOR ALL BUSINESS DEPARTMENTS

FIRST YEAR

Semester One	Semester Two
BAD 1100 Business Communication	BAD 1251 Introduction to Business
CIS 1230 Introduction to Computing	CIS 1238 Computer Concepts and Applications
EN 1100 English Composition and Rhetoric	EN 1102 English Composition and Rhetoric II MA
1108 College Algebra and Trigonometry MA	1111 Calculus for Business and Economics I
Humanities Elective I	SOC 1001 Introduction to Sociology

SECOND YEAR

Semester One	Semester Two
AC 2101 Principles of Accounting I	AC 2102 Principles of Accounting II
EN 2012 Language in Literature	MAN 2101 Principles of Management
MA 1112 Calculus for Business Humanities and Economics II	Humanities Elective I
MK 1101 Principles of Marketing	Humanities Elective III
PSY 1001 Introduction to Psychology	Natural Sciences II
Natural Sciences I	Social Sciences Elective

THIRD YEAR

Semester One	Semester Two
AC 3207 Financial or Managerial	BL 3101 Legal Aspects of Business or
3208 Accounting	EC 2206 Principles of Economics II EC
2205 Principles of Economics I	QM 2204 Statistics II
FIN 2214 Corporation Finance	Course in Concentration III
QM 2203 Statistics I	Course in Concentration IV
Course in Concentration I	
Course in Concentration II	

FOURTH YEAR

Semester One	Semester Two
EC 3302 Industrial Organization	PHI 3135 Ethics in Business and the Professions
Course in Concentration V	Course in Concentration VII
Course in Concentration VI	Course in Concentration VIII
General Elective I	General Elective III
General Elective II	General Elective IV

Note: General Elective courses can also be used towards a minor.

ACCOUNTING, ECONOMICS AND FINANCE DEPARTMENT

CONCENTRATIONS: Accounting
Finance
Economics

The course of study for an Accounting concentration is designed to provide a good working knowledge of accounting needed for careers in a broad range of positions in commercial, industrial, public, and institutional organizations. The combination of training in accounting, managerial subjects, and the arts and sciences prepare the student for potential advancement to positions of administrative and managerial responsibility. A judicious selection of elective courses should enable students to strengthen their specific fields of interest and prepare Accounting majors to enter the CPA profession.

The Economics concentration within the Business Administration area offers the student an insight into many of the world's most pressing problems which are economic in nature, such as international trade and protectionism, unemployment and inflation, deficits and governmental and individual debt. The courses offered enable the student to orientate their education in economics towards an understanding of today's European Union policies as they apply to the fields of political science, public administration, law and finance, as well as helping the individual to deal effectively with economic problems confronted in today's complex world. The electives offered will allow the student to specialize in accordance with his or her own talents and interests.

The Finance concentration has as its goal the preparation of the student to understand and react to the financial environment of a dynamic world economy. The program has been designed to enable the student to interact with the international investment and financial markets including capital markets, money markets, and corporate wealth maximization. With the help of an academic advisor, the student may choose from a variety of specialized fields of study including corporate financial management, planning and forecasting financial needs, and investments and macroeconomic analysis. The electives available enable the student to enlarge his/her scope to pursue individual goals.

The department awards the degree of Bachelor of Science in Business Administration in each of its concentrations upon completion of one hundred and twenty-nine (129) semester credit hours.

Accounting

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
MA 1108 (or higher)	College Algebra and Trigonometry
PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
	Social Sciences Elective (3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course from those listed on page 34 of the bulletin.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects to Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

AC 3305*	Intermediate Accounting I
AC 3306*	Intermediate Accounting II
AC 3309*	Cost Accounting
AC 4413	Fundamental Concepts of Taxation
AC 4419*	Auditing
AC 4421	Advanced Accounting
AC xxxx	Accounting Elective
FIN 3324*	Budgeting

* Courses required for a minor in this area – 15 semester credit hours

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I and II
PHI 3135	Ethics in Business and the Professions

General Electives (12 semester credit hours)

Economics

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
MA 1108 (or higher)	College Algebra and Trigonometry
	Social Sciences Elective (3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course from those listed on page 34 of the bulletin.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

EC 3221*	Money and Banking
EC 3305*	Intermediate Macroeconomics
EC 3306*	Intermediate Microeconomics
EC 3355*	Public Finance
EC 4402	Forecasting and Model Building
EC 4416*	Concepts in Managerial Economics
EC 4490	Economics Seminar
EC 3xxx or 4xxx	Economics Elective

* Courses required for a minor in this area – 15 semester credit hours

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I and II
PHI 3135	Ethics in Business and the Professions

General Electives (**12** semester credit hours)

Finance

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
MA 1108	College Algebra and Trigonometry
	Social Sciences Elective (3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course from those listed on page 34 of the bulletin.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

EC 3221*	Money and Banking
EC 3355*	Public Finance
FIN 3300*	Insurance and Risk
FIN 3317*	Investments
FIN 3324*	Budgeting
FIN 3350	Advanced Corporation Finance
FIN 3371*	International Business Finance
FIN xxx	Finance Elective

*Courses required for a minor in this area – 15 semester credit hours

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I, and II
PHI 3135	Ethics in Business and the Professions

General Electives (**12** semester credit hours)

MANAGEMENT DEPARTMENT

CONCENTRATIONS: Management
Hotel Management
Shipping Management
Marine Operations Management
Travel and Tourism Management
Management Science and Quantitative Methods
Human Resource Management
Real Estate Management

The **Management** concentration focuses on the modern-day business reality: matching the student's skills and competencies with what companies require today in Greece and Southeastern Europe at large. Our curriculum, while stressing the importance of the analytical number-crunching case study analysis of the 1980's, prepares each graduate to become a business leader in team leadership, interpersonal effectiveness, and team-player effectiveness of the 1990's. For this reason, in a rapidly changing business world, this program is centered on "soft" skills such as team building, cross-functional, integrative and technology-friendly management.

A student earning a degree with a concentration in **Hotel Management** is able to focus on the development of those managerial skills, abilities, and competencies essential to all professional managers, with specific concentration on those characteristics needed for managing hotels, restaurants and related operations. This program includes an internship.

The purpose of the **Shipping Management** concentration is to provide undergraduate students with a basic understanding of shipping industry operations. The program emphasizes the skills and competencies needed for careers in shipping management and operation. The curriculum is designed to develop a general background for professional growth in shipping and requires an internship to complete the program. A shipping minor is also available.

A student with a concentration in **Travel and Tourism Management** studies the patterns that have shaped the development of the tourism and travel industry. Students receive field experience opportunities at travel agencies, airlines and convention bureaus throughout Greece, Switzerland or France. Students enrolled in this concentration are encouraged to choose a minor in political science, psychology, sociology or international courses in business and to take four semesters of a single language. An internship is required.

The **Management Science and Quantitative Methods** concentration focuses on the quantitative school of management. The program includes courses in the area of statistical methods used for quality control, forecasting, and modeling. Students must complete higher level mathematics courses in order to meet the prerequisites in the program. Students with this concentration are trained for careers in the areas of operations research, quantitative methods, or management of large operations with companies and organizations operating in the Southeastern Europe area. The program should also be considered for students interested in the area of marketing research. By a careful selection of electives, it is also possible for students to improve their behavioral or integrative and decision-making skills.

The **Human Resource Management** concentration focuses on the behavioral school of management and is concerned with people as the basic asset of an organization. Putting human resources and capital together in the right mix is the fundamental task of the manager. The primary focus of this concentration is to assist the student in acquiring the knowledge and skills necessary to develop improved manpower, planning, staffing, compensation and personnel evaluation programs and procedures. Graduates in the Human Resource Management area should be prepared to take a modern behavioral approach to structural, organizational, communication, leadership and motivational problems affecting companies and organizations operating in the Southeastern Europe area.

The **Marine Operations Management Program** offers:

a) To build upon the student's nautical knowledge and provide them with a sound understanding of the principles of management and their application in the core functional areas of the commercial maritime industry including operation, safety and finance.
b) To develop the graduate skills of managing time and resources effectively
c) To develop technical, personal, and managerial qualities required of a ship's officer and a senior manager ashore.
d) Provide an education that will enable graduating students to respond to varied employment opportunities both afloat and ashore.

The **Real Estate Program** has been designed to serve the needs of the real estate industry internationally. There are many opportunities for individuals interested in pursuing a career in wide variety of specialties, such as Trading Services (Sales), Rental Property Management, Appraisal Mortgage Financing, Commercial Trading Services and Leasing Land Development, Counselling and Research.

The department awards the degree of Bachelor of Science in Business Administration in each of its concentrations upon completion of one hundred and twenty-nine (129) semester credit hours.

Management

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
MA 1108 (or higher)	College Algebra and Trigonometry
	Social Sciences Elective (3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

MAN 2204*	Organizational Behavior
MAN 3308	Labor Relations
MAN 3315	Organization Theory
MAN 3317*	Operations Management
MAN 4413*	Business Policies and Organization
MAN 4423*	Personnel Administration
MAN 3 or 4xxx	Management Elective
QM 3316*	Management Science

*courses required for a minor in this area – 15 semester credit hours

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I and II
PHI 3135	Ethics in Business and the Professions

General Electives (**12** semester credit hours).

Hotel Management

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
MA 1108 (or higher)	College Algebra and Trigonometry
	Social Sciences Elective (3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

HMN 2201*	Introduction to Hotel Management
HMN 2210	Hospitality Management
HMN 3326	Personnel Administration for the Hospitality Industry
HMN 3346	Hospitality Marketing
HMN 4412*	Hotel Operation
HMN 4499*	Hotel Management Internship (9 semester credit hours)

*courses required for a minor in this area – 15 semester credit hours

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I and II
PHI 3135	Ethics in Business and the Professions

General Electives (12 semester credit hours).

Shipping Management

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
MA 1108 (or higher)	College Algebra and Trigonometry
	Social Sciences Elective (3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

ML 3301*	Maritime Law
ML 4401*	Marine Insurance
ML 4406*	Collisions, Limitations and Liabilities
SST 3301*	Introduction to Ship Operation and Management
SST 4401*	Advanced Ship Operation
SST 4402	Shipping Internship (9 semester credit hours)

*courses required for a minor in this area – 15 semester credit hours

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I and II
PHI 3135	Ethics in Business and the Professions

General Electives (**12** semester credit hours).

Marine Operations Management

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
MA 1108 (or higher)	College Algebra and Trigonometry
	Social Sciences Elective (3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

MAR 1111	Marine Communications
MAR 1112	Rules of the Nautical Road
MAR 1121	Navigation I Lab
MAR 1122	Damage Control & Safety
MAR 2101-2102	Maritime Technology
MAR 3224	Navigation II
MAR 3231	Electronic Navigation
MAR 4232	Electronic Navigation Lab
MAR 4241	Ship Construction
MAR 4242	Stability
MAR 4244	Dry Cargo Stowage
MAR 4245	Liquid Cargo Stowage
MAR 4901	Project

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I and II
PHI 3135	Ethics in Business and the Professions

General Electives (**12** semester credit hours).

Travel and Tourism Management

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
SOC 1001	Introduction to Sociology
MA 1108 (or higher)	College Algebra and Trigonometry
	Social Sciences Elective (3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

TTM 2210*	Introduction to Travel and Tourism
TTM 2220*	Travel and Tourism Management
TTM 3311*	Marketing Management for Travel Agents
TTM 3321*	Marketing for Tourism
TTM 4411*	Management of International Tourism
TTM 4499	Travel and Tourism Internship (9 semester credit hours)

*courses required for a minor in this area – 15 semester credit hours

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I and II
PHI 3135	Ethics in Business and the Professions

General Electives (**12** semester credit hours).

Management Science and Quantitative Methods

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
MA 1108 (or higher)	College Algebra and Trigonometry
	Social Sciences Elective (3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

EC 4402*	Forecasting and Model Building
ME 4409*	Engineering Economy (4 semester credit hours)
MK 3330*	Marketing Research
MAN 3 or 4xxx	Management Elective
MAN 3 or 4xxx	Management Elective
QM 3308	Statistical Inference
QM 3316*	Management Science
QM 3319*	Statistical Quality
or	
QM 4402	Survey of Operations Research: Stochastic Models

*courses required for a minor in this area – 15 semester credit hours

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I and II
PHI 3135	Ethics in Business and the Professions

General Electives (**12** semester credit hours).

Human Resource Management

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
MA 1108 (or higher)	College Algebra and Trigonometry
	Social Sciences Elective 3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

MAN 2204*	Organizational Behavior
MAN 3308*	Labor Relations
MAN 3311	International Management
MAN 3315	Organization Theory
MAN 3317*	Operations Management
MAN 4423*	Personnel Administration
MAN 4424*	Behavioral Science Seminar
MAN 44xx	Management Elective

*courses required for a minor in this area – 15 semester credit hours

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I, II
PHI 3135	Ethics in Business and the Professions

General Electives (**12** semester credit hours).

Real Estate Management

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
MA 1108 (or higher)	College Algebra and Trigonometry
	Social Sciences Elective 3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

BAD 3101	Urban and Real Estate Economics
BAD 3102	Foundations of Real Estate - Appraisal I
BAD 4101	Real Estate - Investment Analysis & Advanced Income Appraisal
BAD 4102	Residential Property Analysis
BAD 4104	Commercial Property analysis
BAD 4109	Land Use Regulation
BAD 4901	Land Real Estate Finance
BAD 4904	Real Estate Property Law and Ethics

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I, II
PHI 3135	Ethics in Business and the Professions

General Electives (**12** semester credit hours).

MARKETING AND GENERAL BUSINESS DEPARTMENT

CONCENTRATIONS: Marketing
General Business
International Business

Marketing is a basic and dynamic force in today's multinational economy. Given the highly competitive nature of business, it is essential that a company understands and responds to the wants and needs of its multiple markets. Marketing managers must be prepared to meet this challenge and be equipped with every possible skill to enable them to make the right decisions at the appropriate time. Recognizing this, the Marketing concentration at ***The American University of Athens*** emphasizes the decision-making functions involved in a wide range of marketing activities. The program strives to equip the student with the basic marketing tools and techniques and the conceptual skills to apply these elements to a wide range of marketing management problems.

The concentration in General Business provides each student with a thorough exposure to the basic areas of business administration while permitting wide latitude in the selection of additional courses according to specific individual interests. Students will be equipped with an understanding of the techniques needed for administration of companies and organizations operating in the Southeastern Europe area. They will also be able to develop areas of concentration which encompass fields of study that they may wish to explore in greater depth.

The International Business concentration is designed to prepare students to work in the many multinational corporations operating in the Southeastern Europe area. The program provides the student with a solid background in the cultural problems which can be experienced in international finance, economics, marketing and management.

The department awards the degree of Bachelor of Science upon completion of one hundred and twenty-nine (129) semester credit hours.

Marketing

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
MA 1108 (or higher)	College Algebra and Trigonometry
	Social Sciences Elective (3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course from those listed on page 34 of the bulletin.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

MK 2220*	Consumer Behavior
MK 3318*	Advertising Management
MK 3322*	Sales and Sales Management
MK 3330*	Marketing Research
MK 4421*	Marketing Management
MK 4428	Marketing Seminar
MK 3 or 4xxx	Marketing Elective
MK 3 or 4xxx	Marketing Elective

*courses required for a minor in this area – 15 semester credit hours

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I and II
PHI 3135	Ethics in Business and the Professions

General Electives (**12** semester credit hours)

General Business

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
PSY 1001	Introduction to Psychology
SOC 100	Introduction to Sociology
MA 1108 (or higher)	College Algebra and Trigonometry
	Social Sciences Elective (3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course from those listed on page 34 of the bulletin.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the General Business Concentration with a Small Business/ Franchising Focus (**24** semester credit hours)

AC 3208*	Managerial Accounting
CIS 3300*	Management Information Systems
MAN 3317*	Operations Management
MAN 4423*	Personnel Administration
MAN 4495	Small Business/Franchise Project
MAN 4501	Management Theory and Concepts
MK 3322	Sales and Sales Management
MK 3236	New Product Management

*courses required for a minor in this area with a Small Business/Franchising focus

Required Courses for the General Business Concentration with a Large Corporation / Multifunctioning Focus (**24** semester credit hours)

CIS 3300*	Management Information Systems
FIN 3324*	Budgeting
MAN 3315*	Organization Theory
MAN 3317*	Operations Management
MAN 4410	Managing Public Issues
MAN 4423*	Personnel Administration
MK 3359	Marketing Strategic Planning
MK 4411	International Marketing

*courses required for a minor in this area with a Large Corporation/Multifunctioning focus

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I and II
PHI 3135	Ethics in Business and the Professions

General Electives (**12** semester credit hours).

International Business

General Education Requirements (**36** semester credit hours)

EN 1100	English Composition and Rhetoric I
EN 1102	English Composition and Rhetoric II
EN 2012	Language in Literature
PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
MA 1108 (or higher)	College Algebra and Trigonometry
	Social Sciences Elective (3 semester credit hours)
	Humanities Electives (9 semester credit hours)
	Natural Sciences Electives (6 semester credit hours)
	(BIO 1011, BIO 1012, PY 1108, CH 1013)

Note: a student starting with MA 1111 will substitute MA 1108 with any other General Education course from those listed on page 34 of the bulletin.

Required Business Courses (**39** semester credit hours)

AC 2101-2102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
BL 3101	Legal Aspects of Business
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts and Applications
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
QM 2203-2204	Statistics I and II

Required Courses for the Concentration (**24** semester credit hours)

BAD 3360*	International Business
BAD 3371*	International Business Finance
EC 4481*	International Economics I
FIN 3371*	International Business Finance
MAN 2204	Organizational Behavior
MAN 3311*	International Management
MAN 4423	Personnel Administration
MK 4411	International Marketing Management

*courses required for a minor in this area – 15 semester credit hours

Other Required Courses (**18** semester credit hours)

EC 2205-2206	Principles of Economics I and II
EC 3302	Industrial Organization
MA 1111, 1112	Calculus for Business and Economics I and II
PHI 3135	Ethics in Business and the Professions

General Electives (**12** semester credit hours).

OTHER STUDY ARRANGEMENTS

Business Minor

The Business minor is available to ***The American University of Athens*** students who wish to acquire depth of knowledge in an area different from their major field of study. It is not available to students with business concentrations. Students should check with their advisors before pursuing a minor.
The minimum minor requirements are 18 semester credit hours as follows:

AC 2101	Principles of Accounting I
AC 2102	Principles of Accounting II
CIS 1230	Introduction to Computing
or	
MAN 2204	Organizational Behavior (for Engineering students)
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing

Marketing Minor for Public Relations Students

Students in the Liberal Arts curriculum with a concentration in Public Relations may have a minor in Marketing by completing the following additional business courses:

MAN 2204	Organizational Behavior
MAN 4423	Personnel Administration
MK 2220	Consumer Behavior
MK 3318	Advertising Management
MK 3322	Sales and Sales Management
MK 4421	Marketing Management

Course Descriptions

Courses numbered at the 1000 level are intended primarily for freshmen; courses numbered at the 2000 level, for sophomores; and courses at the 3000 and the 4000 levels, for juniors and seniors. Some advanced courses are not taught every year but are scheduled in cycles.

The Business Administration departments reserve the right to limit the number of students registered in any of their courses and to cancel any course for which there is insufficient enrolment. The number in parenthesis after the title of each course indicates semester credit hours of the course.

Accounting (AC)

AC 2101 Principles of Accounting I (3)

An introductory survey course in the theory and practice of accounting principles. The purpose of the course is to provide a foundation of knowledge concerning the flows of financial information in the business enterprise. Emphasis is placed on the conceptual framework involved in the recording, classification, and summarizing of financial statements. It includes practical sessions in the computer lab. Two hours lecture, two hours lab per week.

AC 2102 Principles of Accounting II (3)

Prerequisite: AC 2101. Utilizes the foundation of theory and concepts learned in AC 2101. It provides an introduction to and survey of the role of accounting in partnerships, corporations, long- term debt, and investments. Emphasis is also placed on uses of financial information by management, investors, stockholders and others as related to statement analysis, working capital courses and uses of funds and taxes. It includes practical sessions in the computer lab. Two hours lecture, two hours lab per week.

AC 3207 Financial Accounting (3)

Prerequisite: AC 2102. A broadening of semi-intensive study of the financial management requirements as opposed to managerial accounting concepts. A more detailed study is made of the income statement - but more especially the balance sheet and its understanding, correct interpretation and particularly its dual aspect (A=L+O.E) as well as analysis and consolidations. Two hours lecture, two hours lab per week.

AC 3208 Managerial Accounting (3)

Prerequisite: AC 2102. An introduction to the internal uses of accounting for management planning and control. The use of products consisting of information, budgeting, and variance and analysis as well as distribution costing problems for management decision-making will be covered in depth. Two hours lecture, two hours lab per week.

AC 3305 Intermediate Accounting I (3)

Prerequisite: AC 2102. A course designed to develop the power of analysis in utilizing accounting data. The emphasis is on theory and the application of theory to problem-solving. A quick review of the basic accounting cycle is followed by an in-depth consideration of the balance sheet accounts, cash and temporary investments, receivable inventories, current liabilities, investments, and plant and equipment. Two hours lecture, two hours lab per week.

AC 3306 Intermediate Accounting II (3)

Prerequisite: AC 3305. A continuation of AC 3305 structured to consider in depth the theory and analysis of the balance sheet accounts and the use and interpretation of financial data. Areas covered are intangibles, long-term liabilities, stockholders' equity section of the balance sheet, statements from incomplete records, errors and their correction, use of analysis of financial statements, funds flow and price level changes. Two hours lecture, two hours lab per week.

AC 3309 Cost Accounting (3)

Prerequisite: AC 2102. Basic principles of cost accounting as related to job order, process, estimated and standard cost systems. Cost of profit determination, managerial control, and decision-making are considered. Two hours lecture, two hours lab per week.

AC 4413 Fundamental Concepts of Taxation (3)

Prerequisite: AC 2102. Explores the fundamental concepts of the philosophy, legislative origins, and development of the tax structure and how these concepts apply to individuals, partnerships, and corporations. How to research tax questions is also covered. Two hours lecture, two hours lab per week.

AC 4419 Auditing (3)

Prerequisite: AC 3306. Primarily concerned with those auditing procedures and techniques associated with public accounting. There is emphasis on the preparation of audit working papers. Two hours lecture, two hours lab per week.

AC 4421 Advanced Accounting (3)

Prerequisite: AC 3306. A course designed to provide the opportunity for the study of advanced accounting theory and practice in specialized areas. Problems from the AICPAs uniform examinations for certified public accountants are used extensively. Areas of topic coverage are partnerships, business combinations, and consolidations and accounting for international operations. Two hours lecture, two hours lab per week.

AC 4490 Seminar in Accounting (3)

Prerequisite: Permission of department. A senior level elective course to provide an in-depth forum for group research, discussion and evaluation of one or several of the problem areas in accounting and or taxation. Two hours lecture, two hours lab per week.

Business Administration (BAD)

BAD 1100 Business Communication (3)

Composition of effective business correspondence; credit and collection letters, request and response letters. Detailed attention is given to the principles of grammar, spelling, punctuation and form as they apply to contemporary business writing.

BAD 1251 Introduction to Business (3)

Introduction to the basic role business organizations play in society; description of the various areas of business study such as Economics, Finance, Management, Marketing, Computer Information Systems, Human Resource Management, and Accounting. Emphasis is given to business terminology as well as the structure and activities involved in enterprise. Students become familiar with the holistic view of the business functions. Case study analysis.

BAD 3101 Urban and Real Estate Economics (3)

This course examines urban and real estate economics, illustrating how economic principles affect the demand for real estate, the operation of real estate markets, and the relationship between land use, land value and location. The overall objective of the course is to introduce the most important issues and topics in the study of cities and real estate markets, and to show how microeconomic principles can be used to critically analyze these problems.

BAD 3102 Foundations of Real Estate - Appraisal I (3)

Introduction to concepts and techniques for appraising the value of real estate. This course begins with an introduction to the appraisal profession in Canada and summarizes the appraisal process. The three classic approaches to value are presented and analyzed as they may be applied to single-family and small, multi-family residential properties.

BAD 3200 Cross Cultural Management (3)

Prerequisite: BAD 1251. In a world of multinational corporations and disappearing national boundaries, today's managers often work with personnel from various backgrounds. This course is designed to show ways by which managers can overcome language and cultural barriers and profit from the richness of experience and talent that multinational employees offer.

BAD 3360 International Business (3)

Prerequisite: BAD 1251. A comprehensive introduction to the issues involved in doing business in the growing world market of the 21st century. Topics include international trade, the international monetary system and political, legal and cultural considerations of world business.

BAD 3371 International Business Finance (3)

Prerequisite: BAD 3360. Analysis of the international economic environment and its influence on corporate financial management of international operations. Same as FIN 3371. 3 lecture hours.

BAD 3373 International Banking (3)

Prerequisite: BAD 3371. Theory and practice of international banking; analysis of international commercial and investment banking from a management perspective. Subjects include current international monetary and financial environment, and money in capital markets and topical problems of international banking from a management perspective. Same as FIN 3373. 3 lecture hours.

BAD 4101 Real Estate - Investment Analysis & Advanced Income Appraisal (3)

Valuation techniques for income real estate, including income method of appraisal, tax consequences of real property ownership, and portfolio analysis methodology. A personal computer with spreadsheet software is required for this course.

BAD 4102 Residential Property Analysis (3)

This course is designed to give real estate professionals, particularly appraisers, and a working knowledge of the physical aspects of residential properties. The course covers how houses are sited, designed, and constructed in Canada, as well as how factors such as design, material selection, and construction type affect their value. Also covered will be the identification and evaluation of problems due to design, construction, or deterioration, their effect on value, and how problems should be reported.

BAD 4104 Commercial Property Analysis (3)

This course covers the underlying theory and techniques used in the design, construction, and inspection of commercial properties. The course will examine office, retail, apartment, industrial, and agricultural properties, as well as environmental issues and space measurement.

BAD 4109 Land Use Regulation: Local Government Law and Planning (3)

This course provides a general understanding of the land use regulatory process and the laws that govern that process.

BAD 4901 Real Estate Finance and Investment (3)

This course is an introduction to the most fundamental concepts, principles, analytical methods and tools useful for making investment and finance decisions regarding commercial real estate assets. As the first of a two-course sequence, this course will focus on the basic building blocks and the "micro" level, which pertains to individual properties and deals.

BAD 4904 Real Estate Law (3)

This course examines the legal aspects of real property interests, transactions, and development. A study is made of present and future land interests, non-possessory interests, fixtures, liens, co- ownership of real estate, residential and commercial landlord-tenant relationships, multi-unit real estate interests, real estate brokerage in transfers, transfer and financing methods, transfers after death, zoning, environmental law, and taxation of real estate transactions.

Business Law (BL)

BL 3101 Legal Aspects of Business (3)

A study of the basic legal principles underlying modern business transactions with particular attention to contracts, agency and employment, checks, drafts, promissory notes and other topics. 3 lecture hours.

Economics (EC)

EC 2205 Principles of Economics I (3)

An application of the basic principles of economics to current public problems. Focusing on macroeconomics, the course discusses national income and employment theory; money and banking; international trade and the balance of payments.

EC 2206 Principles of Economics II (3)

The topics discussed include characteristics of the American private enterprise economy; markets, the price system, and the allocation of resources; the distribution of income; problems of poverty and insecurity; unions, collective bargaining, and public policy.

EC 3221 Money and Banking (3)

Prerequisites: EC 2205, EC 2206. The role of money, credit, interest rates, foreign exchange rates and commercial banks and other financial institutions.

EC 3302 Industrial Organization (3)

Prerequisite: EC 2206. Analysis of current industry structures using economic, financial, and accounting tools. Emphasis is put on relating theory to practice. Integrates material from previous courses to enhance managerial decision-making within the environment of the firm, industry, and the economy. Further, the influence of world trade, resources, public policy, and technology are incorporated as necessary for analysis.

EC 3305 Intermediate Macroeconomics (3)

Prerequisite: EC 2205. Encompasses a theoretical and applicational view of aggregative economics. Background in Classical, Keynesian, and neo-Keynesian theory leads into a study of macroeconomics and economic policies. Emphasis is placed on current national economic goals and the macro dynamics of inflation, growth, investment and consumption.

EC 3306 Intermediate Microeconomics (3)

Prerequisite: EC 2206. An intermediate course in economics covering the theoretical bases used by economists in explaining the behavioral patterns of the consumer, the firm, and the industry. Problems, readings, and discussions are aimed towards the logical development, understanding, and application of theoretical models and concepts rather than pure exposition of static analysis. The relationship of microeconomics and growth is also established.

EC 3355 Public Finance (3)

Prerequisite: EC 2206. The effects of government expenditure, borrowing, and taxation upon resource allocation, national income and employment, prices, and income distribution. 3 lecture hours.

EC 4402 Forecasting and Model Building (3)

Prerequisites: EC 2206, QM 2204. The course will familiarize the student with macroeconomic and microeconomic models of the economy. Emphasis will be placed on understanding the theoretical and statistical analysis underlying these models. "Hands on" experience with actual models will be used when possible.

EC 4416 Concepts in Managerial Economics (3)

Prerequisite: EC 2206. Primary emphasis is placed on the application of intermediate price theory to the operations and decisions faced by the firm. A review of macroeconomic policies as they apply to the activities of business entities is also presented.

EC 4481 International Economics I (3)

Prerequisite: EC 2206. An analysis of the balance of payments and the foreign exchange market, including the theory of payments adjustment and policies to attain domestic international balance. The course examines the roles of the dollar, other currencies, and the International Monetary Fund in the process of international monetary reform.

EC 4482 International Economics II (3)

Prerequisite: EC 2206. The theory and practice of international trade and investment. Topics include comparative advantage and the determination of the pattern of trade, current problems of commercial policy and trade negotiations, the role of the multinational corporation, with special reference to the E U.

EC 4490 Economics Seminar (3)

Prerequisite: senior standing. Discusses current economic issues.

Finance (FIN)

FIN 2214 Corporation Finance (3)

The principles underlying the nature, operation, and control of the corporation are studied through an analysis of its organizational structure and its financial practices and policies.

FIN 3300 Insurance and Risk (3)

Prerequisite: FIN 2214. Principles and practices of insurance and risk management, including personal, business, and social viewpoints in regard to insurance for life, health, property, and liability risks.

FIN 3317 Investments (3)

Prerequisite: FIN 2214. A consideration of the nature of different types of corporate securities from the point of view of the investor. General analysis and valuation procedures are discussed in a written report; special factors related to the analysis and evaluation of securities of public utilities, banks, and investment companies are also considered.

FIN 3318 Security Analysis (3)

Prerequisite: FIN 2214. Acquaints the student of finance with the fundamental and technical aspects and techniques of investment analysis and management. Accordingly, the methodology for analyzing financial reports, valuing securities, selecting investments, and managing a portfolio.

FIN 3324 Budgeting (3)

Prerequisites: AC 3208, FIN 2214. Includes a discussion and illustration of comprehensive master budgets for both manufacturers and retailers, flexible budgets which compare and contrast the two types of budgets, the relationship between the flexible budgets and standard costing, contrasting budgets used for planning, control, and product costing for cost centers within the organization.

FIN 3330 Working Capital Management (3)

Prerequisite: FIN 2214. The analysis of corporate short-term sources and uses of funds. Optimal techniques and case studies emphasized. Bank lending practices are evaluated within the working capital area.

FIN 3350 Advanced Corporation Finance (3)

Prerequisite: FIN 2214. A second-level treatment of financial management for advanced students. Its emphasis is on the blending of conceptual and technical tools in solving actual case problems. It is intended to provide students with a greater familiarity of actual case problems as faced by the financial officer.

FIN 3371 International Business Finance (3)

Prerequisite: FIN 2214; not open to students who have completed BAD 3371. Analysis of the international economic environment and its influence on corporate financial management of international operations. Same as BAD 3371.

FIN 3373 International Banking (3)

Prerequisite: BAD 3360. Theory and practice of international banking analysis of international commercial and investment banking from a management perspective. Subjects include current international monetary and financial environment, and money in capital markets and topical problems of international banking from a management perspective. Same as BAD 3373.

FIN 4430 Global Financial Management (3)

Prerequisite: Senior standing. The course is organized first to provide a background on the international environment and then to focus on the managerial aspects from a corporate perspective. Topics include a description of the major markets that serve international business, the relationships between exchange rates and economic variables, the measurement and management of exchange rate risk, corporate management of short-term and long-term assets and liabilities as well as international financial management from a banker's perspective. The globalization of business is well documented in financial reports of large and small corporations. This trend has been motivated by the reduction in cross-border barriers.

FIN 4450 Readings in Finance (3)

Prerequisite: Senior standing. Selected readings, including traditional and controversial arguments in financial management.

Hotel Management (HMN)

HMN 2201 Introduction to Hotel Management I (3)

Prerequisites: BAD 1251, MAN 2101. Offers an overview of the hotel business in general, its historical development, scope, main functions and present-day structures. The course covers the basic terminology of the hotel industry, assesses the impact of social and economic forces on hotel business, describes the hotel operating practices and policies, and identifies career opportunities as well as requirements for success in the hospitality industry.

HMN 2210 Hospitality Management (3)

Prerequisite: HMN 2201. The main principles of management and their relationship to the hospitality industry are examined. Students study the modern hospitality industry. The course covers issues, problems and functions of hospitality management in hotels, motels, country clubs, restaurants, travel, tourism and the leisure industry at large. Emphasis is placed on operations, leadership and administration of the hospitality industrial sector.

HMN 3326 Personnel Administration for the Hospitality Industry (3)

Prerequisite: HMN 2210. The course offers a study of the modern realities in tourism and hotel

industry. Students will be exposed to a variety of issues and practices as they relate to the personal

management function. Areas that the course covers include: human resource development, labor relations, planning and placement procedures, teamwork skills and finally placing human resources and personnel as the most important asset the hospitality industry today has.

HMN 3346 Hospitality Marketing (3)

Prerequisites: HMN 2210, MK 1101. This is a project-based course, or a case-analysis approach to market the hospitality business. General principles of marketing are applied. In other words, students use basic concepts, principles and functions of marketing, to develop a marketing plan for a hotel business.

HMN 4412 Hotel Operations (3)

Prerequisite: HMN 3326. This is the theoretical part of what is otherwise on-the-job training of hotel operations in the hospitality industry. It entails description and analysis of hotel operating policies and practices. Some topics described in the course include systems of marketing, reservations, front office procedures, housekeeping, cost control case studies and hospitality engineering and maintenance. The course also includes field trips.

HMN 4499 Hotel Management Internship (9)

Requires 405 hours or about 10 weeks of work in the hotel business. Students will receive an introduction to Travel, Tourism and Hospitality Management and on-site training in the areas of Hospitality Personnel and Business Policy, Food Production and Food Beverage Cost Control, Hospitality Management Accounting, Hospitality Marketing and Management Principles, Hospitality Engineering and Maintenance and general hotel operations.

Management (MAN)

MAN 2101 Principles of Management (3)

Provides an understanding and appreciation of the part that management plays in the successful operation of the business institution within the framework of present economic circumstances. The functions of management are analyzed and the principles that assist a manager in maintaining effective coordination and control are related to these functions.

MAN 2204 Organizational Behavior (3)

Prerequisites: MAN 2101, PSY 1001. Focuses on individual, interpersonal, and group behavior in the organizational context. Emphasizes managerial application of behavioral science research in such areas as motivation, leadership, and group processes.

MAN 3308 Labor Relations (3)

Prerequisites: MAN 2101, EC 2205. An introduction to the area of labor-management relations. Areas of study include the labor force, wages, trade unions, and the contents of and preparations for collective agreements. This course culminates with a mock labor-management contract negotiation.

MAN 3311 International Management (3)

Prerequisites: MAN 2101, SOC 1001. An introduction to the area of management in the international environment. Topics include the international environment, international strategies and risks and managing human resources in the international environment.

MAN 3315 Organization Theory (3)

Prerequisite: MAN 2101. The major topics in organization theory and design are covered with their relevance to management. Numerous illustrations and examples are used to translate the theory and research into practical managerial understanding and knowledge.

MAN 3317 Operations Management (3)

Prerequisites: MAN 2101, QM 2204. Provides an understanding of the role operations management plays in the successful operation of any organization concerned with the production of goods and/or

services. Evaluates operations management decisions in such areas as process and selection, choice of technology, flow and layout, and capacity. Demand strategies are analyzed along with control techniques of MRP, SFC, and DRP, the work force on relationship to job design, job enrichment, and issues of measurement and productivity. Computer simulations are often used.

MAN 3330 Managerial Communication (3)

Prerequisite: MAN 2101. Examines managerial communication within the organization. Covers analysis of formal and informal channels of communication from the perspective of the managerial role. Focuses especially on the subtle communication that attends such managerial functions as controlling and directing. Case studies are assigned and discussed in class.

MAN 4410 Managing Public Issues (3)

Prerequisites: MAN 2101, SOC 1001. This course is concerned with the influence that the external environment has upon organizations and their decisions. Major social issues are discussed from an ethical perspective and students are required to consider the impact of these issues on organizational functions and goals.

MAN 4413 Business Policies and Organization (3)

Not open to students who have completed MK 3359. The purpose of this course is to develop an appreciation of the relationship between decision-making and the administrative or policy-making process. An overall approach to company operation is taken, and the interdependence of activities is emphasized. Integrated cases are used to develop a systematic approach to decision-making, to the formulation of policies, and to putting policies into practice.

MAN 4423 Personnel Administration (3)

Prerequisite: MAN 2101, senior standing. The nature and role of personnel administration in its relation to the entire scope of the organization is analyzed. Emphasis is on the core personnel functions of selection, training and development, performance appraisal, compensation, and organizational behavior modification.

MAN 4424 Behavioral Science Seminar (3)

Prerequisite: MAN 2101, PSY 1001. A course designed for those students who have concentrated their study in the behavioral area. An integration of several disciplines in the area with emphasis placed on current developments and writings.

MAN 4447 Small Business Management (3)

Prerequisite: MAN 2101. Designed to provide students with valuable tools for starting, operating, and evaluating the effectiveness of the small business, as well as to develop insights into the establishment of necessary interrelationships between numerous business functions in devising strategies for an entire firm. Emphasis is placed on the entire spectrum of business functions and concepts as particularly applicable to the small firm, such as a proprietorship, partnership, corporation, or a franchised outlet. Case studies are assigned and discussed to link the theory to practice.

MAN4495 Small Business/Franchise Project (3)

This course focuses on launching, operating and growing a small business or franchise. Principles and techniques taught in earlier courses will be applied to the small business environment.

MAN 4501 Management Theory and Concepts (3)

To provide a basic understanding of business and the role of management. Theory and concepts in the field of management will be discussed and applied through case analysis.

Marine Operations Management (MAR)

MAR 1111 Marine Communications (2)

This course is designed to acquaint with Global Maritime and Distress Safety System. It includes the basic layout of the GMDSS, communication equipment requirements, licensing requirements, principles and procedures for marine communications, the characteristics of radio wave propagation, frequencies, and modulation. Included also is the Morse Code, Flashing Light and general Distress Signals.

MAR 1112 Rules of the Nautical Road (2)

Comprehensive study of the international rules of the road-COLREGS- including their origin, purpose, history, technical provisions, and application. Included is a comparative study of both international and inland rules, their interpretation and practical application as well as a study of case histories and legal interpretations resulting from collisions at sea.

MAR 1121 Navigation I Lab (2)

This lab concentrates on applying the principles of piloting to plotting on the chart. Chart projection and use will be introduced. Dead reckoning, terrestrial fixes, set and drift, lines of position, and use of navigational instruments will be covered.

MAR 1122 Damage Control & Safety (2)

This course is designed to give the cadet a comprehensive knowledge of shipboard safety with particular emphasis on fire fighting and damage control. Subject areas include: personal safety, pollution, U.S. Coast Guard rules and regulations, temporary damage repair, shoring principles, and practical shoring problems.

MAR 2101-2102 Maritime Technology (3)

The purpose of this course is to provide the student with the knowledge of the impact of technology on navigation, cargo and safety system.

MAR 3224 Navigation II (3)

An introduction to nautical astronomy concerned with the practical application of celestial navigation, the solving of the spherical triangle, star identification, measurement of time and use of instruments. This course will cover plane, mid-latitude, and mercator sailings and how to apply them to navigational problems through the various time zones. Sunrise, sunset, twilight, moonrise, and moonset calculations for a moving vessel will be covered.

MAR 3231 Electronic Navigation (3)

An in-depth study of various electronic navigation systems with emphasis on radar and covering the theory, operation, use and general maintenance of each system. Required course, must be successfully completed before student may receive Radar Observer Certificate.

MAR 4232 Electronic Navigation Lab (1)

A practical course to understand the use and operation of a Marine Radar, how to avoid collision situations (Rapid Radar Plotting), use and operation of Automatic Collision Avoidance System, Gyrocompass theory, Loran “C” theory and operation, GPS theory and operation, depth sounder theory and operation. Note: Required courses must be successfully completed before student may receive Radar Observer Certificate.

MAR 4241 Ship Construction (2)

A study of the principles of hull construction as applied to all types of vessels. Includes construction nomenclature, criteria of design, methods of construction, materials used in construction, and the forces acting on the hull.

MAR 4242 Stability (3)

A study of the principles of stability; righting moment and righting arm; calculation of meta-centric height; inclining experiment; stability computers and tables; practical stability and trim considerations.

MAR 4244 Dry Cargo Stowage (3)

Principles and problems of the stowage and carriage of cargo: bulk cargo, container cargo, refrigerated cargo, grain cargo and dangerous cargo; cargo handling operations, both loading and unloading equipment. Cargo stowage plans will be developed and reviewed. Students will critique loads they were involved with during their time aboard ship.

MAR 4245 Liquid Cargo Stowage (2)

A study of the tanker industry and the operational aspects of the tank vessel; pollution prevention, precautions and procedures; layouts of different types of tankers; operations sequence and oil tanker construction and terminology.

MAR 4901 Project (4)

The project is an opportunity for students to demonstrate sustained, independent work. It is the platform on which student exhibit the knowledge, skills and intellectual maturity acquired during the course.

Marketing (MK)

MK 1101 Principles of Marketing (3)

Familiarizes the student with the basic concepts, principles, and functions of marketing. Focuses on the marketing terminology and studies in particular the various ideas concerning the development, pricing, promotion, and distribution of products and services. Marketing is examined as a total system as well as an interrelated function of the business organization.

MK 2220 Consumer Behavior (3)

Prerequisites: MK 1101, PSY 1001 or SOC 1001. Why people buy is a matter of critical interest to marketing management. This interdisciplinary course investigates theories of buyer behavior with the consumer as the focus of the marketing system. Marketing activities such as pricing, product development, branding, promotion and relations among channel members are analyzed and developed to reflect a commitment for providing consumer satisfaction.

MK 3236 New Product Management (3)

Prerequisite: MK 1101. New techniques of product development illustrate product policy issues, identify market segments, predict sales, conduct pre-test and test markets, and guide new products to maturity.

MK 3318 Advertising Management (3)

Prerequisites: MK 1101, MAN 2101. Planning an advertising campaign, consumer and market information, message appeals, media selection and scheduling, measuring effectiveness. Current criticism and regulation of the advertising function. Other major marketing communication tools, including personal selling and sales promotion.

MK 3322 Sales and Sales Management (3)

Prerequisites: MK 1101, MAN 2101. Examines the role of personal selling in the marketing mix. Exposes the student to the principles of selling and the functions of line management. Planning, training, organization, forecasting, and reporting of individual sales. Personnel and group sales activities are emphasized.

MK 3330 Marketing Research (3)

Prerequisites: MAN 2101, QM 2204. The objective of the course is to put the student out in the business field, to fix a questionnaire, to interview businessmen and with the help of statistics and

computers to analyze his/her findings. This will introduce the student to marketing research as an important tool of marketing management.

MK 3336 Physical Distribution (3)

Prerequisites: MK 1101, MAN 2101. A study of physical distribution functions and their relationships within an organization.

MK 3349 Advanced Advertising Campaigns (3)

Prerequisite: MK 3318. An application of the principles of marketing and advertising of a real-world situation in the development of an advertising campaign.

MK 3352 Retailing Management (3)

Prerequisites: MK 1101, MAN 2101. A study of retailing management and strategy covering the current environment of retailing, retail market and financial analysis, store location and design, inventory management and non-store and service retailing. Industry executive and student presentations and case analysis.

MK 3359 Marketing: Strategic Planning (3)

Prerequisites: MK 1101, MAN 2101; not open to students who have completed MAN 4413. Analytical integration of materials covered in previous marketing courses. Marketing strategy literature, financial dimensions of marketing management and comprehensive cases. 3 lecture hours.

MK 4411 International Marketing Management (3)

Prerequisites: MK 1101, MAN 2101. Introduces the student to the complexities and implications of foreign markets. Emphasis is on decision-making and policy formulation including cultural, political, legal, and economic aspects of doing business outside the home country.

MK 4421 Marketing Management (3)

This course focuses on the decision-making process of marketing managers, and their endeavour to harmonize the objectives and resources of the organization with the needs and opportunities in the marketplace. The elements of the marketing mix are re-examined in light of managerial strategy and policy developments.

MK 4428 Marketing Seminar (3)

Prerequisite: MK 4421. This course encourages students to face squarely, and challenge, their own ideas through case studies analysis.

MK 4601 Sports Marketing (3)

The sports industry is a multi-billion dollar industry that transcends national borders. The sports industry is truly a global phenomenon, and as a result, the marketing course is organized around the strategic marketing process which is applied specifically to the sports industry. Marketing activities such as the marketing mix, marketing research and so forth, will be analyzed in the context of sports management.

Maritime Law (ML)

ML 3301 Maritime Law (3)

Prerequisite: BL 3101. A study of the basic introductory legal principles and issues underlying modern maritime law.

ML 4401 Marine Insurance (3)

Prerequisite: ML 3301. A thorough and comprehensive study of the legal principles underlying present marine insurance.

ML 4406 Collisions. Limitations and Liabilities (3)

Prerequisites: ML 3301, ML 4401. A continuation of maritime law issues.

Quantitative Methods (Statistics) (QM)

QM 2203 Statistics I (3)

Prerequisite: MA 1112. This is the first semester course of a two-semester sequence in basic statistics. It includes descriptive statistics and an introduction to statistical inference. Topics covered are: frequency distributions, measures of central tendency and dispersion, probability and probability distributions, sampling and sampling distributions, and estimation.

QM 2204 Statistics II (3)

Prerequisite: QM 2203. This is the second semester course of the sequence in basic statistics. Topics covered are: estimation, hypothesis testing including chi-square tests, regression and correlation analysis, forecasting and time series analysis, and other selected topics.

QM 3308 Statistical Inference (3)

Prerequisite: QM 2204. Further statistical techniques of management decision analysis are studied. Topics will be chosen from estimation and hypothesis testing, analysis of variance, linear regression and correlation, non-linear regression, multiple regression, factor analysis, forecasting and time series analysis and non-parametric methods. A statistical package on the computer will be used to aid with analysis of data. Discussion of cases and statistical report writing are included.

QM 3316 Management Science (3)

Prerequisites: QM 2204, MA 1112, MAN 2101. Techniques and applications of management science with emphasis on management decision-making in business and government. Topics will be chosen from decision theory, linear programming, transportation and assignment problems, PERT/CPM, inventory control, queuing theory and simulation. The student will prepare data for computer input, run decision support packages and analyze computer output.

QM 3319 Statistical Quality Control (3)

Prerequisite: QM 2204. The theory and application of statistical control techniques to industrial and non-industrial processes. The theory of the control chart method including sensitivity measurement and the design of process control systems. Acceptance sampling including both variables and attributes is surveyed. Operating characteristic curves and various criteria are also included. Statistical and mathematical concepts are explored.

QM 3321 Design of Experiment (3)

Prerequisite: QM 2204. Randomized blocks, Latin and Greco-Latin squares, factorial arrangement with confounding and fractional replication, split-plot, cross-over and response surface designs. Treatment of missing data, group sizes, relative efficiency, relationship between design and analysis. 3 lecture hours.

QM 4402 Survey of Operations Research: Stochastic Models (3)

Prerequisite: QM 3316. Basic concepts and techniques of stochastic operations research modeling as applied to problems in industrial, governmental, and military decision-making. Markov chains, queuing, inventory, reliability, forecasting, decision analysis, and simulation.

Ship Operation and Management (SST)

SST 3301 Introduction to Ship Operation and Management (3)

Prerequisite: junior standing. Students enrolling in these courses will learn the fundamentals of shipping management and operations. They will learn office techniques and how to manage shipping operations.

SST 4401 Advanced Ship Operation (3)

Prerequisite: SST 3301. A continuation of SST 3301.

SST 4402 Shipping Internship (9)

Requires 405 hours of work in the shipping industry.

Travel & Tourism Management (TTM)

TTM 2210 Introduction to Travel and Tourism (3)

Prerequisite: BAD 1251. Acquaints students with various principles, methods, practices and philosophies of travel and tourism. It surveys the travel and tourism industry with emphasis on hospitality and retail travel agency organization, operation and administration. Areas of concentration include economic and social impact of tourism, tourism demand development and research, marketing and managing tourism.

TTM 2220 Travel and Tourism Management (3)

Prerequisites: TTM 2210, HMN 2201. Basic principles of business administration applied to tourism and travel agencies in particular. General management concepts, theories, issues and aspects (planning, organizing, leading and controlling) are introduced. Analysis incorporates case-study examples drawn from the broader range of the tourism and travel industrial sector.

TTM 3301 Business Management for Travel Agents (3)

Prerequisites: TTM 2210, HMN 2201. Basic principles of business administration applied to small business in general and to travel agencies in particular. General management concepts, with specific applications in management areas, are surveyed; areas include personnel, finance, office operations, and law and insurance matters.

TTM 3311 Marketing Management for Travel Agents (3)

Prerequisites: TTM 2220, MK 1101. Basic principles and theories of marketing offered as they apply to travel agency operations. Coverage of the marketing mix in travel, market segmentation, planning and the use of advertising and other communication techniques are offered. Emphasis is placed on the increasing profitability through planned marketing programs.

TTM 3321 Marketing for Tourism (3)

Prerequisites: TTM 2220, MK 1101. The course offers a theoretical and practical guide to the effective marketing of tourism. Concepts and techniques utilized in marketing travel industry products and services are examined. Various policies and strategies are described and the fundamental principles of developing, analyzing and implementing marketing plans are outlined. The course also analyzes the current trends in tourism and suggests expected further developments in the field of international travel and tourism.

TTM 4411 Management of International Tourism (3)

Prerequisites: MAN 2101, TTM 2220. Students will soon find that international tourism is one of the most vital and growing industries today. This course aims to provide an all-inclusive interview of international tourism. Special emphasis is drawn upon the management of tourism. Topics covered include: tourism demand and forecasting, key methods of operation of organizations within the industry, corporate strategies, economic and social impacts, functional areas of organization, staffing, research and innovation.

TTM 4499 Travel and Tourism Industry (9)

Requires 405 hours of work in the travel and tourism industry.

SCHOOL OF SCIENCES AND ENGINEERING

DEPARTMENTS: **Computer Sciences and Engineering**

Mission and Objectives

Computer and Engineering Studies prepare students for careers in online and/or open learning graduate studies in Computer Hardware and Software, Mechanical, Manufacturing and Electrical Engineering, Engineering Science, Civil and Architectural Engineering.

The curricula enable students to master the fundamental principles of science, principles on which they will base their dynamically changing professional future practice. The educational principles of the program, a balance between theory and practice, enable students to attain competence in analyzing all aspects of a problem, in formulating solutions and in evaluating alternative approaches, in light of all available information. The student becomes familiar not only with present state-of-the-art of the selected scientific field, but also demonstrates an aptitude for mathematics and science, enabling him/her to adapt to the continuously changing demands and challenges of our post-industrial age.

COURSE OF STUDY FOR FRESHMEN

A typical freshman-year schedule in the Computer, Natural Sciences and Engineering Studies includes English, Humanities and Social Sciences electives and several other introductory courses depending on the area of concentration.

The following courses are common to all concentrations and include the **General Education requirements** (**39** semester credit hours):

EN 1100 - 1102	**English Composition and Rhetoric I, II** (some students will start with a higher
or	lower English course depending on their score on the placement test)
EN 2012	**Language in Literature**
MA 1123	**Calculus I**
or	
MA 1108	**College Algebra and Trigonometry**

Two courses in Natural Sciences chosen from:

PY 1211/1221	**General Physics I / Lab I**
or	
PY 1108	**College Physics**
CH 1101	**General Chemistry I**
or	
CH 1013	**General Chemistry for non-Science majors**
BIO 1101	**Introductory Biology for Science majors I**

Three courses in Social Sciences.

Three courses in Humanities.

EIGHT-SEMESTER PLAN

COMMON TO MOST CONCENTRATIONS IN THE COMPUTER, NATURAL SCIENCES AND ENGINEERING DEPARTMENTS

FIRST YEAR

	Semester One		Semester Two
EN 1100	English Composition and Rhetoric	PY 1211 PY 1221	General Physics I
MA 1123	Calculus I	EN 1102	English Composition and Rhetoric II
CH 1101	General Chemistry Sciences I	MA 1124	Calculus II Social Social Sciences II
CS 1121	Pascal		Humanities I
ME 1105	Technical Drawing**		

SECOND YEAR

	Semester One		Semester Two
EN 2012	Language in Literature	CS 1122	Pascal II
MA 2225	Multivariate Calculus	MA 2226	Differential Equations
PY 2212/ PY2222	General Physics II / Lab II	BIO 1101	Introductory Biology for Science Majors I
	Social Sciences III	or	
	Humanities II	ME 2301 I PY 2253	Engineering Mechanics Vibrations and Waves
			Humanities III
			General Elective I

THIRD YEAR

	Semester One		Semester Two
CS 2241	Numerical Analysis I	CS 2243	C Language
	General Elective II*		General Elective III*
	Concentration I		Concentration III
	Concentration II		Concentration IV

FOURTH YEAR

	Semester One		Semester Two
MA 3242	Linear Algebra		Concentration VI
	General Elective IV*		General Elective VI*
	General Elective V*		Concentration VII
	Concentration V		Concentration VIII

* General Electives can be used towards obtaining a minor.
** Engineering Students.

In order to graduate a student must maintain a "C" or better in all courses taken in his/her concentration.

Computer, Natural Sciences and Engineering Studies award the degree of Bachelor of Science in each concentration.

COMPUTER SCIENCES AND ENGINEERING DEPARTMENT

CONCENTRATIONS: Computer Hardware and Digital Electronics
Computer Information Systems
Computer Sciences
Electrical Engineering
Engineering Science
Civil Engineering
Architectural Engineering
Manufacturing Engineering
Mechanical Engineering
Ocean Engineering

REQUIRED COURSES FOR COMPUTER SCIENCES DIVISION

Required by Most Computer Sciences Division Students (**51** semester credit hours)

CDH 3311	Introduction to Logic Design
CDH 3312	Small Computer Systems
CS 1121	Pascal I
CS 1122	Pascal II
CS 2241	Numerical Analysis
CS 2243	C Language
EE 3307	Electric Circuit Theory I
EE 3308	Electric Circuit Theory II
MA 1124	Calculus II
MA 2225	Multivariate Calculus
MA 2226	Differential Equations
MA 3242	Linear Algebra
or	
MA 3300	Probability and Statistics
PY 2212	General Physics II
PY 2222	General Physics Lab II
PY 2253	Vibrations and Waves

Computer Hardware and Digital Electronics

Computer Hardware is a discipline that combines electronic design, programming of computers, and mathematics into a comprehensive area. The student learns the design and use of computer systems for scientific and business applications. Students who complete this concentration will be able to design both hardware and software for minicomputers and large- scale computing systems. The students will also be able to use computer hardware and software to control large systems. The curriculum prepares the student to begin a career in computer design, applications and use or to pursue further studies.

Required Courses for the Hardware and Digital Electronics Concentration (**27** semester credit hours) EE 3319 Electronic Lab I
EE 3322 Electronic Lab II
CDH 3401 Signals and Systems
CDH 3402 Control Systems
CDH 3411 Electronics I
CDH 3412 Electronics II
CDH 4415 Communication Systems
CDH 4421 Digital Circuits
One course level 4xxx

Required Courses for the Computer Sciences Division (**51** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**15** semester credit hours)

The **total semester credit hours** required for completion of the Computer Hardware and Digital Electronics concentration are one hundred thirty-two (**132**).

MINOR IN COMPUTER HARDWARE AND DIGITAL ELECTRONICS

A minor in Computer Hardware and Digital Electronics can be obtained with a minimum of 16 semester credit hours.

Required Courses
CDH 3401 Signals and Systems
CDH 3402 Control Systems
or
CDH 3412 Electronics II
CDH 3411 Electronics I
EE 3319 Electronic Lab I
CDH 4415 Communication Systems

Computer Information Systems

The Computer Information Systems concentration emphasizes the application of the computer to the solution of complex problems of business administration. It emphasizes instructions given in the traditional area of computer sciences and the practical application of computer systems to the complex problems of business such as finance, accounting, etc. Career opportunities for CIS students include programming, systems analysis and information management. Graduates are prepared to find employment in a broad range of companies with diverse responsibilities.

Required Courses for the Computer Information Systems Concentration (**28** semester credit hours)

CIS 3100	Computer Laboratory
CIS 3200	Application Programming
CIS 3300	Management Information Systems
CIS 4446	Systems Analysis and Design
CS 2132	Theoretical Foundations of Computing
CS 2230	Computer Organization
CS 2283	Programming and Data Structures
CS 3178	Introduction to Database Management
CS 4185	Interactive Computer Graphics I
CS 4188	Computer Networks

Required Business Courses (**36** semester credit hours)

AC 1101, 1102	Principles of Accounting I and II
AC 3207 or 3208	Financial or Managerial Accounting
BAD 1100	Business Communication
BAD 1251	Introduction to Business
FIN 2214	Corporation Finance
MAN 2101	Principles of Management
MK 1101	Principles of Marketing
MA 1111	Calculus for Business and Economics I
MA 1112	Calculus for Business and Economics II
QM 2203, 2204	Statistics I and II

Required Courses for the Computer Sciences Division (22 semester credit hours). Some of the courses can be substituted by the required business courses. The student must consult his/her advisor.

General Education Requirements (**36-39** semester credit hours).

General Electives (**9** semester credit hours)

The total semester credit hours required for completion of the Computer Information Systems concentration are one hundred thirty-one to one hundred thirty-four (131-134).

Computer Sciences

The Computer Sciences concentration's objective is to study the computer's physical attributes, or hardware, and the methods of its use, or software. The curriculum combines systems design, computer programming, and mathematics to give the student a broad background in the fundamentals of computer sciences. Students who complete the program will be able to design the hardware and software needed for both large computing systems and small microprocessor-based systems. Careers are available in every area related to computer sciences, including designing, testing, operating, installing, programming, maintaining, instructing, buying and selling computers and related equipment. Students may also continue for graduate studies.

Required Courses for the Computer Sciences Concentration (27 semester credit hours)

CS 2132	Theoretical Foundations of Computing
CS 2230	Computer Organization
CS 2283	Programming and Data Structures
CS 3156	Introduction to Operating Systems
CS 3178	Introduction to Database Management
CS 3380	File Processing and Design of Database Structures
CS 4173	Theory of Computer Translators
CS 4185	Interactive Computer Graphics I
CS 4188	Computer Networks

Required Courses for the Computer Sciences Division (**51** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**15** semester credit hours).

The **total semester credit hours** required for completion of the Computer Sciences concentration are one hundred thirty-two (**132**).

MINOR IN COMPUTER SCIENCES

A minor in Computer Sciences can be obtained with a minimum of 15 semester credit hours.

Required Courses:

CS 2132	Theoretical Foundations of Computing
CS 2230	Computer Organization
CS 3178	Introduction to Database Management
CS 3380	File Processing and Design of Database Structures
CS 4185	Interactive Computer Graphics I
or	
CS 4188	Computer Networks

REQUIRED COURSES FOR THE ENGINEERING DIVISION

Required by Most Engineering Division Students (59 semester credit hours)

CDH 3401	Signals and Systems
CS 1121	Pascal I
CS 1122	Pascal II
CS 2241	Numerical Analysis I
EE 3307	
or	
CDH 3411	Electric Circuit Theory I or Electronics I
EE 3319	Electronic Lab I
EE 3303	Electronics I
MA 1124	Calculus II
MA 2225	Multivariate Calculus
MA 2226	Differential Equations
MA 3242	Linear Algebra
MA 3401	Fourier Series and Partial Differential Equations
ME 1105	Technical Drawing
ME 1105B	Computer-Aided Drafting
ME 2301	Engineering Mechanics I
ME 3302	Engineering Mechanics II: Dynamics
PY 2212	General Physics II
PY 2222	General Physics Lab II
PY 2253	Vibrations and Waves

Electrical Engineering

Electrical Engineering mainly refers to the generation, transportation and storage of electrical energy and the electrical processing and transfer of information. In freshman and sophomore years, electrical engineering students obtain a strong background in the physical sciences, mathematics, and computational methods. This background forms the basis for electrical engineering studies which include courses in electrical and electronic circuits, semiconductor devices, signal and systems analysis, digital systems and control systems.

In addition to the required courses, an electrical engineering student registers for two technical elective courses. The technical electives concentration gives the student the opportunity to specialize in fields such as communications, solid state devices, digital signals processing, control systems and electromagnetics which will help the student to pursue further studies.

Required Courses for the Electrical Engineering Concentration (**26** semester credit hours)

EE 3308	Electric Circuit Theory II
EE 3320	Electronic Circuits II or Electronics II
or	
CDH 3412	Electronics II
EE 3322	Electronic Lab II
EE 3402	Control Systems
or	
CDH 4421	Digital Circuits
EE 4310	Electromechanical Energy Conversion I
or	
CDH 4415	Communication Systems
EE 4380	Digital Signal Processing
EE 3300	Probability and Statistics
EE 3304	Energy and Thermodynamics

Required Courses for the Engineering Division (**59** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**11** semester credit hours).

The **total semester credit hours** required for completion of the Electrical Engineering concentration are one hundred thirty-five (**135**).

Engineering Science

This concentration in Engineering Science consists of the study of the principles and methods of many areas of engineering. Furthermore, the curriculum invites the well-prepared student to organize, with faculty advice, a specially tailored engineering concentration of his/her own interest utilizing the academic offerings of the entire institution.

Students with a concentration in Computer Sciences schedule the common lower division curriculum during their freshman and sophomore years; strong academic performance is expected. Before the end of their sophomore year, students must select all courses to be taken in their junior and senior years. The courses must form a well-defined program with a meaningful objective. Each student's academic qualifications and general engineering program must be approved by his/her advisor. Juniors normally may not enter this program.

Required Courses for the Engineering Science Concentration (**26** semester credit hours)

ME 3303	Fluid Mechanics I
ME 3304	Energy and Thermodynamics
EE 3308	Electric Circuit Theory II
ME 4409	Engineering Economy

Three courses level 3xxx or above for selected orientation

Required Courses for the Engineering Division (**59** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**11** semester credit hours)

The **total semester credit hours** required for completion of the Engineering Science concentration are one hundred thirty-five (**135**).

OPTIONS IN ENGINEERING SCIENCE

Civil Engineering

Civil Engineering is the original of the engineering disciplines. With the increase in population, the growing complexity of industries, and changing urban centers, the civil engineer's task-applying science to the control and utilization of the environment for the total benefit of mankind represents a challenge unsurpassed in all of engineering.

The civil engineer often is confronted with conditions so variable and complex that they cannot be precisely defined by science and mathematics. Therefore, knowledge of the arts and social sciences, as well as the physical sciences, is essential. In addition, because civil engineering requires overall planning of very large projects whose components involve many other disciplines, it is also necessary to have knowledge of management techniques. The goal of the civil engineering degree program is to provide an education that enables graduates to make far-reaching decisions that draw not only from technical knowledge but also from integrity and judgment.

In the professional courses, classroom lectures are supplemented by laboratory practice, including the study of materials, concrete, hydraulics, environmental engineering, geotechnical engineering, and surveying. The principal functional areas that are considered subdivisions of civil engineering are structural engineering, transportation engineering, geotechnical engineering, environmental engineering, water resources engineering, and construction management.

The options of Civil and Architectural Engineering provide introductory undergraduate education in these six sub disciplines of civil engineering and provide professional specializations in the areas of structural, geotechnical, transportation, civil-environmental, construction engineering and architectural engineering.

Required Courses (**26-28** semester credit hours)

EK 3131	Structural Theory I
EK 3132	Structural Theory II
EK 3168	Introduction to Geotechnical Engineering
EK 3305	Mechanics of Materials
EK 4191	Metal Structures
EK 4192	Reinforced Concrete Structures
EK 4193	Hydraulics
EK 4196	Design and Cost Analysis of Civil Engineering Structures
EK 4198	Research

Required Courses for the Engineering Division (**61** semester credit hours)

General Education Requirements (**39** semester credit hours)

General Electives (**6** semester credit hours)

Total of one hundred thirty-two to one hundred thirty-four (**132-134**) semester credit hours.

Architectural Engineering

Architectural Engineering is a building-oriented discipline, which offers students an opportunity to obtain an engineering education specializing in building architecture, building-system integration, and structural and computer-aided design.

Professional architectural engineers are concerned with the structural integrity of buildings; the performance of mechanical, acoustic, electrical and sanitation systems; lighting; systems and energy conservation; and the management of construction resources and schedules. Graduates of the Architectural Engineering program will be well prepared for careers as consulting engineers, building contractors, construction managers, structural engineers and knowledgeable specialists in related areas of building design and analysis.

Architectural Engineering shares much in common with Civil and Mechanical Engineering but is distinct in its exclusive concentration on building projects. Architectural Engineering students should have an aptitude in and an appreciation of the following areas of knowledge: basic principles of mathematics; physics and chemistry; manual and computer-aided drafting and design; surveying; construction materials; engineering mechanics; structural analysis and design; building-system integration; and professional practice and ethics.

Required Courses (**30** semester credit hours)

EK 3212	Principles of Environmental Systems
EK 4211	Structural Design I
EK 4212	Structural Design II
EK 4213	Environmental Systems
EK 4214	Environmental Controls
EK 4234	Seminar in Urban Design
EK 4217	Architectural Materials
EK 4218	Construction Methods
EK 4221	Seminar in Architectural Philosophy
EK 4248	Computer Graphics

Required Courses for the Option in Architectural Engineering (**18** semester credit hours)

EK 2211	Principles of Environmental Systems I
EK 2212	Principles of Environmental Systems II
EK 3201	Environmental Design Studio I
EK 3202	Environmental Design Studio II

Required Courses for the Engineering Division (**46** semester credit hours)

MA 1124	Calculus II
MA 2225	Multivariate Calculus
MA 2226	Differential Equations
EE 3307	Electric Circuit Theory I
EE 3308	Electric Circuit Theory II
PY 2212 and PY 2222	General Physics II and General Physics Lab II
PY 2253	Vibrations and Waves
CS 1121	Pascal I
CS 1122	Pascal II
CS 2241	Numerical Analysis
ME 1105	Technical Drawing
ME 2301	Engineering Mechanics I: Statics
ME 3302	Engineering Mechanics II: Dynamics

General Education Requirements (**39** semester credit hours)

General Electives (**3** semester credit hours)

Total of one hundred and thirty-seven (**137**) semester credit hours.

Manufacturing Engineering

One of the salient features of contemporary life is the rate at which our social, economic, and cultural life is changing. Nowhere is the acceleration more evident than in the manufacturing industries. Manufacturing concerns today are dislocated severely by the urgent pressures to use new technology and machinery more rapidly and to employ people and computers more profitably.

The job of the manufacturing engineer is to make the process of technological change in manufacturing as orderly, profitably and socially acceptable as possible. Since the problems involved are not only technical but also social, economic, and cultural, the manufacturing engineer must have broad training in non-technical areas. Such breadth is provided in this liberal engineering program.

The courses in the curriculum provide the introduction to technical skills in product development, materials, processes, and production that the manufacturing engineer requires. The use of digital control techniques in manufacturing is emphasized.

The program builds on three laboratories: materials processing, computer-aided manufacturing (CAM) and computer-aided design (CAD). These laboratories are integrated into the appropriate academic courses. In addition, they are available for all interested engineering students to use in independent projects of their own choosing with support from departmental faculty members.

Required Courses for the Manufacturing Engineering Concentration (**28** semester credit hours)

MA 3300	Probability and Statistics
ME 3305	Mechanics of Materials
ME 3306	Materials Science
ME 4409	Engineering Economy
MN 4409	Operations Research
MN 4411	Thermal Processing
MN 4465	Materials Processing

Required Courses for the Engineering Division (**59** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**9** semester credit hours)

The **total semester credit hours** required for completion of the Manufacturing Engineering concentration are one hundred thirty-five (**135**).

Mechanical Engineering

The objective of the concentration in Mechanical Engineering is to provide students with the fundamentals of engineering subjects: solid and fluid mechanics, thermodynamics, heat transfer, and energy conversion. These fundamentals enable them to work in a variety of industrial applications involving machines and mechanical processes, energy production, conversion, and utilization, new product design, etc.

The undergraduate curriculum provides a strong foundation in fundamental topics combined with technical electives chosen to suit particular interests. Students completing this concentration achieve a level of education and training, through internships in innovative companies, appropriate for positions of engineering responsibility in industry. This training enables them to pursue solutions to technical problems with particular concern of their impact on society.

Required Courses for the Mechanical Engineering Concentration (**28** semester credit hours)

ME 3303	Fluid Mechanics
ME 3304	Energy and Thermodynamics
ME 3305	Mechanics of Materials
ME 4413	Machine Design I
ME 4414	Machine Design II
ME 4430	Energy Conversion
ME 4519	Heat Transfer

Required Courses for the Engineering Division (59 semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**9** semester credit hours)

The **total semester credit hours** required for completion of the Mechanical Engineering concentration are one hundred thirty-five (**135**).

Ocean Engineering

Ocean engineering deals with the design of ships of all types. The field is often called naval architecture. It involves fluid mechanics, propulsion, structures, vehicle dynamics and marine engineering. The curriculum culminates in an international award-winning design sequence in which students design a complete ship.

Required Courses for the Ocean Engineering Concentration (**28** semester credit hours)

ME 4016	Hydrodynamics
ME 4017	Design of Systems Operating in Random Environments
ME 4019	Design of Ocean Systems
ME 4082	Ship Structural Analysis and Design
ME 4737	Mechatronics

Required Courses for the Engineering Division (**59** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**9** semester credit hours)

The **total semester credit hours** required for completion of the Mechanical Engineering concentration are one hundred thirty-five (**135**).

Course Descriptions

Courses numbered at the 1000 level are intended primarily for freshmen; courses numbered at the 2000 level, for sophomores; and courses at the 3000 and the 4000 levels, for juniors and seniors. Some advanced courses are not offered every year but are scheduled in cycles. Computer, Natural Sciences and Engineering Studies reserve the right to limit the number of students registered in any course and to cancel any course for which there is insufficient enrolment. The number in parenthesis after the title of each course indicates semester credit hours of the course.

Computer Hardware and Digital Electronics (CDH)

CDH 3311 Introduction to Logic Design (4)

Prerequisite: EE 3307. Introduction to hardware building blocks used in digital computers. Arithmetic and logic functions. Boolean algebra. Combinatorial and sequential circuit synthesis. Buses, registers, and other system design techniques. 2 lab.

CDH 3312 Small Computer Systems (4)

Prerequisite: CDH 3311. Introduction to structures and techniques used in digital system design. Design with available SSI, MSI, and LSI logic circuits and memories. Applications of microprocessors and microcomputers. Minicomputers - Machine language programming, software support, I/O structures, and interface design. 2 lab.

CDH 3401 Signals and Systems (4)

Prerequisites: MA 2226, EE 3308. Continuous and discrete time signals and systems, convolution integral and series, linear time invariant systems. Fourier transform and series. Filtering, modulation and sampling processes, Laplace and Z-Transform.

CDH 3402 Control Systems (4)

Prerequisite: CDH 3401. Analysis of linear feedback systems, their characteristics, performance, and stability. The Routh-Hurwitz, root-locus, Bode and Nyquist techniques. Design and compensation of feedback control systems. 2 labs.

CDH 3411 Electronics I (3)

Prerequisite: EE 3307; **co requisite**: EE 3319 (lab). Principles of diode and transistor circuits, device models and physics. Equivalent circuits, graphical and analytical means of analysis. Biasing, stabilization, frequency response, FETs, operational amplifiers.

CDH 3412 Electronics II (3)

Prerequisite: CDH 3411; **co requisite**: EE 3322 (lab). Advanced electronics. Topics: feedback amplifiers, sinusoidal and non-sinusoidal oscillators; principles of operational amplifiers as system elements; saturated device operation, IC manufacture, active bias point stabilization. Principles of operation of power electronic devices.

CDH 4380 Digital Signal Processing (3)

Prerequisite: EE 3307. Time and frequency-domain analysis of discrete-time signals and systems: Discrete Fourier Transform (DFT); Z transform; linearity; shift-invariance; convolution; relations to continuous time signals (sampling theory). Efficient algorithms (FFT) for computation of DFT: applications to convolution. Theory and design of infinite-impulse response (IIR) filters. Introduction to finite-impulse response (FIR) filters. Some computer programming and simulation.

CDH 4415 Communication Systems (4)

Prerequisite: CDH 3401. Signal analysis, transmission of signal and power density spectra: amplitude

modulation, angle modulation, pulse modulation, and various forms of pulse-code modulation systems. Noise and noise calculation in the performance of various forms of pulse-code modulation systems. Noise and noise calculation in the performance of various communication systems. Information

transmission.

CDH 4421 Digital Circuits (4)

Prerequisites: CDH 3311, CDH 3411. Detailed study of bipolar and MOS family integrated circuit logic family characteristics. Design and implementation of digital circuits using available LSI and MSI logic circuits. Interface considerations. Data conversion, displays, memories, microprocessor hardware.

CDH 4466 Senior Design Project (2)

Prerequisite: senior standing. A practical design course for seniors in electrical or computer hardware based on an assigned project. At the end of the course, a typewritten, bound report on the project is submitted. Hours by arrangement.

CDH 4546 Computer Communication and Networks (3)

Prerequisite: CDH 3312. Same as CS 4188.

Computer Information Systems (CIS)

CIS 1230 Introduction to Computing (3)

No prerequisite. This course provides an introduction to computer systems from the user's viewpoint. The course includes technical vocabulary, MS-DOS, spreadsheets and word processing at various levels. The special design of the course will allow the student to have optical contact, hands-on computers and an introduction to the institution's computing system. Open to all students. Designed primarily for students other than those enrolled in the Computer Sciences Department. Software required: Microsoft Excel, Word.

CIS 1238 Computer Concepts and Applications (3)

Prerequisite: CIS 1230. This course provides an overview of computer hardware and software and discusses the range of current applications including data base, spreadsheet, and project management. Software required: Microsoft PowerPoint, Access.

CIS 3100 Computer Lab (2)

Familiarizes students with operating systems such as UNIX and packages such as Windows or any other current issue. 1 lecture hour. 2 labs.

CIS 3200 Application Programming (2)

Prerequisite: CS 1121. Concepts of programming, SQL programming languages, non-numeric programming. A project is required.

CIS 3300 Management Information Systems (3)

Prerequisites: MAN 2101, CIS 1238. A course designed for future managers and entrepreneurs who will use and manage information system resources. Not designed for computer literacy but concentrates on the management, planning and control of information systems and the use of computers to aid in decision-making.

CIS 4446 Systems Analysis and Design (3)

Prerequisite: CS 3178 and permission of the instructor. This course instructs students in the methods available to accomplish the tasks of a systems analyst. The student will become acquainted with the necessary tools and techniques used in phases of a systems analyst's job. A familiarity with designing a computerized method for business data processing, whether in a small or large company, will be acquired. All of the individual concepts of the course will be tied together by the completion of an oral and written project by the student in which he/she designs a complete system for a business organization.

CIS 4450 Computing Seminar (3)

Prerequisite: CIS 4446. This is a course designed to allow the student to investigate the current topics in the field of computers. These will vary to include the most recent developments, as well as a look at the expectations for the future, in this innovative and fast-growing field.

CIS 4515 Information Systems (3)

No prerequisite. A comprehensive analysis of the impact of computer-based information systems on decision-making, planning and control; in organizational structures to accommodate information technology; and finally the design of information systems to facilitate management of the traditional functional areas within a firm.

Computer Science (CS)

CS 1121 Pascal I (3)

No prerequisite. Analysis of problems using computer-oriented algorithms and Pascal. Concentrating on logic and program-solving, conditions, loops, standard data types, procedure, functions, recursion. 3 lecture hours. Two hours lecture, two hours lab per week.

CS 1122 Pascal II (3)

Prerequisite: CS 1121. Continuation of CS 1121. Advanced concepts in Pascal with emphasis on applications. New topics include simple and multidimensional arrays, user-defined data structures, files and data manipulation, pointers.

CS 2132 Theoretical Foundations of Computing (3)

Prerequisite: CS 1122. General algorithms. Algorithms' theory, Turing machines. Basic hardware parts of a computer. Introduction to operating systems, compilers, and data models.

CS 2230 Computer Organization (3)

Prerequisite: CS 1122. Logical structure of computer systems, virtual machines informal representation, instruction codes, arithmetic and logical operations, flow of control, etc.

CS 2241 Numerical Analysis (3)

Prerequisites: MA 1124, CS 1122. Methods of interactive computer graphics are introduced in the context of engineering problem-solving with emphasis on numerical computations. Discrete and analytical representations, data structures, array arithmetic, graphical representations, and data analysis.

CS 2243 C Language (3)

Prerequisites: CS 1122, CS 2241. Introduction to C Language.

CS 2283 Programming and Data Structures (3)

Prerequisites: CS 1122, CS 2132. Data structures used in computer programming and algorithms. Use of tree structures, arrays, lists, stacks, files, strings, and linked structures. Sorting, searching, hashing, and merging of data. Performance of algorithms using different data structures.

CS 3156 Introduction to Operating Systems (3)

Prerequisite: CS 2283. Introduction to operating systems, evaluation of operating systems services. Process management, process state, concurrent processing, synchronization, events. Operating system structure, the kernel approach, processor scheduling, task switching, monitors. System management, memory management, process loading, resource allocation, queue management, communication with peripherals. File systems. Interactive computation. Protection systems. Performance evaluation.

CS 3178 Introduction to Database Management (3)

Prerequisite: CS 2283. Design and architecture of database systems. Query formulation, data models, data structures to minimize access time, relational data structures. Construction of a database management system. Survey of existing systems.

CS 3293 Data Mining (3)

Prerequisites: CS 3178, CS3156, CIS 3300. This course helps the students to understand the use of powerful data mining technologies to solve important business challenges. Additionally, they will learn how data mining can help them find relationships and patterns, such as customer buying habits, within the huge stores of data they gather every day. They will understand how data mining is defining next-generation e-commerce. It describes how to develop a data mining strategy and how to apply data mining in specific vertical markets. Case studies will be included. Two hours lecture, two hours lab per week.

CS 3303 Computer Graphic Applications I (3)

No prerequisite. This course fully covers the use of the most current and widely used graphic design software. Two hours lecture, two hours lab per week.

CS 3333 Computer Graphic Applications II (3)

No prerequisite. This course is designed to help the graphic designer achieve professional studio techniques that include custom typographic treatments and special photographic effects. Emphasis is placed on technical proficiency and aesthetic judgments. Two hours lecture, two hours lab per week.

CS 3334 Design for Multimedia (3)

No prerequisite. This course concentrates on training the graphic designer to develop effective graphic design interfaces for the electronic media. The goals of this course focus on CD-ROM Interactive packages to create design solutions for electronic books and magazines, interactive information and learning sequences, presentations, interactive television and the growing popularity of on-line services and graphic interfaces. Two hours lecture, two hours lab per week.

CS 3380 File Processing and Design of Database Structures (3)

Prerequisites: CS 2283, CS 2243 or consent of the instructor. Introduces concepts and techniques of structuring data on information storage and retrieval access, random access, inverted list, multi list, indexed sequential and hierarchical structures.

CS 4173 Theory of Computer Translators (3)

Prerequisites: CS 2132, CS 2243. Lexical analysis, syntax analysis, data structures and operators, regular expressions, context-free grammars, parsing techniques, top-down parsing, efficient parsing, syntax-directed translation, intermediate formats, flow of control, block structures, procedure calls, symbol tables, run-time storage, error-detection and recovery, code optimization, code generation.

CS 4185 Interactive Computer Graphics (3)

Prerequisites: CS 2132, CS 2283, CS 2243. Two-dimensional interactive computer graphics. Relevant hardware; basic concepts and organization of graphics sub-routine packages; programming concepts for interaction, display, and data structuring; basic clipping and scan-conversion algorithms; two- and three-dimensional homogeneous coordinates. A project is required. Two hours lecture, two hours lab per week.

CS 4188 Computer Networks (3)

Prerequisites: CS 2132, CS 2243. Use of computer networks, network architecture. The OSI reference model, network standardization, packet switching, routing, etc. Local area networks and point-to-point interconnections. Examples of systems.

CS 4195, 4196, 4197 Special Topics in Computer Science (1, 2, 3)

Prerequisite: senior status. Topic to be announced in the schedule of classes. Hours by arrangement.

CS 4198 Senior Thesis (4)

Prerequisite: senior status. Applied research and experimentation projects, as arranged by the Chairperson and faculty. Intended for students having an aptitude for research and a grade of "B", or better, in all concentration courses.

CS 4313 Advanced Computer Modelling 3D Animation (3)

This course covers applications on computer modelling and 3D and animation. Two hours lecture, two hours lab per week.

CS 4336 Graphic Design Studio I (3)

Prerequisites: CS 3303, CS 3333. This course emphasizes the development of creative strategies for problem solving and investigates market related design issues. Included is a focus on establishing effective design methods and reinforcing previous graphic design knowledge and skills. Students are expected to demonstrate effective design process and project management skills. Two hours lecture, two hours lab per week.

CS 4337 Graphic Design Studio II (3)

Prerequisite: CS 4336. This course consolidates previous graphic design knowledge and skills, offering each student the opportunity to focus on a major self-initiated design project. The course places emphasis on research, analysis and design process, leading to creative conceptualization and final design solutions. Students are expected to demonstrate sophisticated design decisions and to produce

design solutions that reflect a high level of expertise and achievement. Two hours lecture, two hours lab per week.

CS 4420 Computer Architecture (3)

Prerequisite: CS 4472. This course covers the basic issues in the architecture of a conventional computer system. Includes: data representation, adder, serial multiplier and divider, registers, control unit, 2D and 2 1/2D memory organization, fault tolerant memory, virtual memory, and input/output processing. A design project using the techniques developed in the course is required. 3 lecture hours. Two hours lecture, two hours lab per week.

CS 4470 I (2) CS 4472 Computer Lab II (2)

Prerequisite: CS 4370. This design-oriented laboratory covers the integration of specific microprocessors and its related support components. Included in the course are the design, integration and checkout of subsystem memory, standard I/O, and special purpose support. 4 labs.

Electrical Engineering (EE)

EE 3300 Probability and Statistics (4)

Same as MA 3300.

EE 3303 Electronic Circuits I (3)

Same as CDH 3411.

EE 3304 Energy and Thermodynamics (4)

Same as ME 3304.

EE 3307 Electric Circuit Theory I (4)

Prerequisites: PY 2212, MA 2226. An introduction to electrical circuit science including energy concepts, voltage-current relations of circuit elements, Kirchoff's circuit laws and equivalent sources; elementary transient circuit behavior, fundamentals of single phase a.c. circuits. 2 labs.

EE 3308 Electric Circuit Theory II (4)

Prerequisite: EE 3307. Sinusoidal currents, three-phase currents, transformations in circuit analysis, two-port networks. 3 lecture hours, 2 labs.

EE 3311 Introduction to Logic Design (4)

Prerequisite: EE 3307. Same as CDH 3311.

EE 3312 Small Computer Systems (4)

Prerequisite: EE 3311. Same as CDH 3312.

EE 3313 Electrical Material and Devices (4)

Prerequisite: MA 2226 or consent of the instructor. Introduction to quantum mechanics and solid-state materials. Conductors, semi-conductors, dielectric and magnetic materials are examined, and devices are developed. A design project is required based on topical information presented in the course.

EE 3319 Electronic Lab I (1)

Prerequisite: EE 3303 or **corequisite**: EE 3303. Design experiments associated with topics presented in EE 3303. 2 lab.

EE 3320 Electronic Circuits II (3)

Same as CDH 3412.

EE 3322 Electronic Lab II (1)

Prerequisite: EE 3319; corequisite: EE 3320. Design experiments associated with topics presented in EE 3320. 2 labs.

EE 3401 Signals and Systems (4)

Same as CDH 3401.

EE 3402 Control Systems (4)

Same as CDH 3402.

EE 4113 Network Analysis and Design (3)

Prerequisite: EE 3307. Same as CDH 4546.

EE 4198 Internship (4)

This internship is designed for engineering science experience in an industrial environment. In order to accomplish this, the student will spend two months working in a local industrial environment. The student will be supervised and evaluated by an engineering professional.

EE 4310 Electromechanical Energy Conversion (3)

Prerequisite: MA 2226. Provides basic knowledge of electromechanical energy and conversion principles needed by all engineering students. Includes magnetic circuits, transformers, DC and AC machinery, rectification, stepping motors and power processing systems.

EE 4380 Digital Signal Processing (3)

Prerequisite: EE 3307. Same as CDH 4380.

EE 4415 Communication Systems (4)

Same as CDH 4415.

Engineering (EK)

EK 1103 Introduction to Architectural Design (3)

No prerequisite. Introductory course for architecture and civil engineering students. Covers basics in architectural history, essentials of architectural synthesis, primary design considerations, financing; structural; components, construction methods, electrical-mechanical systems, energy conservation and lighting, presentation methods, etc.

EK 1106 Freehand Perspective Drawings (3)

Prerequisite: EK 1103. Introductory course in presentational perspective drawing aimed mainly at architecture and interior design students who have no drawing experience. Covers freehand sketching and rendering; light and shade; two-point perspective; quick visual presentation of objects and concepts.

EK 2107 Architectural Design I (3)

Prerequisite: EK 1103. This course is addressed to students having already followed EK 1103 or having an adequate knowledge of architectural drawing fundamentals.

EK 2110 Introduction to Engineering Geology (3)

No prerequisite. Engineering principles and processes and their application to civil and mechanical engineering.

EK 2201 Introduction to Ionizing Radiation (3)

This course provides an introduction to the basic properties of ionizing radiations and their uses in medicine, industry, science, and environmental studies. We will discuss natural and man-made radiation sources, energy deposition and dose calculations, and various physical, chemical, and biological processes and effects of radiation, with examples of their uses, and principles of radiation protection.

EK 2202 Introduction to Applied Nuclear Physics (3)

Basic concepts of nuclear physics with emphasis on nuclear structure and radiation interactions with

matter. Elementary quantum theory; nuclear forces; shell structure of the nucleus; alpha, beta, and gamma radioactive decays; interactions of nuclear radiations (charged particles, gammas, and neutrons) with matter; nuclear reactions; fission and fusion.

EK 2211 Principles of Environmental Systems I (3)

No prerequisite. Introduction to the principles and elements of natural systems (climate, water, air, earth, etc.) and to the building envelope as mediator of heat, light and sound. 3 lecture hours.

EK 2212 Principles of Environmental Systems II (3)

No prerequisite. Introduction to the concepts of urban systems and to the principles of structural systems.

EK 2251 Systems Analysis of the Nuclear Fuel Cycle (3)

This course provides an in-depth technical and policy analysis of various options for the nuclear fuel cycle. Topics include uranium supply, enrichment fuel fabrication, in-core physics and fuel management of uranium, thorium and other fuel types, reprocessing and waste disposal. Also covered are the principles of fuel cycle economics and the applied reactor physics of both contemporary and proposed thermal and fast reactors. Non-proliferation aspects, disposal of excess weapons plutonium, and transmutation of actinides and selected fission products in spent fuel are examined. Several state- of-the-art computer programs are provided for student use in problem sets and term papers.

EK 2256 Magnetic Resonance Analytic, Biochemical, and Imaging Techniques (3)

This course is an introduction to basic NMR theory. Examples of biochemical data obtained using NMR are summarized along with other related experiments. Students participate in detailed study of NMR imaging techniques, including discussions of basic cross-sectional image reconstruction, image contrast, flow and real-time imaging, and hardware design considerations. Exposure to laboratory NMR spectroscopic and imaging equipment is included.

EK 2258 Principles of Medical Imaging (3)

An introduction to the principles of tomographic imaging and its applications. It includes a series of lectures with a parallel set of recitations that provide demonstrations of basic principles. Both ionizing and non-ionizing radiation are covered, including x-ray, PET, MRI, and ultrasound. Emphasis on the physics and engineering of image formation.

EK 3031 Structural Design I (3)

Prerequisites: ME 2301, ME 3302. Design loads; factors of safety; load and resistance factors for steel and timber structures. Experimental and analytical study of steel and timber materials subjected to various states of stress. Failure theories yield and post-yield criteria are treated. Fatigue and fracture mechanics phenomena are related to design practice. The design of tension timber, beams and columns in steel and timber.

EK 3071 Structural Design II (4)

Prerequisite: EK 3031. Design loads, factor of safety; load and resistance factors for concrete structure. Properties of concrete-making materials and the proportioning of concrete mixtures. Experimental and analytical study of plain and reinforced concrete subjected to various states of stress. Failure theories and the ultimate strength of plain and reinforced concrete structural components. The design of beams, columns and slabs in reinforced concrete.

EK 3121 Engineering Systems Analysis (3)

Prerequisites: ME 2301, ME 3302. Applications of engineering and economic concepts and analysis to civil engineering systems; practical applications of elementary probability and statistics, operations research and economics in civil engineering.

EK 3131 Structural Theory I (3)

Prerequisites or **concurrent registration:** ME 2301, ME 3302. Theory of statically determinate structures; stability and determinacy; influence lines and moving loads. Analysis of roof systems and

cable structures. Calculation of deflections. Approximate methods of analysis of indeterminate structures. 3 lecture hours.

EK 3132 Structural Theory II (3)

Prerequisite: EK 3121. Theory of statically indeterminate structures using matrix methods and classical approaches such as moment distribution and slope-deflection; influence lines; energy methods.

EK 3151 Materials of Construction (3)

Prerequisites: ME 2301, ME 3302. Physical principles of elastic and plastic deformation of construction. Mechanical testing methods including tensile, compressive, toughness, creep and fatigue. Properties of aggregates, concrete, masonry, wood, bituminous material, iron and steel, and other construction materials. The emphasis is on concepts from solid mechanics which explain the behavior of materials to the extent needed in the design of load-bearing constructs.

EK 3168 Introduction to Geotechnical Engineering (3)

Prerequisites: ME 2301, ME 3302. Soils and rock formation, soil composition, permeability, seepage and flow net analysis, stresses in soil medium, consolidation and settlement, shear strength of soil, analysis of lateral earth pressures, soil compaction.

EK 3201-3202 Environmental Design Studio (3, 3)

Prerequisites: EK 2211, EK 2212. A study of the design processes and methods of implementation in the solution of architectural and other environmental design problems at an intermediate level of complexity.

EK 3212 Principles of Environmental Systems III (3)

Prerequisite: EK 2212. Statics and strength of materials as an introduction to structural design.

EK 3222 Engineering of Nuclear Reactors (3)

This course covers the engineering principles of nuclear reactors, emphasizing power reactors. Specific topics include power plant thermodynamics, reactor heat generation and removal (single-phase as well as two-phase coolant flow and heat transfer), and structural mechanics. It also discusses engineering considerations in reactor design.

EK 3231 Soil Mechanics (4)

Prerequisites: ME 2301, ME 3302. Physical and mechanical properties of soils; elementary principles of soil identification and testing. Principles of soil permeability and seepage, consolidation, failure theories, earth pressures, and bearing capacity. 3 lecture hours, 1 hour lab.

EK 3305 Mechanics of Materials (4)

Same as ME 3305 Mechanics of Materials (4).

EK 4001 Light Sources (3)

Fundamental science of principles of light generation in modern electric sources; characteristics of influence application of light sources.

EK 4002 Advanced Architectural Sound (3)

Advanced study on the behavior of sound in rooms design of acoustical spaces; physical and computational modelling; measurement techniques; and introduction of sound reinforcement in rooms.

EK 4011 Building Systems Integration Studio I (3)

Prerequisite: EK 3151. Principles and elements of design; synthesis of structural, mechanical, electrical, sanitary and construction, considering interrelationship in performance and economics. Emphasis will be given to system identification, typical usage and manner or means of integration.

EK 4021 Building Systems Integration Studio II (3)

Prerequisite: EK 4011. Continuation of EK 4011. An in-depth review of interference design. Design and detailed development of major architectural project integrating all aspects of architecture and related

disciplines in a professional manner and milieu.

EK 4111 Physical Metallurgy (3)

This course examines how the presence of 1-, 2- and 3D defects and second phases control the mechanical, electromagnetic and chemical behavior of metals and alloys. It considers point, line and interfacial defects in the context of structural transformations including annealing, spinodal decomposition, nucleation, growth, and particle coarsening. In addition, it concentrates on structure-function relationships, and in particular how grain size, interstitial and substitutional solid solutions, and second-phase particles impact mechanical and other properties. Examples include microelectronic circuitry, magnetic memory and drug delivery applications.

EK 4112 Sustainable Energy (3)

This course assesses current and potential future energy systems, covers resources, extraction, conversion, and end-use, and emphasizes meeting regional and global energy needs in the 21st century in a sustainable manner. Different renewable and conventional energy technologies will be presented including biomass energy, fossil fuels, geothermal energy, nuclear power, wind power, solar energy, hydrogen fuel, and fusion energy and their attributes described within a framework that aids in evaluation and analysis of energy technology systems in the context of political, social, economic, and environmental goals.

EK 4113 Experimental Methods in Mechanical Engineering I (3)

Introduction to basic instrumentation and experimental methodology of selected material properties and solid mechanical and fluid/thermal quantities used in engineering, including calibration, use, precision and accuracy. Statistical methods and uncertainty analysis applied to data reduction. Consideration of errors, precision and accuracy in experimental measurements. Preparation of technical reports.

EK 4114 Experimental Methods in Mechanical Engineering II (3)

Students gain practical insight and improved understanding of engineering experimentation through design and execution of "project" experiments. Students construct and test equipment, make systematic experimental measurements of phenomena, analyze data, and compare theoretical predictions with results. Deliverables comprise a written final project report and formal oral presentations. Instructions on oral presentations and multi-section reporting are given.

EK 4191 Metal Structures (3)

Prerequisites: EK 3131, EK 3132. Principles of the design of metal structures, structural elements, connections, specific problems of analysis, methods of construction, professionalism in design. A design project, including the use of computer software and a detailed report, is required. 3 lecture hours.

EK 4192 Reinforced Concrete Structures (3)

Prerequisites or concurrent registration: ME 2301, ME 3302. Properties of concrete and reinforcement; design of shear reinforcement; development of reinforcement; design of columns, floor slabs and building frames; ethics and professionalism in design. A design project, including the use of computer software and a detailed report, is required.

EK 4193 Hydraulics (3)

Prerequisite ME 3303. Fluid static: pressure forces, buoyancy, and flotation. Application of kinematics principles; flow fields, stream tubes, and flow nets. Fluid dynamics: applications to pipe flow, hydraulic models, measurement of pressure, and velocity. Open channel flow: applications to water resources engineering.

EK 4196 Design and Cost Analysis of Civil Engineering Structures (3)

Prerequisite: senior status. Total structural systems concepts. Design of civil engineering structures such as piers, wharves, bulkheads, offshore platforms, dams and other special structures. Principles of cost analysis for timber, steel, and reinforced concrete structures. Project and report are required.

EK 4197 Research (1 to 3)

Prerequisite: junior or senior status. Applied research and experimentation projects, as arranged.

EK 4198 Internship (4)

Prerequisite: senior status. This internship is designed for engineering science experience in an industrial environment. In order to accomplish this, the student will spend two months working in a local industrial environment. The student will be supervised and evaluated by an engineering professional.

EK 4211-4212 Applied Structural Design (3-3)

Prerequisite: EK 2212. The development of basic applied knowledge in the design of structural elements and systems using the common constructional materials in accordance with relevant code requirements.

EK 4213 Environmental Systems (3)

No prerequisite. Introduction to the natural phenomena of the luminous, thermal, and acoustical environments and the principles of the design of man-made environmental controls. Emphasis is given to the study of energy-efficient lighting, heating, ventilating, and air conditioning systems. 3 lecture hours.

EK 4214 Environmental Controls (3)

Prerequisite: EK 3212. Mechanical and electrical systems design with emphasis on the building envelope, energy codes, and the design, of energy-efficient buildings. Systems studied include typical heating and air conditioning systems, heat pumps, active solar systems, and architectural lighting and electrical distribution systems.

EK 4216 Environmental Controls Seminar (3)

Prerequisite: EK 3212. A study of recent installation in lighting and electrical distribution systems, heating, ventilating, and air conditioning systems, domestic hot and cold-water supply and distribution systems, sanitary and storm drainage, fire protection, vertical transportation, and communications systems within buildings. Emphasis is placed on the investigation of energy-efficient systems.

EK 4217 Architectural Materials (3)

Prerequisites: EK 4211, EK 4212. Introduction to materials and the criteria for selection in architectural structures.

EK 4218 Construction Methods (3)

Prerequisite: EK 3151. A systematic approach to construction. Investigation of systems, concepts, and systems building. Open to majors only. 3 lecture hours.

EK 4221 Seminar in Architectural Philosophy (3)

Prerequisite: senior status. In-depth explorations into 20th century architectural philosophy. Important philosophical trends, socio-cultural forces, and personalities will be examined.

EK 4224 Fundamentals of Advanced Energy Conversion (3)

This course covers fundamentals of thermodynamics, chemistry, flow and transport processes as applied to energy systems. Topics include analysis of energy conversion in thermo-mechanical, thermo-chemical, electrochemical, and photoelectric processes in existing and future power and transportation systems, with emphasis on efficiency, environmental impact and performance. Systems utilizing fossil fuels, hydrogen, nuclear and renewable resources, over a range of sizes and scales are discussed. Applications include fuel reforming, hydrogen and synthetic fuel production, fuel cells and batteries, combustion, hybrids, catalysis, supercritical and combined cycles, photovoltaics, etc. The course also deals with different forms of energy storage and transmission, and optimal source utilization and fuel-life cycle analysis.

EK 4229 Nuclear Power Plant Dynamics and Control (3)

This short course provides an introduction to reactor dynamics including sub critical multiplication, critical operation in absence of thermal feedback effects and effects of Xenon, fuel and moderator temperature, etc. Topics include the derivation of point kinetics and dynamic period equations; techniques for reactor control including signal validation, supervisory algorithms, model-based trajectory tracking, and rule-based control; and an overview of light- water reactor start-up. Lectures and demonstrations employ computer simulation and the use of the MIT Research Reactor.

EK 4234 Seminar in Urban Design (3)

Prerequisites: EK 3201, EK 3202. Detailed analysis of urban design as influenced by technology, socio-cultural factors, and economics. Offered infrequently.

EK 4243 Advanced Architectural Graphics (3)

Prerequisite: senior status. Development of advanced skills in delineation and drawing supportive in architectural design.

EK 4244 Architectural Graphics II (3)

Prerequisite: senior status. This course covers the fundamental principles of Forms and Colors as well as their spatial effects in Architectural Design. Two hours lecture, two hours lab per week.

EK 4245 Architectural Graphics III (3)

Prerequisite: EK 4244. This course is a continuation of Architectural Graphics II. It goes into more details on the principles of Forms and Colors and their spatial effects in Architectural Design.

EK 4248 Computer Graphics (3)

No prerequisite. An introduction to computer graphic techniques and their application in solving architectural design problems. The course will entail a limited amount of programming, but primarily will involve the use of existing computer graphic software. Two hours lecture, two hours lab per week.

EK 4303 Architectural Design II (3)

Prerequisites: EK 1103, EK 2107. This course is a continuation of Introduction to Architectural Design (EK 1103) and Architectural Design I (EK 2107) and is intended to move the student from broad and general design considerations into more specific and complex design problems.

EK 4304 Architectural Design III (3)

Prerequisites: EK 1103, EK 2107, EK 4303. This course is a continuation of Introduction to Architectural Design (EK 1103), Architectural Design I (EK 2107) and Architectural Design II (EK 4303) and is intended to move the student from broad and general design considerations into more specific and complex design problems.

EK 4305 Architectural Design IV (3)

Prerequisites: EK 1103, EK 2107, EK 4303, EK 4304. This course is a continuation of Architectural Design III and is intended to teach the student more specific and complex design problems.

EK 4571 Geotechnical Foundation Design (3)

Prerequisites: ME 2301, ME 3302. Methods of subsoil exploration. Study of types and methods of design and construction of foundations for structures, including single and combined footings, mats, piles, caissons, retaining walls, and underpinning. Drainage stabilization. Two hours lecture, two hours lab per week.

EK 4711 Construction Planning and Scheduling (3)

Prerequisite: EK 3151. Planning, scheduling and progress control of construction operations. Critical Path Method and PERT. Resource levelling of personnel, equipment and materials. Financial control/ hauling of construction projects. Impact delay on precedence networks. Construction contract administration. Computer applications. Two hours lecture, two hours lab per week.

EK 4901 Environmental Systems

The objective of the course is to provide a basic description and understanding of environmental systems as the basis for environmental management and pollution control. It covers water, air, material, energy,

contaminant fate and transport and environmental policy, focusing on the interactions between the different systems with particular interest in engineered systems.

EK 4902 Fundamentals of Energy in Buildings

Fundamentals of Energy in Buildings provides a first course in thermo-sciences for students primarily interested in architecture and building technology. Throughout the course, the fundamentals important to energy, ventilation, air conditioning and comfort in buildings are introduced integrated to the energy consumption within buildings. The students will be asked to propose and assess innovative building designs, technologies and operating schemes that will yield an outstanding sustainable building.

GEOL 1101-1102 Introductory Physical and Historical Geology (4)

No Prerequisite. An introduction to the principal features of the composition structure and history of earth. Topics include minerals and rocks, physical processes, energy resources, plate tectonics, origin of life and evolution. Laboratory included.

GEOL 3011 Geophysics (3)

Prerequisites: GEOL 1101-1002, MA 1123, PY 2111. Basic Geophysics to assist the geological mapping and the solving of geological problems.

Mechanical Engineering (ME)

ME 1105 Technical Drawing (2)

No prerequisite. Co-requisite: CS 1122. Fundamental principles of mechanical drawing and drafting. Use of instruments lettering, applied geometry, orthographic projections, normal views, sections and conventions. Working drawings, assemblies and detail drawings, jigs and fixtures, welded parts, pictorials, perspectives, sketching, illustrating, and shading. Two hours lecture, two hours lab per week.

ME 1105B Computer-Aided Drafted (2)

Prerequisites: CS 1122, ME 1105. Introduction to computer-aided design of mechanical parts. Use of computers for engineering design, engineering drawings and drafting. Basic computer graphics for representing and displaying two- and three-dimensional objects in various stages of the design process. Emphasis on transforming geometric shapes into actual parts. Principles illustrated with selected projects. Two hours lecture, two hours lab per week.

ME 2108 Elementary Mechanical Design (2)

Prerequisite: ME 1105. Introduction to basic design practice in various areas, development of new concepts from a practical/hardware standpoint with emphasis on the use of standard parts. Design projects.

ME 2301 Engineering Mechanics I: Statics (4)

Prerequisites: MA 1124, PY 1211; **co-requisite:** MA 2225. Fundamentals of engineering statics. The concept of force and the moment of the force. Equilibrium of rigid bodies equilibrium and analysis of structures. Friction. First and second moments of inertia.

ME 3302 Engineering Mechanics II: Dynamics (4)

Prerequisite: ME 2301. Fundamentals of engineering dynamics. Kinematics and kinetics of particles. Relation between velocity, acceleration, position and time for particles and rigid bodies. Newton's Second Law of Motion applied in particles and rigid Bodies. Energy and Momentum Methods applied in particles and rigid bodies.

ME 3303 Fluid Mechanics I-Fluid Static (4)

Prerequisite: ME 2301. Properties of fluids, fluid statics, kinematics and dynamics of ideal and real fluids, principles of conservation of mass energy and momentum, velocity, dimensional analysis, flow in pipes, flow measurement and practical applications. Laboratory projects. 2 labs.

ME 3304 Energy and Thermodynamics (4)

Prerequisite: MA 3300. Review of dimension, units and fundamental concepts of energy, heat and work. Study of first and second laws of thermodynamics. Application to fluid dynamic processes, of open and closed systems. Energy conversion cycles. Reversed cycles. Two and multiple phase systems and phase transitions.

ME 3305 Mechanics of Materials (4)

Prerequisite: ME 2301. The concepts of stress and strain. External loading and stress relation. External loading - external deformation relations. Energy methods. Columns. Theories of failure.

ME 3306 Materials Science (4)

Prerequisite: junior standing. Crystal structure of solids and their properties. Phase diagrams. Equilibrium and non-equilibrium states in iron-carbon and nonferrous systems. Testing of materials. Ceramics and plastics. Corrosion of materials. Electrical and magnetic properties of materials. Materials processing.

ME 3307 Introduction to Theory of Elasticity (4)

Prerequisite: ME 3305. Elementary elasticity, plane stress and plane strain problems, torsion of rods and thin-walled open and closed section beams, unsymmetrical bending, bending shear stress in thin-walled beams, column and beam-column, energy theorems and applications.

ME 3308 Structural Mechanics (4)

Prerequisite: ME 3305. Application of solid mechanics to structures and machine elements. Elementary elasticity. Energy principles. Matrix and finite element methods. Stability phenomena. Modes of structural failure.

ME 3309 Fundamentals of Fracture Mechanics (4)

This is an introductory course on various aspects involved in the area of fracture mechanics starting with the derivation of the basic ideas and equations needed for an understanding of fracture mechanics from first principles. It defines the advantages and disadvantages of this approach for studying the failure of materials and structures. Mechanisms of fracture, cleavage, ductile to brittle transition, influence of temperature, strain role and stress state are some of the topics covered by this module.

ME 3403 Vector Field Theory for Engineers (2)

Prerequisites: MA 2225, ME 4411, ME 3304. Examination of problems of fluid mechanics, heat transfer, electro mechanics etc., in terms of mathematical treatment of two- and three-D field theories. Basic concepts (curl, div, rot, Gauss theorem etc.) are expressed in terms of their engineering application.

ME 3441 Mechanical Vibrations (4)

Prerequisites: ME 3302, PY 2253. One-and multi-degree-of-freedom systems. Natural frequencies and modes of vibrations. Resonance. Beatings. Effect of damping. Applications to practical problems. Methods to avoid excessive vibrations. Extension to continuous vibrations: beams and plates. Non- linear vibrations.

ME 4198 Internship (4)

This internship is designed for engineering science experience in an industrial environment. In order to accomplish this, the student will spend two months working in a local industrial environment. The student will be supervised and evaluated by an engineering professional.

ME 4301 Engineering Labs (4)

This is an engineering laboratory subject for mechanical engineering. Major emphasis is on interplay between analytical and experimental methods in solution of research and development problems. Communication (written and oral) of results is also a strong component of the course.

ME 4409 Engineering Economy (4)

Prerequisite: Consent of instructor. Analysis of engineering alternatives for replacement of machines and structures and design of products and processes. Cost control. Budgeting overhead costs and their application. Engineering economy relative to value engineering standardization, tolerances, and product requirements. Evaluation of engineering projects.

ME 4411 Fluid Mechanics II (4)

Prerequisite: ME 3303. First part of the course includes: Pipe networks. General theory of turbo machines. Pump characteristics and performance. Cavitations. Hydraulic turbines. Water hammer effect. Second part of the course includes: Compressible fluid dynamics. Wave propagation. Sound

speed. Mach number. One dimensional fluid flow, including friction and heat transfer effects. Normal shock and choking effects.

ME 4412 Computer –Aided Mechanical Design (2)

Prerequisite: ME 4414. Review of numerical methods and their use in common mechanical engineering problems. Examination of existing and development of algorithms for solution of problems in stress and deformation analysis, heat transfer, fluid flow in pipes, thermodynamics, hydraulic system analysis, vibrations. 1 lecture hour, 2 labs.

ME 4413 Machine Design I (4)

Prerequisites: ME 3305, ME 3302. Elements of stress-strain analysis. External loading, external deformation relations. Elements of study of ME materials. Impact loading, deformation of structures, reliability. Statistical concepts, optimization and cost standardization. Dynamic loading and fatigue theories. Study of machinery parts as screws, springs and bearing. Computer usage and small-scale design projects.

ME 4414 Machine Design II (4)

Prerequisite: ME 4413. Study of Mechanical Engineering elements and compound systems for motion transfer. Lubrication, friction reduction, gearing, clutches, belts, bearings are examined and used for product design purposes. Computer programs for analysis and graphics. Students present a complete design study of an ME-compound mechanism. 3 lecture hours, 2 labs.

ME 4430 Energy Conversion (4)

Prerequisite: ME 3304. Direct and indirect energy conversion. Basic principles of combustion. Fossil, nuclear, solar, geothermal and wind and wave energy resources. Current and future methods of energy conversion will be examined. Technical, economic, and social considerations of energy conversion. Power plant technology. Environmental impacts. Technical report and visit to power plant installations.

ME 4457-4458 Engineering Projects in Mechanical Engineering (2-4)

Prerequisite: senior status. Students select, develop, and complete a project and prepare a report.

ME 4519 Heat Transfer (4)

Prerequisites: ME 3303, ME 3304. Basic concepts of conduction, convection and radiation. Steady- state, unsteady-state, heat conduction and mathematical, graphical and numerical methods of analysis. Natural and forced convection. Fluid mechanics review and mass transfer concepts. Radiation heat transfer and basic solution techniques. Heat exchangers.

ME 4801 Solid Mechanics Laboratory (4)

This course introduces students to basic properties of structural materials and behavior of simple structural elements and systems through a series of experiments. Students learn experimental technique, data collection, reduction and analysis, and presentation of results.

ME 4802 Structural Dynamics and Earthquake Engineering (4)

The course covers the fundamental concepts structural dynamics, seismology and building design for earthquake resistance. Part 1 covers the basics analytical techniques to predict the dynamic response of structures (both spectral and time-domain methods are considered). The excitation of structures by time-varying loads is also examined. In Part 2 an introduction is given to engineering seismology and conceptual seismic design. Seismic effects, construction material behavior and the performance of lateral load-resisting systems are outlined. The principles of earthquake-resistant design, including simplified, equivalent static code procedures, are covered. New concepts in seismic design such as displacement-based and performance-based methods are briefly introduced.

ME 4803 Thermal Power and the Environment (4)

Sources of energy, Alternative sources of energy, Economic analysis of energy supply, Stirling cycle heat engines, Direct conversion, Combustion and formation of pollutants, Introduction to Turbo machinery and Steam turbines /Gas turbines are the topics analyzed in this module.

ME 4804 Transportation Flow Systems (4)

This course focuses on Design, operation, and management of traffic flows over complex transportation networks. It covers two major topics: traffic flow modeling and traffic flow operations. Sub-topics include deterministic and probabilistic models, elements of queuing theory, and traffic assignment. Concepts are illustrated through various applications and case studies.

OCEAN ENGINEERING (ME)

ME 2011 Introduction to Ocean Engineering (4)

This course is an introduction to the fundamental aspects of science and engineering necessary for exploring, observing and utilizing the oceans.

ME 4016 Hydrodynamics (4)

This course covers the development of the fundamental equations of fluid mechanics and their simplifications for several areas of marine hydrodynamics and the application of these principles to the solution of engineering problems.

ME 4017 Design of Systems Operating in Random Environments (4)

This class covers the principles for optimal performance and survival of extreme events in a random environment; linear time invariant systems and Fourier transform; random processes, autocorrelation function, and power spectra.

ME 4019 Design of Ocean Systems (4)

Design lectures are given in hydrodynamics, power and thermal aspects of ocean vehicles, environment, materials and construction for ocean use, electronics, sensors, and actuators.

ME 4082 Ship Structural Analysis and Design (4)

This course is intended for first year graduate students and advanced undergraduates with an interest in design of ships or offshore structures.

ME 4737 Mechatronics (4)

This course teaches the design and Mechatronics systems which integrate mechanical, electrical, and control systems engineering.

Manufacturing Engineering (MN)

MN 4409 Operations Research (4)

Prerequisite: MA 3300. Nature of operations research. Scientific approach to industrial problems. Emphasis on the design of linear programming models for a variety of problems involving transportation, allocation, and total industrial systems. Duality. Network analysis. Dynamic programming. Game theory. Queuing theory and inventory control. Analytical methods for decision- making.

MN 4411 Thermal Processing (4)

Prerequisite: ME 3306; **co-requisite**: ME 3304. Manufacturing processes in which temperature is an important process variable. Principles of solidification in metals and polymers. Welding and casting of metals. Extrusion and injection of thermoplastic polymers.

MN 4465 Materials Processing (4)

Prerequisite: ME 3305; **co-requisite**: ME 3306. Mechanical and thermal processing in manufacturing. Behavior of materials at high strain rates and strains. Forging, drawing, stamping, extrusion, and compression. Heat treating and annealing. Forces and stresses during processing.

MN 4490 Independent Study (3)

Prerequisite: senior standing. By petition only. Under the supervision of a faculty member, student undertakes individual study in a subject relevant to manufacturing engineering. This study may be in an area covered by a required course or in a related area. Hours by arrangement.

MN 4495 Senior Thesis (4)

Prerequisite: permission of Chairperson. Manufacturing student may request to do a senior thesis in place of senior technical electives. Topic must have manufacturing engineering faculty approval in student's junior year. Thesis proposals are judged on educational value, creativity, and organization.

SCHOOL OF NATURAL AND HEALTH SCIENCES

DEPARTMENTS: **Natural Sciences & Mathematics Department**
Special Studies

Mission and Objectives

Natural and Health Sciences Studies prepare students for careers in online and/or open learning graduate studies in Biology, Chemistry, Biochemistry, Physics, Mathematics and Pharmacy.

The curricula enable students to master the fundamental principles of science, principles on which they will base their dynamically changing professional future practice. The educational principles of the program, a balance between theory and practice, enable students to attain competence in analyzing all aspects of a problem, in formulating solutions and in evaluating alternative approaches, in light of all available information. The student becomes familiar not only with present state-of-the-art of the selected scientific field, but also demonstrates an aptitude for mathematics and science, enabling him/her to adapt to the continuously changing demands and challenges of our post-industrial age.

COURSE OF STUDY FOR FRESHMEN

A typical freshman-year schedule in the Computer, Natural Sciences and Engineering Studies includes English, Humanities and Social Sciences electives and several other introductory courses depending on the area of concentration.

The following courses are common to all concentrations and include the **General Education requirements** (**39** semester credit hours):

EN 1100 - 1102	**English Composition and Rhetoric I, II** (some students will start with a higher
or	lower English course depending on their score on the placement test)
EN 2012	**Language in Literature**
MA 1123	**Calculus I**
or	
MA 1108	**College Algebra and Trigonometry**

Two courses in Natural Sciences chosen from:

PY 1211/1221	**General Physics I / Lab I**
or	
PY 1108	**College Physics**
CH 1101	**General Chemistry I**
or	
CH 1013	**General Chemistry for non-Science majors**
BIO 1101	**Introductory Biology for Science majors I**

Three courses in Social Sciences.

Three courses in Humanities.

EIGHT-SEMESTER PLAN

COMMON TO MOST CONCENTRATIONS IN THE COMPUTER, NATURAL SCIENCES AND ENGINEERING DEPARTMENTS

FIRST YEAR

	Semester One		Semester Two
EN 1100	English Composition and Rhetoric	PY 1211 PY 1221	General Physics I
MA 1123	Calculus I	EN 1102	English Composition and Rhetoric II
CH 1101	General Chemistry Sciences I	MA 1124	Calculus II Social Social Sciences II
CS 1121	Pascal		Humanities I
ME 1105	Technical Drawing**		

SECOND YEAR

	Semester One		Semester Two
EN 2012	Language in Literature	CS 1122	Pascal II
MA 2225	Multivariate Calculus	MA 2226	Differential Equations
PY 2212/ PY2222	General Physics II / Lab II	BIO 1101	Introductory Biology for Science Majors I
	Social Sciences III	or	
	Humanities II	ME 2301 I PY 2253	Engineering Mechanics Vibrations and Waves
			Humanities III
			General Elective I

THIRD YEAR

	Semester One		Semester Two
CS 2241	Numerical Analysis I	CS 2243	C Language
	General Elective II*		General Elective III*
	Concentration I		Concentration III
	Concentration II		Concentration IV

FOURTH YEAR

	Semester One	Semester Two
MA 3242	Linear Algebra	Concentration VI
	General Elective IV*	General Elective VI*
	General Elective V*	Concentration VII
	Concentration V	Concentration VIII

* General Electives can be used towards obtaining a minor.
** Engineering Students.

In order to graduate a student must maintain a "C" or better in all courses taken in his/her concentration.

Computer, Natural Sciences and Engineering Studies award the degree of Bachelor of Science in each concentration.

NATURAL SCIENCES AND MATHEMATICS DEPARTMENT

CONCENTRATIONS:

Biology
Biochemistry
Pharmacy
Chemistry
Food Science and Nutrition
Mathematics
Physics
Optometry

REQUIRED COURSES FOR THE NATURAL SCIENCES AND MATHEMATICS DEPARTMENT

Required by Most Natural Sciences and Mathematics Department Students:
(**52** semester credit hours)

BIO 1101	Introductory Biology for Science Majors I
or	
BIO 2102	Introductory Biology for Science Majors II
or	
PY 1211, 1221	General Physics I / Lab I
CH 1102	General Chemistry II
CH 2209, 2219	Organic Chemistry I / Organic Chemistry Lab I
or	
EE 3307	Electric Circuit Theory I
or	
MA 1123	Calculus I
CH 2210, 2220	Organic Chemistry II / Organic Chemistry Lab II
or	
EE 3308	Electric Circuit Theory II
CS 1121	Pascal I
CS 1122	Pascal II
CS 2241	Numerical Analysis I
MA 1124	Calculus II
MA 2225	Multivariate Calculus
MA 2226	Differential Equations
MA 3242	Linear Algebra
MA 3300	Probability and Statistics
PY 2212	General Physics II
PY 2222	General Physics Lab II
PY 2253	Vibrations and Waves

Biology

The curriculum provides the student with a firm foundation in the broad field of biology. Upon graduation, students may seek advanced degrees in graduate or medical schools or may be employed in any of a number of diverse industries, including pharmaceuticals, cosmetics, aquaculture, food industries, biomedical laboratories, etc.

Students should consult their academic advisor regarding courses to be taken to satisfy the requirements as stated by ***The American University of Athens***.

Required Courses for the Biology Concentration (**28** semester credit hours)

BIO 2102	Introductory Biology for Science Majors II
BIO 2206	Biostatistics
BIO 2213	Ecology
BIO 3306	Genetics
BIO 3310	Cell Biology
or	
BIO 3303	Microbiology
BIO 4291	Histology-Histopathology
or	
BIO 4202	Immunology
BIO 4305	Molecular Biology
BIO 4203	Developmental Biology
or	
BIO 4102	Neurobiology

Required Courses for the Natural Sciences and Mathematics Department (**52** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**13** semester credit hours)

The total semester credit hours required for completion of the Biology concentration are one hundred thirty-two (**132**).

Biochemistry

The Biochemistry curriculum aims at providing the student with a firm background in a broad spectrum of subjects involving the structure and chemistry of living systems.

The Biochemistry concentration offers the opportunity for employment in research or a career in the chemical or pharmaceutical industries. Alternatively, it can lead to graduate studies in a variety of fields in either the natural or medical sciences.

Required Courses for the Biochemistry Concentration (**26** semester credit hours)

BIO 3310	Cell Biology
BIO 4305	Molecular Biology
CH 3314	Biochemistry
CH 3317	Physical Chemistry I
CH 3318	Physical Chemistry II
CH 3319	Physical Chemistry Lab

Three concentration courses level 3xxx or above.

Required Courses for the Natural Sciences and Mathematics Department (**52** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**15** semester credit hours)

The total semester credit hours required for completion of the Biochemistry concentration are one hundred thirty-two (**132**).

Pharmacy

The aim of the AUA program in pharmacy is to produce pharmacists who are fully equipped to practice within a dynamic health care system, cope with uncertainty and adapt to change, and who understand the need for a commitment to continuing education and training, and professional development, throughout their professional life.

Required Courses for the Pharmacy Concentration (**36** semester credit hours)

BPH 2900	Introduction to Pharmacy
BPH 2901	Biomedical Sciences I
BPH 2942	Herbal and Complementary Medicines
BPH 3902	Biomedical Sciences II – Medical Microbiology/Immunology
BPH 3904	Natural Drug Research Techniques
BPH 3905	Pharmaceutical Care I
BPH 3906	Pharmaceutical Compounding Laboratory
BPH 3907	Pharmaceutics
BPH 3908	Pharmaceutical Therapeutics I
BPH 3909	Pharmaceutical Chemistry I
BPH 3913	Bio pharmaceutics
BPH 3915	Pharmaceutical Care II
BPH 3920	Anions and Cations in Biological Systems
BPH 3923	Pharmaco-epidemiology and Outcome Research
BPH 3935	Pharmaceutical Chemistry II
BPH 3937	Pharmaceutical Therapeutics II
BPH 3947	Advanced Physical Pharmacy-Properties of Solids, Solutions and Formulations
BPH 3948	Advanced Biomedical Chemistry I
BPH 4101	Advanced Topics in Cardiovascular Pathophysiology
BPH 4102	Biomedical Cofactors and Nutritional Supplements
BPH 4103	Clinical Pharmacokinetics
BPH 4109	Prescription Accessories
BPH 4110	Drug Clerkship
BPH 4302	Research in Pharmaceutical Sciences
BPH 4901	Internal Medicine
BPH 4919	Advanced Molecular Immunology and Immuno-pathology

Required Courses for the Natural Sciences and Mathematics Department (**52** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**15** semester credit hours)

The total semester credit hours required for completion of the Pharmacy concentration are one hundred thirty-two (**142**).

Chemistry

The Chemistry curriculum is designed to provide the student with a solid theoretical background in the principles of chemistry, augmented by practical laboratory experience. The Chemistry curriculum provides exceptionally diverse opportunities for employment or for advanced training in chemistry or related fields, including medicine and biochemistry, as well as further studies for a Master's degree.

Students should consult their academic advisor regarding courses to be taken to satisfy the requirements stated by ***The American University of Athens***.

Required Courses for the Chemistry Concentration (**26** semester credit hours)

CH 3314	Biochemistry
CH 3317	Physical Chemistry I
CH 3318	Physical Chemistry II
CH 3319	Physical Chemistry Lab
CH 3324	Biochemistry Lab
CH 3419	Organic Chemistry III
CH 4421	Inorganic Chemistry
CH 4490	Seminar

Two Chemistry courses level 3xxx or above chosen from:

CH 4430	Advanced Topics
or	
CH 4201	Food Analysis
or	
CH 4221	Food Chemistry
or	
CH 4411	Environmental Chemistry

Required Courses for the Natural Sciences and Mathematics Department (**52** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**15** semester credit hours)

The total semester credit hours required for completion of the Chemistry concentration are one hundred thirty-two (**132**).

Food Science and Nutrition

The Nutrition curriculum offers training to prepare students for positions relating to consumer education in foods and nutrition and research in food product development. It prepares students for administrative and therapeutic dietetics as well as for teaching dietetics. A student may confer with his/her advisor in the selection of a sequence of electives to meet individual professional interests. Students are also prepared for school lunch or institutional management if electives are selected properly.

Required Courses for the Food Science Concentration (**26** semester credit hours)

CH 1901	Food Science I
CH 1902	Food Science II
CH 3801	Introduction to Food Biotechnology
CH 3802	Foundations of Nutrition
CH 3901	Food Microbiology
CH 3951	Fundamentals of Nutrition
CH 4801	Food Theory
CH 4857	Demonstration Techniques
CH 4941	Advanced Nutrition I
CH 4942	Advanced Nutrition II
CH 4953	Nutrition in Disease
CH 4990	Quantity Food Production

Required Courses for the Natural Sciences and Mathematics Department (52 semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**15** semester credit hours)

The total semester credit hours required for completion of the Chemistry concentration are one hundred thirty-two (**132**).

Mathematics

The primary objective of the concentration is to offer general training in mathematical reasoning and to develop mastery of mathematical tools needed for a lifelong series of different jobs and continuing education. In attaining these goals, the Mathematical Sciences curriculum provides grounding in the traditional areas of theoretical mathematics: calculus, linear and modern algebra, and real and complex analysis. It also introduces students to the current areas of importance in applied mathematics: differential equations, probability, statistics, numerical analysis, discrete mathematics, mathematical programming and mathematical modeling.

Graduates in Mathematics will have developed the type of creative thinking and problem-solving abilities required of professional mathematicians. As a consequence, graduates will be well-prepared to complete advanced studies in mathematics or related areas, or to pursue a wide variety of employment opportunities in industry or commerce.

Students should consult their academic advisor regarding courses to be taken to satisfy the requirements stated by ***The American University of Athens***.

Required Courses for the Mathematics Concentration (**28** semester credit hours)

MA 3221	Introduction to Abstract Algebra I
MA 3139	Advanced Calculus I
MA 3261	Discrete Structures I
MA 3300	Probability and Statistics
MA 4412	Introduction to Topology

Four Mathematics courses 3xxx or above

Required Courses for the Natural Sciences and Mathematics Department (**52** semester credit hours).

General Education Requirements (**38** semester credit hours).

General Electives (**14** semester credit hours).

The total semester credit hours required for completion of the Mathematics concentration are one hundred thirty-two (132).

Physics

The primary objective of this concentration is to give a thorough introduction to the subject for all those who expect to make physics an important component of their career. It may lead to graduate studies and research, technical development, education in physics or related fields. Prospective concentration students are urged to make an early appointment with their academic advisor for planning their programs.

Required Courses for the Physics Concentration (**28** semester credit hours)

ME 3304	Energy and Thermodynamics
PY 3254	Elementary Modern Physics
PY 3361	Mechanics I
PY 3371	Electromagnetic Theory I
PY 3372	Electromagnetic Theory II
PY 4410	Statistical and Thermal Physics
PY 4431	Mathematical Methods in Physics
PY 4451	Quantum Physics I
PY 4452	Quantum Physics II

Required Courses for the Natural Sciences and Mathematics Department (**52** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**13** semester credit hours)

The total semester credit hours required for completion of the Physics concentration are one hundred thirty -two **(132).**

Optometry

The primary objective of this concentration is to give you all the theoretical and practical knowledge and skills needed to become a qualified optometrist (in UK and the EU). The emphasis is very much on understanding optics and modern physics, in general, as well as on the optometric service of patients.

Optometry is a very important part of the healthcare system on most of the countries, and an optometric examination includes screening of signs of diseases that many need medical attention. Conditions such as diabetes or high blood pressure are often first detected by an optometrist.

Required Courses for the Optometry Concentration (**28** semester credit hours)

OPT 2101	Pure and Visual Optics
OPT 3101-3102	Ocular Anatomy and Physiology
OPT 3111-3112	Physiology of Vision and Perception
OPT 3601	Ophthalmic Lenses and Dispensing
OPT 3901	Visual and Ocular Assessment
OPT 3902	Assessment and Management of Binocular Vision
OPT 4001	Contact Lens Practice
OPT 4111	Low Vision and Ageing
OPT 4114	General and Advanced Clinical Practice
OPT 4601	General and Ocular Pharmacology
OPT 4701	Ocular and Systematic Disease
OPT 4901	Clinical Case Studies

Required Courses for the Natural Sciences and Mathematics Department (**52** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**15** semester credit hours)

The total semester credit hours required for completion of the Optometry concentration are one hundred thirty-two (**132**).

SPECIAL STUDIES IN THE COMPUTER, NATURAL SCIENCES AND ENGINEERING DEPARTMENTS

Pre-Medical Studies

This program offers the opportunity to students interested in pursuing medical or biomedical studies in the United States to prepare themselves for transfer to universities abroad.

Students have the choice of two options for completion of the M.C.A.T. requirements: A two-year accelerated program taking a full course load plus some summer courses and a two-and-a-half-year program. The student should attain a minimum grade point average (GPA) of 3.50 in the courses taken at ***The American University of Athens*** since this is a highly competitive field.

Nuclear Science and Engineering

The Bachelor of Science in Petroleum Engineering has been created to train existing staff and new employees with skills in oil-field industry. Parallel research taking place at AUA offers the cutting-edge course content in the area of Petroleum Engineering. Three specially prepared courses are offered for Engineering Graduates of other than Petroleum Engineering specializations, such as Mechanical Engineering, Chemical Engineering etc.

Required Courses for the Nuclear Science Concentration (**28** semester credit hours)

EK 2201	Introduction to Ionizing Radiation
EK 2202	Introduction to Applied Nuclear Physics
EK 2256	Magnetic Resonance Techniques
EK 2258	Principles of Medical Imaging
PY 2201	Applied Nuclear Physics
EK 2251	Systems Analysis of the Nuclear Fuel Cycle
EK 3222	Engineering of Nuclear Reactors
EK 4111	Physical Metallurgy
EK 4113	Experimental Methods in Mechanical Engineering I
EK 4114	Experimental Methods in Mechanical Engineering II
EK 4112	Sustainable Energy
PY 4220	Photon and Neutron Scattering Applications
EK 4224	Fundamentals of Advanced Energy conversion
PY 4225	Non-invasive Imaging in Biology and Medicine
PY 4226	Introduction to Plasma Physics
EK 4229	Nuclear Power Plant Dynamics and Control

Required Courses for the Natural Sciences and Mathematics Department (**52** semester credit hours).

General Education Requirements (**39** semester credit hours).

General Electives (**13** semester credit hours)

The total semester credit hours required for completion of the Nuclear Science concentration are one hundred thirty-two (**132**).

TWO-YEAR OPTION (ACCELERATED, 95 SEMESTER CREDIT HOURS)

Freshman I (18 semester credit hours)
hours) CH 1101 General Chemistry I
CS 1121 Pascal I
EN 1100 English Composition and Rhetoric I

MA 1123 Calculus I
PY 1211/ General Physics I/Lab I
PY 1221

Freshman II (18 semester credit
CH 1102 General Chemistry II
CS 1122 Pascal II

EN 1102 English Composition and Rhetoric II
MA 1124 Calculus II
PY2212 General Physics II/Lab II
PY 2222

Summer Session I (8 semester credit hours)
hours) BIO 2101 General Biology I
CH 2209/CH 2219 Organic Chemistry I/Organic Lab I

Summer Session II (6 semester credit
EN 2012 Language in Literature
Social Sciences or Humanities
Elective

Sophomore I (18 semester credit hours)
BIO 1102 General Biology II

CH 2210-2220 Organic Chemistry II, Lab II

MA 2225 Multivariate Calculus
PY 2253 Vibrations and Waves
Social Sciences or Humanities Elective

Sophomore II (19 semester credit hours)
CDH 3311 Introduction to Logic Design

EE 3307 Electric Circuit Theory I

MA 2226 Differential Equations
ME 2301 Engineering Mechanics I
Social Sciences or Humanities Elective

Summer Session I (8 semester credit hours)
EE 3308 Electric Circuit Theory II
MA 3300 Probability and Statistics

TWO-AND-A-HALF-YEAR OPTION (92 SEMESTER CREDIT HOURS)

Freshman I (18 semester credit hours)

CH 1101	General Chemistry I
CS 1121	Pascal I
EN 1100	English Composition and Rhetoric I
MA 1123	Calculus I
PY 1211/ PY 1221	General Physics I/Lab I

Freshman II (18 semester credit hours)

CH 1102	General Chemistry II
CS 1122	Pascal II
EN 1102	English Composition and Rhetoric II
MA 1124	Calculus II
PY2212	General Physics II/Lab II
PY 2222	

Sophomore I (18 semester credit hours)

BIO 1101	Introductory Biology for Science Majors I
CH 2209, 2219	Organic Chemistry I, Organic Lab I
EN 2012	Language in Literature
MA 2225	Multivariate Calculus
PY 2253	Vibrations and Waves

Sophomore II (19 semester credit hours)

BIO 1102	General Biology II
CH 2210, 2220	Organic Chemistry II, Lab II
EE 3307	Electric Circuit Theory I
MA 2226	Differential Equations
	Social Sciences or Humanities Elective

Junior I (19 semester credit hours)

CDH 3311	Introduction to Logic Design
EE 3308	Electric Circuit Theory II
MA 3300	Probability and Statistics
ME 2301	Engineering Mechanics I
	Social Sciences or Humanities Elective

Course Descriptions

Courses numbered at the 1000 level are intended primarily for freshmen; courses numbered at the 2000 level, for sophomores; and courses at the 3000 and the 4000 levels, for juniors and seniors. Some advanced courses are not offered every year but are scheduled in cycles. Computer, Natural Sciences and Engineering Studies reserve the right to limit the number of students registered in any course and to cancel any course for which there is insufficient enrolment. The number in parenthesis after the title of each course indicates semester credit hours of the course.

Biology (BIO)

BIO 1011 Introductory Biology for Non-Science Majors I (3)

No prerequisite. Investigation of principles of inheritance, physiology, development and cell biology. Open to all students. It will count in fulfilling the Natural Sciences requirement of the General Education requirements. 3 lecture hours, 1 lab.

BIO 1012 Introductory Biology for Non-Science Majors II (3)

Prerequisite: BIO 1011. General survey of microorganisms, plants and animals, including morphology, physiology, embryology, ecology and evolutionary relationships among the major phyla. 3 lecture hours, 1 lab.

BIO 1101 Introductory Biology for Science Majors I (4)

No prerequisite. An overview of the significant amount of information encompassing life. The course is focused mainly on describing the structure of and the main biochemical and physiological pathways within the cell. 3 lecture hours, 2 labs.

BIO 1102 Introductory Biology for Science Majors II (4)

Prerequisite: BIO 1101. General survey of microorganisms, plants and animals including morphology, physiology, embryology, ecology and evolutionary relationships among phyla. Designed to furnish a base for advanced studies in Life Sciences. 3 lecture hours, 2 labs.

BIO 2101 General Biology I (4)

It covers all the same core material, which includes the fundamental principles of biochemistry, genetics, molecular biology, and cell biology. Biological function at the molecular level is particularly emphasized and covers the structure and regulation of genes, as well as, the structure and synthesis of proteins, how these molecules are integrated into cells, and how these cells are integrated into multi- cellular systems and organisms. In addition, each version of the subject has its own distinctive material.

BIO 2102 General Biology II (4)

It covers the same core material, which includes the fundamental principles of biochemistry, genetics, molecular biology, and cell biology. Biological function at the molecular level is particularly emphasized and covers the structure and regulation of genes, as well as, the structure and synthesis of proteins, how these molecules are integrated into cells, and how these cells are integrated into multi- cellular systems and organisms. In addition, each version of the subject has its own distinctive material.

BIO 2206 Biostatistics (3)

Prerequisites: MA 1123, BIO 2102. An introduction to the theoretical basis and the applications of statistics in connection to the Life Sciences with an emphasis on parametric methods.

BIO 2213 Ecology (3)

Prerequisite: BIO 2102. A study of the interaction of plant and animal populations and communities and their interaction with their physical environment. Population dynamics, community diversity and ecosystem structure and function are among the topics covered.

BIO 3303 Microbiology (3)

Prerequisite: BIO 2102. A comprehensive examination of the fundamental aspects of Microbiology, including structure, metabolism, genetics, and taxonomy of a broad range of microorganisms. Special topics will cover aspects of environmental microbiology, food and medical microbiology.

BIO 3306 Genetics (3)

Prerequisite: BIO 2102. A study of classical organismal heredity and its molecular basis. Topics will include Mendelian principles, gene structure and function, and changes in the genetic material.

BIO 3310 Cell Biology (3)

Prerequisites: BIO 2102, CH 2209. The study of cellular structure and function. Special emphasis will be given to the molecular architecture of cells and to bioenergetics. A broad spectrum of both plant and animal cells will be explored.

BIO 3393 Special Topics (3)

Prerequisite: BIO 2102 and consent of the instructor. Members of the department will offer selected topics in their areas of specialty. May be repeated for credit if topic differs. The number of credits earned will depend on the difficulty of the subject chosen. Hours by arrangement.

BIO 4102 Neurobiology (3)

Prerequisite: BIO 2102. The course will discuss fundamental aspects of neurobiology and explain the function of the central and peripheral nervous system. Special emphasis will be given to sensory modalities and human cognitive functions.

BIO 4201 Human Physiology (3)

Prerequisite: BIO 2102. The course will discuss the cellular basis of physiological processes. Examples from clinical medicine will be given to illustrate physiological points. Appropriate for students in Biological and Pre-medical studies.

BIO 4202 Immunology (3)

Prerequisite: BIO 2102. The course will discuss fundamental aspects of immune processes and explain the function of the human immune systems. Special emphasis will be given to the types of immune cells and the regulation of immune response.

BIO 4203 Developmental Biology (3)

Prerequisite: BIO 2102. The course will discuss fundamental mechanisms of embryonic development in the animal kingdom. Special emphasis will be given to developmental genes, model organisms and tissue formation.

BIO 4204 Neurochemistry (3)

Prerequisite: BIO 2102. The course will discuss fundamental aspects of the mammalian nervous system biochemistry. Special emphasis will be given to neurotransmitter synthesis and action as well as the chemical base of nervous system disorders.

BIO 4291 Histology- Histopathology (3)

Prerequisite: BIO 2102. A comprehensive examination of the fundamental aspects of Functional Histology-Basic Histopathology, including structure, metabolism, levels of organization and pathology of vital tissues.

BIO 4305 Molecular Biology (3)

Prerequisite: BIO 2102. Introduction to Molecular Biology and the basic life cycles of particular biological systems. Importance and use of genetic analysis. Description of the general properties and function of nucleic acids, with emphasis on DNA replication, transcription and translation. Regulation of gene expression. Introduction to modern Molecular Biology, with the uses of recombinant DNA technology and Genetic Engineering.

BIO 4440 Undergraduate Research (3)

Prerequisite: senior standing and approval by the department. Students who have demonstrated an interest in research and superior academic performance ("B" or better in every Biology course) may engage in a research project under the supervision of a faculty member and the approval of the Biology Chairperson. Upon completion of the project, not to exceed two semesters, the student is expected to submit a written report based on the work performed.

Pharmacy (BPH)

BPH 2900 Introduction to Pharmacy (3)

This course is designed to enable students to perform calculations requisite to the practice of pharmacy. The student will learn to interpret prescription orders and perform all calculations necessary for the compounding of prescriptions. The course is taught using a series of problem sets and includes, but is not limited to, the following: pharmaceutical units and conversions; calculation of errors; calculation of doses; using concentration terms for diluting (or concentrating) stock solutions; manufacturing isotonic solutions; calculations involving potential solutions and rudiments of statistics and data interpretation.

BPH 2901 Biomedical Sciences I (4)

This course is designed to provide the molecular and biochemical foundations necessary for understanding the basis of pharmaco-therapeutics. The course involves the study of bio molecular interactions, macromolecular structure and functions, cellular catabolic and anabolic pathways, DNA metabolism, gene expression and biochemical bases of diseases. After completing this course, students will be able to apply biochemical principles that are requisite to the understanding of higher-level courses in medical microbiology, immunology, pharmacology and medicinal chemistry.

BPH 2942 Herbal and Complementary Medicines (3)

With the growing popularity of "natural" drug~ new challenges are facing pharmacists in providing pharmaceutical care. It is the responsibility of practicing pharmacists to have an understanding of all the pharmaceutically active products their patients are using. This course will combine didactic classroom study with weekly field trips to search for and identify pharmaceuticals in their indigenous environment. Scientific research with specific product information on thirty of the most popular clinically relevant herbal products (focusing on those found in the local environment) will be presented. The side effect profile for each herbal medicine will be clearly delineated and potential interactions and contraindications will be addressed. To enhance the formulation of pharmaceutical care plans for patient management these products will be critically compared to more conventional medications used for similar indications. Concepts in the arena of alternative medicine such as naturopathic medicine and homeopathy will be discussed.

BPH 3902 Biomedical Sciences II – Medical Microbiology/Immunology (4)

This course provides an in-depth study of the microbial world with emphasis on the nature and behavior of micro-organisms, the interrelationships that operate between microbes and the human host in health and disease, and the principles of prevention and control of infectious disease. Pathological and immunological changes induced by bacteria, viruses, fungi, parasites, helminths, chlamydia, rickettsia, mycoplasma, L-forms, and prions and the way these organisms are affected by antimicrobials will be discussed. Basic and advanced mechanisms involved in infection and immunity encompassing natural and induced modes of host defense will be emphasized. Topics in immunology will also include vaccination strategies, immune-related diseases and transplantation immunology. Biotechnology and the use of micro-organisms in the production of biopharmaceuticals will be discussed. After completing this course students will be able to identify micro-organisms and characterize the infectious disease process.

BPH 3904 Natural Drug Research Techniques (3)

Research into the chemistry and biochemistry of the plant and animal kingdom is increasing in scope for the biological effects of their contained molecules, for the elucidation of rare structures which the natural products possess, for the biosynthetic pathways, for the purpose of plant taxonomy, for the study of bioactivity and physiological properties they elicit, and for uncovering new compounds of pharmacological, medical or biological interest. The knowledge of the techniques of isolating and characterizing the organic natural products such as to be performed in this course is therefore an important and useful tool for students in several fields of sciences.

BPH 3905 Pharmaceutical Care I (3)

This course is an introductory development course. Quantitative skills necessary for an understanding of the basic and clinical pharmaceutical sciences will be explored. Various techniques necessary in pharmaceutical calculations employed by the pharmacist in formulation. Compounding, manufacturing and dispensing of mediations will be discussed. The course will also provide the student with the development of skills to recognize errors in prescribing in both oral and written medication orders, basic patient and professional staff communication and basic patient data collection skill. Commonly used equipment and pharmaceutical dosing devices available in a variety of simulated practice settings will be introduced.

BPH 3906 Pharmaceutical Compounding Laboratory (1)

The disease states are presented with emphasis on developing critical thinking and problem-solving skills. After completing these courses, students will be able to utilize pathophysiologic, pharmaco- therapeutic and pharmaco-economic principles to formulate pharmaceutical care plans for patient management. Development of pharmaceutical care plans includes problem identification, data collection and evaluation, implementation of appropriate therapy, and monitoring patient outcomes. Case studies and problem-based learning will be incorporated throughout the courses.

BPH 3907 Pharmaceutics (4)

The design of the course is based on the integration of the study of physio-chemical principles of pharmacy with the formulation and preparation of pharmaceutical dosage forms. The integration is done within each main class of pharmaceutical dosage forms. The study of the physio-chemical principles of pharmacy serves as a prologue to the materials covered in each section. Then the application of the knowledge of the physio-chemical principles of pharmacy to the rational formulation, compounding, quality control, packaging and storage of pharmaceutical dosage forms will follow directly after the study of the physio-chemical principles for each module (i.e., each major class of dosage forms).

BPH 3908 Pharmaceutical Therapeutics I (3)

This course is designed to discuss the relationship of normal body functioning to the physiologic changes that participate in disease production, as well as the body's remarkable ability to compensate for these changes. A complete study of human physiology that integrates all aspects of the individual cells and organs of the human body into a functional whole will be presented. This information will provide the basis that can he used to explain the path physiological aspects of altered health. The content of this course will focus on the health-illness continuum: (I) control of normal body function.
(2) pathophysiology, or alterations in body function; and (3) system or organ failure, regardless of pathologic state (e.g., heart failure and renal failure). The didactic material will emphasize the basics of organ system pathophysiology, "bridging" these concepts (pharmaceutical care through clinical case studies that strengthen the student's grasp of the scientific basis of disease. This course will lay the foundation for further advanced study in the basic health, clinical and pharmaceutical sciences. After completing this course, the student will be able to describe the various physiological mechanisms of disease processes which are vital for the drug use decision-making process. The student will acquire the scientific knowledge essential for the application of pharmaceutical care.

BPH 3909 Pharmaceutical Chemistry I (3)

The pharmacology/medicinal chemistry series of courses is an integrated approach to the understanding of the molecular mechanisms of drug action and their effects on the human body. Students will obtain expertise in the principles of drug action including receptor theory and membrane permeation and will be introduced 10 basic pharmacokinetic principles. Following completion of the sequence, students will be able to explain and predict the chemical basis of drug metabolism and structure activity relationships. These courses will cover pharmacological I agents, utilizing an integrated approach relating chemical structure to therapeutic and adverse effects. Students will be expected to understand the pharmacological activities of agents affecting the autonomic nervous system (cholinergic and adrenergic pharmacology), central nervous system (anesthetics, antipsychotic, antiepileptic, etc.), the cardiovascular system and hormonal systems. In addition, students will master the pharmacological and medicinal chemical properties of anti-cancer, anti-microbial and anti-viral agents.

BPH 3913 Bio pharmaceutics (3)

This course is designed to introduce students to the use of biotechnology and biotechnology-related techniques in the development of pharmaco-therapeutic agents. It is aimed at students who are interested in an in-depth study of biotechnology-related products. Students will obtain expertise in the basic concepts of molecular biotechnology, the biochemical analysis of recombinant molecules, peptide chemistry and peptidomimetics (peptide drugs), antisense therapy. Monoclonal antibody-based pharmaceuticals and the synthesis of cytokines (interferons, interleukins, etc.) and growth factors by recombinant techniques. After completing this course, students will be able to explain the procedures involved in the development of biotechnology related pharmaceuticals and be familiar with the spectrum of pharmaco-therapeutic agents that are produced using bio-technology related techniques.

BPH 3915 Pharmaceutical Care II (3)

After completing the components of this course, students will be able to obtain medical histories; screen patients for common medical problems such as hypertension, diabetes and a variety of cancers; measure and evaluate vital signs; detect adverse drug reactions and monitor patients' therapies through a review of systems and physical examination. Students will also learn drug administration techniques and will become competent in administering intramuscular and subcutaneous injections in addition to eye and ear preparations, and medications via the use of inhalers and nebulizers. Various administration devices will also be reviewed and demonstrated. Students will be encouraged to complete their mandatory cardiopulmonary resuscitation module during this course.

BPH 3920 Anions and Cations in Biological Systems (3)

The course deals with the study and application of physio-chemical properties and the relationship between chemical structure and pharmacological activities of inorganic medicinal agents.

BPH 3923 Pharmaco-epidemiology and Outcome Research (4)

A combination of laboratory principles along with some of the modern methodologies will be emphasized in this curriculum. The primary goal will be to expose students to these avenues from a practical angle with a clinical blend. Laboratory skills and practices (such as laboratory safety, aseptic technique, environmental growth conditions, microscopy, differential staining, media preparation and characteristics, classification of micro-organisms, filtration and sterilization, operation and maintenance of basic laboratory equipment, sample collection and processing, biochemical and morphological identification of microbes etc.) mastered in this elective when integrated with knowledge obtained through Medical Microbiology and Immunology will significantly enhance the understanding of diagnosis, prevention and treatment of infectious diseases.

BPH 3935 Pharmaceutical Chemistry II (3)

In this sequence of courses students will use basic and applied scientific principle to design, optimize and prepare pharmaceutical dosage forms. In Pharmaceutics II, topics include the discussion of states of matter, thermodynamics, kinetics, solution theory, diffusion and dissolution principles, and rheology. The application of these subject areas to the preparation of liquid dosage forms will also be discussed. In Pharmaceutics III the principles of bio pharmaceutics and bioavailability, interfacial phenomena, and coarse dispersions will be discussed and applied to the design of polyphasic dispersions (suspensions, emulsions, magmas and gels), sterile preparations (parenteral, ophthalmic), and nasal and optic products. In Pharmaceutics IV the science, art and technology of dermal and transdermal products, powders and granules, capsules, tablets, suppositories and acrosols will be discussed.

BPH 3937 Pharmaceutical Therapeutics II (3)

The design of the course is based on the integration of the study of physio-chemical principles of pharmacy with the formulation and preparation of pharmaceutical dosage forms. The integration is done within each main class of pharmaceutical dosage forms. The study of the physio-chemical principles of pharmacy serves as a prologue to the materials covered in each section. Then the application of the knowledge of the physio-chemical principles of pharmacy to the rational formulation, compounding, quality control, packaging and storage of pharmaceutical dosage forms will follow directly after the study of the physio-chemical principles for each module (i.e., each major class of dosage forms).

BPH 3947 Advanced Physical Pharmacy Properties of Solids, Solutions and Formulations (3)

This course is intended to build upon the concepts learned in Pharmaceutics I-III, presenting an in- depth analysis of the physical principles that underlie the formulation of drugs. The presentation of this course is grounded in theoretical and physical concepts. These concepts are further developed for relevant pharmaceutical systems. Topics covered dealing with basic principles include thermodynamics, free energy and spectroscopy. Equilibrium phenomena will be dealt with at an advanced level including strong and weak acids/bases, buffers, distribution, complication and protein binding, drug release, dissolution, absorption and stability. Surface chemistry, colloids and emulsions are presented. Kinetic phenomena including pathways of drug metabolism and degradation, reaction order and reversible reactions will be discussed. Diffusion, transport processes and membrane diffusion will be covered. Polymer science will also be discussed in terms of characterization and modification for formulation use.

BPH 3948 Advanced Biomedical Chemistry I (3)

The course deals with the study and application of physio-chemical properties and the relationship between chemical structure and pharmacological activities of organic medicinal agents of natural and synthetic origin.

BPH 4101 Advanced Topics in Cardiovascular Pathophysiology (3)

The course provides students with the opportunity for in-depth study of cardiovascular disorders and their treatment. It focuses on the molecular mechanisms, symptoms, complications and consequences of hypertension, heart failure, ischemic heart disease, vascular and congenital heart disorders, and arrhythmia. Students will have the opportunity to research and present information on a cardiovascular disease and will utilize case studies and research articles to gain in-depth knowledge of the various cardiovascular disorders.

BPH 4102 Biochemical Cofactors and Nutritional Supplements (3)

This course is designed to introduce o'u.1 dent to the basic biochemistry of vitamins, cofactors, and other nutritional supplements. It is aimed at students who are interested in gaining an in-depth knowledge of these agents. Students will obtain expertise in the mechanism of action of all the major vitamins, the role of metals and other cofactors in augmenting the action of various enzymes, and their importance in key metabolic pathways. They will also explore the biochemical basis for the possible benefits of other nutritional supplements. Students will review current scientific data on nutritional supplements to assess the validity of anecdotal claims in the prevention m cure of diseases. After completing this course, students will be able to explain the mechanism of action of vitamins and nutritional supplements, assess the validity of claims by manufacturers and counsel patients and consumers on any special precautions and effective uses of these agents. The course will involve the use of problem-based learning, reviews of current scientific literature, and video presentations to reinforce key concepts and issues concerning the use of vitamins and other nutritional supplements.

BPH 4103 Clinical Pharmacokinetics (3)

This course focuses on the utilization and application of pharmacokinetic principles in developing a pharmaceutical-care plan for a given patient. After completing this course, students will be able to dose and monitor drug therapy for those particular drugs with narrow therapeutic indices utilizing their knowledge regarding the influence of age, disease and drug interactions on drug disposition.

BPH 4109 Prescription Accessories (3)

This course will discuss the importance of the prescription accessory department as a part of the ambulatory pharmacist's practice. Prescription accessories will be categorized with respect to the pharmacist's participation as a member of the health care team. Topics to be covered include thermometers, home pregnancy tests, pregnancy preventatives, enemas, feminine syringes, pessaries, rectal and vaginal dilators, nasal aspirators, diabetic monitors and accessories, male impotency pumps, SIDS monitors, enuretic devices, vaporizers, humidifiers, nebulizers, atomizers, wound care, tissue trauma, hand ages and surgical dressings, ostomy supplies and devices, durable medical equipment,

and types of orthotics and fitting procedures for such accessories. Issues related to third party reimbursement policies for prescription accessories will also be discussed.

BPH 4110 Drug Clerkship (3)

This advanced practice experience is designed to provide students with hands-on skills and expertise 1"0 retrieve drug information, evaluate the literature and communicate a drug-information response. This clerkship is also designed to provide the student with more experience using computerized database retrieval systems. Students learn to apply a systematic approach to answering drug information requests. Students will be expected to use various types of reference sources, full-text data bases, indexing/abstracting services, and Internet-based drug information to answer information requests. In addition, students will evaluate literature, review monographs, write abstracts, write a drug monograph for formulary review, and/or write a column for publication.

BPH 4302 Research in Pharmaceutical Sciences (3)

The course deals with an introduction to techniques, methodologies and research in pharmaceutical sciences. Emphasis on literature retrieval, design/conduct of experiments on a specific problem, analysis and interpretation of data.

BPH 4901 Internal Medicine (3)

Previous courses with an emphasis on formulating patient-specific pharmaceutical care plans. As an integral member of the healthcare team, the student win participates in medical rounds at a designated affiliate hospital/medical center. The student will, after completion of the clerkship, be able to demonstrate proficiency in critical thinking skills through the resolution of drug-related problems encountered during the rotations. The students will be able evaluate, criticize and modify patient- specific care plans, review and discuss treatment, modalities, and provide monitoring parameters for therapeutic regimens and/or various disease states. Students will have ample opportunity to develop and demonstrate adequate communication skills and perform patient counselling.

BPH 4919 Advanced Molecular Immunology and Immuno-pathology (3)

This course is designed to provide a thorough understanding of the following: 1. humoral and cellular immune processes that guard against pathogens and other exogenous agents, 2. the molecular basis of the production of a repertoire of antibodies and T-cell receptors against all possible antigens by the B- and T-cells respectively by rearrangement of the respective genes, 3. hierarchy in the expression of the immunoglobulin genes, immunoglobulin isotype succession, membrane-bound and secretory antibodies, 4. major histocompatibility determinants etc., 5. immune-mediated disorders including autoimmune disorders stemming from the four types of hyperimmune processes, transplantation immunology, 6. cancer of the immune system, acquired and inborn immunodeficiency disorders, 7. immunization strategies, 8. immunology based approach to therapeutics, 9. immuno-techniques used for clinical and diagnostic purposes, and 10. recent trends in the pharmacological application of genomics.

Chemistry (CH)

CH 1012 Chemistry and Environmental Science Issues (3)

No prerequisite. A comprehensive introduction to environmental science covering all the key areas. It introduces students to the key concepts and skills necessary for the study of environmental, chemical and biological processes. It will count in fulfilling the Natural Sciences requirement of the General Education requirements. 1 lab.

CH 1013 General Chemistry for Non-Science Majors (3)

No prerequisite. A course designed to give students in non-science concentrations an introduction to basic chemistry and its applications in everyday life. Open to all students. It will count in fulfilling the

Natural Sciences requirement of the General Education requirements. 1 lab.

CH 1101 General Chemistry I (4)

No prerequisite. For students in science concentrations. Atomic structure and properties, periodic

table, chemical bonding, stoichiometry, redox and acid-base reactions, ideal gas law, thermo chemistry. Introduction to quantum theory and atomic structure, properties of the elements. Lewis structures and VSEPR methods. 2 labs.

CH 1102 General Chemistry II (4)

Prerequisite: CH 1101. Continuation of CH 1101. MO theory, solids and liquids, colligate properties of solutions, entropy, free energy and chemical reactions, chemical equilibrium, acid-base and redox equilibrium. Electrochemistry. Rates and mechanisms of chemical reactions. Main group and transition elements. 2 lab.

CH 1901 Food Science I (4)

The course surveys the complex of basic sciences that are fundamental to food processing and preservation, the application of these sciences to the technology of providing the consumer with food products that are at once appealing to the eye, pleasing to the palate, and nutritious to the human organism.

CH 1902 Food Science II (4)

The course explores the basic chemical nature of all important foods, and examines the various chemical, biochemical and nutritional changes that occur in food when it is stored, processed, preserved, cooked, eaten and digested.

CH 2209 Organic Chemistry I (3)

Prerequisite: CH 1102. A course in the basic principles of organic chemistry. Emphasis is placed on the bonding and structure of organic molecules. Reactions and chemical properties are correlated with important reaction mechanisms. Fundamental principles of stereochemistry. 3 lecture hours.

CH 2210 Organic Chemistry II (3)

Prerequisites: CH 2209, CH 2219. A continuation of CH 2209 in which additional examples of organic structure and reaction mechanisms are introduced.

CH 2219 Organic Chemistry Lab I (1)

Prerequisite: CH 1102; corequisite: CH 2209. Laboratory for CH 2209 designed to increase students' skills in the planning, conduction and interpretation of experimental work and to train students in important synthetic and analytical techniques of modern organic chemistry. 2 labs.

CH 2220 Organic Chemistry Lab II (1)

Prerequisites: CH 2209, CH 2219; corequisite: CH 2210. Emphasis will be placed on synthesis and identification of chemical compounds by both chemical and instrumental techniques. 2 labs.

CH 3314 Biochemistry (3)

Prerequisite: CH 2210; corequisite: CH 3324. An introduction to the chemistry of living systems with emphasis on human biochemistry. The biosynthesis, metabolism, and function of proteins, nucleic acids, carbohydrates, and lipids will be discussed.

CH 3317 Physical Chemistry I (3)

Prerequisites: PY 2212, MA 2225, CH 1102. The fundamental laws governing the behavior of substances are explored. Among the topics discussed are the properties of gases, the basic laws of thermodynamics, changes of state, the principles of electrochemistry, and the laws of chemical kinetics.

CH 3318 Physical Chemistry II (3)

Prerequisites: PY 2253, MA 2226, CH 3317 or consent of instructor. An introduction to quantum mechanics and its application to atomic and molecular spectroscopy. An introduction to statistical thermodynamics.

CH 3319 Physical Chemistry Lab (1)

Prerequisites: CH 3317, CH 3318 or concurrently. Laboratory for physical chemistry. Experiments in thermodynamics, electrochemistry, chemical kinetics, chemical equilibrium and spectroscopy. 2 labs.

CH 3324 Biochemistry Lab (1)

Laboratory for CH 3314. Laboratory exercises designed to introduce modern techniques for the separation, purification, and determination of structure and function of biological compounds. 3 labs.

CH 3419 Organic Chemistry III (3)

Prerequisite: CH 2210. The course presents the advanced chapters of organic chemistry and familiarizes students with structure and characteristic reactions of certain important families of organic compounds and materials like: Aldehydes and Ketones, Carboxylic Acids, Amines, Carbohydrates, Lipids, Proteins and, particularly, teaches important reaction mechanisms, stereochemistry and characteristic functions of such molecules in body and in life generally.

CH 3801 Introduction to Food Biochemistry (3)

This course examines biochemical pathways associated with the major food components of carbohydrates, lipids, and proteins and the basics of biotechnology techniques, and their application to foods. Emphasis is placed on enzyme kinetics, regulation, and catalytic mechanisms; undesirable compounds in foods; post-harvest biochemistry/physiology.

CH 3802 Foundations of Nutrition (3)

Fundamental principles of human nutrition and their application to the selection of adequate diets and current topics of nutritional importance are examined.

CH 3901 Food Microbiology (4)

The course is intended as an introduction to food microbiology for students of food science, microbiology and the related disciplines of biology and biochemistry. It discusses a wide range of examples illustrating microbial activity including outdated as well as modern methods, setting these against the wider perspective of fundamental aspects of genetics, biochemistry.

CH 3951 Fundamentals of Nutrition (3)

This course describes the nutritive value of foods and metabolism of essential nutrients, as well as the application of principles of nutrition to the requirements of normal individuals throughout the life cycle.

CH 4201 Food Analysis (3)

Prerequisites: CH 2210, CH 2220. This theoretical course familiarizes the student with the basic techniques and methods of food analysis. Theory described and related methods of analysis take into account all newer methods of food analysis imposed by international and European bodies, e.g., European Community directives.

CH 4221 Food Chemistry (3)

Prerequisite: CH 2210. The course is a comprehensive overview of the chemistry of the component of every food. It gives the basic knowledge necessary for students to understand further material about foods.

CH 4411 Environmental Chemistry (3)

Prerequisites: CH 1102, CH 2210. An examination of biochemical cycles and the origin, reactions and control of some organic and inorganic compounds whose release into the environment has serious consequences on plant, animal, and human life.

CH 4421 Inorganic Chemistry (3)

Prerequisite: CH 3318. A theoretical course discussing the wave mechanical concept of electronic structure and modern bonding theories, including molecular orbital. Additional topics include periodic properties, covalent and ionic compounds, and the structure and properties, of coordination compounds.

CH 4430 Advanced Topics (3)

Prerequisites: CH 3318, CH 3419, CH 4421. Members of the department will offer selected topics in their areas of specialty with emphasis placed on advanced concepts. Topics to be covered are available

from the department Chairperson.

CH 4490 Seminar (3)

Prerequisite: senior standing. A course designed primarily to increase the student's competence in both oral and written communication. The student will be required to write and orally present a paper based upon a thorough search of the chemical literature.

CH 4801 Food Theory (4)

This course focuses on the application of chemical principles and physical behavior of ingredients in food systems and the effects processing and storage have on finished food products.

CH 4857 Demonstration Techniques (4)

This course describes the manner in which biotechnology is put into practice as a health-generic component of the food processing industry. The early lectures will examine biotechnology in relation to industry, government and commercial factors and will outline the areas where biotechnology is applied to food and the prospects for future development.

CH 4941 Advanced Nutrition I (4)

This course examines biochemistry and metabolism of the fat-soluble vitamins, and the biochemical role of minerals in animal biology. Emphasis is placed on the digestion, transport, metabolism and intercellular function of these nutrients and how nutrient/food intake and physiological state affect these processes.

CH 4942 Advanced Nutrition II (4)

This course examines biochemistry and metabolism of the fat-soluble vitamins, and the biochemical role of minerals in animal biology. Emphasis is placed on the digestion, transport, metabolism and intercellular function of these nutrients and how nutrient/food intake and physiological state affect these processes.

CH 4953 Nutrition in Disease (4)

The nutritional, biochemical, and physiological aspects of disease processes are examined and the role of nutrition in prevention, management, and treatment of disease is studied.

CH 4990 Quantity Food Production (4)

Principles of food product development: target market evaluation, concept development and presentation, formulation, manufacturing, packaging, product costs, pricing, safety and marketing are examined.

Mathematics (MA)

MA 1108 College Algebra and Trigonometry (3)

No prerequisite. Functions and graphs. Linear and quadrate equations. Exponents: logarithms. Right and oblique triangles; trigonometric functions etc. Intended for students with insufficient background in mathematics. Open to all students, including freshmen. It will count in fulfilling the Mathematics requirement of the General Education requirements. Designed primarily for students other than those enrolled in the Mathematics option.

MA 1111 Calculus for Business and Economics I (3)

Prerequisite: MA 1108 or consent of instructor. Polynomial, rational, logarithmic and exponential functions, analytic geometry and parabola. A short treatment of differential calculus is given next, including limits, derivatives differential, curve sketching, and optimization. Among the applications covered are: supply and demand; cost, revenue, and profit functions; break even and equilibrium analysis; mortality tables; marginal analysis. Computer Laboratory.

MA 1112 Calculus for Business and Economics II (3)

Prerequisite: MA 1111. Introduction to integral calculus, including the fundamental theorem, and numerical integration. Introduction to probability and expected value. Linear system of equalities, and

inequalities, linear programming, and duality. Game theory, functions of two variables, Lagrange

Multipliers. 3 lecture hours. Computer Laboratory.

MA 1123 Calculus I (4)

No prerequisite. Limits; derivatives; differentiation of algebraic functions. Logarithmic, exponential, and trigonometric functions.

MA 1124 Calculus II (4)

Prerequisite: MA 1123. The definite integral; the fundamental theorem of integral calculus; applications of integration. Methods of integration. Calculus I and II together constitute an introduction to calculus of a function of a single real variable.

MA 2225 Multivariate Calculus (4)

Prerequisite: MA 1124. Vectors, lines, planes. Multiple integration, cylindrical and spherical coordinates. Partial derivatives, directional derivatives, scalar and vector fields, the gradient, potential multivariate Taylor series, approximation, multivariate minimization. Multiple integrals, areas, volumes, cylindrical and spherical coordinates. Vector fields, line and surface integrals. Gauss' divergence theorem, Green's and Stokes' theorems.

MA 2226 Differential Equations (4)

Prerequisite: MA 1124. First-order linear and separable equations. Constant coefficient theory. Second order variable equations. Numerical methods, Laplace transforms systems of first-order equations, power series methods. Applications and modeling of real phenomena included throughout.

MA 3139 Advanced Calculus I (3)

Prerequisite: MA 2225. Topology of Rn Continuous mappings. Uniform convergence. Differentiable mappings.

MA 3140 Advanced Calculus II (3)

Prerequisite: MA 3139. Contraction maps, implicit function and differential equation theorems. Integration theory. Differential forms. Stoke's theorem.

MA 3221 Introduction to Abstract Algebra I (3)

Prerequisite: junior status. Sets and logic, some properties of Z. Mapping, semi groups, groups.

MA 3222 Introduction to Abstract Algebra II (3)

Prerequisite: MA 3221. Finite groups, symmetric groups, rings, homorphisms, normal subgroups.

MA 3242 Linear Algebra (4)

Corequisite: MA 2225. Matrix algebra, solution of linear systems, determinants, Gaussian elimination, fundamental theory, row echelon form. Vector spaces, bases, norms. Computer methods. Eigenvalues and eigenvectors, canonical decomposition. Applications to differential and difference equation problems.

MA 3261 Discrete Structures (3)

Prerequisite: junior status. Introduction to the fundamental algebraic and logical concepts that are continually used in computer science. The topics include sets, relations and functions, propositional logic and Boolean algebra, graphs, digraphs, and trees. Emphasis is on applications of these structures to various areas of computer science.

MA 3300 Probability and Statistics (4)

Prerequisite: MA 2225. Sets. Combinational analysis. Repeated trials. Discrete probability functions. Continuous probability density functions. Treatment of data. Sampling. Distribution. Estimation. Hypotheses testing. Analysis of variance. Nonparametric tests. Engineering decision-making under conditions of uncertainty.

MA 3390, 3393 Special Topics (3, 3)

Prerequisite: junior standing and consent of the instructor. Topics offered will depend upon student interests as well as particular interests of instructors. The course will be offered as often as faculty time and student interest permit. May be repeated for credit if topic differs.

MA 3400 Advanced Calculus for Engineers (4)

Prerequisites: MA 2225, EE 3307. Introduction to complex numbers, series, analytic functions, conformal mapping, applications to engineering. Fourier methods and partial differential equations; elementary numerical analysis; boundary value problems.

MA 3401 Fourier Series and Partial Differential Equations (3)

Prerequisite: MA 2226. Simple partial differential equations and applications in engineering problems. Introduction to Fourier series analysis and solution of P.D.E. using Fourier series expansion. Other techniques, Legendry, polynomials etc. are examined.

MA 4371 Modern Aspects of Geometry (3)

Prerequisite: MA 3261. Material covered will depend upon the interests of the students involved. Possible topics are axiomatic study of some field of geometry, extension of Euclidean geometry of the plane, algebraic geometry, and differential geometry.

MA 4412 Introduction to Topology (3)

Prerequisite: MA 3261. Introductory topics in the general theory of topological spaces will be studied, including a discussion of plane topology and topological properties of metric spaces.

MA 4418 Introduction to Modern Algebra (3)

Prerequisite: MA 3261. An introduction to abstract topics including groups, rings, fields, homomorphism, and the theory of polynomials and their roots. The emphasis is on theory and proofs. 3 lecture hours.

MA 4421 Complex Analysis (3)

Prerequisite: MA 2225, senior status. An introductory course in the theory of functions of a complex variable covering standard topics: the algebra and geometry of complex numbers, differentiation, integration, power series expansions, residues, and poles.

MA 4490 Seminar (3)

Prerequisite: senior status. Topics discussed will depend upon the interest of the students. Seniors or unusually well qualified juniors may be admitted to the course only by permission of the department. Hours by arrangement.

Optometry (OPT)

OPT 2101 Pure and Visual Optics (3)

It is a comprehensive course covering the fundamental principles of geometrical and physical optics (pure optics), and how they apply to the human eye (visual optics).

OPT 3101-3102 Ocular Anatomy and Physiology (4)

It is the study of how the eye works. It involves a detailed study of the eye and visual system in two stages. In semester one, you will study the internal and external anatomy and physiology of the eye. The second semester covers external eye muscles and eye movement, bones of the skull, and the structure and functions of the brain and visual system.

OPT 3111-3112 Physiology of Vision and Perception (4)

It is the study of how we see. In the first semester you are introduced to this subject as a basis for the clinical study of optometry, emphasizing the physical and physiological aspects of vision. In semester two, you will extend this to include principles of psychophysical measurement, visual detection and discrimination, visual search and attention, and binocular.

OPT 3601 Ophthalmic Lenses and Dispensing (3)

It deals with the design and performance of spectacle lenses. You will also learn the basic principles of dispensing, with examples of the practical problems you may encounter in ophthalmic workshops.

OPT 3901 Visual and Ocular Assessment (3)

It involves detailed study and practice of clinical procedures used by optometrists to examine the eyes and measure visual function.

OPT 3902 Assessment and Management of Binocular Vision (3)

It deals with the importance of binocular vision and how it is affected by problems with eye muscle co-ordination or weakness. You will learn how to assess binocular vision anomalies, including squint, and how to manage these with spectacles and orthotics training.

OPT 4001 Contact Lens Practice (4)

It is introduced with a single module in the second year, in which you deal with the basic principles of contact lens design and fitting. More advanced theoretical and practical study of this subject is presented in the third year of the course.

OPT 4111 Low Vision and Ageing (3)

It is studied in the third year. The aim is to assist those patients, whose vision cannot be improved significantly using conventional spectacles or contact lenses, to make the most of their residual vision using magnifying systems and imaging technology.

OPT 4114 General and Advanced Clinical Practice (3)

Under supervision, you will examine patients with many different problems in clinics dealing with primary care, contact lenses, low vision, binocular vision, diabetes, and dispensing. You will also visit hospital eye clinics and observe in ophthalmologists' clinics.

OPT 4601 General and Ocular Pharmacology (3)

It is taught in both semesters of the second year. Drugs may be used on the eye for both diagnostic and therapeutic purposes. In this course you will study how different drugs act on the body in general, and the eye in particular. The course also covers those aspects of diagnostic drug use that are appropriate to your work as an optometrist, together with an indication of therapeutic agents used by the ophthalmologist. You will also examine the adverse ocular effects of various systematic drugs.

OPT 4701 Ocular and Systematic Disease (3)

It is studied throughout the final year. One of the most important responsibilities of the optometrist in practice is detection of disease that affects the eyes and visual system. The eyes may be affected by a wide range of conditions including cataract, glaucoma, diabetes and hypertension. In this course, you will learn how to identify normal variations of the eye, external and internal, and look at early clinical manifestations of ocular and related pathology.

OPT 4901 Clinical Case Studies (8)

It complements General and Advanced Clinical Practice. It involves the study, in depth, of individual clinical cases so that you may gain a more thorough understanding of how to examine patients efficiently and find effective solutions to a range of clinical problems.

Physics (PY)

PY 1108 College Physics (3)

No prerequisite. A college introduction to the concepts appearing in physics. Mechanics, thermal physics, vibration, waves, electric and magnetic fields, electromagnetic waves, optics, relativity and quantum physics. Open to all students. It will count in fulfilling the Natural Sciences requirement of the General Education requirements. Designed primarily for students other than those enrolled in the Natural Sciences and Mathematics Department. 1 lab.

PY 1211 General Physics I (3)

Prerequisite: none; corequisite: MA 1123. First semester of a three-semester introductory physics

course; kinematics, Newton's laws, energy and work, linear and angular momentum, rigid bodies, gravitation.

PY 1221 General Physics Lab I (1)

Introductory physics lab, mainly mechanics. It accompanies the PY 1211 course. 2 labs.

PY 2201 Applied Nuclear Physics (3)

This course explores elements of nuclear physics for engineering students. It covers basic properties of the nucleus and nuclear radiations; quantum mechanical calculations of deuteron bound-state wave function and energy; n-p scattering cross section; transition probability per unit time and barrier transmission probability. It also covers binding energy and nuclear stability; interactions of charged particles, neutrons, and gamma rays with matter; radioactive decays; and energetics and general cross section behavior in nuclear reactions.

PY 2212 General Physics II (3)

Prerequisites: MA 1123, PY 1211; corequisite: MA 1124. Second semester of a three-semester introductory physics course: electrostatics, DC circuits, magnetostatics, induction, Maxwell's equations.

PY 2222 General Physics Lab II (1)

Introductory physics lab, mainly in electricity and magnetism. It accompanies the PY 2212 course. 2 labs.

PY 2253 Vibrations and Waves (3)

Prerequisite: PY 2212; corequisite: MA 2225. Third semester of a three-semester introductory physics course: free, damped, and forced vibrations, normal modes, standing and travelling waves, dispersion, electromagnetic waves, reflection, refraction, interference and diffraction.

PY 3254 Elementary Modern Physics (3)

Prerequisites: PY 2253, MA 2225; corequisite: MA 2226. An introduction to the physics of relativity and quantum mechanics and their consequences in the understanding of atoms, solids and nuclei.

PY 3361 Theoretical Mechanics (3)

Prerequisites: PY 2253, MA 2226; corequisite: MA 3242. Dynamics of particles and rigid bodies. Newtonian mechanics. Oscillatory motion under a central force. Lagrange's and Hamilton's equations. Rigid-body motion. Introduction to relativistic mechanics.

PY 3371 Electromagnetic Theory I (3)

Prerequisites: PY 3254, MA 2226. Vector analysis, electrostatics, energy and potential, conductors, dielectric materials, Poisson's and Laplace's equations, special relativity, the fields of a moving electric charge, Maxwell's equations, the four-potential, magnetostatics, and magnetic materials.

PY 3372 Electromagnetic Theory II (3)

Prerequisite: PY 3371. Magnetic forces on charges and currents, Faraday's induction law, inductance. Maxwell's equations, plane electromagnetic waves, reflection and refraction, guided waves, radiation theory.

PY 4220 Photon and Neutron Scattering Applications (3)

The purpose of this course is to discuss modern techniques of generation of x-ray photons and neutrons and then follow with selected applications of newly developed photon and neutron scattering spectroscopic techniques to investigations of properties of condensed matter which are of interest to nuclear engineers.

PY 4225 Non-invasive Imaging in Biology and

Medicine (3)

This course aims to give graduate students and advanced undergraduates background in the theory and application of non-invasive imaging methods to biology and medicine, with emphasis on neuro- imaging. The course focuses on the modalities most frequently used in scientific research (X-ray CT, PET/SPECT, MRI, and optical imaging), and includes discussion of molecular imaging approaches used in conjunction with these scanning methods. Lectures by the professor will be supplemented by in-class discussions of problems in research, and hands-on demonstrations of imaging systems.

PY 4226 Introduction to Plasma Physics I (3)

The plasma state dominates the visible universe and is important in fields as diverse as Astrophysics and Controlled Fusion. Plasma is often referred to as "the fourth state of matter." This course introduces the study of the nature and behavior of plasma. A variety of models to describe plasma behavior are presented.

PY 4410 Statistical and Thermal Physics (3)

Prerequisites: PY 3361, PY 4451, ME 3304. Statistical-mechanical formulation of physical problems. Gibbs, Boltzmann, Boson, and Fermion distribution functions. Applications of classical and quantum statistical mechanics to systems of free and interacting particles.

PY 4431 Mathematical Methods in Physics (3)

Prerequisite: MA 3242. An overview of advanced calculus techniques, used in physics: ordinary differential equations, infinite series, evaluation of integrals, integral transforms, conformal mappings, vectors and matrices, special functions, partial differential equations, eigenfunctions, eigenvalues, Green's functions, calculus of variations, tensor analysis, groups and group representations.

PY 4451 Quantum Physics I (3)

Prerequisites: PY 3254, PY 3361, MA 3342; **corequisite**: MA 3300. Models of the atom, the wave properties of particles, wave-particle duality, Schrodinger's equation and solutions, photons and quantum state vectors, particle scattering.

PY 4452 Quantum Physics II (3)

Prerequisite: PY 4451. Angular momentum, spin, identical particles, atomic structure, radiation by atoms, perturbation theory.

PY 4495 Undergraduate Research (4)

Prerequisite: senior status; "B" or better in concentration courses. Students who show an interest and aptitude for independent and creative work may engage in undergraduate research. The topic is approved by the faculty, and the student is expected to write a report based on the work done. Hours by arrangement.

SCHOOL OF LIBERAL ARTS

DEPARTMENTS:

Humanities
Social Sciences
Communication
Arts Studies
-Byzantine Studies
-Visual Arts

Mission and Objectives

The mission of the Liberal Arts curricula is to prepare students in online and/or open learning programs for responsible careers in contemporary society by introducing them through concentrated studies to systematic knowledge and academic learning in Humanities, Social Sciences, Communication and Arts.

Liberal Arts Studies and experiences lead to an understanding of people, their history, literature, and philosophy; their social and political systems; and their relationship to our social organization. This requires that the student develops competence in skills of rigorous analytical and critical thinking, and appreciation of the wisdom, judgment, and perspective of a liberally educated person. Hence, the Liberal Arts curricula emphasize the pursuit of academic excellence and are committed to the proposition that a respect for learning helps develop a respect for people and for moral and democratic living.

Specific objectives of the Liberal Arts curricula are as follows:

-to provide students with the opportunity of engaging in specific studies in the Liberal Arts departments and related concentrations of Humanities, Social Sciences, Communication and Arts, preparing them for a wide selection of careers.

-to offer all students at ***The American University of Athens*** the opportunity of an introduction to Liberal Arts subjects through the General Education requirements of AUA.

-to provide all students who seek post-graduate studies in the various disciplines of Liberal Arts the opportunity of acquiring a solid academic foundation.

LIBERAL ARTS DEPARTMENTS AND CONCENTRATIONS

The disciplines collectively designated Liberal Arts include the Humanities Department with concentrations in English Literature, and Philosophy; the Social Sciences Department with concentrations in History, Political Science, Psychology and Sociology; the Communication Department with concentrations in Journalism and Public Relations; the Arts Department with concentrations in Art History and Byzantine Studies and the Applied Arts Department with concentrations in Graphic Design 3-D Animation and Fashion Design.

All Liberal Arts departments lead to the Bachelor of Arts degree which requires four years of study and consists of a minimum of one hundred and twenty-six (126) semester credit hours. A minimum of 30 semester credit hours in 3000 and 4000 level courses is required.

The degree of Bachelor of Arts in Liberal Arts is available to both full-time and part-time students through day and evening classes. The requirements described in Liberal Arts Studies apply also to all transfer and readmitted students.

GRADUATION GRADE POINT AVERAGE REQUIREMENT

The minimum grade point average acceptable for graduation in any of the Liberal Arts concentrations is a 2.00 (C) in each of the required concentration courses in addition to the overall grade point average requirement of 2.00 by ***The American University of Athens***. A grade lower than a "C" in the student's concentration will stately not count towards completion of the minimum number of semester credit hours required for the concentration although it will count towards completion of the program of studies, if the course is not repeated.

FOREIGN LANGUAGE REQUIREMENT

Candidates for the Bachelor of Arts degree in Liberal Arts Studies must show language competence at the level of a fourth semester of one foreign language course (numbered 2004 in the department listings) and another one of a second semester level (numbered 1002 in the department listings).

Students who have taken language courses elsewhere, but not at ***The American University of Athens***, should take the language placement test in the specific language before registering for any course. If the student passes the test, he/she goes to the higher level, but no credits are given for the waived courses. The distribution of the remaining credits due to upper-level placement should be counselled by the academic advisor.

GENERAL EDUCATION REQUIREMENTS

The General Education requirements stated by ***The American University of Athens*** consist of 36 semester credit hours distributed in areas such as:

English, Mathematics, Natural Sciences, Social Sciences as well as Humanities and Arts.

Courses acceptable for fulfilling the General Education requirements are listed on page

FOUR-SEMESTER PLAN FOR ALL LIBERAL ARTS STUDENTS

The first two-year curriculum of study is common to all Liberal Arts students. It includes the General Education requirements, the foreign language requirement as stated by the Liberal Arts School, as well as several introductory Liberal Arts courses in the Social Sciences and Humanities areas. Students admitted into Liberal Arts should enroll in the following curriculum during their freshman and sophomore years:

YEAR ONE

Semester One		**Semester Two**	
EN 1100*	English Composition and Rhetoric I	EN 1102*	English Composition and Rhetoric II
PSY 1001	Intro to Psychology	SOC 1001	Introduction to Sociology
PHI 1050	Intro to Philosophy	MA 1108*	College Algebra and Trigonometry
	Humanities Elective I*		Social Sciences Elective I*
	Foreign Language I		Foreign Language II

YEAR TWO

Semester One		Semester Two	
EN 2012*	Language in Literature	ENG 1051	Introduction to English Literature
	Social Sciences Elective II*		Social Sciences Elective III*
	Natural Sciences I*		Natural Sciences II*
	Humanities Elective II*		Humanities Elective III*
	Foreign Language III		Foreign Language IV

* These courses fulfil the General Education requirements of ***The American University of Athens*** and should be chosen from the courses outlined on page 37.

ACADEMIC CREDIT ANALYSIS OF THE LIBERAL ARTS CURRICULUM

The student enrolled in any of the Liberal Arts departments should have an area of concentration in Liberal Arts which consists of:

a. 24 semester credit hours in the chosen area of concentration.

b. 42 semester credit hours in required courses of the department.

c. 36 semester credit hours in General Education courses.

d. 24 semester credit hours in general elective courses.

For a total of 126 credits.

Students may declare a specific area of concentration any time after freshman fall semester registration, and must do so not later than the second semester of the sophomore year.

They may elect a minor (in areas stated in the bulletin) or a second area of concentration in one of the Liberal Arts concentrations or in a non-Liberal Arts concentration, if they wish.

The 24 semester credit hours to be counted in the area of concentration should be completed at ***The American University of Athens*** unless this requirement is waived by the respective Liberal Arts department.

Specific requirements of the concentrations are given on the following pages. For detailed information about the Eight-semester Plan of each Liberal Arts concentration, refer to the relevant department.

All Liberal Arts students must take two courses of an introduction to computers, CIS 1230 and CIS 1238.

HUMANITIES DEPARTMENT

CONCENTRATIONS: **English Literature**
Classics
Philosophy

The Humanities Department which offers concentrations in Philosophy and English Literature assumes that its broad spectrum of courses provides the individual with the means for a holistic approach to self-development. The curriculum strives to balance a student's prospects for a successful career with those for intellectual and personal growth - a dynamic interaction of thinking, being and doing. The Humanities curriculum encourages the development of critical powers and respect for tradition and human reason. It promotes not only intellectual disciplines, but the search for personal values and convictions. By offering its students a curriculum of wide philosophical and literary scope, it frees its students from the assumption that what one does, in a narrow professional sense, is what one is, and educates them for the task of living full and multi-dimensional lives.

The curriculum allows the students to explore many ideas within a structured framework. It demands from the student a thorough acquaintance with one concentrated area of learning and an understanding of the perennial, social and moral problems that confront modern society.

The three primary objectives of the Humanities Department are:

-to provide through a wide range of Humanities courses a broad humanities education for all students: both Humanities students and those in other departments.

-to provide concentrated studies in Philosophy and English Literature which prepare the students for careers in writing, translating, publishing, teaching, social work and religion.

-to provide the opportunity for acquiring a solid academic foundation to the students who seek post-graduate studies in the various disciplines of the Humanities.

EIGHT-SEMESTER PLAN FOR ALL STUDENTS ENROLLED IN THE HUMANITIES DEPARTMENT

YEAR ONE

Semester One		Semester Two	
EN 1100*	English Composition and Rhetoric I	EN 1102*	English Composition and Rhetoric II
PSY 1001	Introduction to Psychology	SOC 1001	Introduction to Sociology
PHI 1050	Introduction to Philosophy	MA 1108*	College Algebra and Trigonometry
	Humanities Elective I*		Social Sciences Elective I*
	Foreign Language I		Foreign Language II

YEAR TW

Semester One		Semester Two	
EN 2012*	Language in Literature	ENG1051	Introduction to English Literature
	Social Sciences Elective II*		Social Sciences Elective III*
	Natural Sciences I*		Natural Sciences II*
	Humanities Elective II*		Humanities Elective III* Foreign Language IV
	Foreign Language III		

THIRD YEAR

Semester One		Semester Two	
	Course in Concentration I**		Course in Concentration III**
	Course in Concentration II**		Course in Concentration IV**
CLA 2071	Greek Literature and Civilization	HIS 2108	Early Aegean and Greek Civilizations to 338 B.C.
		or	
		CLA 2139	Major Greek Authors
CLA 2072	Roman Literature and Civilization		General Elective
	General Elective	CIS 1230	Introduction to Computing
	General Elective		General Elective
			General Elective

FOURTH YEAR

Semester One		Semester Two	
	Course in Concentration V**		Course in Concentration VII**
	Course in Concentration VI**		Course in Concentration VIII**
HIS 2110	The Roman World to 337 A.D.	PHI 3120	Introduction to Logic
	General Elective		General Elective
	General Elective	CIS 1238	Computer Concepts and Applications

* These courses fulfil the General Education requirements of ***The American University of Athens*** and should be chosen from the courses outlined on page 37.

** These courses fulfil the requirements for the chosen concentration and should be taken as described in each of the following Humanities concentrations.

English Literature

Studies in English Literature provide the students with an understanding of the English literary heritage, an aesthetic appreciation of literary art, knowledge of the importance of literature in the life of any thinking individual and a love for the beauty of man's deepest expressions.

The English Literature curriculum focuses on the establishment of the following objectives:

-to increase the students' knowledge of literature and to improve their taste and skills in reading, writing and speaking.

-to provide the opportunity for acquiring a solid academic foundation to those who seek post-graduate studies.

-to prepare the students for careers in writing, translating, publishing and teaching.

Required Courses for the English Literature Concentration (24 semester credit hours) plus
ENG 1051 Introduction to English Literature
ENG 1071 Introduction to American
Literature ENG 3107 Studies in English
Literature I ENG 3120 Practical Criticism

and 12 additional semester credit hours in English Literature courses which should be distributed as follows:

Six semester credit hours required in Group A courses
GROUP A:
ENG 3108 Studies in English Literature II
ENG 4109 Studies in English Literature III

Three semester credit hours selected from Group B courses
GROUP B:
ENG 3125, ENG 3129, ENG 4112, ENG 4127, ENG 4130, ENG 4153

Three semester credit hours selected from Group C courses
GROUP C:
ENG 3194 History of English Literature

Required Courses for the Humanities Department (**48** semester credit hours). Refer to page 112.

General Education Requirements (36 semester credit hours). Refer to page 37.

General Electives (**24** semester credit hours). Consult advisor.

Total of one hundred and twenty-six (**126**) semester credit hours.
It is strongly recommended that all students enrolled in the English Literature concentration take and successfully pass the Michigan Proficiency Test (University of Michigan).

MINOR IN ENGLISH LITERATURE

A minimum of 15 semester credit hours of coursework is required, including ENG 3120.

Classics

The Liberal Arts curriculum does not offer a concentration in Classics but does regularly schedule courses in this area. Please see the current schedule and the relevant course descriptions in this bulletin for further information.

Philosophy

Philosophy has been understood to mean principally two things: knowledge and a way of life. Philosophy is a way of life - an essential way - that consists in living according to a certain knowledge; therefore, this way of life requires the knowledge which determines the meaning of the philosophic life. Studies in Philosophy endeavor to clarify, systematize, apply, and make useful the individual's philosophy in understanding and solving the recurrent problems of individual and social living.

The Philosophy curriculum focuses on the establishment of the following objectives:

-to provide students with a balanced understanding of the nature of philosophy and philosophical problems that arise in the various arts and sciences.

-to help students develop their skills in analytical, critical and constructive thinking with respect to the deepest concerns of human beings.

-to provide the opportunity for acquiring the academic foundation necessary for post-graduate studies.

-to prepare them for work in teaching, social work, politics, religion and government.

Required Courses for the Philosophy Concentration (**24** semester credit hours)

PHI 2111	History of Ancient Philosophy
PHI 2112	History of Modern Philosophy

and 18 semester credit hours in Philosophy courses distributed as follows:

Six semester credit hours selected from Group A courses
GROUP A:

PHI 3120	Introduction to Logic
PHI 3162	Aesthetics
PHI 4192	Analytical Philosophy

Six semester credit hours selected from Group B courses
GROUP B:
PHI 3135, PHI 3121, PHI 3136, PHI 4127

Six semester credit hours selected from Group C courses
GROUP C:
PHI 3161, PHI 3193, PHI 4132

Required Courses for the Humanities Department (42 semester credit hours). Refer to page 112.

General Education Requirements (**36** semester credit hours). Refer to page 37.

General Electives (**24** semester credit hours). Consult advisor.

Total of one hundred and twenty-six (126) semester credit hours.

MINOR IN PHILOSOPHY

A minimum of 15 semester credit hours of coursework is required, including PHI 4192.

SOCIAL SCIENCES DEPARTMENT

CONCENTRATIONS:

History
Political Science
Legal Studies Option
Psychology
Sociology

The Social Sciences curriculum contributes to a general understanding of human behavior as it manifests itself in human groups in social interaction, in political institutions and in social, economic and cultural contexts. By offering its students' concentrations in such social sciences as Sociology, Psychology, Political Science and History, it provides them with an understanding of the scientific procedures for systematically observing facts about behavior and for organizing these facts into generalizations, or laws, that seek to explain why human beings act as they do. Furthermore, the Social Sciences are a means of promoting human welfare, a body of information that can be applied to help solve a variety of individual and group problems.

The three primary objectives of the Social Sciences Department are:

-to provide students with a general understanding of human behavior derived from the basic theories, principles and laws of the Social Sciences as well as with the methodological tools for socio-scientific research.

-to provide concentrated studies in Sociology, Psychology, Political Science and History in order to prepare students for careers in teaching, government, social service, psychological settings, community mental health centers, vocational rehabilitation offices as well as in related areas such as business and personnel management.

-to provide the opportunity for acquiring a solid academic foundation to students who seek post-graduate studies in the various disciplines of the Social Sciences.

EIGHT-SEMESTER PLAN FOR ALL STUDENTS ENROLLED IN THE SOCIAL SCIENCES DEPARTMENT

YEAR ONE

Semester One		Semester Two	
EN 1100*	English Composition and Rhetoric I	EN 1102*	English Composition and Rhetoric II
PSY 1001	Introduction to Psychology	SOC 1001	Introduction to Sociology
PHI 1050	Introduction to Philosophy	MA 1108*	College Algebra and Trigonometry
	Humanities Elective I*		Social Sciences Elective I*
	Foreign Language I		Foreign Language II

YEAR TWO

Semester One		Semester Two	
EN 2012*	Language in Literature	ENG 1051	Introduction to English Literature
	Social Sciences Elective II*		Social Sciences Elective III*
	Natural Sciences I*		Natural Sciences II*
	Humanities Elective II*		Humanities Elective III*
	Foreign Language III		Foreign Language IV

THIRD YEAR

Semester One		Semester Two	
	Course in Concentration I**		Course in Concentration III**
	Course in Concentration II**		Course in Concentration
IV** PSC 1001	Scope and Methods of Political Science		
CIS1230	Introduction to Computing	HIS 2108	Early Aegean and Greek Civilizations to 338 B.C.
	General Elective	CIS 1238	Computer Concepts and Applications
	General Elective		General Elective

FOURTH YEAR

Semester One		Semester Two	
	Course in Concentration V**		Course in Concentration VII**
	Course in Concentration VI**		Course in Concentration VIII**
HIS 2110	The Roman World to 337 A.D.	PHI3120	Intro to logic
	General Elective	PSY 3110	Perception and Understanding in Children
	General Elective		General Elective

* These courses fulfil the General Education requirements of ***The American University of Athens*** and should be chosen from the courses outlined on page 37.

** These courses fulfil the requirements for the chosen concentration and should be taken as described in each of the following Social Sciences concentrations.

History

By widely accepted definition, history embraces the whole record of human thought and action. Its concern with the diverse and complex past of humanity provides an excellent opportunity for the development of a greater understanding and appreciation of today's culture and civilization.

The History curriculum focuses on the accomplishment of the following objectives:

-to provide an opportunity for the development of greater understanding and appreciation of today's culture and civilizations.

-to provide the opportunity for acquiring the necessary academic foundation for those who seek post-graduate studies.

-to prepare students for teaching as well as for a wide variety of careers in public service, politics, government and business.

Required Courses for the History Concentration (**24** semester credit hours)
HIS 1039 or HIS 1040 European Civilization in Its World Context
HIS 1071 or HIS 1072 Introduction to American History
and 18 semester credit hours required in History courses distributed as follows:

Six semester credit hours required in Group A courses
GROUP A:
HIS 3139 World History in the 20th Century
HIS 4127 Theories of History (same as PHI 4127)

Six semester credit hours selected from Group B courses
GROUP B:
HIS 2108, HIS 2109, HIS 2110
HIS 3111, HIS3149, HIS 4200

Six semester credit hours selected from Group C courses
GROUP C:
HIS 3169, HIS 3170, HIS 4181

Required Courses for the Social Sciences Department (**48** semester credit hours). Refer to page 116.

General Education Requirements (30 semester credit hours). Refer to page 37.

General Electives (**24** semester credit hours). Consult academic advisor.
Total of one hundred and twenty-six (126) semester credit hours.

MINOR IN HISTORY

A minimum of 15 semester credit hours of coursework is required, including HIS 3139.

Political Science

Political Science is concerned with the study of political institutions, the social and economic factors that shape them, the cultural context within which they operate and human behavior in political matters.

The Political Science curriculum focuses on the accomplishment of the following objectives:

-to help heighten the students' awareness of forces in a political scientific environment and to sharpen the perception of their role as citizens in a democratic society.

-to understand the political world by studying political behavior, systems, processes and institutions.

-to provide the opportunity for acquiring a solid academic foundation to those students who seek post-graduate studies in fields to which a political science background is relevant or helpful.

-to provide students with an intellectual background for careers in private research firms and international administration in government, international relations, local public administration, public service, business and industry as well as in teaching.

Required Courses for the Political Science Concentration (**24** semester credit hours)
or 36 semester credit hours for the Legal Studies option.
PSC 2002 Introduction to American Politics
PSC 3102 Social Research Methods (same as SOC 3140)
and 18 additional semester credit hours in Political Science courses distributed as follows:

Six semester credit hours required in Group A courses
GROUP A:
PSC 3130 Comparative Government and Politics
PSC 4192 Pro seminar: Political Science

Six semester credit hours selected from Group B courses
GROUP B:
PSC 3104, PSC 3105, PSC 3106, PSC 3107
Six semester credit hours selected from Group C courses

GROUP C:
PSC 3114, PSC 3140, PSC 3142

Six semester credit hours selected from Group D courses
GROUP D:
LI 2301, LI2302, LI 2303, LI 2304, LI 2305, LI2306, LI 2307, LI 2310, LI 2311, LI 2312, LI 2313, LI 2314, LI 2315, LI2316, LI 2317, LI 2318, LI 3011, LI 3420, LI 3421, LI 3422, LI 3423, LI 3424, LI 3425, LI 3426, LI 3427, LI 3428, LI 3433, LI 3434, LI 3435, LI 4429, LI 4430, LI 4431, LI 4432, LI 4435, LI 4438, LI 4440, LI 4541, LI 4542, LI 4543, LI 4544, LI 4545, LI 4546

Required Courses for the Social Sciences Department (42 semester credit hours). Refer to page 116.

General Education Requirements (**36** semester credit hours). Refer to page 37.

General Electives (**18** semester credit hours). Consult academic advisor.

Total of one hundred and twenty-six (126) semester credit hours.

LEGAL STUDIES OPTION

Political Science students wishing to follow the Legal Studies option of the concentration must select courses from Groups A, B and C but must take courses totaling forty-two (42) semester credit hours from Group D. (see above)

Required Courses for the Social Sciences Department (**48** semester credit hours).

General Education Requirements (36 semester credit hours).

General Electives (**6** semester credit hours).

Total of one hundred and thirty-eight (138) semester credit hours.

MINOR IN POLITICAL SCIENCE

A minimum of 15 semester credit hours of coursework is required, including PSC 3102.

Psychology

Psychology contributes to a general understanding of human behavior. It is a science, a set of procedures for systematically observing facts about behavior and for organizing these facts into generalizations of laws that seek to explain why human beings and other animals act as they do. In addition, psychology is a means of promoting human welfare, a body of information that can be applied to help solve a variety of individual and group problems.

The Psychology curriculum focuses on the accomplishment of the following objectives:

-to provide students with a general understanding of human behavior derived from the basic psychological theories, principles and laws as well as with the methodological tools for research in psychology as a basic and applied science.

-to provide students with a solid academic foundation for post-graduate studies.

-to prepare students for job opportunities in psychological settings as assistants or to provide a possible background for other careers in related areas such as business, social service, personnel management as well as in community mental health centers and vocational rehabilitation offices.

Required Courses for the Psychology Concentration (**24** semester credit hours)
PSY 2129 Theories of Personality
PSY 3005 Principles and Methods of Psychology
PSY 3103 Statistics (same as SOC 3141)

and 15 additional semester credit hours in Psychology courses distributed as follows:

Six semester credit hours required in Group A courses
GROUP A:
PSY 4131 Psychological Tests and Measurements
PSY 4191 Independent Research in Psychology
or
PSY 4192 Field Experience in Psychology

Three semester credit hours selected from Group B courses
GROUP B:
PSY 2901, PSY 3101, PSY 3110, PSY 3901, PSY 4410.

Six semester credit hours selected from Group C courses
GROUP C:
PSY 2022, PSY 2145, PSY 3121, PSY 3144, PSY 3151, PSY 3171, PSY 4170, PSY 3152.

Required Courses for the Social Sciences Department (**48** semester credit hours). Refer to page 116.

General Education Requirements (**36** semester credit hours). Refer to page 37.

General Electives (**24** semester credit hours). Consult advisor.

Total of one hundred and twenty-six (126) semester credit hours.

MINOR IN PSYCHOLOGY

A minimum of 15 semester credit hours of coursework required, including PSY 3005.

Sociology

Sociology concerns itself with the study and understanding of human groups in social interaction. The discipline of Sociology applies a critical perspective to the study of the social arrangements in which human beings live and die. The manner in which people sustain and change their social patterns is the central focus for sociological inquiry.

The Sociology curriculum focuses on the accomplishment of the following objectives:

-to provide students with a wide variety of theoretical and methodological perspectives available in the sociological discipline.

-to provide the opportunity for acquiring a solid academic foundation to those students who are interested in post-graduate studies in Sociology.

-to provide students with an intellectual background for careers in social research, social activism, social service, family planning, urban affairs, race relations, human relations, teaching as well as in relevant fields such as business and industry.

Required Courses for the Sociology concentration (**24** semester credit hours)
SOC 2101 Development of Social Thought
SOC 3140 Social Research Methods (same as PSC 3102)
SOC 3141 Statistics (same as PSY 3103)

and 18 additional semester credit hours in Sociology courses distributed as follows:

Six semester credit hours selected from Group A courses
GROUP A:
SOC 3102, SOC 3129, SOC 3130.

Six semester credit hours selected from Group B courses
GROUP B:
SOC 2131, SOC 3132, SOC 4143.

Required Courses for the Social Sciences Department (**48** semester credit hours). Refer to page 116.

General Education Requirements (**36** semester credit hours). Refer to page 37.

General Electives (**24** semester credit hours). Consult academic advisor.

Total of one hundred and twenty-six (126) semester credit hours.

MINOR IN SOCIOLOGY

A minimum of 15 semester credit hours of coursework is required, including SOC 3140.

Required Courses for the Social Sciences Department (**42** semester credit hours)

1. As appropriate, 12 semester credit hours, or waiver level 4, of one foreign language offered by ***The American University of Athens***.

2.

PSY 1001	Introduction to Psychology
SOC 1001	Introduction to Sociology
PHI 1050	Introduction to Philosophy
PHI 3120	Introduction to Logic
ENG 1051	Introduction to English Literature
HIS 2108	Early Aegean and Greek Civilizations to 388 B.C.
HIS 2110	The Roman World to 337 A.D.
CIS 1230	Introduction to Computing
PSC 1001	Scope and Methods of Political Science
CIS 1238	Computer Concepts and Applications

COMMUNICATION DEPARTMENT

CONCENTRATIONS: **Journalism**
Public Relations

Communication has to do with seeking, interpreting, and transmitting information to people through the means of the mass media. Our impressive ability today to send messages instantaneously across vast distances and to arouse similar feelings in millions of people simultaneously is so familiar to us all that it is easy to regard it with nonchalance. Despite this, the reality is that the capacity of people to share messages with others has had a truly powerful effect on the development of thought, behavior and culture. The Communication curriculum offers concentrations in Journalism, and Public Relations.

The Communication curriculum focuses on the establishment of the following objectives:

-to provide the students with an understanding of both the theoretical and technical aspects of Communication.

-to provide concentrated studies in Journalism and Public Relations in order to prepare the students for careers in mass communication (magazines, newspapers, radio, television), advertising agencies, private public relations offices, and cinema production.

-to provide the opportunity for acquiring a solid academic foundation to the students who seek post-graduate studies in the various disciplines of Communication.

EIGHT-SEMESTER PLAN FOR ALL STUDENTS ENROLLED IN THE COMMUNICATION DEPARTMENT

YEAR ONE

	Semester One		Semester Two
EN 1100*	English Composition and Rhetoric I	EN 1102*	English Composition and Rhetoric II
PSY 1001	Introduction to Psychology	SOC 1001	Introduction to Sociology
PHI 1050	Introduction to Philosophy	MA 1108*	College Algebra and Trigonometry
	Humanities Elective I*		Social Sciences Elective I*
	Foreign Language I		Foreign Language II

YEAR TWO

Semester One		Semester Two	
EN 2012*	Language in Literature	ENG 1051	Introduction to English Literature
	Social Sciences Elective II*		Social Sciences Elective III*
	Natural Sciences I*		Natural Sciences II*
	Humanities Elective II*		Humanities Elective III*
	Foreign Language III		Foreign Language IV

THIRD YEAR

Semester One		Semester Two	
	Course in Concentration I**		Course in Concentration III**
	Course in Concentration II**		Course in Concentration IV**
PSC 1001	Scope and Methods of Political Science		
		MAN 2101	Principles of Management
CIS 1230	Introduction to Computing	CIS 1238	Computer Concepts and Applications
	General Elective		General Elective
	General Elective		General Elective

FOURTH YEAR

	Semester One		Semester Two
	Course in Concentration V**		Course in Concentration VII**
	Course in Concentration VI**		Course in Concentration VIII**
MK 1101	Introduction to Marketing	HIS 3139	World History in the 20th Century
	General Elective		General Elective
	General Elective		General Elective

* These courses fulfil the General Education requirements of ***The American University of Athens*** and should be chosen from the courses outlined on page 37.

** These courses fulfil the requirements for the chosen concentration and should be taken as described in each of the following Communication concentrations.

Journalism

The Journalism curriculum focuses on the establishment of the following objectives:

-to provide the academic and professional resources for a specialization in Journalism with emphasis on the development of skills such as writing, editing and information gathering.

-to provide the opportunity for acquiring a solid academic foundation to students who seek post-graduate studies in Journalism.

-to prepare students for careers in mass communication (magazines, newspapers, radio, television stations) and related fields such as advertising and public relations agencies.

Required Courses for the Journalism Concentration (**24** semester credit hours)
JOU 2071 Introduction to Mass Communication
JOU 3115 Newspaper Editing and Make-up
JOU 3117 Magazine Editing and Make-up
and 15 additional semester credit hours in Journalism courses distributed as follows:

Six semester credit hours required in Group A courses
GROUP A:
JOU 3111 Reporting
JOU 4196 Senior Project

Six semester credit hours selected from Group B courses
GROUP B:
JOU 3121, JOU 3140, JOU 3141, JOU 4151, JOU 4155.
Three semester credit hours selected from Group C courses

GROUP C:
JOU 3130, JOU 3210, JOU 4128, JOU 4129.

Required Courses for the Communication Department (**48** semester credit hours).

General Education Requirements (**36** semester credit hours).

General Electives (**24** semester credit hours). Consult academic advisor.

Total of one hundred and twenty-six (126) semester credit hours.

MINOR IN JOURNALISM

A minimum of 15 semester credit hours of coursework is required, including JOU 3111.

Public Relations

Public Relations help our complex, pluralistic society to reach decisions and function more effectively by contributing to mutual understanding among groups and institutions. It serves to bring the public into harmony with public policies. It serves a wide variety of institutions in society such as businesses, trade unions, government agencies, voluntary associations, foundations, hospitals and educational and religious institutions.

The Public Relations curriculum focuses on the accomplishment of the following objectives:

-to provide students with an understanding of both the theoretical and technical aspects of communication, advertising and similar fields.

-to provide the opportunity for acquiring a solid academic foundation to those who seek post-graduate studies.

-to prepare students for careers in industry, hotels, business corporations, news media, advertising agencies and private public relations offices.

Required Courses for the Public Relations Concentration (24 semester credit hours) from the following choices:

PR 3115	Introduction to Communication Theory
PR 3210	Persuasive Techniques
PR 3300	Public Speaking
PR 3352	Communication Theory and Research
PR 3354	Organizations Communication
PR 3370	Principles of Public Relations
PR 3391	Intercultural Communication
PR 4395	Public Relations Management
PR 4470	Case Studies in Public Relations

General Education Requirements (36 semester credit hours). Refer to page 37.

General Electives (**24** semester credit hours). Consult academic advisor.

Total of one hundred and twenty-six (126) semester credit hours.

MINOR IN PUBLIC RELATIONS

A minimum of 15 semester credit hours of coursework is required, including PR 3370.

Required Courses for the Communication Department (**48** semester credit hours)

1. As appropriate, 12 semester credit hours, or waiver level 4, of one foreign language offered by ***The American University of Athens***.

2.

PSY 1001	Introduction to Psychology
PSC 1001	Scope and Methods of Political Science
SOC 1001	Introduction to Sociology
PHI 1050	Introduction to Philosophy
ENG 1051	Introduction to English Literature
HIS 3139	World History in the 20th Century
CIS 1230	Introduction to Computing
MK 1101	Principles of Marketing
MAN 2101	Principles of Management
CIS 1238	Computer Concepts and Applications

ARTS STUDIES

DEPARTMENT: **Art History - Byzantine Studies – Classical Archaeology**

Arts Studies concentrations lead to the Bachelor of Arts degree which requires four years of study and consists of one hundred and twenty-six (126) semester credit hours.

ART HISTORY - BYZANTINE STUDIES – CLASSICAL ARCHAEOLOGY DEPARTMENT

CHAIRPERSON: Rita Roussos, Ph.D. (Art History), M.A. (Art History), B.A. (Classical Languages)

CONCENTRATIONS:
Art History
Byzantine Studies
Classical Archaeology

Mission and Philosophy

The department's aim is that students develop solid evaluation and research skills, a confident grasp of theory and a command of a significant body of knowledge which will prepare them for successful graduate or research studies or entry into the professional world.

Objectives

The department emphasizes theoretical as well as practical application of content and strongly encourages the development of visual and research skills. The curriculum offers introductory, intermediate and advanced courses to students who are interested in (a) entering a major field of study at AUA, (b) preparing for professional, academic, or museum careers, or (c) supplementing studies in other fields.

Art History

Concentration Courses (**24** semester credit hours)

AH 1032	Survey of Western Art II
AH 3105	Renaissance Art and Architecture in Italy II
AH 3113	Baroque Art and Architecture

and 15 additional semester credit hours in Art History courses as follows:

Nine semester credit hours selected from Group A courses

GROUP A:

AH 2106	Renaissance Art in the North
AH 3104	Renaissance Art and Architecture in Italy I
AH 3108	Late Antique and Early Christian Art and Architecture
AH 3117	Byzantine Art and Architecture
AH 3118	Western Medieval Art and Architecture

Three semester credit hours selected from Group B courses

GROUP B:

AH 3109	18th Century Art and Architecture in Europe
AH 3110	19th Century Art and Architecture in Europe

Three semester credit hours selected from Group C courses

GROUP C:

AH 3129	20th Century Art and Architecture in Europe
AH 4200	Special Topics in Art History

Required Courses for the Art History Concentration (**39** semester credit hours)

1. AH 1031, ARC 2101, ARC 2102, ART 1001, ART 1041, ART 1042, CIS 1230, CIS 1238, PHO elective (select three semester credit hours from Group D PHO courses)

2. 12 semester credit hours, or waiver level 4, of one foreign language offered by ***The American University of Athens***

Three semester credit hours selected from Group D PHO courses

GROUP D:

PHO 1023	Photography: Introduction
PHO 2025	Darkroom Printing
PHO 2181	Introduction to Color Photography

General Education Requirements (**36** semester credit hours). Refer to page 37.

General Electives (**27** semester credit hours). Consult academic advisor.

Total of one hundred and twenty-six (126) semester credit hours.

MINOR IN ART HISTORY

A minimum of 18 semester credit hours of coursework is required, including AH 1031. Academic advising is required.

Byzantine Studies

Concentration Courses (**24** semester credit hours)

AH 1032	Survey of Western Art II
AH 3115	Christian Iconography
AH 3108	Late Antique and Early Christian Art and Architecture
AH 3117	Byzantine Art and Architecture
AH 3118	Western Medieval Art and Architecture
HIS 2110	The Roman World
HIS 3111	Medieval History I
CLA 2139	Major Greek Authors

Required Courses for the Byzantine Studies Concentration (**57** semester credit hours).

1. AH 1031, ARC 2101, ARC 2102, ART 1001, PHI 2111, CLA 1011, CLA 1012, CLA 1013, CLA 1014, CLA 2071, CLA 2072, CIS 1230, CIS 1238

2. 18 semester credit hours of foreign language (12 semester credit hours, or waiver level 4, of one and 6 semester credit hours, or waiver level 2, of another foreign language offered by ***The American University of Athens***)

General Education Requirements (36 semester credit hours).

General Electives (9 semester credit hours). Consult academic advisor.

Total of one hundred and twenty-six (126) semester credit hours.

MINOR IN BYZANTINE STUDIES

A minimum of 18 semester credit hours of coursework is required, including AH 1031. Academic advising is required.

Classical Archaeology

Required Courses for Classical Archaeology Concentration (**27** semester credit hours)

AH 2124	Greek Sculpture
AH 3108	Late Antique and Early Christian Art and Architecture
ARC 1100	Introduction to and History of Archaeology
ARC 2101	Greek Art and Archaeology
ARC 2102	Roman Art and Archaeology
ARC 3111	Classical Archaeology
HIS 2108	Early Aegean and Greek Civilizations to 338 B.C.
HIS 2109	Greece and the Near East, 359 B.C. to the 2nd Century B.C.
PHI 2111	History of Ancient Philosophy

Three semester credit hours from Group A courses

GROUP A:

CLA 1011, 1012	Beginning Greek: Classical
CLA 1013, 1014	Homer: The Iliad, The Odyssey: A New Approach

Or

12 semester credit hours in Classics Electives

Three semester credit hours from Group B courses

GROUP B:

ARC 3121	Archaeology of Classical Greece I
ARC 3122	Archaeology of Classical Greece II
ARC 3123	Archaeology of Classical Greece III

Or

9 semester credit hours in Classics Electives

Three semester credit hours from Group C courses

GROUP C:

ARC 3103	Ancient Artist and His Workshop
ARC 3104B	Greek Numismatics
ARC 2126	Archaeological Sites of Greece
ARC 3155	Greek Vase Panting 1000 B.C. – 300 B.C.
ARC 4200	Special Topics in Archaeology

Or

15 semester credit hours in Classics Electives

General Education Requirements (**36** semester credit hours).

General Electives (**27** semester credit hours).

Total of one hundred and twenty-six (126) semester credit hours.

VISUAL ARTS DEPARTMENT

CONCENTRATIONS:

Fine Arts-Drawing and Painting
Photography
Interior Design
Graphic Design-3D Animation
Fashion Design
Sculpture

Fine Arts

Students applying for entrance to Fine Arts-Drawing and Painting will be expected, though not required, to present for review a portfolio consisting of appropriate examples of works of the student's potential in addition to the regular admission procedures. The number of pieces submitted will be left up to the student, but he or she should aim to give the department a good indication of the extent of his/her experience and talent. Evaluations of portfolios are conducted by the Fine Arts faculty. Screening normally takes place several times during the Academic year. Appointment for portfolio screening can be made by telephoning or writing the Office of Admissions.

Drawing and Painting

The Painting and Drawing academic curriculum focus on the accomplishment of the following objectives:

-to foster the students' development in painting as a fine art with emphasis on learning the skills inherent in oil, acrylic, and related aqueous media, and mixed media.
-to develop the students' conceptual awareness and technical proficiency through active experience,
-to provide a solid academic and technical foundation to those students who may seek graduate studies in painting.
-to prepare the students for a career as a teacher in primary and secondary private education or painter

Foundation courses in Painting and Drawing are open to all American University of Athens (AUA) students.

All candidates for the Drawing and Painting major are required to complete the general requirements for graduation stated by the Liberal Arts Program of ***The American University of Athens*** (AUA). Students should consult their academic advisor regarding courses to be taken in satisfying requirements.

Required Theoretical Art Courses (**6** semester credit hours)

ART 1001	Principles of Art
ART 2161	Anatomy for Artists

Required Studio Drawing and Painting Courses (**24** semester credit hours)

ART 1041, 1042	Drawing I
ART 1061, 1062	Watercolor I
ART 1065, 1066	Painting I
ART 2125, 2126	Painting II
ART 3127, 3128	Painting III
ART 4133, 4134	Painting IV
ART 2159, 2160	Drawing II
ART 3163, 3164	Drawing III

Required Courses in Other Areas (**24** semester credit hours)

AH 1031	Survey of Western Art I
AH 1032	Survey of Western Art II
AH 3109	19th Century Art in Europe I
or	
AH 3110	19th Century Art in Europe II
AH 3129	20th Century Art in Europe
ART 1081	Sculpture I
ART 1082	Sculpture II
DES 1021	Design: Basic I
DES 1022	Design: Basic II

General Education Requirement (**36** semester credit hours).

Foreign Language Requirements for Liberal Arts (**12** semester credit hours).

General Electives (**9** semester credit hours).

Total of one hundred twenty-three (135) semester credit hours.

MINOR IN DRAWING & PAINTING (**18** semester credit hours)

ART 1001, ART 1041-1042 or ART 1065-1066 and 9 semester credit hours in studio Drawing and Painting courses. Departmental advising is required.

Photography

Photography is not only a means of individual expression, but it also serves as a critical tool for the artist. Photography has had an enormous impact on all aspects of visual and applied arts. The photographer works in a variety of contexts not only those requiring the many interrelated communication disciplines but also those involving the consumer. The Department of Photography is interested in assessing talent and creative ability that may not always be reflected by transcripts or test scores. The photography academic curriculum focuses on the accomplishment of the following objectives:

-to provide the student with the opportunity to develop both a theoretical and practical knowledge of photography not only as a means of individual expression but also as a critical tool for the artist.
-to provide a solid academic foundation to those students who are interested in pursuing graduate studies.
-to provide the means for careers in mass media communication (photojournalists) as well as in cinema and related disciplines

Foundation Courses in Photography are open to all American University of Athens (AUA) students. All candidates for the Photography major are required to complete the general requirements for graduation stated by the Liberal Arts Program of ***The American University of Athens***. Students should consult their academic advisor regarding courses to be taken to satisfy the requirements.

Required Photography Studio Courses (**27** semester credit hours)

PHO 1023	Photography: Introduction
PHO 2025	Darkroom Printing
PHO 2181	Introduction to Color Photography
PHO 3183	Experimental Photography
PHO 3208	Applied Photography
PHO 4220	Exhibition Design
PHO 4240	Major Projects
JOU 3140	Photojournalism I
JOU 3141	Photojournalism II

Note: Students may elect to substitute PHO 1182, 2205, and 2206 with three other PHO elective courses of which one must be PHO 1025.

Required theoretical Photography courses (**6** semester credit hours)

PHO 3197	History of Photography: 19th Century
PHO 3198	History of Photography: 20th Century

Required courses in other areas (**18** semester credit hours)

AH 1032	Survey of Western Art II
AH 3110	19th Century Art in Europe II
or	
AH 3129	20th Century Art in Europe
ART 1001	Principles of Art
ART 1041	Drawing I
ART 1065	Painting I
DES 1021	Design: Basic I
AH	Elective
AH	Elective
PHO	Elective
PHO	Elective

General Education Requirement (**36** semester credit hours).

Foreign Language Requirements for Liberal Arts (**12** semester credit hours).

General Electives (**12** semester credit hours).

Total of one hundred twenty-three (126) semester credit hours.

MINOR IN PHOTOGRAPHY (**18** semester credit hours)

ART 1001, PHO 1023, PHO 2025, PHO 3197 or 3198, PHO 2181 or 3183 and PHO 3208.

Interior Design

Interior Design is one of today's most varied and exciting fields. The shaping of our immediate environment, space planning, and interior design for residential, institutional, office, and public buildings are all within each student's scope. The Interior Design academic curriculum focuses on the accomplishment of the following objectives:

-to train the students in the fundamental principles of special design as related to art, behavioral patterns and structural principles.
-to familiarize the students with business procedures, and the continuous social and technological changes affecting the interior designer.
-to encourage the students to adhere to the fundamental design principles of the best functional use of space rather than the simple decoration of existing spaces.
-to provide the opportunity for a solid academic foundation to those who are interested in pursuing graduate studies.
-to provide the students with the theoretical and practical knowledge for a professional interior design career with interior design studios, governmental agencies, manufacturers of home furnishings and equipment, home planning firms and other organizations concerned with the creative and functional aspect of the interior environment.

All candidates are required to complete the general requirements for graduation stated by the Liberal Arts Program of ***The American University of Athens***. Students should consult their academic advisor regarding courses to be taken to satisfy the requirements.

Required Design Courses (**42** semester credit hours)

DES 1021	Design: Basic I
DES 1022	Design: Basic II
DES 2124	Interior Design I
DES 3130	Structures
DES 3136	Materials
DES 3137	Presentation and Exhibition Design
DES 2222	Interior Architectural Drawing and Rendering
DES 2223	History and Theory of Design
DES 2224	Interior Design II
DES 3232	Interior Design Problems I
DES 3332	Interior Design Problems II
DES 3338	Furniture Design
DES 4422	Interior Design Problems III
DES 4450	Senior Project in Interior Design

Required Courses in Other Areas (**30** semester credit areas)

AH 1031	Survey of Western Art I
AH 1032	Survey of Western Art II
AH 3109	19th Century Art in Europe I
or	
AH 3110	19th Century Art in Europe II
AH 3129	20th Century Art in Europe
ART 1001	Principles of Art
ART 1041	Drawing I
ART 1042	Drawing I
ART 1130	Principles of Color
MK 1101	Introduction to Marketing
PHO 1023	Introduction to Photography

General Education Requirement (**36** semester credit hours).

Foreign Language Requirements for Liberal Arts (**12** semester credit hours).

General Electives (**15** semester credit hours)

Total of one hundred twenty-three (126) semester credit hours.

Minor in Interior Design

A minimum of 18 semester credit hours of coursework is required including DES 1021, 1022.
Academic advising is required.

Graphic Design-3D Animation

The academic curriculum of the Graphic Design field of study focuses on the accomplishment of the following objectives:

-to prepare the students to meet the demand for special skills and versatility in creative thinking essential for the production of good advertising art.
-to train the students in the techniques of graphic design such as lettering, typography, the design and organization of the printed page, illustration symbols, trademarks and in many other skills in the field of visual communication with special attention given to the vocabulary and techniques of the printing industry.
-to provide the opportunity for a solid academic foundation to those who are interested in pursuing graduate studies.
-to provide the students with the necessary skills to work in all visual communication media: photography, television, print and film as well as for careers in illustration, advertising design, typography, package design or related fields.

All candidates for the Graphic Design major are required to complete the general requirements for graduation stated by the Liberal Arts Program of ***The American University of Athens***. Students should consult their academic advisor regarding courses to be taken to satisfy the requirements.

Required Courses for the Graphic Design Concentration (**75** semester credit hours)

AH 1031	Survey of Western Art I
AH 1032	Survey of Western Art II
ART 1001	Principles of Art
ART 1041	Drawing I
ART 1042	Drawing I
ART 1130	Principles of Color
DES 1021	Design: Basic I
DES 1022	Design Basic II
DES 2134	Visual Communication: Basic Layout
DES 3231	Symbols & Logotypes
DES 3236	Advertising Design
DES 4240	Brochures and Catalogues
DES 4420	Portfolio
PHO 1023	Photography: Introduction
PHO 2025	Darkroom Printing
CS 1121	Pascal I
CS 1122	Pascal II
CS 3303	Computer Graphics Applications I
CS 3333	Computer Graphics Applications II
CS 3334	Design for Multimedia
CS 4313	Advanced Computer Modeling 3D Animation
CS 4336	Graphic Design Studio I
CS 4337	Graphic Design Studio II
CIS 1230	Introduction to Computing
CIS 1238	Computer Concepts - Applications

General Education Requirement (**36** semester credit hours).

Foreign Language Requirements for Liberal Arts (**12** semester credit hours).

General Electives (**12** semester credit hours)

Total of one hundred and thirty-five (135) semester credit hours.

Minor in Graphic Design

A minimum of 18 semester credit hours of coursework is required, including DES 1021, 1022. Academic advising is required.

Fashion Design

This field of study is for students who wish to follow a program oriented toward the creative understanding and application of design in dress. The academic curriculum of the Fashion Design field of study focuses on the accomplishment of the following objectives:

-to foster in the students a creative understanding of design and practically in dress along with the ability to translate this understanding into manufacturing techniques.
-to provide the students with a rich background in both creative and technical areas of the fashion field.
-to provide the students with an opportunity to study techniques of the fashion industry so as to give them an understanding of its roots, materials, and methods.
-to provide a solid academic and technical foundation to those who are interested in pursuing graduate studies in related fields.
-to prepare the students for a career in the world of fashion

All candidates for the Fashion Design major are required to complete the general requirements for graduation stated by the Liberal Arts Program of ***The American University of Athens***. Students should consult their academic advisor regarding courses to be taken to satisfy the requirements.

Required Courses for the Fashion Design Concentration (**48** semester credit hours)

ART 1041	Drawing I
ART 1042	Drawing II
ART 1130	Principles of Color
DES 1021	Design: Basic I
DES 1022	Design: Basic II
DES 2120	Textiles
DES 2169	Fashion Design
DES 2170	Principles of Creative Clothing
DES 3171	Fashion Illustration
DES 3182	Patterns I
DES 3183	Patterns II
DES 4174	Application of Methods of Fashion Design I
DES 4175	Application of Methods of Fashion Design II
ART 1001	Principles of Art
MK 1101	Principles of Marketing
PHO 1023	Photography: Introduction

Required Art Courses (**9** semester credit hours)

AH 1031	Survey of Western Art I
AH 1032	Survey of Western Art II
DES 2176	Life Drawing from Model

Required Computer Science Courses (**16** semester credit hours)

CS 1121	Pascal I
CS 1122	Pascal II
CS 4185	Interactive Computer Graphics
CS 4188	Computer Networks
CIS 3100	Computer Laboratory (2 credits)
CIS 3200	Application Programming (2 credits)

Required Design Courses (**9** semester credit hours)

CS 3303	Computer Graphic Applications I
CS 3333	Computer Graphic Applications II
CS 4313	Advanced Computer Modeling 3D Animation

General Education Requirements (**36** semester credit hours).
Foreign Language Requirements for Liberal Arts (**12** semester credit hours).
General Elective (**15** semester credit hours).

Total of one hundred and forty-five (145) semester credit hours.

Minor in Fashion Design

A minimum of 18 semester credit hours of coursework is required, including DES 1021, 1022. academic advising is required.

Sculpture

The sculpture academic curriculum focuses on the accomplishment of the following objectives:

-to provide the students with the opportunity to explore concepts of sculpture in the context of a broad technical and aesthetic background through experience in various materials and processes.
-to provide a solid academic and technical foundation to those students who may seek graduate studies in sculpture.
-to prepare the students for a career as a teacher in primary and secondary private education or sculpture

Foundation Sculpture courses are open to all American University of Athens (AUA) students. All candidates for the Sculpture major are required to complete the general requirements for graduation stated by the Liberal Arts Program of ***The American University of Athens***. Students should consult their academic advisor regarding courses to be taken in satisfying requirements.

Required Theoretical Fine Art Courses (**3** semester credit hours)

ART 1001	Principles of Art

Required Studio Sculpture Courses (**39** semester credit hours)

ART 1081, 1082	Sculpture I
ART 2179, 2180	Sculpture II
ART 3183	Sculpture Foundry – Investment Casting
ART 3184	Advanced Ceramic Sculpture
ART 3283	Sculpture: Molding and Reproduction
ART 3284	Sculpture: Carving and Fabrication
ART 3381	Advanced Life Sculpture
ART 4382	Advanced Sculpture
ART 4383	Surface Design
ART 4481	Special Studies in Sculpture
ART 4482	Structures in Fiber

Required Courses in Other Areas (**30** semester credit hours)

AH 1031	Survey of Western Art I
AH 1032	Survey of Western Art II
AH 3109	19th Century Art in Europe I
or	
AH 3110	19th Century Art in Europe II
AH 3129	20th Century Art in Europe
ART 1041	Drawing I
ART 1042	Drawing I
ART 1065	Painting I
ART 1066	Painting I
DES 1021	Design: Basic I
DES 1022	Design: Basic II

General Education Requirement (**48** semester credit hours).

Foreign Language Requirements for Liberal Arts (**12** semester credit hours).

General Electives (**12** semester credit hours).

Total of one hundred twenty-three (126) semester credit hours.

Minor in Sculpture

A minimum of 18 semester credit hours of coursework is required, including ART 1001, ART 1081, 1082 and 9 semester credit hours in studio courses. Departmental advising is required.

Course Descriptions

Courses numbered at the 1000 level are intended primarily for freshmen, courses numbered at the 2000 level, for sophomores, and courses at the 3000 and 4000 levels, for juniors and seniors. Some advanced courses are not taught every year but are scheduled in cycles. The Arts departments reserve the right to limit the number of students registered in any of their courses and to cancel any course for which there is insufficient enrolment. The number in parenthesis after the title of each course indicates the semester credit hours of the course.

Art History (AH)

AH 1031, 1032 Survey of Western Art I and II (3, 3)

No prerequisite. A foundation for further study in the history of art. AH 1031: prehistoric to Gothic art. AH 1032: Renaissance to modern art. They may count in fulfilling the Arts and Humanities requirements of the General Education requirements.

AH 2106 Renaissance Art in the North (3)

No prerequisite. Northern painting from Van Eyck through Bosch, Duerer, and Brueghel.

AH 2116 Non-Western Art and Architecture (3)

No prerequisite. Survey of the arts of the non-western areas presented in their historical and cultural context. May be repeated for credit.

AH 2124 Greek Sculpture (3)

No prerequisite. Open to majors and non-majors. A study of free standing and architectural sculpture from the Archaic to the Hellenistic period.

AH 3104 Renaissance Art and Architecture in Italy I (3)

Prerequisite: AH 1032. Early developments from the 13th to the 15th century in art and architecture, the developments and dispersion of the Renaissance throughout Europe.

AH 3105 Renaissance Art and Architecture in Italy II (3)

Prerequisite: AH 1032. Renaissance and Mannerism in Italy.

AH 3108 Late Antique and Early Christian Art and Architecture (3)

Prerequisite: AH 1031. An examination of art and architecture from Late Antiquity to Iconoclasm.

AH 3109 18th-Century Art and Architecture in Europe (3)

Prerequisite: AH 1032. Examination of Rococo, Neoclassicism, and English painting in the context of Western European historical and cultural developments. Emphasis on France, England, and Germany and the representative styles of Watteau, David and others. .

AH 3110 19th Century Art and Architecture in Europe II (3)

Prerequisite: AH 1032. Examination of Realism, Romanticism, Impressionism, and Post-impressionism in the context of Western European political and social environments with emphasis on the representative styles of Delacroix, Ingres, Courbet, Manet, Monet and Barbizon; also Seurat, Van Gogh and Gauguin.

AH 3113 Baroque Art and Architecture (3)

Prerequisite: AH 1032. Concentration on Italy, France, Flanders and Holland, with emphasis on Bernini, Caravaggio, Poussin, Rubens.

AH 3115 Christian Iconography (3)

Prerequisites: AH 1031, AH 1032. Origins and development of Christian symbols and themes from the early Christian era to the Council of Trent.

AH 3117 Byzantine Art and Architecture (3)

Prerequisite: AH 1031. A consideration of early Christian and Byzantine Art and Architecture from Iconoclasm to 1453.

AH 3118 Western Medieval Art and Architecture (3)

Prerequisite: AH 1031. A course designed to familiarize students with Carolingian, Ottoman, Romanesque and Gothic Art and Architecture.

AH 3129 20th-Century Art and Architecture in Europe (3)

Prerequisite: AH 1032. Survey of 20th-century European painting, sculpture, and architecture, from their origins in the late 19th century through the 20th century. Emphasis on major modernist movements and artists, including Matisse, Picasso, Kandinsky, and Mondrian.

AH 4166 Introduction to Visual Perception (3)

Prerequisite: AH 1032. Introduction to theories of visual perception. Emphasis is placed on the function of visual thinking. Students become familiar with the character of the visual language and its basic elements.

AH 4200 Special Studies in Art History (3)

Prerequisite: AH 1031 and AH 1032 and senior standing. The course will introduce the student to special topics in several fields of art history. May be repeated for credit.

Archaeology (ARC)

ARC 1100 Introduction and History of Archaeology (3)

No prerequisite. Theory, methods and aims of archaeology. Dating methods. Absolute and relative chronology in the Aegean. Important discoveries and excavations of the last 150 years. J. J. Winckelmann, Lord Elgin, H. Schliemann, J. Evans; the work of the Greek Archaeological Service and the foreign schools.

ARC 2101 Greek Art and Archaeology (3)

No prerequisite. It may count in fulfilling the Arts and Humanities requirements of the General Education requirements. Open to majors and non-majors. A study of the major achievements in architecture, sculpture, painting, and mosaics from 1000 B.C. to mid-4th century. Special focus on the Parthenon and fifth-century Athens. Attention to recent discoveries and current excavations.

ARC 2102 Roman Art and Archaeology (3)

No prerequisite. It may count in fulfilling the Arts and Humanities requirements of the General Education requirements. Open to majors and non-majors. Investigation of the architecture, sculpture, wall paintings, and mosaics from the 2nd century B.C. to A.D. 300. Consideration both of the city of Rome and of the monuments and society in the provinces.

ARC 2126 The Archaeological Sites of Greece (9)

No prerequisite. Field trip. An on-site examination of the archaeological sites of ancient to Byzantine Greece designed to give students a full understanding of the civilization. Open to majors and non-majors.

ARC 3103 The Ancient Artist and his Workshop (3)

Prerequisite: ARC 1100. A study of the ancient craftsman’s techniques, workshop organization,

and position in society. Exploration of sculpture, architecture, painting, pottery, mosaics, gems, glass and metalwork.

ARC 3104 B: Greek Numismatics (3, 3)

Prerequisite: ARC 1100. A comprehensive study of the history of epigraphy/numismatics, with special reference to their economical, political and historical importance.

ARC 3111 Classical Archaeology (3)

Prerequisite: ARC 1100. Archaeological monuments of classical civilizations, with intensive study of one or more areas selected from architecture, sculpture, painting, or minor arts.

ARC 3120 The Archaeology of Greece (3)

Prerequisite: ARC 1100. An introductory course from the Neolithic period to the Hellenistic ages. A general survey of archaeology in Greece.

ARC 3121 Archaeology of Classical Greece I (3)

Prerequisite: ARC 1100. An introduction to classical antiquity through the material remains of the period with special reference to Pausanias. Detailed study of an important classical site: Athens.

ARC 3122 Archaeology of Classical Greece II (3)

Prerequisite: ARC 1100. An introduction to classical antiquity through the material remains of the period with special reference to Pausanias. Detail study of an important classical site: Delphi.

ARC 3123 Archaeology of Classical Greece III (3)

Prerequisite: ARC 1100. An introduction to classical antiquity through the material remains of the period with special reference to Pausanias. Detailed study of an important classical site: Olympia.

ARC 3125 Archaeology of the Prehistoric Aegean (6000-1000 B.C.) (3)

Prerequisite: ARC 1100. The Stone and Bronze Ages in Crete. Mainland Greece and Cycladic Islands. Minoan and Mycenaean civilization. A study of the architecture and pottery: the economy, religion, society and the writing of the period.

ARC 3155 Greek Vase Painting 1000 B.C.-300 B.C. (3)

Prerequisite: ARC 1100. An analytical study of Greek vase painting from the end of the Mycenaean Period (1000 B.C.), down to the end of the 4th century B.C. Special attention will be paid to the details of the iconography and the style of the individual artists.

ARC 4200 Special Issues in Archaeology (3)

Prerequisite: According to announced topic. The course will introduce the student to special topics in several fields of archaeology. May be repeated for credit.

Art (ART)

ART 1001 Principles of Art (3)

No prerequisite. An introduction to various art media, basic elements of art and thematic interpretations, European and non-Western traditions.

ART 1041, 1042 Drawing I (3, 3)

No prerequisite. Elementary investigation of concepts of drawing, both traditional and contemporary; training in perception, analysis of form in light and space; instruction in the use of graphic materials and media; exercises in connoisseurship. They may count in fulfilling the Arts

requirement of the General Education requirements. Two hours lecture, one hour lab per week.

ART 1061, 1062 Watercolor I (3, 3)

No prerequisite. Painting in transparent and opaque watercolor and in acrylic. Experimentation, figurative, and landscape. Two hours lecture, one hour lab per week.

ART 1065, 1066 Painting I (3, 3)

No prerequisite. Emphasis on personal expression with exposure to a variety of styles. Application of design principles to easel painting. Two hours lecture, one hour lab per week.

ART 1081, 1082 Sculpture I (3-3)

No prerequisite. Beginning study of design and fabrication of sculpture. Basic sculptural techniques for media including clay, plaster, stone and wood.

ART 1130 Principles of Color (3)

No prerequisite. Study of the physical, physiological, and psychological aspects of color through lectures and studio projects. An investigation of the various methods used to catalog color. Two hours lecture, one hour lab per week.

ART 2125, 2126 Painting II (3-3)

Prerequisite: ART 1065-1066. Alteration of personal expression and structured problems dealing with still life and the figure. Use of acrylic and oil.

ART 2159, 2160 Drawing II (3-3)

Prerequisite: ART 1041-1042. Study and application of master drawing techniques. Investigation of perspective and anatomy. Emphasis upon conceptual development of personal style.

ART 2161 Anatomy of Artists (3)

No prerequisite. Skeletal and muscle structure emphasizing the development of skill in depicting the human figure.

ART 2179, 2180 Sculpture II (3-3)

Prerequisite: ART 1181, 1182. Expansion of sculpture I, utilizing advanced wood milling equipment and metal welding techniques.

ART 3127, 3128 Painting III (3-3)

Prerequisite: ART 2125-2126. Studies in the interpretation of the figure and still life. Emphasis on color, space, planes, modulations.

ART 3163, 3164 Drawing III (3-3)

Prerequisite: ART 2159-2160. Developmental approach; a series of drawing exercises with emphasis on the human figure. Outside assignments required.

ART 3183 Sculpture Foundry – Investment Casting (3-3)

Prerequisite: 2180. The traditional lost wax techniques of casting non-ferrous metal. Wax formation and manipulation, gating theory and practice, investment procedures, foundry management, metal casting, patination and tool making.

ART 3184 Advanced Ceramic Sculpture (3)

Prerequisite: ART 3183. Continuation of 2179 and 2180 with emphasis on individual approach. Exploration of mixed media and mold casting.

ART 3283 Molding and Reproduction (3)

Prerequisite: ART 3184. Construction and use of flexible and plaster molds.

ART 3284 Carving and Fabrication (3)

Prerequisite: ART 3283. Composition in sculpture utilizing stone and woodcarving, metal and wood fabrication.

ART 3381 Advanced Life Sculpture (3)

Prerequisite: Consent of instructor. Large-scale sculpture from the model emphasizing expressive content. Work in clay and plaster, armature and stand construction, oil-clay formulation and advanced mold making techniques.

ART 4133, 4134 Painting IV (3-3)

Prerequisite: ART 3127-3128. Investigation of several media and techniques. Painting problems – some of the student's own choice – emphasizing the process of constructing a composition. Outside assignments required.

ART 4382 Advanced Sculpture (3)

Prerequisite: ART 4381. Advanced composition in sculpture.

ART 4383 Surface Design (3)

Prerequisite: ART 4382. Variety of design concepts in relation to media and processes appropriate to both hand and commercial application to textile and other surfaces.

ART 4481 Special Studies in Sculpture (3)

Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in sculpture.

ART 4482 Structures in Fiber (3)

Prerequisite: ART 4382. Concepts and development in non-loom fiber structure.

Classics (CLA)

CLA 1011, 1012 Beginning Greek: Classical (3,3)

No prerequisite. Study of the grammar, vocabulary, and structure of Greek. Reading of selected ancient authors.

CLA 1013, 1014 Homer: *The Iliad*, *The Odyssey*: A New Approach (3, 3).

No prerequisite. Open to all students. A detailed analysis of the Homeric issue. An emphasis will be placed on the grammatical construction of the meter, and the general vocabulary of this language. It may count in fulfilling the Humanities requirement of the General Education requirement.

CLA 2071 Greek Literature and Civilization (3)

No prerequisite. Open to all students, including freshmen. It may count in fulfilling the Humanities requirement of the General Education requirements. Study of ancient Greek civilization with focus on public and private life as seen primarily through literature.

CLA 2072 Roman Literature and Civilization (3)

No prerequisite. Open to all students, including freshmen. It may count in fulfilling the Humanities requirement of the General Education requirements. Study of Roman civilization with focus on public and private life as seen primarily through literature.

CLA 2105 Special Topics in Classical Literature (3)

No prerequisite. Focus on a selected topic such as satire or oratory.

CLA 2108 Classical Mythology (3)

No prerequisite. A survey of the mythology of the Greeks and Romans starting with the creation of the world: tales of the gods and heroes that have influenced literature, art and music.

CLA 2139 Major Greek Authors (3)

No prerequisite. Selections from a wide variety of Greek prose, drama, and poetry. 3 lecture hours.

CLA 2170 Women in Classical Antiquity (3)

No prerequisite. An in-depth study and discussion of readings from ancient and modern sources on the role of women in Greek and Roman Society.

Design (DES)

DES 1021, 1022 Design I, II: Basic (3, 3)

No prerequisite. Fundamental studies of principles and elements of design. DES 1021: study of two-dimensional design. DES 1022: study of three-dimensional design. Two hours lecture, two hours lab per week.

DES 2124 Interior Design I (3)

Prerequisite: DES 1021, 1022. Recognition of simple design problems and their analysis. Human needs and behavioral patterns as a basis for planning interior environments. Interaction of spaces. Experiments in organization and furnishing of residential interiors.

DES 3130 Structures (3)

Prerequisite: DES 2136. Study of basic construction components, materials and systems, and their applications for the interior designer.

DES 2136 Materials (3)

Prerequisite: DES 2124, 2222. Introduction to various materials, their properties and aesthetic qualities, methods of working them and their use in the interior design field.

DES 3137 Presentation and Exhibition Design (3)

Prerequisite: DES 3130, 2224. Introduction to presentation and exhibition techniques. Studio and project work to develop students' awareness in the role of presentation and its specific problems for the designer. Students acquire the necessary skills to exhibit and present their work at a professional level.

DES 2120 Textiles (3)

Prerequisite: DES 1021. Study of fibbers, yarns, fabrics and finishes. Two hours lecture, two hours lab per week.

DES 2134 Visual Communication: Basic Layout (3)

Prerequisite: DES 1021. Layout stages, including basic formats, production processes, working with type and basic skills. Two hours lecture, two hours lab per week.

DES 2169 Elementary Fashion Design (3)

Prerequisite: DES 1021. Fundamental studies of principles and elements of fashion design. Two

hours lecture, two hours lab per week.

DES 2170 Principles of Creative Clothing (3)

Prerequisite: DES 2169. Application of art principles to clothing selection. Basic principles of clothing construction related to fabric, fit and design of the garment. Two hours lecture, two hours lab per week.

DES 2176 Life Drawing from Model (3)

No prerequisite. The most conducive method for students to learn the kinesiology in design. Through this method, students eventually can propose their own designs without models. It gives the student freedom of hand and mind. Two hours lecture, two hours lab per week.

DES 2222 Interior Architectural Drawing and Rendering

Prerequisite: DES 1021, 1022. Methods and application of perspective. Construction and rendering techniques. The use of various rendering media such as watercolor, ink and tempera.

DES 2223 History and Theory of Design (3)

No Prerequisite: Evolution of architecture relative to the human need to shape environment in accordance with governing concerns of specific periods in history.

DES 2224 Interior Design II (3)

Prerequisite: DES 1124, 2222. Continuation of DES 1124. Interior design problems of moderate scope. Design analysis and criticism of projects in residential. Commercial and institutional interiors.

DES 3232 Interior Design Problems I (3)

Prerequisite: DES 2224. Design of larger scale interiors in commercial, public, and institutional buildings. Analytical exploration of space, modulation, and perception. Analysis of function. Coordination of design elements such as color, furnishings, and textures.

DES 3171 Fashion Illustration (3)

No prerequisite. Fashion drawing for reproduction. Two hours lecture, 6 hours lab per week.

DES 3182, 3183 Patterns I, II (3, 3)

No prerequisite. Learning layout and cutting of patterns. Two hours lecture, 6 hours lab per week.

DES 3231 Symbols and Logotypes (3)

Prerequisite: DES 2134. A comprehensive study of symbols and logotypes from the conceptual stage to final projects will span the range from small businesses to major corporations. Two hours lecture, 6 hours lab per week.

DES 3236 Advertising Design (3)

Prerequisite: DES 3231. This course will explore small space advertising, television, and outdoor billboards from the conceptual stage through comprehensive layouts. Two hours lecture, 6 hours lab per week.

DES 3332 Interior Design Problems II (3)

Prerequisite: DES 3232. Continuation of DES 2232 with emphasis on research, programming, and analysis of task. Task performance as a basis for the design of residential and non-residential interiors. Aesthetic qualities.

DES 3338 Furniture Design (3)

Prerequisite: DES 3130. Furniture as an element of interior space. A study of the function of form and its effect on furnishing. Investigating and utilizing modern materials. Techniques of furniture production.

DES 4174, 4175 Application of Methods of Fashion Design I, II (3, 3)

Prerequisite: DES 3171. Advanced courses in developing techniques for the fashion industry. Two hours lecture, 6 hours lab per week.

DES 4240 Brochures and Catalogs (3)

Prerequisites: DES 1021 and 1022. An investigation into the various publications used by corporations and business for self-promotion. Two hours lecture, 6 hours lab per week.

DES 4420 Portfolio (3)

Prerequisite: DES 4240. Presentation and re-working of projects in order to assist the graphic student in obtaining a professional quality portfolio. Two hours lecture, 6 hours lab per week.

DES 4422 Interior Design Problems III (3)

Prerequisite: DES3332. Advanced, more complex problems in interior design. Emphasis is placed upon presentation.

DES 4450 Senior Project in Interior Design (3)

Open to senior interior design students only. Final design project in interior design including a written thesis selected by the student with the advice of the faculty. The student will prove his/her ability to utilize and organize all the aspects of design in the solution of a problem and to express them in a complete presentation.

English Language (EN)

EN 1000 English Reading and Writing (3)

No prerequisite. The course aims to help students to develop certain skills such as: aural abilities, structure and written comprehension; vocabulary and reading comprehension. No credits will be awarded for this remedial English course.

EN 1001 English Grammar and Vocabulary Building (3)

No prerequisite. A laboratory course specially designed for those students with weaknesses in grammar that helps them to improve their vocabulary. No credits will be awarded for this remedial English course.

EN 1012 English as a Second Language (15)

No prerequisite. Intensive instruction is offered in all four basic language skill areas of English as a Second Language: speaking, listening, reading and writing. No credits will be awarded for this remedial English course.

EN 1013 English Composition (6)

No prerequisite. The course concentrates on the basics of English composition, sentence and paragraph structure, punctuation, spelling, vocabulary, use, and grammar. No credits will be awarded for this remedial English course.

EN 1100 English Composition and Rhetoric I (3)

No prerequisite. An introduction to the elements of effective writing, concentrating on structure, logic, specificity, focus, grammar, sentence structure, and mechanics. It counts in fulfilling the

English General Education requirements.

EN 1102 English Composition and Rhetoric II (3)

No prerequisite. Emphasis on the writing of the formal analytical essay and the essential methods of research common to various academic disciplines. Close readings of a broad range of literature. It counts in fulfilling the English General Education requirements.

EN 2012 Language in Literature (3)

No prerequisite. Study and practice of expository and argumentative techniques through critical writing; emphasis on the rhetorical complexities of stylistics in the sentence and diction by the study of literary genres, and of the use of language in literature. A substantial research paper is required. It counts in fulfilling the English General Education requirements. By the end of the semester students should take the language exit examination.

English Literature (ENG)

ENG 1051 Introduction to English Literature (3)

No prerequisite. Designed primarily for students other than those enrolled in the English Literature concentration. An attempt to get some feeling for and pleasure from the development and continuity of English literature. Readings and discussions of selected major works by major authors including Chaucer, Shakespeare, Milton, Swift, Blake, Wordsworth and Dickens. Open to all students, including freshmen. It may count in fulfilling the Humanities requirement of the General Education requirements. May be taken concurrently with EN 1100, EN 1102, or EN 2012.

ENG 1071 Introduction to American Literature (3)

No prerequisite. Designed primarily for students other than those enrolled in the English Literature concentration. An attempt to get some feeling for and pleasure from the development and continuity of American literature. Readings and discussions of selected major works by major authors including Bradford, Taylor, Paine, Poe, Thoreau, and Frost. Open to all students including freshmen. It may count in fulfilling the Humanities requirement of the General Education requirements. May be taken concurrently with EN 1100, EN 1102, or EN 2012.

ENG 2140 Modern Women Writers (3)

No prerequisite. Selected 20th century women writers in a variety of genres emphasizing relationships between gender, writing, and reading. It may count in fulfilling the Humanities requirement of the General Education requirements.

ENG 3107 Studies in English Literature I (3)

Prerequisite: Open to juniors only. A survey of English literature from the 14th to 16th century: close readings of Chaucer and Spenser.

ENG 3108 Studies in English Literature II (3)

Prerequisite: ENG 3107. A survey of English literature of the 16th to 17th century: close readings of Shakespeare and Milton.

ENG 3120 Practical Criticism (3)

Prerequisite: ENG 3107. Uses of language and complex shapes of thought in literature, introduction to mature study and full enjoyment of poetry, fiction, and drama.

ENG 3125 Elizabethan Verse and Prose (3)

Prerequisite: ENG 3107. Major authors from the late 16th century (e.g. Sidney, Spenser, Hooker, Nashe, Shakespeare, Donne), seen in relation to Continental Renaissance culture.

ENG 3129 The Early 17th Century (3)

Prerequisite: ENG 3107. Poetry and prose to 1660, exclusive of Milton.

ENG 3194 History of English Literature (3)

Prerequisite: ENG 3107. Selected major works of English literature from the beginning to present.

ENG 4109 Studies in English Literature III (3)

Prerequisite: ENG 3108. A survey of English literature from the 17th to 18th century and the Victorian era.

ENG 4112 Chaucer (3)

Prerequisite: ENG 3107. A specific study of Chaucer's *Canterbury Tales* in medieval context.

ENG 4127 Shakespeare (3)

Prerequisite: ENG 3108. Development of dramatic forms and recurrent themes. Dramas and comedies.

ENG 4130 Milton (3)

Prerequisite: ENG 3108. Milton's poetry and prose emphasizing *Paradise Lost* and *Paradise Regained*.

ENG 4153 The English Novel (3)

Prerequisite: ENG 3107. Major novelists. 18th century.

French (FR)

FR 1001-1002 First-Year French (3-3)

No prerequisite. Registration allowed only to students with no previous study in the language. Essentials of the language for the beginner: comprehension, speaking, reading and writing.

FR 2003-2004 Second-Year French (3-3)

Prerequisites: FR 1001, FR 1002, or waiver level. Essentials of the language for the continuing student: comprehension, speaking, reading, writing and translation.

German (GER)

GER 1001-1002 First-Year German (3-3)

No prerequisite. Registration allowed only to students with no previous study in the language. Essentials of the language for the beginner: comprehension, speaking, reading and writing.

GER 2003-2004 Second-Year German (3-3)

Prerequisite: GER 1001, GER 1002, or waiver level. Essentials of the language for the continuing student: comprehension, speaking, reading, writing and translation.

History (HIS)

HIS 1039, 1040 European Civilization in Its World Context (3, 3)

No prerequisite. HIS 1039. Introduction to the political, social, economic, religious, and cultural history of Europe from about 800 A.D. to 1715. HIS 1040: From 1715 to the present. Both may count in fulfilling the Social Sciences requirement of the General Education requirements.

HIS 1071, 1072 Introduction to American History (3, 3)

No prerequisite. Political, social, economic, and cultural forces of the United States, in world perspective, from the earliest settlements to 1876.

HIS 1072: No prerequisite. From 1876 to present. Both may count in fulfilling the Social Sciences requirement of the General Education requirements.

HIS 2108 Early Aegean and Greek Civilizations to 338 B.C. (3)

No prerequisite. Neolithic background; Bronze Age - Minoan, Helladic, and Mycenaean civilizations; classical Greek civilization to the Macedonian conquest. It may count in fulfilling the Social Sciences requirement of the General Education requirements.

HIS 2109 Greece and the Near East, 359 B.C. To the Second Century A.D. (3)

No prerequisite. Survey of cultural, social, political, and economic developments in the Hellenistic world and societies of the Near East. From the reign of Philip II to the height of Roman power and influence in these regions. It may count in fulfilling the Social Sciences requirement of the General Education requirements.

HIS 2110 The Roman World to 337 A.D. (3)

No prerequisite. Prehistoric Italy; rise and decline of the Roman Empire and Latin civilization; cultural, social and political developments in the Greek world under Roman rule. It may count in fulfilling the Social Sciences requirement of the General Education requirements.

HIS 3111 Medieval History I (3)

Prerequisite: HIS 2110. Failure of the old Roman Empire, formation of barbarian kingdoms in the west and their evolution to about 1000 A.D.; Byzantium and Islam at their apogee.

HIST 3120 Byzantium (3)

No prerequisite. A survey of the history of the Byzantine Empire during the rule of the Macedonian dynasty and until the fall of Constantinople in 1453 A.D.

HIS 3139 World History in the 20th Century (3)

Prerequisites: junior or senior status. Diplomatic, political, and cultural factors: From the turn of the century to the Munich settlement of 1938. 3 lecture hours.

HIS 3149 European Diplomatic History (3)

Prerequisites: HIS 1039 or HIS 1040. The policies and actions of the major powers from the Munich Pact to the present, focusing on issues of war and peace, international crises, alliances, tensions, and the forces of nationalism.

HIS 3169 The American Revolution (3)

Prerequisites: HIS 1071 or HIS 1072. The political, intellectual, social, military and economic impact of the events surrounding the separation of the United States from the British Empire. Special attention to the influence of the non-elite groups.

HIS 3170 U.S. Early Nation History (3)

Prerequisite: HIS 1071 or HIS 1072. Political, diplomatic, economic and social history of the early republic, 1787-1828.

HIS 4127 Theories of History (3)

Prerequisite: senior status. Major philosophies of history: Judeo-Christian, linear progressive, historicist, Hegelian-Marxian dialectical, cyclical (Vico, Spengler, Toynbee), and social-scientific

(Comte, Weber). Contemporary problems of historical knowledge. Same as PHI 4127.

HIS 4181 U.S. Diplomatic History (3)

Prerequisite: HIS 3170. American foreign relations from the era of the American Revolution to 1898.

HIS 4200 Modern Greek History (3)

Prerequisite: senior status. Starting with the Greek War of Independence in 1821, this course examines the events which have led up to the current day, including World War II and Greece, the Communist movement, the Greek dictatorship of the 1970's, restoration of democracy, and the current socialist party dominance in Greece.

Italian (ITA)

ITA 1001-1002 First-Year Italian (3-3)

No prerequisite. Registration allowed only to students with no previous study in the language. Essentials of the language for the beginner: comprehension, speaking, reading and writing.

ITA 2003-2004 Second-Year Italian (3-3)

Prerequisites: ITA 1001-ITA 1002, or waiver level. Essentials of the language for the continuing student: comprehension, speaking, reading, writing and translation.

Journalism (JOU)

JOU 2071 Introduction to Mass Communication (3)

No prerequisite. Evolution of newspapers and other media in relation to political, social and economic life: concept of press freedom.

JOU 3111 Reporting (3)

Corequisite: JOU 2071. Gathering, evaluating, and writing news.

JOU 3115 Newspaper Editing and Make-up (3)

Prerequisite: JOU 2071. Preparation of news copy, pictures, and other graphic material for publication; evaluation of news; page layouts; newspaper make-up.

JOU 3117 Magazine Editing and Make-Up (3)

Prerequisite: JOU 2071. The editor's responsibility to publisher and readers. Setting the editorial goals and planning content and production to meet them. Editing copy for general and specialized magazines.

JOU 3121 Feature Writing (3)

Prerequisite: JOU 2071. Free-lancing non-fiction articles, materials obtained through independent investigation.

JOU 3130 Media Performance (3)

Prerequisite: JOU 2071. The course covers all forms of acting for television: dramatic, sports announcing, game show hosting, stand up, field interviewing, acting in commercials, news announcing, etc.

JOU 3140 Photojournalism I (3)

Prerequisite: PHO 1023. Taking and processing photographs for publication, picture selection, cropping, and captions. Students must purchase their own film and paper. Two hours lecture, two hours lab per week.

JOU 3141 Photojournalism II (3)

Prerequisite: JOU 3140. Advanced news and feature photography, editing, layout and photo essays. Students must purchase their own film and print paper. Two hours lecture, two hours lab per week.

JOU 3210 Persuasive Techniques (3)

Prerequisite: junior status. An introduction to the methods of persuasion, from classical rhetoric to modern techniques found in propaganda advertising, and salesmanship. Same as PR 3210.

JOU 4128 Government Process and the Media (3)

Prerequisite: senior status. Examination of the roles played by the news media that affects the political process, including the impact the media has on the Presidency and bureaucracy; and the adequacy of news organizations to provide information and analysis needed by citizens to exercise effective self-government.

JOU 4129 TV News: The Politics of Visibility (3)

Prerequisite: senior status. Examination of the impact of television on American politics and society, the nature of coverage of political issues and campaigns, the dynamics of selecting and presenting news stories.

JOU 4151 Editorial Writing (3)

Prerequisite: senior status. Techniques of editorial writing, conducting the editorial page, function of editorials and columns of news commentary in a free press.

JOU 4155 Critical Writing and Reviewing (3)

Prerequisite: junior or senior status. Reviewing and commenting on the arts and entertainment for the mass media.

JOU 4196 Senior Project (3)

Prerequisite: senior standing. Major journalistic effort undertaken in consultation with a member of the journalism staff. Two hours lecture, two hours lab per week.

Legal Studies (LI)

LI 2301 English Legal System (3)

The English legal system is a complex area of study, reflecting both the history and politics of England. This comprehensive introduction specifically looks at the court structure, judges and judicial reasoning, the criminal process, legal services, the appellate process and the civil process.

LI 2302 Land Law (3)

Land Law, in the conventional sense of the term, is concerned with the nature and quantum of the various interests that exist in land.

LI 2303 Criminal Law (3)

This study of criminal law provides a range of unique insights. The rules of law which are employed are formulated in precise terms and at the same time have to be adapted to fit the requirements of modern life.

LI 2304 Law of Tort (3)

This subject introduces the student to the Law of Tort. The Law of civil liability for the wrongful infliction of injury by one person upon another.

LI 2305 Employment Law (3)

This subject introduces the student to the elements of a contract of employment including relevant aspects of the Employment Rights Act 1996 and the health and safety at Work Act 1974 and other relevant legislation.

LI 2306 Family Law I (3)

This subject introduces the student to the requirements for a valid marriage; invalidity and failure of marriage; financial provision; basic principles of the Children's Act 1989.

LI 2307 Wills and Succession (3)

The main principles of family succession and the application of the rules and relevant principles to scenarios will be demonstrated.

LI 2310 Contract Act and Consumer Law (3)

This subject introduces the student to the nature of contracts; the business bias of contract law; and distinctions between liability in contract and liability in Tort.

LI 2311 Legal Practice, Practice Paper (2)

Candidate will be introduced to the legal profession; the solicitor; barrister, legal executive; solicitors' fees; office methods; professional conduct.

LI 2312 Conveyance, Practice Paper (2)

Candidates will know the relationship and distinction between ownership of land and other forms of property; concept of joint tenancies in common in land; need for special formalities in the transfer and recording of land ownership; general framework of land registration system; Functions of the land registry. 2 lecture hours.

LI 2313 Criminal Procedure, Practice Paper (2)

The differences between the objectives of criminal law and civil law and procedures between criminal courts and civil courts; detection process; functions and jurisdiction of magistrate courts will be demonstrated.

LI 2314 Business (3)

This course deals with the nature of a partnership, a limited liability partnership and that of a limited company.

LI 2315 Civil Litigation (3)

Pre-action considerations including financing of the action; approach of the courts under Civil Procedure Rules; context of proceeding is discussed.

LI 2316 Succession (3)

Wills; preparations of will; content of will; probate practice; instructions for probate; obtaining a grant; administration of estates; drafting probate papers will be discussed.

LI 2317 Family Practice (3)

The courts; rules, ground for divorce; undefended divorce; hearing; appeals; reform of the law as per the Family Law Act 1996 will be discussed.

LI 2318 Tribunals and Administrative Practice (3)

This course will discuss tribunals; origins and growth; employment tribunals; administrative proceedings.

LI 3420 Law of Intellectual Property (3)

Intellectual Property is a rapidly expanding body of Law which covers a wide range of rights.

LI 3421 Law of Contract (3)

The general principles of the Law of Contract are to be found in an extensive body of judicial precedents stretching back nearly 400 years in some instances (but more usually of 19th and 20th century origin).

LI 3422 Law of Tort II (3)

A knowledge of the Torts covered in the syllabus.

LI 3423 Criminal Law II (3)

Crimes within the syllabus, rules and principles of criminal liability; offenses and defenses will be discussed.

LI 3424 Family Law II (3)

Upon completion candidates will be able to understand the rules of Family Law and the principles on which these rules are based; analyze and explain the theoretical basis of relevant aspects of Family Law; apply the statutory rules and case law principles to problematic factual scenarios.

LI 3425 Commercial Law (3)

Commercial Law is concerned with obligations between parties to commercial transactions and the relationship with rules of personal property.

LI 3426 Employment Law II (3)

The course deals with the relevant aspects of Employment Law; state relevant legal rules and sources of law.

LI 3427 Landlord and Tenant Law (3)

To acquire an understanding of the common rules relating to Landlord and Tenant Law; to acquire an understanding of the statutory rules; to acquire an understanding of the relationship between A and B above.

LI 3428 Law of Evidence (3)

The aims of this subject are for students to acquire a mastery of the present law and an informed understanding of its theoretical base and practical contact.

LI 3433 European Union Law (3)

The course provides an understanding of the law of the European Union.

LI 3434 Land Law II (3)

The course deals with the relevant legal issues raised by a factual scenario; superfluous material; situations where the law is uncertain.

LI 3435 Probate and Succession (3)

The course deals with the law relating to probate and succession; the identification of legal issues raised; application of relevant and appropriate legal rules to a factual situation.

LI 4429 Company and Partnership Law (3)

This course deals with the principles of Company and Partnership Law; analysis of problem situations and application of principles either to formulate advice as to the legal position or to propose courses of action to achieve particular objectives.

LI 4430 Social Welfare Law (3)

The course is concerned with the factual problems in social security and housing law; assessment of the relevant law; provision of practical advice.

LI 4431 Local Governmental Law (3)

The course deals with Local Government Law; The functions and working of a local authority; how a local authority is financed and regulated and the limits of its power and duties.

LI 4432 Public Law (3)

Candidates will be able to demonstrate an understanding of Public Law; analyze the practical inter-relationship between the legal and political systems; appreciate the European dimension of the modern legal system.

LI 4435 Planning Law (3)

A detailed knowledge of the relevant town and country planning statutes; statutory instruments and leading case law; the legal rules to planning disputes and detailed application of the statutory and case law will be discussed.

LI 4438 Equity and Trusts (3)

The course is concerned with an understanding of the principles of equity, trusts and trustees, identification of issues and application of the relevant law in problem resolution.

LI 4440 Immigration Law (3)

The course refers to the rules system in British Immigration/ Nationality Law; problems relating to immigration and nationality law; immigration rules.

LI 4542 Criminal Law Litigation, Practice Paper (2)

The course refers to criminal procedure and the practicalities of the Law of Evidence; advising clients in criminal matters; practicing as an effective member of a criminal litigation team.

LI 4544 Company and Partnership Practice (2)

The course deals with the law relating to business organization and its applications to private companies and partnerships.

Philosophy (PHI)

PHI 1050 Introduction to Philosophy (3)

No prerequisite. Readings from major philosophers and study of philosophic positions from Plato to Sartre. It may count in fulfilling the Humanities requirement of the General Education requirements.

PHI 1060 Introduction to Visual Communication (3)

No prerequisite. An introduction to historical, philosophical and cultural aspects of visual communication with regard to its growing importance in contemporary society.

PHI 1070 Man, Nature, and Technology (3)

No prerequisite. An introduction to major interrelations between society, technological change, and nature. The socio-cultural character of contemporary technology will be evaluated and controversies on technological achievements and global problems critically examined.

PHI 2111 History of Ancient Philosophy (3)

No prerequisite. History of Western philosophy from early Greece to the early middle Ages. It may count in fulfilling the Humanities requirement of the General Education requirements.

PHI 2112 History of Modern Philosophy (3)

No prerequisite. History of Western philosophy of the 17th and 18th centuries (Descartes to Kant). It may count in fulfilling the Humanities requirement of the General Education requirements.

PHI 3120 Introduction to Logic (3)

Prerequisite: PHI 1050. Deduction, induction, and legal reasoning; emphasis on recognition of fallacies and practical applications of logic.

PHI 3121 Symbolic Logic (3)

Prerequisite: PHI 3120. Formal evaluation of deductive arguments in politics, law, economics, etc. Additional topics: meta-theory of deductive systems; moda logics; logic and computers.

PHI 3135 Ethics in Business and the Professions (3)

No prerequisite. Basic concepts and theories of ethics for analysis of moral issues arising in business and professional practice.

PHI 3136 History and Philosophy of Education (3)

Prerequisite: PHI 1050. A critical study of conflicting philosophies of education viewed from philosophical perspectives and compared with current practices. Aims to create understanding of several points of view, their philosophical development, and their applications for contemporary education.

PHI 3161 Philosophy of Imagination (3)

Prerequisite: PHI 1050. The objective of this course is to investigate the formative concepts of imagination as they first emerged in the Greek and Biblical traditions, and later through the Medieval, Romantic, Existentialist and Post-modern periods of Western cultural history. The course draws on the disciplines of intellectual history, sociology, art criticism, literature and psychology though its primary focus is philosophical. Special emphasis on difference between Aristotelian and Kantian Epistemologies of Imagination.

PHI 3162 Aesthetics (3)

Prerequisite: PHI 1050. The problem of artistic representation and the nature of aesthetic experience as related to the creation, appreciation, and criticism of art.

PHI 3193 Phenomenology and Existentialism (3)

Prerequisite: PHI 1050. Kierkegaard's existentialist reaction to Hegel; subjectivity and intentionality in 19th century thought, leading to Husserl's phenomenology; the philosophy of existence in Heidegger and Sartre; the relation between existentialism and Marxism in the later work of Sartre.

PHI 4127 Theories of History (3)

Prerequisite: senior status. Major philosophies of history: Judeo-Christian, linear progressive, historicist, Hegelian-Marxian dialectical, cyclical (Vico, Spengler, Toynbee), and social-scientific (Comte, Weber). Contemporary problems of historical knowledge. Same as HIS 4127.

PHI 4132 Social Philosophy (3)

Prerequisite: senior status. Social philosophies from Locke to the Frankfurt School, Habermas, and Western Marxism.

PHI 4192 Analytical Philosophy (3)

Prerequisite: senior status. The dominant movements of recent Anglo-American philosophy. Logical positivism, British ordinary language philosophy, and neo-pragmatism - represented by Russell, G.E. Moore, Wittgenstein, Ryle, Ayer, Goodman, Quine, etc.

Photography (PHO)

PHO 1023 Photography: Introduction (3)

No prerequisite. Introduction to the principles of exposure and development of films and papers. Particular attention is paid to refinement of black and white skills and techniques, in the dark room. Emphasis is placed on creative expression. Students must provide their own camera. Supplies are an additional expense. It may count in fulfilling the Arts and Humanities requirements of the General Education requirements. Two hours lecture, two hours lab per week.

PHO 2181 Introduction to Color Photography (3)

Prerequisite: PHO 1023. Introduction to color through exposure of and printing from color negatives. Color balancing through use of filters. Study of color as subject matter. Emphasis is placed on creative expression.

PHO 3183 Experimental Photography (3)

Prerequisite: PHO 1023 and preferably PHO 2118 or prior permission of instructor. Students explore one or more ways of combining images (sequence, series, montage) and consider the effects of such combinations of images on the meaning produced. Exploration of various photographic processes and techniques. Emphasis to be placed on creative expression.

PHO 3197 The History of Photography (3)

No prerequisite. A theoretical study of photography's progress from its invention to modern times. Photography's influence on art history and its own development as a fine art will be examined, as will its effect on society, industry, journalism and documentation. Same as AH 1197.

PHO 3198 History of Photography: The 20th Century (3)

No prerequisite. This course will address modern trends in photography and will examine the development from historical and cultural sources, as well as their context within today's art world. Same as AH 1198.

PHO 2025 Darkroom Printing (3)

Prerequisite: PHO 1023. An open lab course designed to give students the opportunity to perfect straight black and white photographic techniques. Emphasis placed on print quality and productivity. Independent consultation with instructor will result in student's preparation of a professional portfolio. Supplies are an additional expense. Two hours lecture, two hours lab per week.

PHO 2181 Introduction to Color Photography (3)

Corequisite: PHO 1023. Introduction to color through exposure of and printing from color negatives. Color balancing through use of filters. Study of color as subject matter. Emphasis is placed on creative expression. Supplies are an additional expense. Two hours lecture, two hours lab per week.

PHO 3208 Applied Photography I: Special Projects (3)

Prerequisite: PHO 2181, 2025. Independent projects requiring approval prior to registration. Through exposure to several photographic trends, students will be encouraged to select and follow up on a project of their own. Emphasis is placed on creativity and presentation.

PHO 4200 Seminar in Digital Photography I (3)

Prerequisite: Permission of department and Senior Status. Computer Programs in Photography.

PHO 4210 Seminar in Digital Photography II (3)

Prerequisite: Permission of department and Senior Status. Computer Programs in Photography.

PHO 4220 Exhibition Design (3)

Prerequisite: Permission of department and senior status. This course will address modern trends in the photography context within today's art world. Emphasis to be placed on display technique, reading and writing criticism.

PHO 4240 Major Projects (3)

Prerequisite: PHO 2181, 2025. Independent projects requiring approval prior to registration. Through exposure to several photographic trends, students will be encouraged to select and follow up on a project of their own. Emphasis is placed on creativity and presentation.

Public Relations (PR)

PR 3115 Introduction to Communication Theory (3)

Prerequisite: junior status. Introduction to communication theory focusing on perception and the ways in which media shape perceptions of reality.

PR 3210 Persuasive Techniques (3)

Prerequisite: PR 3115. An introduction to the methods of persuasion, from classical rhetoric to modern techniques found in propaganda advertising, and salesmanship.

PR 3300 Public Speaking (3)

Prerequisite: junior status. Essentials of speech preparation, delivery, study of the principles of

public address applied to contemporary speaking occasions. The class is designed for the emerging professional who wishes to hone speaking skills.

PR 3352 Communication Theory and Research (3)

Prerequisite: PR 3115. An introduction to the problems of research and theory that are to be found in the field of communication, especially in specific areas such as public relations research and public opinion analysis.

PR 3354 Organization Communication (3)

Prerequisite: PR 3115. Communication in formal organizations, such as schools, industry, and hospitals, with emphasis on how organizational variables affect communication behavior of humans at work.

PR 3370 Principles of Public Relations (3)

Prerequisite: PR 3115. Examination of social, psychological, economic, and political foundation of public relations; and the integration of the behavioral science, management, and communication theories into a profession.

PR 3391 Intercultural Communication (3)

Prerequisite: PR 3115. This course will survey major topics in the field of intercultural communication and provide some experience in intercultural encounter through discussions and exercises. The course is designed to give you an introduction to the large area of intercultural communication and prepares you for more in-depth knowledge and experience in dealing with people from different cultures. At the end of the course, you are expected to know how to get through the barriers of intercultural interaction.

PR 4395 Public Relations Management (3)

Prerequisite: PR 3370. In-depth examination of the responsibilities and the role of the public relations manager in contemporary society. Explores the research, planning, and evaluation functions with special emphasis on crisis communications, legal concerns, and contemporary issues and trends.

PR 4470 Case Studies in Public Relations (3)

Prerequisite: Open to senior public relations majors only. An intensive study of the application of public relations theory and principles to the problems of business, non-profit, and special interest organizations.

Political Science (PSC)

PSC 1001 Scope and Methods of Political Science (3)

No prerequisite. Nature of political inquiry, approaches to the study of politics and government, empirical research methods in order to introduce the student to the various methods, approaches and theories of political science. It may count in fulfilling the Social Sciences requirement of the General Education requirements.

PSC 2002 Introduction to American Politics and Government (3)

No prerequisite. A study of the component parts which form the body of government and the framework within which political activity takes place. Special reference to the institutions of the Presidency, the Legislature (Congress), the Executive and the Judiciary. It may count in fulfilling the Social Sciences requirement of the General Education requirements.

PSC 2444 Politics and Policy in the European Union (3)

No prerequisite. An introduction to the European Union Commission and Parliament. The

development of the Treaty of Rome and the Maastricht Treaty through cases: Law School techniques are stressed. The White Book on Unemployment, The Green Book on Innovations in the Environment.

PSC 3102 Social Research Methods (3)

Prerequisite: PSC 1001. Introduction to methods of research used in the social sciences with a special reference to empirical survey methods, research design, data collection and data analysis. Same as SOC 3140.

PSC 3104 Methods of Public Policy Analysis (3).

Prerequisite: PSC 1001. Introductory overview of the concepts, issues, and techniques of systematic policy analysis and its role in the policy process.

PSC 3105 Political Theory: Major Issues of Western Political Thought I (3)

Prerequisite: PSC 1001. Foundations of Western political thought - Plato to Aquinas.

PSC 3106 Political Theory: Major Issues of Western Political Thought II (3)

Prerequisite: PSC 1001. Theoretical roots of modern political order and disorder - Machiavelli to Rousseau.

PSC 3107 Issues in Modern Political Thought (3)

Prerequisite: PSC 1001. Issues of modern political thought as seen through major representative thinkers. Emphasis on conservative, liberal, and radical thought.

PSC 3114 U.S. Constitutional Law and Politics (3)

Prerequisite: PSC 2002. Separation of powers, federal-state relationships, economic regulation.

PSC 3130 Comparative Government and Politics (3)

Prerequisite: PSC 1001. Comparative political analysis with primary focus on the principal states of Western Europe. 3 lecture hours.

PSC 3140 International Politics (3)

Corequisite: PSC 1001. International factors, international and domestic environments of foreign policy, global and regional patterns, general characteristics and theories of foreign policy. Articles of periodicals and journals are often read and evaluated.

PSC 3142 International Organizations (3)

Corequisite: PSC 1001. Development and operations of the United Nations, regional organizations, and functional international organizations.

PSC 4172 Pro-seminar: Political Science (3)

No prerequisite: Open to senior political science majors. Examinations of selected problems in political science. Admission requires departmental approval.

Psychology (PSY)

PSY 1001 Introduction to Psychology (3)

No prerequisite. An introduction to the scientific study of behavior with an introductory consideration of specific fields of psychological inquiry. It may count in fulfilling the Social Sciences requirement of the General Education requirements.

PSY 2022 Introduction to Educational Psychology (3)

Prerequisite: PSY 1001. The contributions of psychology to education; emphasis on learning. It may count in fulfilling the Social Sciences requirement of the General Education requirements.

PSY 2129 Theories of Personality (3)

Prerequisite: PSY 1001. Survey of personality theories; emphasis on their application to problems or individuals. It may count in fulfilling the Social Sciences requirement of the General Education requirements.

PSY 2145 The Psychology of Women (3)

Prerequisite: PSY 1001. The course is designed for those students interested in learning about the psychology of women (the behavior, thoughts, and feelings). It may count in fulfilling the Social Sciences requirement of the General Education requirements.

PSY 2901 Addictions I (3)

Prerequisite: PSY 1001. Introduction to main issues concerning addictive behavior. Historical overview and epidemiology of the addictions. Personal, socioeconomic and legal implications.

PSY 3005 Principles and Methods of Psychology (3)

Prerequisite: PSY 1001 and junior standing. The fundamental findings, principles, theories and methods of psychology. It is intended to establish the foundation for advanced study in psychology.

PSY 3101 Abnormal Psychology (3)

Prerequisite: PSY 1001 and junior standing. Causes, diagnosis, treatment, and theories of various types of maladjustments and mental disorders.

PSY 3103 Statistics (3)

Prerequisite: PSY 3005. Descriptive and inferential statistics used in research; binomial and normal distributions, chi-square, t-test, correlation and regression, simple and complex analysis of variance, use of calculators and computers. Same as SOC 3141.

PSY 3110 Perception and Understanding in Children (3)

Prerequisite: PSY 1001 and junior standing. Concepts and research in the area of developmental psychology; emphasis on the growth and development of perception, cognition, and language.

PSY 3121 Theories of Learning (3)

Prerequisite: PSY 1001 and junior standing. Theories and issues related to basic learning processes as determinants of behavior. Emphasis on current research using both human and animal subjects.

PSY 3144 Industrial/Organizational Psychology (3)

Prerequisite: PSY 1001. Psychological concepts and methods applied to problems of personnel management, employee motivation and productivity, supervisory leadership, and organizational development.

PSY 3151 Social Psychology (3)

Prerequisite: PSY 1001. Social foundations of behavior: cognition, motivation, role behavior, communication, small-group processes, and attitudes.

PSY 3152 Consumer Psychology (3)

Prerequisite: PSY 1001. Introduction to the field of consumer psychology. Key concepts in the study of consumer behavior.

PSY 3171 Role of Play in Child Development (3)

Prerequisite: PSY 3110. Theories of play. Role of play in cognitive, affective, and social development of the child; play and creativity. Assessment and analysis of children's needs through their play.

PSY 4131 Psychological Tests and Measurement (3)

Prerequisite: PSY 3103. Standardized psychological tests and measurements and their application to psychological settings.

PSY 4151 Family Therapy: Theory and Practice (3)

Prerequisite: PSY 2129 and junior standing. An introduction to major theoretical approaches of family therapy, such as structural, strategic and behavioral. An integrative analysis of the above approaches will be discussed as well as contemporary professional issues of the field. Case illustration will be presented throughout the course.

PSY 4170 Clinical Psychology (3)

Prerequisite: PSY 3101. An exploration of the history, functions, and problems of the clinical psychologist. Assessment, treatment, community approaches, ethics.

PSY 4191 Independent Research in Psychology (3)

Prerequisite: Open to senior Psychology majors only. Opportunity for work on individual library or experimental projects. Arrangements must be made with the sponsoring faculty member prior to registration.

PSY 4192 Field Experience in Psychology (3)

Prerequisite: consent of instructor. Senior Psychology majors will spend a minimum of 135 hours of supervised field observation in a local psychological setting. Arrangements must be made with the sponsoring faculty member prior to registration. 3 lecture hours.

PSY 4410 Introduction to Occupational Psychology (3)

Prerequisite: Open to senior Psychology majors only. This course is intended to provide a basic understanding and framework of Work and Organizational Psychology. It may count in fulfilling the Social Sciences requirement of the General Education requirements.

Sociology (SOC)

SOC 1001 Introduction to Sociology (3)

No prerequisite. General principles of sociology; development of culture and personality, impact of groups and institutions on social behavior. It may count in fulfilling the Social Sciences requirement of the General Education requirements.

SOC 2101 Development of Social Thought (3)

Prerequisite: SOC 1001. An exploration of the emergence and growth of sociology from 1800 to 1930, with emphasis on the elaboration of sociological concepts and theories. It may count in fulfilling the Social Sciences requirement of the General Education requirements.

SOC 2131 Women in Society (3)

No prerequisite. The course deals with issues related to the role of women in society paying

special attention to historical background and examining specific areas as follows: women at work, women in politics, women in the family, feminine socialization and feminist movements. It may count in fulfilling the Social Sciences requirement of the General Education requirements.

SOC 3102 Modern Sociological Theory (3)

Prerequisite: SOC 1001. Systematic study of contemporary schools of sociological theory, both European and American; sociological evaluation of the scientific contributions of each school. 3 lecture hours.

SOC 3129 Race and Minority Groups (3)

Prerequisite: SOC 1001. Analysis of relationships between dominant and minority groups in society, particularly in the United States; nature and range of problems; analysis of the phenomenon of prejudice.

SOC 3130 Class, Status, and Power (3)

Prerequisite: SOC 1001. Analysis of distribution of resources and opportunities for participation, education, and social mobility in society with special reference to the economy and East-West comparisons of class structures and inequality in society.

SOC 3132 The Family in Modern Society (3)

Prerequisite: SOC 1001. An examination of the institution of the family with special emphasis on definition, universality and its historical development.

SOC 3140 Social Research Methods (3)

Prerequisite: SOC 1001. Introduction to methods of research used in the social sciences with special reference to empirical survey methods, research design, data collection and data analysis. Same as PSC 3102.

SOC 3141 Statistics (3)

Prerequisite: Soc 3140. Descriptive and inferential statistics used in research; binomial and normal distributions, chi-square, t-test, correlation and regression, simple and complex analysis of variance, use of calculators and computers. Same as PSY 3103

SOC 4143 Social Movements and Collective Behavior (3)

Prerequisite: junior or senior standing. General survey of the various forms of collective behavior (fads, panics, riots, social movements, etc.) and a more detailed study of the genesis, developments, and decay of social movements and social revolutions.

Spanish (SPA)

SPA 1001-1002 First-Year Spanish (3)

No prerequisite. Registration allowed only to students with no previous study in the language. Essentials of the language for the beginner: comprehension, speaking, reading, and writing.

SPA 1002-1003 Second-Year Spanish (3)

No prerequisite. Registration allowed only to students with no previous study in the language. Essentials of the language for the beginner: comprehension, speaking, reading, and writing.

Theater (TH)

TH 1100 Speech I (3)

No prerequisite: A series of lessons to help students to free, develop and strengthen their voice and obtain clear speech. Exercises on relaxation and on the development of breath control, intonation, and articulation. English sounds in combination.

TH 1110 Acting I (3)

No prerequisite: Improvisation and acting exercises for relaxation, physical freedom and imaginative creativity. Work on scenes and dialogues to explore and develop character.

TH 2105 Introduction to Greek Drama (3)

No prerequisite. A study of the character and history of an ancient civilization and of the people who created it. Form and meaning in Greek tragedy and comedy.

TH 2110 Acting II (3)

Prerequisite: TH 1110. Scene study and monologues from the classical theater concentrating more on sonnets and scenes from Shakespeare.

TH 2115 Theater History I (3)

No prerequisite. An introduction to the history of theater with special emphasis on the major periods of theater and how they inspired and influenced further generations. From the ancient Greek and Roman to the theaters of the Middle Ages and of the Renaissance.

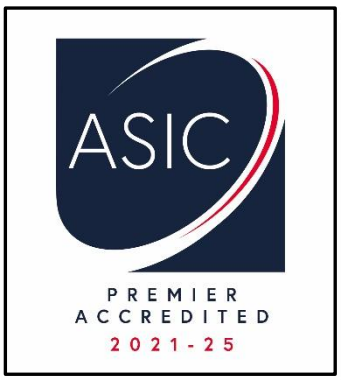
TH 2116 Theater History II (3)

No prerequisite. Renaissance in England and French theater of Classicism.

TH 2200 Speech II (3)

Prerequisite: TH 1100. Further training in breathing and releasing the voice from the body. Study and practice of English rhythm.

Accreditation



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