Overview

Introduction

The American University of Sharjah (AUS) admitted its first students and began classes in the fall of 1997. Modeled on US institutions of higher education, AUS is the first comprehensive university of its kind in the Gulf. AUS is officially licensed by the Ministry of Higher Education and Scientific Research of the UAE to award degrees in 25 fields of study.

AUS is also licensed in the USA as an institution of higher education authorized to offer degrees by the Department of Education of the state of Delaware.

The American University of Sharjah is a Candidate for Accreditation by the Commission on Higher Education of the Middle State Association of Colleges and Schools, 3625 Market Street, Philadelphia, PA 19104 (215) 662-5606.

Candidate for Accreditation is a status of affliation with a regional accrediting commission which indicates that an institution has achieved recognition and is progressing toward, but is not assured of, accreditation. It has provided evidence of sound planning, seems to have the resources to implement the plans, and appears to have the potential for obtaining its goals within a reasonable time.

While Arabic is the official language of the United Arab Emirates, the language of instruction at AUS is English. All classes and administrative functions are carried out in English.

The university facilities have been designed to accommodate 4000 students. Baccalaureate degrees are offered in 23 majors by the faculty of the College of Arts and Sciences and three schools: Architecture and Design, Business and Management, and Engineering. The major programs of study are all described in this catalog.

The American University of Sharjah has succeeded in building a multicultural education environment that brings together people from diverse nations and backgrounds. AUS strives to instill in its students the importance of appreciating and understanding diversity, global issues and their own roles in society.

AUS serves students from the Gulf region and around the world by introducing them to a culture of high aspiration and achievement so they may lead productive and meaningful lives. The university is committed to a vision of itself as an independent, coeducational institution based on the American model, but thoroughly grounded in Arab culture. Its aim is to serve the educational needs of the diverse student population represented on campus. AUS is also dedicated to the preservation of the physical environment, free from pollution and neglect. This sense of environmental responsibility is passed on to AUS graduates in order to create ecologically aware citizens.

Islam is the official religion of the state and Arab Islamic culture predominates in the UAE. The nation is also distinguished by its tolerance toward its large expatriate communities, which comprise diverse nationalities, cultures and religious beliefs. Following in this spirit of understanding and acceptance of all peoples, AUS admits students solely on the basis of their academic qualifications regardless of race, color, gender, religion, disabilities, age or national origin. The university's mission is to create a multicultural, international academic community in order to prepare its students to become lifelong learners equipped to adapt to the needs of our changing world in the new millennium.

In keeping with its mission, AUS provides students with an education that will enable them to comprehend the dynamism and complexity of contemporary global processes. Through the integration of liberal studies and professional education, students are given both breadth of knowledge and specialization in their chosen fields. Education at AUS runs the gamut from art, poetry and religions from past civilizations to the latest skills and technologies of today's information age. These are all presented to students in order to produce leaders of the future with a firm understanding of how society has reached its present state.

The university also gives its students a cultural and educational foundation that benefits them as they strive towards roles of leadership in professional careers and service. The combination of traditional and innovative teaching methods provides an educational environment in which students can realize their individual potential and pursue their goals.

AUS is well-qualified to meet the challenges inherent in preparing its students for life in the age of electronic communications, global economies, social pluralism and political interdependence. The university's mission will be met as it begins the new century in pursuit of excellence in turning out the citizens of tomorrow.

Buildings and Grounds

The American University of Sharjah is situated in University City, a 1640-acre educational complex, located 10 miles (15 kilometers) from the center of Sharjah and at a short distance from both the Sharjah International and the Dubai International airports. University City also includes the University of Sharjah and the Higher Colleges of Technology.

Leading up to the campus of the American University of Sharjah is a three-mile (4.7 kilometer) grand boulevard flanked by chandelier lampposts, palm trees, plants and grass. Dividing the broad boulevard is an esplanade beautifully landscaped with colorful flowerbeds.

The center of the American University of Sharjah campus comprises eight academic buildings, six of which flank a large plaza in front of the Main

Building. The stunning architecture of the domes and arches of the main administrative building and academic buildings is accentuated with graceful Islamic motifs. The campus also includes eight student residence halls, six for men and three for women, as well as a large sports complex and a student center. Faculty housing complexes are also located on campus.

The Main Building

The Main Building houses the offices and Majlis of His Highness, the Founder and President of the University, Sheikh Dr. Sultan Bin Mohammed Al Qassimi.

It also includes the offices of the Chancellor, the Vice Chancellor for Academic Affairs, the Vice Chancellor for Finance and Administration, the Director of Admissions, the Registrar, the Continuing Education Center (CEC), Career Advising Placement Services (CAPS) and other administrative units. The building has a restaurant and a coffee shop for faculty and staff as well as a VIP dining room. Most significantly, the building houses a state-of-the-art university library.

In the rear of the Main Building is a 946-seat auditorium that features theatrical, dance and musical performances in addition to symposia and other public events. The building also has two smaller lecture halls of 280 and 150 seats that feature similar activities.

The Campus Bookstore, the University Post Office, a pharmacy, a travel office and a bank are located on the ground floor of the Main Building.

The Academic Buildings

Eight academic buildings are located on both sides of the central plaza surrounding the Main Building. The academic buildings house classrooms and lecture halls of various sizes, science and computer laboratories, workshops, studios and dark rooms as well as offices for faculty.

University policy prohibits the use of tobacco products inside all university buildings, except in specific areas that have been designed as smoking areas.

The City of Sharjah

The location of the university also serves its mission. Sharjah is situated strategically between the Far East and the West, between Africa and Asia. Straddling the breadth of the UAE, the emirate of Sharjah has beautiful beaches on the shorelines of both the Arabian Gulf and the Gulf of Oman. Its landscape varies from level plains to rolling sand dunes and mountain ranges. Today, as in ancient times, Sharjah is a global trade center.

Modern Sharjah is a city of learning and the arts as confirmed by its designation, in 1998 by UNESCO, as the Cultural Capital of the Arab World.

This context facilitates the university's intention to be an academic center at the intersection of ancient cultural traditions and contemporary intellectual currents.

The city of Sharjah boasts 10 museums with splendid collections of artifacts and art objects as well as exhibitions in science and natural history. These institutions are sites for field trips, research and possible internships. Sharjah hosts many cultural festivals, programs, educational conferences, fairs and economic expos. These resources permit American University of Sharjah students to broaden their formal education in a way not possible elsewhere in the region.

On-Campus Services

Campus Bookstore

Located on the ground floor of the Main Building, the Campus Bookstore meets many of the needs of AUS students. Its many items include all required textbooks, various other categories of books, art supplies, stationery, notebooks, gifts and many other items students find essential. An electronics shop that sells a wide range of products, such as computers and accessories, cameras, sound systems, etc. is located in the Student Center.

Dining Services

The university campus provides a student dining cafeteria and a coffee shop both adjacent to the Student Center. The student cafeteria offers various hot meals and franchise foods, including Burger King, KFC, Pizza Hut, Dunkin' Donuts and Baskin Robbins. The Starbucks coffee shop offers sandwiches, snacks and beverages. An Internet Café is included in the Student Center. Most residence halls are equipped with kitchenettes, including a refrigerator and hot plates, in addition to vending machines containing snacks and beverages.

Parking and Transportation

Parking lots are provided on university grounds for faculty, staff and students free of charge. Vehicles must be registered with the Parking Services Office and must purchase and display a valid AUS parking sticker on the windshield. These permits are issued once the vehicle is registered. Visitor parking is also available in the university parking lots.

AUS also offers a bus shuttle service between the student residence halls and other areas of campus. Students wishing to travel off campus may use the university services, which provide transportation to the cities of Sharjah, Dubai, Abu Dhabi and Al-Ain. For more information on all routes and schedules contact University Services at 5155223.

University Post Office and Mail Service

AUS provides a full-service post office on campus. All mail intended for university offices and for those residing on campus should be addressed to:

American University of Sharjah
P.O. Box 26666
Sharjah, UAE

Mail is distributed daily to all university offices by the University Post Office. The Post Office also maintains individual post office boxes for the university community.

Travel Office

Located in the Main Building, the Travel Office offers an efficient and cost-effective program designed to assist all AUS students, faculty and staff. The role of the office is to handle all travel arrangements and negotiate the most favorable rates.

Copy Center

The AUS Copy Center is located on the ground floor of the Main Building. The copy center serves faculty, staff and students by providing a variety of quality and reasonably priced document reproduction services. Besides copying, the center also offers: professional binding, lamination, stapling and other related services.

University Health Center (UHC)

The University Health Center (UHC) provides primary health care to all AUS students, faculty and staff and their dependents. This health service includes 24-hour accident and emergency care and depending on the severity of the illness, patients are referred to government or private hospitals for further treatment. An ambulance service is available to deal with emergencies on campus. Great emphasis is placed on making the campus a healthy and safe place to study, work and live.

Health Services

- Primary Health care to students, administrative staff, faculty and dependents (including 24-hour emergency care to residence halls and other campus residents). Consultations by internists, general practitioners, a dentist, dietitian, clinical therapist, include basic examination and basic medications
- Basic investigations - blood sugar, blood grouping, sugar/protein in urine, ECG, pulmonary function test, Sonography
- Preventive care including vaccinations and immunizations
- Follow-up treatment, observation and referral to specialists
- Counseling/Psychotherapy services for a wide range of emotional and psychological disorders (this service is confidential and voluntary)
- Diet Counseling services
- Pre-registration check-up for students
- Pre-employment check-up for faculty and administrative staff
- Group medical check-ups for U.A.E. residency purposes, in cooperation with the Ministry of Health
- Blood tests and vision acuity tests for driving licenses
- Assistance in advising and dealing with medical insurance coverage on Life and Group Medical Insurance for employees
- Group Medical insurance for students
- Referrals to outside specialists or insurance network doctors
- Overseeing the safety in the various university labs and buildings - Chemistry, Physics, Engineering, Sports Complex, Leisure Centers, Day Care Center and Residence Halls
- Overseeing cleanliness and hygiene in the food outlets on campus
- Dental services as per AUS Plan for faculty, staff and dependants
- Health Education - self care, first-aid and disease/accident prevention
- Fitness Tests and Certification - Sports
- Pharmacy on campus

Health Insurance Plan for Students

As part of the registration procedures, every student must enroll in one of the two following health insurance plans:

Plan I
(Compulsory for AUS-sponsored students, but optional for others who are officially enrolled in health insurance plans with their families.)

Benefits include:

- Full medical and hospitalization insurance up to AED 50,000 for hospitalization and AED 7,000 for outpatient expenses
- Coverage throughout the UAE, not only on campus
- 15 percent co-pay on medicines
- AED 25/- for consultation of outside specialist
- Health services at the University Health Center on campus (as in Plan II)

Plan II
(Compulsory for all students who are not enrolled in Plan I.)

Benefits include the following health services provided at the University Health Center on campus:

- Free Basic Primary care - consultation by - internist, GPs, dietitian, dentist, includes examination and basic medication
- Free Basic investigation - blood Sugar, blood grouping, sugar/protein in urine, ECG, pulmonary function test, Sonography
- Free emergency dental services
- Dental services as per AUS Plan - 'Schedule C'
- Laboratory services
- Emergency care and first aid - 24-hours to dorms and campus residents
- Free Ambulance services - 24-hours
- Pre-registration check-up
- Free Vision acuity and blood tests for driving license purposes
- Fitness test and fitness certification for sports
- Follow up care
- Referral to insurance network providers (if insured)
- Pharmacy on campus (insurance network)

The AUS Clinic - Staff and Department Particulars

The clinic is staffed with a highly qualified medical team, comprised of an internist, two general practitioners - one with pediatric experience, a dentist, assistant dentist, dental hygienist, a psychologist, a nutritionist, a charge nurse and three staff nurses. The clinic is equipped with the following:

- All basic medical equipment and basic medications
- ECG machine to monitor heart ailments
- Nebulizers for respiratory problems
- Respiratory Function Test (Spirometer)
- Glucometers - to check blood sugar levels
- Ultrasound
- Observation room (day care) to closely monitor patients
- A fully equipped dental clinic (with latest equipment - digital x-ray, intra-oral camera, etc.)
- Fully equipped Laboratory
- Fully equipped ambulance with emergency medical team

Health Education Programs

As part of an educational institution, the UHC plays an active role in educating the university community and promotes on-campus health and wellness activities throughout the academic year. The UHC programs include lectures and awareness campaigns on health-related issues such as:

- First aid training and CPR courses
- Seminars on substance abuse
- Mental Health Workshops
- Newsletter on health related issues

Athletics and Recreation

The American University of Sharjah has a new sports complex that caters to the needs of nearly all athletic interests. The indoor facilities of this complex include: an Olympic-size swimming pool, a fitness center and various athletic courts such as: basketball, volleyball, tennis and squash. Outdoors, next to the sports complex, one can find athletic fields, basketball, volleyball and tennis courts in addition to a new football field. The university has an intramural sports program that serves as an exciting complement to students' academic, social and cultural education. Involvement in intramural sports activities is a wonderful opportunity for students to make new acquaintances, develop new friendships and enjoy the benefits of physical activity and exercise.

University Resources

The University Library

The AUS library occupies the third floor of the Main Building. The library's collection is growing by approximately 15,000 entries per year and is comprised of materials to support the curriculum and the general information needs of the university. The majority of the library's holdings are in English; however, there are also materials available in Arabic. The library is student-oriented and provides group study rooms, quiet study areas and access to computers. An online catalog system can be used to search for library materials from any location on campus. Using the library website, students and faculty have access to a number of on-line periodical indexes, full text journals and magazines. The library utilizes a computer classroom where students are taught how to use library resources. The library works in conjunction with all parts of the university in order to provide academic resources for all classes taught at AUS.

Computer Laboratories

AUS maintains a variety of specialized computer laboratories that are available for all students. Various training courses are offered throughout the academic year, targeted at helping members of the university community (students, faculty and staff) utilize the computing resources.

The Information Technology Department (ITD) is at the center of AUS's computer needs. The university's computer network uses

fiber-optic cables that interconnect the entire campus, including the residence halls and faculty housing. ITD enables the whole campus to benefit from this system. ITD serves the computer-related administrative, instructional, technical, and research needs of students, faculty and staff. ITD maintains a campus-wide network and acts as the university's gateway to the Internet for academic purposes.

Science and Engineering Laboratories

The Science and Engineering Programs are equipped with state-of-the-art laboratories and equipment. Chemistry and chemical engineering laboratories are equipped with standard chemical instrumentation, including: balances, centrifuges, pH-meters, spectro-photometers, rapid kinetic apparatus, electrochemical and chromatographic equipment, in addition to special labs for polymer chemistry. The environmental sciences laboratory is equipped with the latest sampling and analytical devices, including atomic absorption, GC-MS and HPLC equipment. The physics laboratories are supplied with the most modern standard equipment, including devices needed for environmental physics measurements and monitoring. The biology laboratories are equipped with the latest in stereo and compound microscopes, microtome, autoclave and cryostat units. Computer, civil, electrical and mechanical engineering laboratories and workshops, located in the engineering buildings, are also supplied with modern equipment to complement the high quality curricula designed for educating engineers of the future.

Architecture and Design Digital Studios

The School of Architecture and Design uses the Macintosh operating system in its digital classrooms and studios. Basic computer instruction is given in the digital classrooms. Second-year students benefit from personally assigned workstations in digital studios. Multimedia, video and sound equipment are featured in the Advanced Digital Laboratory.

Language Resource Center

The English Language Resource Center is located in the languages Building. The center can serve 25 students simultaneously using audio, video, slides and computer-assisted instruction. State-of-the-art computerized teaching labs provide interactive learning in English and will include other languages in the future.

Centers for Learning Enhancement

The American University of Sharjah offers several special programs through a variety of departments that students can use in order to help them with their studies. The goal of these centers is to create an environment that supports the learning endeavors of AUS students. In them, students gain the skills and insights they need to meet educational challenges and achieve success in learning. The centers are all program specific and students should contact the departments for information about how they may utilize the following programs:

- General chemistry tutorial sessions
- Math Lab Learning Center
- The Physics Clinic
- The Computer Science Center

In addition to these centers, the Writing Center provides individualized instruction for students at all stages of the writing process and provides both computer-assisted and personal one-to-one instruction on grammar, organization, and content. The Center also teaches students how to proofread their own work.

Career Advising and Placement Services (CAPS)

The CAPS department at AUS, located on the Mezzanine Floor in the Main Building, exists to offer students and graduates a comprehensive career service thus enabling them to make the right decision about their future. Most graduates enter the world of work. CAPS works closely with industry in Sharjah and the Emirates in order to promote interaction between potential employers and AUS students and graduates. CAPS organizes corporate briefings, employer receptions and Career Fairs, and also offers a full vacancy service covering full-time and part-time job opportunities, internships and summer employment. The professional staff at the career center assists its clients in preparing for the world of work through career development workshops, one-to-one interviews, drop-in sessions, career assessments and other activities. Advice on working or studying overseas is also available. CAPS has a career resource library and is constantly updating its

Tuition, Expenses & Financial Aid

Tuition for full-time undergraduate students registering for 12-18 credits is given in the table below. For undergraduate students registering for more than 18 credits there is a supplementary fee of Dhs. 1,500/credit over 18. Part-time students regitering for less than 12 hours are charged Dhs. 1,750/credit regardless of their major. Additional undergraduate fees and housing charges are given in the tables below.

Graduate tuition is dependent on the program of study. For the Executive Master of Business Administration (EMBA) the tuition is Dhs. 7,350/course. For the Master of Business Administration (MBA) and the Master of Science Programs the tuition is Dhs. 1,800/credit. For the Master of Arts programs the tuition is Dhs. 1,500/credit.

Undergraduate Tuition Applicable During the Academic Year 2002-2003

	Full time Undergraduate students (12-18 credits)			
		Fees per semester		
College/School	**Major**	**Returning Students**	**New Students**	**Fees for summer**
College of Arts & Sciences	Computer Science	Dhs. 21,000	Dhs. 22,500	Dhs. 1,750/credit
	Environmental Science	Dhs. 18,400	Dhs. 21,000	
	Undeclared Major	Dhs. 21,000	Dhs. 21,000	
	All Other Majors	Dhs. 18,400	Dhs. 18,400	
Intensive English program		Dhs. 17,500	Dhs. 17,500	Dhs. 5,750
School of Architecture and Design	All Majors	Dhs. 21,000	Dhs. 22,500	Dhs. 1,750/credit
School of Business and Management	Management Information Systems	Dhs. 21,000	Dhs. 22,500	Dhs. 1,750/credit
	All Other Majors	Dhs. 21,000	Dhs. 21,000	
School of Engineering	Computer Engineering	Dhs. 21,000	Dhs. 22,500	Dhs. 1,750/credit
	All Other Majors	Dhs. 21,000	Dhs. 21,000	

New students refers to students who are admitted or matriculating from IEP to the above stated majors in or after Fall 2002.
New students also refers to those students that are returning in or after Fall 2002 after not attending AUS for at least one semester.

Undergraduate Fees During the Academic Year 2002-2003

Fee Type	Compulsory	Optional	Per semester	For Summer session
Student Activities	All Students	N/A	Dhs. 100	Dhs. 50
Late Registration	If applicable		Dhs. 400	Dhs. 200
Health Insurance	*(Refer to the section on University Health Services for descriptions of the benefits of the two plans)*			
Plan I	AUS sponsored students	For others	Dhs. 400	Dhs. 150
Plan II	For all students who are not on *Plan I*	N/A	Dhs. 160	Dhs. 50
Other Expenses	Costs of textbooks and supplies are the responsibility of the student. Third-year students in the School of Architecture and Design are required to provide their own laptop computer. All new studentst in the School of Business and Management are required to provide their own laptop computer.			

Student Housing

AUS has eight campus residence halls (six for men and two for women). Living on campus is optional. Students should contact the Office of Student Affairs for information regarding individual cases.

Room		Per semester	Per Summer session
Non Refundable Dorm Room Reservation Deposit Dhs. 500			
Refundable Dorm Deposit Dhs. 1,000			
Private	Single occupancy with private bath and kitchenette	Dhs. 7,500	Dhs. 3,000
Semi-Private	Single occupancy with a shared bath and kitchenette	Dhs. 6,000	Dhs. 2,400
Sharing	Double occupancy with a shared bath and kitchenette	Dhs. 3,750	Dhs. 1,500
Single	Single occupancy with a common bath and no kitchenette - for men only	Dhs. 3,500	–
Double	Double occupancy with a common bath and no kitchenette - for men only	Dhs. 2,250	–
Internet connection fee (optional)		*Dhs. 400*	*Dhs. 150*

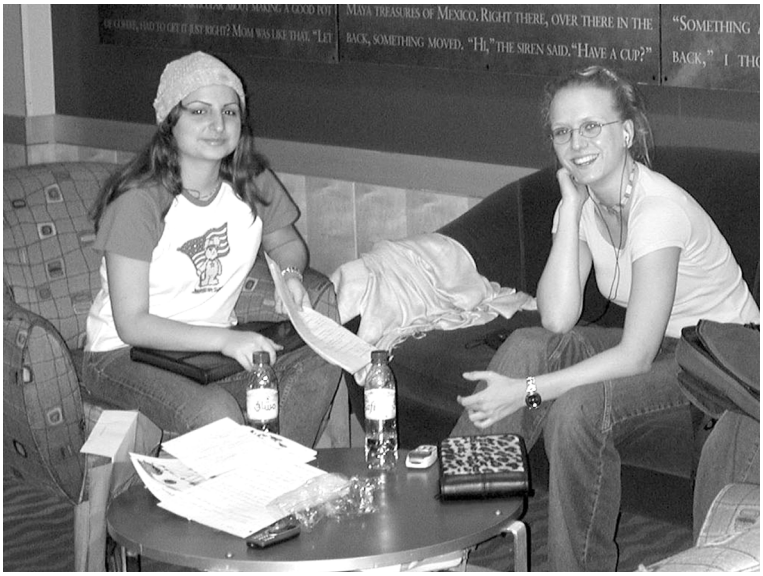
Payment Of Fees

All fees are due each semester at or before the time of registration and form an integral part of registration. AUS accepts the following methods of payment:

- Cash denominated in UAE Dirhams only
- Cheques drawn on local banks in UAE Dirhams
- Banker's Drafts
- Credit Cards
- Direct transfers to National Bank of Sharjah

Account No. 0029-200170-001
(Student's name and ID number must be noted on transfer.)

A charge of Dhs. 500 is added if a cheque is returned for insufficient funds.



Financial Aid

Several types of financial aid are available to full-time AUS students. The university has some funds available for highly qualified students with limited financial resources. Students may apply for financial aid regardless of their race, gender, religion or national origin. University funded financial aid is not available in the summer.

The following is a brief description of the financial aid policy.

Tuition Remission

First-time students with limited financial resources who demonstrate academic excellence by achieving a minimum cumulative average grade score of 85%, or the equivalent, in the last three years of secondary education may apply for a tuition remission ranging generally between 25% to 55% of the tuition fees. Financial aid applications must be submitted to the Financial Aid Office by August 1st for the fall semester and December 15th for the spring semester.

Full-time students with limited financial resources who have completed a minimum of 12 credits at AUS and who achieve a minimum semester GPA of 2.5 and cumulative GPA of 3.0 may apply for a tuition remission ranging generally between 25% to 55% of the tuition fees. Financial aid applications must be submitted to the Financial Aid Office by May 15th for the fall semester and December 15th for the spring semester.

University Merit Scholarship

First-time students who demonstrate academic excellence by achieving a minimum cumulative average grade score of 95%, or the equivalent, in the final year of their secondary education may apply for the Merit Scholarship. The scholarship granted in this category is 10% of the tuition fees. Scholarship applications must be submitted by August 1st for the fall semester and December 15th for the spring semester.

Chancellor's Scholarship

(Highly competitive)

First time students with limited financial resources who demonstrate academic excellence by achieving a minimum average grade score of 95%, or the equivalent, in the last three years of secondary education, have outstanding personal qualities and leadership abilities in school and the community, may apply for the Chancellor's Scholarship. The scholarships granted in this category generally range from 75% to 100% of the student's tuition fees. Financial aid applications must be submitted by August 1st for the fall semester.

Family Tuition Grant

For families that have more than one child enrolled simultaneously in AUS as full time undergraduates in a degree program, a tuition discount of 25% is given to the second child, 50% to the third child and 75% to the fourth child.

Rules for Maintaining Financial Aid

Students who withdraw from the university, or are dismissed/suspended from the university at any time during the semester will not be eligible for aid/grant in the following semester.

For Enrolled Students

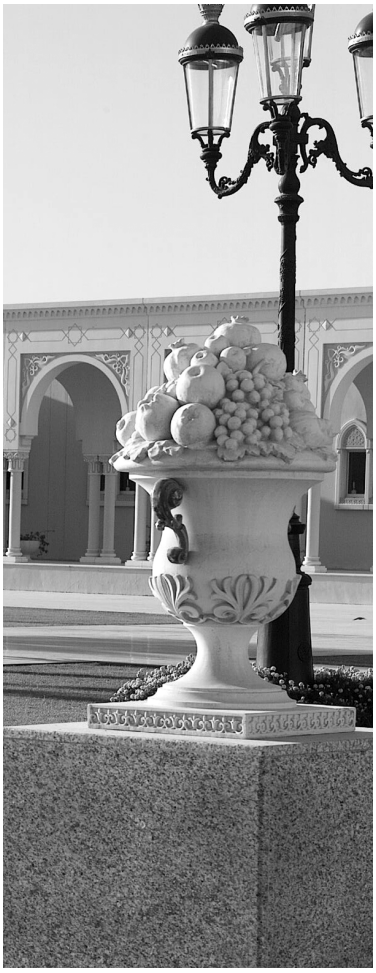
- Minimum semester GPA of 2.5 in a minimum of 12 credits
- Minimum cumulative GPA of 3.0
- Full-time student status

For 'Chancellor's Scholars'

- Minimum semester GPA of 3.0 in a minimum of 12 credits
- Minimum cumulative GPA of 3.3
- Full-time student status

For 'Merit Scholarship'

- Minimum semester GPA of 2.5 in a minimum of 12 credits
- Minimum cumulative GPA of 3.0
- Full-time student status



Academic Regulations

Academic Advising

Academic advising is an essential element of the educational process. The American University of Sharjah requires advisor-student conferences at least once a semester. However, students are responsible for selecting their courses, meeting course prerequisites and adhering to university policies and procedures. The advisor assists the student in obtaining a well-balanced education and in interpreting university policies and procedures. Students may also consult faculty, department or program chairs, program coordinators, and deans.

Students are assigned academic advisors who help them in selecting their course of study and in planning their schedules. Their advisors also approve their schedules each semester. The names of advisors will be announced by the departments concerned.

Student Responsibility

Students are responsible for their behavior, academic or otherwise, at the American University of Sharjah. The university expects that students, as mature members of the academic community, will adhere to the highest standards of personal and academic integrity and propriety.

Students should keep their own records of all transactions with the university (registration schedules and forms, grade reports, payment records, etc.). It is also advisable to keep copies of all tests, digital files, papers, and so forth submitted in fulfillment of course work.

Courses and Class Schedules

Each discipline or field of study offered by the university is summarized by a three or four letter prefix, followed by a number indicating the level of the course content. Below is an example:

ENG 201 Creative Writing (3-0-3)

In this example, ENG is the course prefix (which represents English) and 201 is the course number. This particular course is a second level course in English literature (denoted by the 200 level). This course is more advanced than 100 level introductory courses such as ENG 105 (Contemporary World Literature). The numbers in parentheses following the title of a course indicate the contact hours and course credit information. Below is another example:

PHY 101 General Physics I (3-3-4)

In this example, the first digit in the parentheses refers to the number of class contact hours per week the course requires (three contact hours), the second digit denotes the number of laboratory or practice hours required weekly (here also three hours), and the third digit refers to the number of credits the student will receive upon successfully completing the course (four credits). The creative writing course above has three contact hours per week, no lab or practice hours, and the student successfully completing the course receives three credits.

Courses are offered at the discretion of the department. Students should check with the respective academic departments for information on when courses will be offered.

Certain courses also have prerequisites, co-requisites, concurrent prerequisites and/or other criteria that are noted immediately following the course description.

Course Value

All courses are valued in credits. Normally, each credits represents 50 minutes of class instruction, 120-180 minutes of laboratory experience a week each semester or two 50 minute problem analysis and design sessions a week each semester.

Class Periods

Except for laboratory, workshop and specialized design and studio courses, classes ordinarily meet three days a week in 50 minute sessions or two days a week in 75-minute sessions. The university operates on a five-day schedule from Saturday through Wednesday. The university is closed for the weekend on Thursday and Friday.

Independent reading or research courses, study projects, internships, practicums and similar kinds of study opportunities meet according to the special arrangements of the school or college, department or faculty members concerned.

Course Descriptions and Syllabi

Descriptions of courses currently in the university curriculum are listed by course subject and code per college/school in another section of this catalog. Non-recurring topics courses are published each semester in the Schedule of Classes. Course syllabi are available from department or program offices.

Course Prerequisites

Many courses above the introductory level require a minimum background of knowledge, as indicated by prerequisite courses cited in individual course descriptions. Titles and numbers are those of the American University of Sharjah courses. Equivalent courses satisfactorily completed at other institutions may also meet prerequisite requirements by transfer credit. Students need to consult the head of the appropriate academic unit for more information. Students are responsible for entering the class with the required competence.

In general courses should be taken in an order of increasing difficulty. Credit may not be granted for a lower level course once a more advanced course has been completed. A course taken does not satisfy a prerequisite requirement if the grade is less than C-. Specific details for different degree programs are available in the Dean's offices.

Student Academic Load

A student admitted to and enrolled in a degree program usually registers for 15 to 19 credits each semester. The required minimum load for all students is 12 credits per semester and the maximum load is 19 credits per semester. Under special circumstances, a student with a cumulative average of 3.25 GPA or better, may secure the permission of his/her dean to register for up to 21 credits in any one semester. All credits exceeding 18 credits will be charged a supplemental fee.

Freshmen are restricted to five courses to allow time for their adjustment to the learning environment of AUS. Exceptions must be approved by the Dean.

The minimum graduation requirements for a bachelor's degree vary from 120 to 172 credits depending on the program of study. Samples of study plans are provided in this catalog for each program. The degree programs have been designed to be completed in four years, except for architecture that is a five year program. However, some students may require additional time.

Official Class Standing

Hours		*Standing*
0-30	credits	Freshman
31-60	credits	Sophomore
61-90	credits	Junior
91-120	credits	Senior I
121-172	credits	Senior II

Categories of Students

Full-time Students

To be considered full-time, a student must carry a minimum course load of 12 credits per semester with the normal load being 15.

Under special circumstances, the dean of the school or college may allow students to drop below 12 credits.

Part-Time Students

Enrollment as a part-time student is restricted to the following:

- American University of Sharjah staff members who are pursuing a degree (approval of the employee's director is required)
- Those who need fewer than 12 credits to complete an undergraduate degree (approval of the academic advisor is required)
- Those who are granted permission by their dean
- Those who are enrolled as auditing, non-degree, or visiting students

Grading System

The grade point average (GPA) is computed on a four-point scale. The following grading system is used at the American University of Sharjah:

A	equals 4.00 grade points
	Excellent
A-	equals 3.70 grade points
B+	equals 3.30 grade points
B	equals 3.00 grade points
	Good
B-	equals 2.70 grade points
C+	equals 2.30 grade points
C	equals 2.00 grade points
	Satisfactory
C-	equals 1.70 grade points
D	equals 1.00 grade points
	Poor
F	equals 0 grade points
	Fail
WF	equals 0 grade points
	Administrative Withdrawal Fail

Grades not calculated in the grade point average are

I	Incomplete
IP	In Progress
AUD	Audit
EX	Exempt; no credit
TR	Transfer; credit counted
W	Withdrawal
N	No grade
P	Pass; credit counted
AW	Administrative Withdrawal

The quality points earned in a course is calculated by multiplying the grade point value of the letter grade by the number of credits of the course. The Grade Point Average (GPA) is calculated by dividing the sum of the quality points of the courses taken by their total credits. The grades obtained in non-credit courses are not included in the computation of a grade point average. Grades not assigned grade point values, such as EX, TR, W, I, AUD, P and N, are not used in the computation of the grade point average.

University Guidelines for Lateness and Attendance

Attendance and participation in all class, studio, workshop and laboratory sessions are essential to the process of education at the American University of Sharjah. Students benefit from the lectures and discussions with their instructors and fellow students. For this reason, students are expected to attend class regularly. Lateness or absence hinders progress for the individual and the class and affects the student's grade.

University guidelines for lateness and attendance are as follows:

- Any absence may affect the student's grade
- Instructors need not give substitute assignments or examinations to students who miss classes
- Three occasions of lateness count as one absence. Lateness is defined by the instructor
- In the event a student misses 15% of the sessions in a class for any reason, the instructor may initiate withdrawal of the student from the course. If approved by the dean of the student's major, the withdrawal is implemented. A grade of W will be entered on the student's record if the withdrawal is initiated before the end of the tenth week of class. If the withdrawal is initiated after the tenth week of class, a grade of WF will be entered on the student's record and will be calculated in the GPA. Instructors are to keep attendance records and to draw students' attention to attendance requirements noted in the course syllabus. The specific application of the attendance guidelines is at the instructor's discretion

Incomplete Grades and Make-Up Examinations

The work for a course must be completed on the day the semester ends. No incomplete grade (I) is given as a final grade in any course unless there is a compelling medical or other such emergency certified in written form by a medical or other professional. In the case of unexcused incomplete work, an F grade is given

for the missing work with the course grade computed accordingly. Only in exceptional cases (such as the emergencies noted above), with written approval of the instructor, chair and the dean, is a student allowed to make up incomplete work within a period of two weeks from the first day of classes of the next regular semester. An I grade pending beyond this time limit will revert into an F grade.

It is the responsibility of the student to find out from his/her professor the specific dates by which requirements must be fulfilled. The deadline for the submission of incomplete grades for a course by the instructor is within 72 hours after the date of the make-up examination.

Freshman Forgiveness

A first year (freshman) student who, during the first two semesters of full-time study, receives a grade of D, F or WF in a course may repeat the course at the American University of Sharjah within the calendar year thereafter or in the next two regular semesters in which the student is enrolled. If the course is not offered at that time, the student may use the option the next time it is offered. No grade is removed from the student's record, but only the grade earned the second time the course is taken is used in calculating the cummulative grade point average for purposes of making decisions concerning probation, dismissal and required grade point average for graduation.

The "Freshman Forgiveness" policy relates to probation policy only with respect to the calculation of the student's cumulative average at the end of the semester in which a course has been repeated and a new grade recorded.

Placement on Academic Probation

Students in the Intensive English Program (IEP) will be placed on academic probation at the end of any semester in which their grade point average (GPA) is below 2.0. IEP students on probation will have one semester in which to achieve a GPA (non-cumulative) of 2.0 or higher. If they do so in their subsequent semester, they will be removed from academic probation. Failure to do so will result in dismissal from the program.

Other students are placed on academic probation if at the end of a semester the student's cumulative average falls below C (2.0 GPA).

A full-time student on probation for the first time is allowed to carry a load of five courses with a maximum of 16 credits. A full-time student who is on a second consecutive probation may only register for four courses with a maximum of 13 credits.

Removal of Probation and Dismissal

Probation will be removed at the end of any semester in which the student attains a cumulative GPA of 2.0. Students on probation are advised to repeat courses in which they have obtained failing grades.

A student may be dismissed if he/she fails to remove his/her probation by the end of the second semester on probation. Actions involving academic probation and dismissal are entered on the student's permanent record.

Repeating Courses

In order to raise one's average or meet graduation requirements, a student may repeat courses which he/she has failed or has received a grade lower than a C-. A required course should not be repeated more than once without the approval of the dean. The original grade and the repeated course grade will be counted in the calculation of the cumulative GPA.

Study at Another Institution

AUS students are not allowed to take courses at other institutions within the UAE.

An enrolled student who plans to take courses at another college or university for transfer credit to the American University of Sharjah is encouraged to seek prior approval from his or her dean. Failure to do so may result in no credit being awarded for the transfer work. The host institution must be recognized by the ministry of education of the country and/or accredited and must provide learning experiences similar to those offered by AUS. The "Permission to Take Courses Outside of AUS" form is available from the Office of the Registrar.

Permanent Record

A permanent record, reflecting academic achievement, is maintained in the Office of the Registrar for each student who registers at the university.

Disclosure of Student Records

The written consent of the student is officially required to disclose his/her academic record to any individual, institution or party. Exceptions are made for parents, sponsors, and authorized AUS officials and in compliance with a judicial order.

Transcripts

Students may obtain transcripts of their academic records from the Registrar's Office. Transcripts will only be released with a signed request from the student concerned. The university will issue only complete transcripts, not parts of the student record. The university will not make copies of transcripts on file from other colleges or universities.

Names on Diplomas and Degrees

The names of AUS students on diplomas and degrees will be spelled in English exactly as they appear on their passports or identity cards. If a name on a passport or an identity card does not appear in English, then the spelling of the name will be printed according to the personal preference of the student concerned.

Graduation

Normally, the university confers degrees at the end of the spring semester. Candidates for degrees file an "Application for Graduation" form in the Office of the Registrar during the registration period of the last expected term of study. Only after an application for graduation has been filed can the Office of the Registrar begin processing the necessary information for final certification for graduation. Students who fail to complete all degree requirements by the end of the term for which they apply to graduate must reapply in order to graduate later.

Participation in the Commencement Exercises

Only students who have successfully completed degree requirements by the end of the term for which they have applied to graduate are certified for conferral of a degree. In witness of the degree conferred, the permanent record of the graduate is appropriately noted with a statement and date of graduation before their diplomas are released.

Only degree candidates whose academic records indicate that they satisfy degree requirements are permitted to participate in commencement ceremonies.

University Honors and Awards

Dean's List

The Office of the Registrar issues a dean's list of honor students at the end of each semester. To be placed on the dean's list, a student must

- Have registered and completed a minimum of 15 hours in the semester
- Have at least a semester 3.5 GPA
- Be in good academic standing
- Rank in the top ten percent of students in his/her school
- Have no failing grades in any of his/her courses during that semester
- Have no incomplete grades
- Have no disciplinary action against him/her

Graduation Honors

The university grants Latin honors at graduation. To be eligible for graduation honors, students must have completed at least 60 credits required for their degree in residence at the American University of Sharjah and have achieved the requisite GPA. These are

Summa cum laude:	3.90	GPA
Magna cum laude:	3.70-3.89	GPA
Cum laude:	3.50-3.69	GPA

Latin honors are listed in the commencement program and on the student's diploma and permanent record.

Student Academic Integrity Code

Academic integrity lies at the heart of intellectual life. As members of a diverse community committed to the advancement of knowledge, AUS affirms the importance of respecting the integrity of individual work. The academic integrity code for the

American University of Sharjah describes standards for academic conduct, students' rights and responsibilities as members of an academic community and procedures for handling allegations of academic dishonesty. As an institution of higher learning, the American University of Sharjah views academic integrity as an educational as well as a judicial issue.

The first obligation of a student is to pursue conscientiously the academic objectives that he or she has chosen. Accordingly, each student is required to conform to the regulations of the university, of the college or school in which he or she has enrolled and of the classes in which he or she is registered. It is further expected that all examinations, tests, papers and other assignments will be completed according to the standards set forth in this code.

By registering as a student at the American University of Sharjah, all students acknowledge their awareness of the academic integrity code and university registration policies and procedures. At the beginning of the academic year students will be asked to sign a statement agreeing to abide by the academic integrity code.

Students are responsible for becoming familiar with their rights and responsibilities as defined by the academic integrity code and for understanding the requirements for their particular courses (regarding such issues as collaborative work, use of study aids or take-home examinations). Students are also responsible for learning the conventions of documentation and acknowledgment of sources required in academic discourse.

Definition of Academic Violations

Members of the academic community are expected to conduct themselves with integrity as a matter of course. Certain violations of ethical conduct relate specifically to academic integrity. Academic violations include, but are not limited to, the following:

Plagiarism

To plagiarize is to use the work, ideas, images or words of someone else without attribution. Plagiarism may involve using someone else's wording - a distinctive name, a phrase, a sentence or an entire passage or essay - without using quotation marks. It may also involve misrepresenting the sources that were used. The issue of plagiarism applies to all student assignments.

Inappropriate Collaboration

Close collaboration on academic work requires acknowledgment. Inappropriate collaboration involves working with someone else in developing, organizing or revising a project (such as a paper, an oral presentation, a research or design project or a take-home examination) without acknowledging that person's help. The use of unauthorized assistance must be avoided in the production of all academic work. Specific policies regarding collaborative work, peer review, use of tutors and editing may vary among individual professors.

Dishonesty in Examinations and Submitted Work

All academic work and materials submitted for assessment must be the sole original work of the student, unless otherwise directed by the instructor. Communication is not allowed between or among students, nor are students allowed to consult books, papers, study aids or notes, without explicit permission. Cheating includes, but is not limited to: copying from another's paper, giving unauthorized assistance, obtaining unauthorized advance knowledge of examination questions, or use of mechanical or marking devices or procedures for the purpose of achieving false scores on machine-graded examinations. Specific policies regarding examinations may vary with individual professors. Students are prohibited from submitting any material prepared by, or purchased from another person or company.

Work Completed for One Course and Submitted to Another

Students may not present the same work for more than one course. Under exceptional circumstances, faculty members may permit a significant piece of research to satisfy requirements in two courses. However, both professors must agree in advance to this arrangement. Students are reminded that when incorporating their own past research in current projects, they need to reference such previous work.

Deliberate Falsification of Data

Students may not deliberately falsify data or distort supporting documentation for course work or other academic activity.

Interference with Other Students' Work

Students may not intentionally interfere with the work of others, such as sabotaging laboratory experiments, research or digital files, or by giving misleading information or disrupting class work.

Copyright Violations

Copyright laws must be observed. These laws govern practices such as making use of printed materials, duplicating computer software, duplicating images, photoduplicating copyrighted materials and reproducing audio-visual works. The academic integrity code prohibits theft and the unauthorized use of documents and requires adherence to the laws of Sharjah and the federal laws of the UAE.

Complicity in Academic Dishonesty

Complicity in academic dishonesty consists of helping or attempting to help another person commit an act of academic dishonesty or willfully assisting another student in the violation of the academic code of integrity. Complicity in academic dishonesty is pre-meditated and intentional. This can include but is not limited to (1) doing the work for another student, (2) designing or producing a project for another student, (3) willfully providing answers during an exam, test or quiz, (4) calling a student on a mobile phone while taking an exam and providing information, (5) providing a student with an advance copy of a test, (6) leaving inappropriate materials behind at the site of an exam or test, or (7) altering outcome results.

Adjudication of Academic Offenses

Jurisdiction

Academic cases resulting from alleged violations of the university's academic integrity code are within the jurisdiction of either a faculty member or the dean of a college or school.

All charges are brought through the university faculty. Faculty members or students wishing to bring charges should do so through the faculty member in whose course or academic activity the alleged code violation occurred. In the case of students bringing charges against other students, the student bringing the charge must identify himself or herself to the faculty member.

The Adjudication Process

One of two procedures may be followed in the adjudication process. The first grants authority to the faculty member to exercise discretion in those cases involving a student's judgmental error rather than willful dishonesty. The second grants jurisdiction to the dean of the school or college in which the alleged violation has occurred.

1. Faculty Authority

If a faculty member is convinced that an alleged offense has resulted from an error in judgment on the student's part rather than from purposeful dishonesty, the faculty member may decide to use the occasion for instructing the student on acceptable standards for academic work. In such cases, the faculty member may, for example, require the student to rewrite or correct the original assignment or to submit a substitute assignment.

When faculty jurisdiction is exercised in the case of an unintentional violation of the "Student Academic Integrity Code", the faculty member shall send written notification of the event to the dean (or appointed designee) of the college in which the offense has occurred. That dean will then notify the student's dean, if the student is enrolled in another college, that the offense has occurred. Through this process, the university can monitor multiple occurrences of such errors of judgment by particular students.

2. Administrative Jurisdiction

In all other circumstances, the following procedures will be observed:

a. Faculty members reporting an allegation of dishonesty must do so within ten (10) working days of the date of discovery of the alleged offense. The report should be supported by such documentation as is appropriate and delivered to the dean (or appointed designee).

b. The dean (or appointed designee) will promptly notify the student of the charge and will arrange to discuss the charge with the student at a preliminary meeting. The dean (or appointed designee) will also notify the chair of the department or unit in which the offense occurred and the student's dean (if the student is a member of another school or college) that an allegation has been made.

c. At the preliminary meeting, the student will be presented with the charge and the evidence submitted by the faculty member. He/she will be advised of the procedures including his/her rights and given the opportunity to respond. The student may respond immediately or respond in writing within ten (10) days. The signed document will become additional evidence in the case. If the student fails to attend this preliminary meeting, the dean may proceed with the process as appropriate.

d. Faculty members, at their discretion, may discuss the alleged case of dishonesty with the student before the case is adjudicated. However, faculty members are not to submit grades for the work in question or for the course until the case has been adjudicated. If the semester grades are due before the adjudication process is complete, a temporary grade of N will be assigned.

e. When appropriate, the dean (or appointed designee) will gather additional evidence from the student, the complainant and other concerned parties before the adjudication process.

f. After reviewing the charges and the evidence, the dean (or appointed designee) may dismiss the case or refer the case to the faculty member bringing the charge. For cases not dismissed or referred, the dean may assign a penalty. The dean may request a meeting with the student at any time.

Other Adjudication Issues

While the assignment of penalties is the province of the dean of the college or school, the faculty member making the charge may recommend a grading penalty or other sanctions.

If the student fails to attend the scheduled meeting, made known in advance to him or her, the college may hear the case in the student's absence or move for a continuance.

Legal counsel is not permitted at any point during the adjudication process.

The standard of proof for any instance of academic dishonesty will be clear and convincing evidence.

Penalties

Students are advised that violations of the "Student Academic Integrity Code" will be treated seriously, with special attention given to repeat offenders.

1. In assigning a penalty, the dean will take into account both the seriousness of the offense and any particular circumstances involved.
2. After a second determination of guilt is established through formal review, a student may be suspended or dismissed.
3. Penalties for an academic offense may include one or more of the following:
   a. Resubmission of the work in question.
   b. Submission of additional work for the course in which the offense occurred.
   c. A lowered grade or loss of credit for the work found to be in violation of the integrity code.
   d. A failing grade of F or WF or denial of credit for the course in which the offense occurred. A notation of the academic integrity code violation will be entered on the student's permanent record.
   e. Suspension for one or more academic terms, including the term in which the offense occurred. A notation of the

academic integrity code violation will be entered on the student's permanent record.

f. Dismissal (for a specified term or permanently) from the university. A notation of the academic integrity code violation will be entered on the student's permanent record.

4. Penalties (a) - (c) are levied by the dean hearing the case only with the concurrence of the faculty member bringing the charge. Penalties (d) - (f) are levied by the dean hearing the case only with the concurrence of the student's dean. If consensus cannot be reached, the vice chancellor for academic affairs, or his/her representative will adjudicate.

5. If the penalty levied is (e) or (f), the dean of the college or school to which the student belongs will take the appropriate academic action. Disciplinary actions (d) - (f) will become a permanent part of the student's academic record, with appropriate notation indicating that there has been a violation of the "Student Academic Integrity Code".

6. The student may not withdraw from a course in which an infraction has been found and a penalty applied. No refund or cancellation of tuition fees will be permitted in such cases.

Notifications and Appeals

1. The dean (or appointed designee) will notify the student in writing of the findings and, as appropriate, the assigned penalty. The faculty member bringing the charge will also be notified in writing of these results, as will the chair of the department in which the case occurred, and the student's dean if the student is a member of another major teaching unit.

2. In cases concerning notation to the permanent record [penalties (d) - (f) in 3. See above], students will be notified in writing of their right of appeal. Appeals must be made in writing within thirty days of the date of notice. Appeals are limited to grounds of excessive sanction, improper procedure and unavailability of relevant evidence at the time of the original administrative or code review panel meeting. Appeals will be reviewed by the vice chancellor for academic affairs who may consult the written record of the case, the appeal request and any person involved in the adjudication process. Following the review, the vice chancellor for academic affairs may deny the appeal or may lower the sanction or remand the matter to the appropriate dean in the event of improper procedure or new evidence.

Suspension and Dismissal

1. The decision as to whether suspension or dismissal is appropriate in a given instance will necessarily depend on the circumstances of each case and usually on the total academic record of the student involved.

2. Suspension is effective for not less than the session in which the sanction is taken or for not more than one calendar year. The length of a suspension is to be specified precisely at the time the action is taken. A student who is suspended is ordinarily entitled to resume studies in the same college or school at the conclusion of the period of suspension, provided he or she has satisfied all requirements imposed by the dean when the original action was implemented.

3. Dismissal is a penalty invoked in cases of serious infractions of rules and regulations, and when circumstances indicate that a student's association with the university should be terminated in the interests of maintaining the standards of behavior and conduct normally expected in a university community. A student, who has been dismissed but who has not been denied the privilege of returning to the university at a later time, may apply for readmission after the expiration of one calendar year. Action will be taken on the application after a total re-evaluation of the record and in accordance with the admission and readmission practices in effect at the time of application. A readmitted student is governed by the academic requirements in effect at the time of readmission.

4. The calendar year which must elapse before an application for readmission may be considered is interpreted as beginning on the final day of the session during which the disciplinary action was taken.

Records of Disciplinary Actions

1. All records pertaining to student infringement of the code will be maintained for a period of five (5) years after the student's last registration at the American University of Sharjah. In the event that the penalties become part of the student's permanent record, the record will be maintained indefinitely. These records are subject to university regulations concerning the confidentiality of student records.

2. Upon written request, students have the right to inspect their records of violations of the code.

Office of Student Affairs

Dean
Dr. Moza Al Shehhi

Mission Statement

To provide state-of-the-art services and a congenial atmosphere to a multicultural AUS student body in order to bring about all round personality development and fulfill their educational and personal goals.

Creating a healthy learning environment and enriching the learning experiences for students has always been at the heart of Student Affairs work. The office of Student Affairs (OSA) at AUS is dedicated to the facilitation of cultural, social, emotional, physical, ethical and intellectual development of all students so that they may become responsible and effective individuals. Student Affairs engages students in active learning, so as to develop coherent values and ethical standards. OSA fosters learning and personal development by providing support, counseling, and accessibility. Student Affairs makes a positive difference in the lives of students, provides ample opportunities to exhibit talents leading to personal growth regardless of students background, stage of life or abilities. OSA advocates students on issues related to diversity, adjusting to AUS environment, developing their leadership skills, guiding them at every step to enhance their personal growth, providing a variety of quality student services and encouraging them to participate actively in co-curricular activities so that the students energy is channelized in the right direction.

The services and programs provided by OSA are designed to support the academic mission of AUS. OSA is the main hub for welcoming national and international students. OSA enforces the rules and regulations concerning student life at the university. This office has the moral and legal responsibilities of upholding and promoting the highest academic and behavioral standards among its students.

The Office of Student Affairs is the main control branching into various divisions namely Athletics and Sports Complex, Student Activities, Community Services, Judiciary Affairs, Learning and Counseling and Residential Life and services for students with disabilities.

Student Activities and Services

AUS students take an active role in governing and shaping campus life. The Student Activities Office, located in the Student Center, plays an important part in providing students with extracurricular opportunities to gain experience in leadership and develop their intellectual curiosity. The Student Activities Office supports the student population by organizing various programs and offering varied services, creating an environment that extends beyond the classroom and encourages students' personal growth.

Under the sponsorship of the Student Activities Office, students are encouraged to organize many events that offer cultural and entertainment fare to the entire university community. These events and programs include: the

Global Day festivities, The Charity Festival, Environment Day, Music Festival Concert, Interuniversity Quiz Championship, Student of the Year, UAE National Day celebration and many more.

Student Center

The Student Center plays a broad role in the extracurricular life of the university. It acts as the central headquarters for the Student Activities Office, as well as for offices of the various clubs and organizations on campus. It is also a place where students get together to relax and meet to discuss academics and campus activities.

The Student Center contains several meeting rooms, student lounges, activity rooms, multi-purpose rooms, an arcade, a student courtyard, a table-tennis room, the Leopard Mini Mart, an electronics store, and a Starbuck's coffee shop. All of these areas are furnished in order to provide students with a comfortable and inviting atmosphere where they can unwind.

Inaugurated by His Highness Sheikh Dr. Sultan Bin Mohammed Al Qassimi on January 26, 2002, the new section of the Student Center boasts attractive additions such as an information desk, a women's lounge, a TV room, a Dunkin' Donuts outlet as well as a food court with international franchise fast food outlets.

Student Orientation

At the beginning of each semester, prior to registration, the Office of Student Affairs through the Student Activities Office conducts an orientation-to-university-life program for all new students. The program is aimed at helping new students get acclimated to AUS, meet other new students and speak with senior students who assist with the orientation program. Orientation includes campus tours, meetings, lectures, and other relevant activities. Incoming freshmen are expected to participate in all activities, as information provided during the orientation program is designed to ensure a successful first-year experience.

The Student Union

His Highness Sheikh Dr. Sultan Bin Mohammed Al Qassimi, strongly encouraged AUS students to establish a student government in order to ensure student representation on campus. A Student Union Charter was drafted by students and approved by the Administrative Committee of the Board of Trustees during the 1997-1998 academic year. AUS Student Government is an elected body that articulates student views and interests in the university. The Student Union is a vehicle for ensuring that students can contribute to, and have a voice in, formulating university priorities and policies. It also provides a structure for greater student involvement on campus.

Student Employment

Opportunities for on-campus employment are available to all AUS students. Student Employment enhances the students' awareness of their surroundings and provides them with a chance to learn new skills outside the classroom. Students gain hands-on experience while working in various departments on campus. This helps in honing their job-related skills and gets them accustomed to an office environment. In addition to working in the various Colleges, Schools, and Departments around campus, students can work in the various outlets and facilities located on campus.

The maximum number of hours a student may work is 10 hours per week. Students are paid monthly. Further information on all campus employment opportunities is available through the Student Activities office. Student employment is open to all students, and is based on financial needs, GPA, seniority, past work experience and involvement in student extracurricular activities.

Community Services

AUS Community Services is the link between students and the various needs found in our society. Community Services allows students to experience first-hand the value of serving others and the community. It involves them personally in social events, at the community level, which serve to enrich their life experiences.

Community Services coordinates a variety of volunteer programs and strongly encourages students to contribute to the development of new ones. Current volunteer programs include:

- Adopt a Grandparent: Volunteers have the opportunity of helping the elderly in overcoming psychological and physical disabilities. The program is conducted in collaboration with several specialized organizations.
- School Tutoring: Volunteers help students who face academic difficulties in school.
- Adult Literacy Project: Volunteers prepare and employ materials aimed at eradication of adult illiteracy thereby providing assistance to those members of the community in need of such assistance as well as developing students' skills in communication and public speaking.
- Best Buddies: Community Services volunteers establish contact with members of the community who need special care such as orphans and handicapped children.
- Awareness Raising Campaigns: The volunteers work on raising public awareness on different issues like quitting smoking, drug abuse, and environmental friendliness. These campaigns are set either as on-campus or outreach programs.
- Healthcare: Community Services is active in tackling issues related to public health. The annual on-campus blood donation campaign is one of a series of events organized within this theme.

Students who are interested in learning more about any of these programs should visit the Community Services Office located in the Student Center.

Services for Students with Disabilities

The Office of Student Affairs – Community Services is the primary agent for the provision of access for AUS students with physical disabilities The office works with persons having

temporary or permanent disabilities in order to promote their full participation in academic programs and on-campus activities. The campus of AUS is designed with ramps and elevators to facilitate the needs of the disabled.

Lost and Found

The Lost and Found desk is located within the Student Center. Items that are turned in are tagged and kept safely for students and staff who have lost items on campus.

Student Publications

Practical journalism experience is available to AUS students through two student publications, *The Leopard* and Realms. Students interested in contributing to or working on these publications are advised to contact the AUS English Department for further information.

The Leopard Newspaper: "A Reason to Roar"

The Leopard is an official biweekly university newspaper and a voice of AUS students. All students are encouraged to contribute articles, poems, features or artwork to this publication. The leopard is the official mascot of AUS and was chosen because the UAE preserves and protects the Arabian leopard that is currently on the brink of extinction.

Realms:

This magazine was founded as a literary outlet for AUS students. *Realms* gives all students a chance to read the stories, poems and essays of their classmates, as well as to contribute with their creative work. *Realms* aims to foster an interest in creative writing and in literature and to help students view the English language as a means of expressing their thoughts and feelings and not merely as an academic tool.

Student Clubs

Student-sponsored clubs are an integral part of the learning process at most institutions of higher education. The academic experience is enriched by

participation in activities, which allow students to pursue their personal interests outside the classroom.

The Student Activities Office acts as the central support for the numerous clubs and organizations on campus. Its role includes supervising and providing assistance with program planning and implementation. The clubs at AUS span a wide range of interests that cover sports, music, literature, recreation, culture, and social issues. There are also broad arrays of ethnic/national clubs that reflect the varied backgrounds of AUS students. These clubs offer students opportunities for leadership development and for involvement in university life.

AUS currently has the following interest-oriented clubs registered with the Office of Student Affairs:

- Accounting Club acctng@aus.ac.ae
- Al Jalsah Club jalsah@aus.ac.ae
- Arts Club art@aus.ac.ae
- Business Club business_club@aus.ac.ae
- Chess Club chess@aus.ac.ae
- Cinematixs cinema@aus.ac.ae
- Computer Club cmp@aus.ac.ae
- Cultural Club culture@aus.ac.ae
- Drama Club drama@aus.ac.ae
- Engineering Club engineers@aus.ac.ae
- Environment Club environment@aus.ac.ae
- Horse Back Riding Club hbr@aus.ac.ae
- Intensive English Program Club iepc@aus.ac.ae
- International Community Club icc@aus.ac.ae
- International Women's Club iwc@aus.ac.ae
- Islamic Club islam_club@aus.ac.ae
- Leopard Club leopards@aus.ac.ae
- MIS Club mis@aus.ac.ae
- Marshals marshal@aus.ac.ae
- Martial Arts Club m_arts@aus.ac.ae
- Music Club music@aus.ac.ae
- Photography Club photo@aus.ac.ae
- Psychology Club psychologyclub@aus.ac.ae
- Power Hit Radio radio@aus.ac.ae
- Realms realms@aus.ac.ae
- Scuba Diving Club diving@aus.ac.ae
- Traditional Poetry Club t_poetry@aus.ac.ae
- Ushers Club ushers@aus.ac.ae

The ethnic/national clubs represent the diversity of nationalities and cultures in the AUS community. They organize numerous cultural activities throughout the academic year, and play a vital role in creating and fostering a rich multi-cultural environment on campus.

AUS currently has the following ethnic/national clubs registered with the Office of Student Affairs:

- Afghanistan Cultural Clubafghan@aus.ac.ae
- African Unity Club africa@aus.ac.ae
- Arabian Club arabia@aus.ac.ae
- Bahraini Cultural Club bahrain@aus.ac.ae
- Chechnya Cultural Club chechen@aus.ac.ae
- Egyptian Cultural Club egypt@aus.ac.ae
- Emarati Cultural Club emirate@aus.ac.ae
- Heritage Club heritage@aus.ac.ae
- Indian Cultural Club india@aus.ac.ae
- Iranian Cultural Club iran@aus.ac.ae
- Iraqi Cultural Club iraq@aus.ac.ae
- Jordanian Cultural Club jordan@aus.ac.ae
- Kuwaiti Cultural Club kuwait@aus.ac.ae
- Lebanese Cultural Club lebanon@aus.ac.ae
- Libya Cultural Club libya@aus.ac.ae
- Oman Cultural Club oman@aus.ac.ae
- Palestinian Cultural Club palestine@aus.ac.ae
- Pakistani Cultural Club Pakistan@aus.ac.ae
- Qatari Cultural Club qatar@aus.ac.ae
- Russian Cultural Club russia@aus.ac.ae
- Saudi Cultural Club saudi@aus.ac.ae
- Sudanese Cultural Club sudan@aus.ac.ae
- Syrian Cultural Club syria@aus.ac.ae
- Turkish Cultural Club turkey@aus.ac.ae
- Yemeni Cultural Club yemen@aus.ac.ae

Participation in these and other groups is strongly encouraged. Students are also encouraged to form clubs that promote their interests and hobbies and help shape their extra-curricular activities.

AUS Sports and Athletics

The athletic facilities at the American University of Sharjah is designed to benefit the entire university community. The AUS Sports Complex endeavors to foster the continuing development of collegiate sports in the UAE through the organization and hosting of athletic championships, symposia and training courses. The Sports Complex is open for students, staff and faculty members of the university to practice indoor football, basketball, handball, volleyball, table tennis, tennis, squash, track and field games, self-defense sports and many others.

The university believes that students should be provided with opportunities to develop their talents through a wide variety of sports. To achieve this goal, the staff provides guidance and assistance and helps students develop team play, sportsmanship and healthy lifestyles. Over 20 activities are offered, featuring both team and individual competitions. AUS campus sports offer each student the opportunity to participate regardless of ability.

AUS Sports Teams

Sports Teams offer broad-based competitive and instructional programs for both genders. The teams are:

- Aerobics
- American Football
- Badminton
- Basketball
- Billiards
- Bowling
- Cricket
- Football
- Horse Back Riding
- Running
- Scuba Diving
- Self Defense
- Snooker
- Squash
- Swimming
- Table Tennis
- Tennis
- Volleyball

AUS Sports Complex

The Sports Complex facilities include:

Indoor Sports Courts: this large gymnasium features two basketball, two tennis and two volleyball courts for use in both organized sports and recreation.

Swimming Pool: a 50-meter indoor pool for lap swimming, diving and instruction.

Fitness Center: the 15m x 15m room features both free weights and a wide range of exercise machines.

Exercise Hall: this room includes aerobics equipment and is also used for self-defense events.

Squash Courts: two courts.

Outdoor Courts: six tennis courts, two volleyball courts, two basketball courts, a football field, plus changing rooms.

Gymnastics Hall: gymnastic equipment, mats, bars, etc.

Counseling and Educational Services

The Learning and Counseling Center provides cost-free individual counseling to students attending AUS. Professional counselors are available to assist students in addressing personal, relationship, and educational concerns. Students are encouraged to develop coping skills, to deal with problematic issues and to identify meaningful personal goals and the steps necessary to achieve these goals. Counselors provide caring and supportive assistance that is respectful of the student's cultural background and tailored to the specific needs of the individual student. The Learning and Counseling Center is located in the Student Center. All counseling sessions are strictly confidential.

Residence Life

Because residence hall living is seen as a positive educational experience, students are encouraged to live on campus unless they are commuting from home.

The AUS Residence Halls offer a unique multi-cultural environment in which students from different parts of the world have the chance to meet and learn from one another. Living on-campus complements the overall learning experience by fostering independence and tolerance of others in students.

The residential halls offer a variety of rooms quoted at different prices, to give students more choices in opting for their residence hall experience. All residence hall rooms have Internet and direct telephone connections. In addition, the dorms offer students a wide variety of resources and facilities including, study rooms, computer labs, dining areas, recreational areas, and TV rooms as well as laundry facilities and fitness centers.

Living on campus is encouraged because it allows students to make the most of what AUS has to offer, such as sports and dining facilities, libraries and laboratories. Students are conveniently located to the many activities that take place during the day as well as the evening programs.

The university offers a convenient bus shuttle service between the residence halls and other areas on campus. Transportation facilities are also available for students from campus to the cities of Sharjah, Dubai, Abu Dhabi and Al Ain.

The residence halls for male and female students are completely separate and both maintain curfew hours that all residents are expected to abide by. All residents of the halls are expected to spend every night in the halls, unless they have written authorization from their parents or guardian indicating otherwise. To ensure the security of all students, dorms are protected by security patrols. Each hall also has a supervisor on the premises at all times who is responsible for the safety and comfort of all residents.

Student Code of Conduct

The American University of Sharjah is a community of individuals living, working and studying together in order to create the ideal conditions for learning. Mutual respect and responsibility are imperative if each individual is to flourish and grow in this environment.

In order for the purpose of the university and its community to be realized, the rights, responsibilities and reasonable standards of conduct essential to a university community must be delineated. The legally established principles, rules and regulations of the university constitute the basic standards and guidelines for conduct on and off campus. The Office of Student Affairs establishes and enforces those rules and regulations. The basic tenants of these rules and regulations are given below while the full text of the student code of conduct is in the Student Handbook.

Rights and Responsibilities

PART I

a. No member of the university community shall be deprived of academic freedoms, personal rights and liberties without due and fair processes of applicable university regulations.

b. No disciplinary sanctions may be imposed upon any member of the university community under authority of the university without fair and due process provided.

c. Each student has a duty to understand the rules and regulations set forth by the university. Ignorance of a rule or regulation shall not be an acceptable defense by the Conduct Council Hearing Board.

PART II

Code of Conduct

Misconduct under this code for which students are subject to university discipline is defined as follows:

a. Physical abuse of any person, including, but not limited to, assaults and abuse, on

university premises or at university-sponsored events or functions.

b. Physical contact between males and females is strictly prohibited in keeping with the cultural norms of Sharjah and the UAE.

c. Inappropriate dress for both males and females is prohibited; this includes tank tops and clothing that is tight, suggestive or provocative.

d. Conduct that threatens or endangers the health or safety of any person on university premises or at university sponsored events or functions.

e. Theft or unauthorized taking of university property or other property belonging to an AUS student, faculty member, staff member or visitor on university premises.

f. Possession of stolen or unauthorized property on university premises or at university-sponsored events or functions.

g. Willful, wanton or reckless damage to university premises or property.

h. In nonacademic university matters, dishonesty or knowingly furnishing false information.

i. Fraud, forgery, alteration or unauthorized use of documents, university records, or instruments of identification with the intent to defraud or deceive.

j. Possession or sale of fraudulent, forged or altered instruments of identification on university premises or at university-sponsored events or functions.

k. Intentional obstruction or disruption of teaching, research, administration, disciplinary proceedings or other university activities, including public service functions and other authorized activities on university premises.

l. Tampering with or unauthorized or fraudulent use of campus telephones or access codes or falsely using telephone credit cards. This includes accessing the answering machines of any other student, faculty or staff member on campus.

m. Entry or attempting to enter without lawful authority any dwelling, building or facility on university premises, against the will of the lawful occupant or of the person lawfully in charge thereof; or being therein or thereon, without lawful authority to remain, and refusing to quit the same on demand of the lawful occupant or of the person lawfully in charge thereof. Entering or utilizing university academic buildings after official university working hours are over without written permission from the dean of that college or school.

n. Failure to comply with published university policies or regulations including rules governing the residence halls, the residence hall contract or regulations relating to use of university facilities.

o. Alcohol and drug violations as defined by university policy and the laws of Sharjah and the UAE.

p. The keeping, using, possessing, selling or distributing of any firearms, fireworks, explosives or weapons on university premises or at university-sponsored functions; or of any other materials or substances which are prohibited by law, with the sole exception of law enforcement officials duly authorized by law to possess firearms for the performance of their duties.

q. Distributing or posting any printed materials (including in electronic form) in the name of the American University of Sharjah, or from any registered organization on campus without the prior approval of the Office of Public Relations and the Office of the Chancellor.

r. Gambling or other illegal or unauthorized games or contests of chance on university premises and in university residence halls or at university-sponsored functions.

s. Unauthorized soliciting or canvassing by any individual, group or organization on university premises or in university residence halls.

t. Unauthorized use of the university's corporate name, which is the property of the university, by any person, persons or organizations. This includes any off-campus functions, which may not be reserved in the name of the university.

u. Failure to be fully responsible for the behavior of guests during university functions or activities, and on university premises or in university residence halls. A guest is defined as any person who is not a university staff member, student or faculty member.

v. Harassment or intimidation.

w. Abuse of computer equipment, (e.g. computer stalking and harassment, stealing, deleting information, and Internet theft or knowingly introducing a computer virus), or gaining unauthorized access to computer resources on campus. Tampering with or unauthorized or fraudulent use of university computers, network systems or computer files as defined by university policy. (See university policy on the abuse of Internet Technology).

x. Failing to comply with the direction of university officials acting in performance of their duties.

y. Violations of traffic laws including reckless driving and parking in unauthorized spaces.

z. Violations of Sharjah or UAE law.

Regulations for student conduct in the American University of Sharjah residence halls are based on AUS Code of Conduct and are incorporated into the Student Handbook.

Graduate Admissions and Academic Regulations

Admissions

The university seeks to attract to its graduate programs excellent students who demonstrate the ability to do creative and original work. A graduate applicant must have an acceptable bachelor's degree with a record at the required level as mentioned below, be proficient in the English language, and perform well on any required entrance examination. Actual acceptance depends upon the overall merit of the applicant's academic record and the number of students that can be accommodated.

The Office of Admissions is responsible for the admission of students to any division of the university. All inquiries, requests for application forms and subsequent correspondence should be addressed to:

American University of Sharjah
Director of Admissions
P.O. Box 26666
Sharjah, United Arab Emirates
E-mail: admission@aus.ac.ae

Admission is valid only for the semester for which a student applies. If an applicant is granted admission for a certain semester and fails to register, the application may be reconsidered, upon request, for the following semester only.

Process of Admission

A graduate applicant must complete an application for admission, including all requested materials such as transcripts and personal statements. A file for each applicant is prepared by the Office of Admissions to ensure that the applicant meets the minimum university requirements as described by the university catalog. The file is then sent to the appropriate college/school for evaluation and recommendation. When the file is returned, the Office of Admissions informs the applicant of the decision. Those who have been accepted are informed of the dates of advising and registration and of the required fees. The files of those applicants who have been accepted are sent to the Office of the Registrar.

Application Deadlines for Admission

All applications and supporting documents must be on file in the Office of Admissions by the following dates:

Fall	August 1
Spring	December 1

Students requiring visas should apply one month before the above deadlines.

Criteria for Admission of Graduate Students

The university requires the following minimum standards in admitting graduate students. Since admission is competitive, actual admissions for any year may be at a higher level.

Academic Record

Applicants for graduate study must have a bachelor's degree in a relevant field with an academic record at a level sufficient to qualify for full or special-status admission as described under "Categories of Admission" below.

English Language Proficiency

An applicant must demonstrate knowledge of English adequate for

graduate study in that language. For full admission to the university, a graduate applicant must attain the required score on the TOEFL (with TWE) examination. The required minimum TOEFL score for each program is indicated in the detailed description of the program. An applicant who does not attain the minimum test score but who is otherwise qualified for admission may be placed in an appropriate intensive English course for further language study.

Entrance Examinations

The department offering the intended program of study may require applicants to sit for a graduate entrance examination, such as the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT). Results of such exams are considered at the time of admission. Any additional required placement and skills-related tests are described in the specific degree program descriptions.

Categories of Admission

1. Full Admission

Full admission may be granted to entering students who have an overall grade point average (GPA) of at least 2.75 or its equivalent, and 3.0 or its equivalent in the relevant major. Additionally, the department of the major may require satisfactory performance on an entrance examination.

2. Special Status Admission

Special status admission may be granted as a preliminary step to applicants holding appropriate bachelor's degrees but who do not have the minimum grade point average or test scores (if required) to qualify for full admission. Granting special status admission depends on the academic record, and the extent and relevance of the work experience of the applicant.

The program director prescribes a set of courses for each student on special status. The courses may include undergraduate prerequisite courses, specially tailored leveling courses, or common graduate courses in the program. The prescribed set of courses must include at least four courses at the 400 level or above, and must be approved by the dean of the school offering the program. Satisfactory completion of the prescribed set of courses with a B average is required before reconsideration for full admission. Undergraduate prerequisite courses and specially tailored leveling courses cannot be used to satisfy the credits required for completion of the graduate program.

Graduate Certificate and Diploma Programs

The university offers several graduate certificate and diploma programs in various disciplines. Only applicants holding a bachelor's degree in a relevant major may be accepted for enrollment in these programs. When recommended by program faculty, students may be accepted for certificate and diploma programs without commitment to future admission for a master's degree.

Non-degree Admissions

An applicant not seeking an AUS degree but who wishes to take AUS courses for academic credit may be admitted as a non-degree student if he/she meets the minimum requirements for graduate admission. Since AUS is an institution following the American model, students from U.S. universities are usually able to transfer their AUS credits, but they are advised to check with their home institutions in advance. Non-degree applicants follow the same procedures for admission as degree-seeking students and should enclose transcripts of their undergraduate work. All academic regulations apply to non-degree seeking students.

Upon request, the university may approve a change of status from a non-degree to a degree-seeking student. If a graduate non-degree student should become a degree candidate, the department of the major will consider accepting credit for courses taken under non-degree status. All academic regulations applicable to degree students will apply retroactively with such change of status.

Transfer Credit

Upon the recommendation of the student's department to the school dean, a graduate student may normally receive up to six graduate credits for graduate level work completed at a different university if the grades received were not less than a B. The course work should not have been used previously to earn another degree. Any request for the acceptance of transfer credit towards an AUS degree shall be carefully considered by the department concerned before submitting a recommendation to the school dean for approval. Relevance to the student's program of study and time lapse since taking the courses for which transfer credit is requested are examples of the factors considered. Courses taken more than five years prior to entering the graduate program at AUS are not transferable.

Auditing

Those who wish to attend individual classes without receiving academic credit may apply to audit courses; however, such students may not sit for final examinations, nor receive credit or any university certificate of enrollment. Students not registered for other courses but wishing to audit classes must apply to the Office of Admissions by the stated deadlines. Since permission to audit is on a space-available basis, applicants are not permitted to register until after the registration of regular students has been completed. Registration for audits is done with the Office of the Registrar, given the approval of the professor of the course. The tuition rate for auditors is the same as for regular registration.

Tuition for the Academic year 2002 - 2003

For graduate Courses offered by the School of Engineering, School of Architecture and Design, Science/Computer Science programs in the College of Arts and Sciences, and the MBA program, tuition is charged at the rate of Dhs. 1,800/credit. Tuition for courses in Humanities and Social Science programs is Dhs. 1,500/credit. Tuition for EMBA courses is Dhs. 7,350/course.

Academic Regulations

Academic regulations and requirements govern the relationship between the university and its students. General academic requirements are described here and the additional specific requirements for each degree are shown in the appropriate subject listings.

The following academic regulations are effective at the time of publication. The university reserves the right to modify them, in which case changes will be announced when necessary. The student is responsible for being aware of all academic regulations.

Current university regulations apply regardless of the regulations in effect at the time a student entered the university, except where they specifically state the contrary.

Registration

Students must register during the official registration period at the times announced in the university calendar. They should plan their courses with their advisers prior to registration and follow the instructions contained in registration guides issued by the Office of the Registrar. Those seeking to enroll after the scheduled registration period cannot be guaranteed acceptance. If permitted to register, they will be charged a late registration fee.

Drop / Add and Withdrawal from Courses

If careful attention is paid to the degree requirements and course offerings, there should be minimal need for course changes after registration has been completed. Any student who desires to drop or add a course must first obtain the appropriate form from the department of major and have it approved by his/her adviser before changing the registration.

A course may not be added to the student's schedule after the drop and add period at the beginning of the semester. Students may withdraw from courses without academic penalty until the end of the tenth week of the fall or spring semester, and until the fourth week of the regular summer semester. A grade of W will be assigned to these courses. After the tenth week in an academic semester (fourth week of the summer semester), students may withdraw from courses but a grade of WF is assigned to the courses. Students will receive a grade of WF if they stop attending classes without officially withdrawing from the course.

Academic Load

Course work is counted in credits. In general, a credit represents a one-hour class, weekly over the semester. The normal academic load of study for a full-time graduate student is nine hours per semester; however, upon the recommendation of the department concerned, a student may register for up to fifteen hours per semester. See descriptions of individual degrees for program-specific restrictions.

Grades

At the close of the semester students receive a final grade in each course. The grade is the professor's official estimate of the student's achievement as reflected in examinations, assignments, and class participation. The final grades are recorded on the student's permanent record at the Office of the Registrar. The grade may not be removed from the record.

The following grading system is used at the American University of Sharjah:

A	equals 4.00 grade points
	Excellent
A-	equals 3.70 grade points
B+	equals 3.30 grade points
B	equals 3.00 grade points
	Meets expectation for graduate course
B-	equals 2.70 grade points
C+	equals 2.30 grade points
C	equals 2.00 grade points
	Below expectation for graduate course
F	equals 0.00 grade points
	Fail
WF	equals 0.00 grade points
	Withdrawal Fail

Grades not calculated in the grade point average (GPA) are

I	Incomplete
IP	In Progress
AUD	Audit
EX	Exempt; no credit
TR	Transfer; credit counted
W	Withdrawal
N	No grade
P	Pass; credit counted
AW	Administrative Withdrawal

The quality points that the student has earned in the course is calculated by multiplying the grade point value of the letter grade by the number of credit hours of the course. The sum of the quality points of the courses taken are then divided by their total credits to obtain the grade point average. The grades obtained in non-credit courses are not included in the computation of a GPA. Grades of EX, TR, W, P, and N are not used in the computation of the GPA.

Incomplete Work

Under some circumstances graduate students who are unable to complete a course may be permitted to continue and complete it in the following semester. In the meantime a grade of I, meaning that the work is incomplete, is assigned in the course. Students, whether registered or not, are responsible for making arrangements with the professor and the department of the major to complete the course before the end of the following semester; otherwise, a tentative grade estimated on the basis of work already completed will be recorded. Failure to

complete the course within the following semester will result in the grade being recorded as F unless a tentative grade has been previously reported.

Any instructor submitting an incomplete grade must supplement this submission with a form to the Office of the Registrar (with copies to the instructor and the student) giving the following information:

a. The reason for the incomplete

b. The material that the student has not submitted

c. The action necessary for removal of the incomplete

d. The grade the student will receive if the outstanding work is not completed on time

Requirements concerning clearing of incomplete grades are included in the degree program descriptions.

Probation, Dismissal and Course Retake

If the student's cumulative grade point average falls below B either in graduate work or in prerequisite course requirements, he/she will be placed on probation for one semester, during which time he/she must regain a cumulative GPA of 3.0. Failure to do so may result in dismissal from the program. A student must have a cumulative GPA of at least 3.0 to graduate.

With the recommendation of the department and the approval of the school dean, a graduate student may be allowed to repeat one course in which a grade of B-, C+, or C is received. This privilege may be exercised only once during the school's tenure in a graduate program. Both the original grade and the new grade will appear in the transcript. Graduate students who receive an F in any course will normally not be allowed to continue in the program.

Withdrawal from the University

Students who are unable to complete a semester may be given permission to withdraw. They must get a withdrawal form from the Office of the Registrar, obtain signatures as indicated on the form, and return the completed form to the Office of the Registrar. The deadline for withdrawal from the university is the end of the tenth week of classes. Withdrawal grades will be recorded for each course at the time the student receives permission to withdraw. The grades are either W or WF. No academic credit is given for courses from which a student withdraws.

Readmission

A student who withdraws from the university and later wishes to return must apply for readmission. A student who has withdrawn in good standing and wishes to return to the university after an absence of not more than two semesters may apply for readmission to the Office of the Registrar. After longer absences or for students who were not in good standing when they withdrew, the admissions process must be reinitiated through the Office of Admissions. The application must be made before the appropriate application deadline, and the applicant must meet all the admission requirements prevailing at the time of readmission. Readmission is not granted automatically.

Fields and Programs of Graduate Studies

The graduate programs currently offered at AUS are:

College of Arts and Sciences:

- Master of Arts in Translation and Interpreting
- Graduate Certificate in Translation and Interpreting

School of Architecture and Design

- Graduate Certificate in Urban and Regional Planning and Design

School of Business and Management

- Executive Master of Business Administration (EMBA)
- Master of Business Administration (MBA)

School of Engineering

- Graduate Certificate in Mechatronics
- Graduate Certificate in Engineering Systems and Management
- Master of Science in Mechatronics Engineering

Please refer to the appropriate college/school section in this catalog for full description and details of the graduate programs and courses.

Student Academic Integrity Code

Academic integrity lies at the heart of intellectual life. As members of a diverse community committed to the advancement of knowledge, AUS affirms the importance of respecting the integrity of individual work. The academic integrity code for the American University of Sharjah describes standards for academic conduct, students' rights and responsibilities as members of an academic community and procedures for handling allegations of academic dishonesty. As an institution of higher learning, the American University of Sharjah views academic integrity as an educational as well as a judicial issue. The full text of the AUS Student Academic Integrity Code is included in the Academic Regulations section.

Master of Science Committee

A committee of at least three faculty members and a sponsoring organization representative, when appropriate, shall be appointed by the appropriate dean. The chair of each committee will be the dean of the school or college, or a faculty designate. The committee will have specific responsibilities identified by each MS program in accordance with university policy. The committee will oversee the preparation of proposal for projects and thesis research, preparation and final examination of the scholarly work of the student, and will recommend to the Dean and Vice Chancellor for Academic Affairs awarding of the MS degree.

Time Limits on Duration of Study

Graduate students enrolled in MS and MA programs must complete the requirements of their programs within five years from first enrollment. The minimum number of semesters a student must register and pay tuition to obtain the MS or MA degree is three semesters.


ICAN UNIVERSITY

College of Arts and Sciences

Dean
Robert D. Cook

Associate Dean
Ibrahim Sadek

Mission Statement

The mission of the College of Arts and Sciences is to provide students with the intellectual, cultural and scientific foundation for academic and professional education and training. Its programs, including the general education programs, are designed to inspire and invigorate the intellectual and creative potential of students and to encourage them to conceptualize, reflect and act. Through the university graduation requirements, including the general education program that is provided by the college, students learn to examine the many varied aspects of Arab, Islamic, Western and non-Western cultures. They also master written and oral expression in English, learn to appreciate quantitative reasoning, scientific inquiry and method and to develop the critical ability to analyze and synthesize data and information. Finally, they build an understanding of moral and ethical dimensions that create a foundation for individual and collective lifelong decision-making.

Graduates of the College of Arts and Sciences at the American University of Sharjah will not only be prepared to achieve their personal and professional aspirations in the short term; they will also be well qualified to pursue their studies and professional training towards a master's or doctoral degree in their chosen fields.

Faculty

The College of Arts and Sciences has distinguished teacher-scholar faculty members who are experts in their fields. They come from all over the world and comprise a group of diverse, multi-cultural academic practitioners. They provide the training and preparation our students need to meet the challenges of living and working in the global community.

Professor

Muhsin Al-Musawi (Arabic)
Fatima Badry (English)
Andy H. Barnett (Economics)
Robert Cook (Chemistry)
John Fox (Anthropology)
Mahboub Hashem (Communications)
Basil Hatim (Translation)
Fawwaz Jumean (Chemistry)
Ibrahim Sadek (Mathematics)
Kassem A. Saleh (Computer Science)
Ahmad Suleiman (Chemistry)
Hassan Tayim (Environmental Sciences)
Peter Walker (Mathematics) - on leave 2002-2003

Associate Professor

Kenzu Abdella (Mathematics)
Kamal Abel-Malek (Arabic) – on leave Fall semester 2002
Zayid Abdulhadi (Mathematics)
Yussef Abu-Muhanna (Mathematics)
Imad A. Abu-Yousef (Chemistry)
Hussam Al-Mohammad (Computer Science)
Basim Raif Bulos (Physics)
Judith Caesar (English)
Paul Chevedden (History)
James Peter Fallon (English)
Mary Ann Fay (History)
Nidhal Guessoum (Physics)
Nasser Hamdan (Physics)
Mustafa Khamis (Chemistry)
Suheil A. Khoury (Mathematics)
David Lea (Philosophy)
Dennis Russell (Biology)
Ali Sayfy (Mathematics)
Rodney Tyson (English)
Joseph Wallis (Economics/Public Administration) Joining in January 2003
Lawrence T. Woods (International Relations)
Mohamed Zayani (English)

Assistant Professor

Bassam Abu Al-Foul (Economics)
Taher Abualrub (Mathematics)
Marwan Abukhaled (Mathematics)
Afaf Badr Al Bataineh (Arabic)
Ahmad Al-Issa (English)
Mahmoud Anabtawi (Mathematics)
Russell Arent (English)
Gassar Auda (Computer Science)
Maher Bahloul (English)
Gerassimos Barlas (Computer Science)
Aaron Bartholomew (Biology)
Kim Bigelow (Communications)
Cathleen Ann Bridgeman (English)
John Chilton (Economics)
Said Faiq (Translation)
Gregg Frasco (Economics)
William Gallois (History)
Joseph Gibbs (Communications)
Nawar Al-Hassan Golley (English)
Cindy Lou Gunn (English)
Asad Hasan (Physics)
Dale Holt (Public Administration)
Jalal Kawash (Computer Science)
Samer Kherfi (Economics)
Ismail Kucuk (Mathematics)
Peter Mitias (Economics)
Nada Sabah Mourtada (Political Science)
Daniel Norton (English)
Said Sakhi (Physics)
Bassel Salloukh (Political Science)
Tamer Shanableh (Computer Science)
John Shannon (English; Intensive English)
Mohammed Soliman (Economics)
Hana Suleiman (Statistics)
Samuel K. Tesunbi (Communications)
Hugo Toledo (Economics)
Daniel Zachary (Physics)

Instructor

Aftab Ahmed (IEP)
Khalid Al-Fakih (Computer Science)
Raja Mallek Bahloul (IEP)
Edward Carlstedt (IEP)
David Colbert (IEP)
John Connell (IEP)
Richard Crain (English)
Tina Driscoll (IEP)
Leslie Giesen (IEP)
Milton Gilbertson (IEP)
Sharon Gilbertson (IEP)
Jaswinder Gill (IEP) – on leave 2002-2003
Patrick Henry (IEP)
John Hicks (IEP)
Christopher Horger (English)
Dennis Lewis (English)
Amanda Magrath (IEP)
Richard J. Marshall (English)
Ann McCallum (English)
Richard McClane (IEP)
Sylvie Raymond (IEP)
Robert Schorr (IEP)
Pelly Shaw (IEP)
Alona Thaxton Shepard (English)
Israa Rifat Sirri (Physics)
Brian Skelton (IEP)
Mark Stevens (IEP)
Angela Waigand (IEP)
Noelle Wallace (English)
Amanda Ward (IEP)
Jason Ward (English)
Krystie Wills (IEP)
Deborah Wilson (IEP)
Rita Zsargo (IEP)

Department of Arabic and International Studies

The International Studies Program

Sharjah's history as an important trading center and meeting place of many cultures makes the American University of Sharjah an especially appropriate place for international studies. The AUS interdisciplinary program in international studies offers students a unique opportunity to prepare for an increasingly complex global political and business environment. Weaving together strands from all the social sciences, as well as international law, cultural studies, and literature, into a coherent and comprehensive program, the international studies curriculum assists students in acquiring a broad understanding of world cultures and events. This understanding, supplemented with the specialized study provided in the international relations, international economics, Arab studies and Western studies concentrations produces students who are uniquely well qualified for positions in international business, international agencies, and government service.

Bachelor of Arts in International Studies

Graduation Requirements for the B.A.I.S. Degree

A total of 120 credits, including

- Forty- two credits of general education requirements
- Sixty-three credits of major requirements
- Fifteen credits of free electives

Major Requirements

Students majoring in International Studies must complete 78 credits of major requirements with a grade C- or better in each course. These major requirements are divided as follows:

I. Core Courses Required for all Concentrations (24 credits)

- CSC 205 World Cultures
- ECO 201 Principles of Microeconomics
- ECO 202 Principles of Macroeconomics
- ECO 322 Global Political Economy
- GEO 201 World Cultural Geography
- HIS 206 World History II
- HIS 221 History of Science and Technology
- POL 202 International Relations

All core courses have COM 102 as a prerequisite, except those in Arabic. Students are expected to have completed at least four of the eight core courses including ECO 201 and ECO 202 by the end of the sophomore year.

II. Advised Elective Requirements (15 credits)

Students must take a minimum of 15 credits of advised electives approved by the student's advisor.

Concentrations:

a. Concentration in International Relations (24 credits)

Students who select the International Relations concentration will examine the many ways in which the people of different cultures and citizens of nations interact with each other. The purpose of this concentration is to provide students with an opportunity to acquire an informed perspective on national and international policies, public international law, world trade patterns, causes and remedies for conflict between nations, and the social and cultural interactions between nations. Students who select this course of study will be prepared for careers in law and diplomacy, international organizations, government, international business, travel and tourism, and the media.

Required Courses

- POL200 Globalization
- POL204 International Organizations
- POL205 Public International Law
- POL 207 Wars, Conflicts and Diplomacy
- ECO305 International Trade
- INS 495 Senior Seminar

Students select two electives from the following:

- ECO306 International Finance
- ECO310 Development Economics
- POL300 Comparative Chief Executives

Proposed Course Sequence of Study

Bachelor of Arts in International Studies

Concentration: International Relations

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ARA 101	Readings in Arabic Heritage I	3		GE
	SCI XXX	Science GE	3		GE
	COM 101	Academic Writing	3	EPT 4 or COM 001	GE
	ECO 201	Principles of Microeconomics	3		MR
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GE
		Total	**15**		
Spring	XXX	Advised elective	3		ME
	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GE
	ECO 202	Principles of Macroeconomics	3		MR
	STA 202	Introduction to Statistics for Social Sciences	3		GE
	SCI XXX	Science GE	3		GE
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	THM 201	The Andalusian Symbiosis I	3	COM 102	GE
	COM 203 or 204	Genre Analysis or Advanced Academic Writing	3	COM 102	GE
	POL 202	International Relations	3	COM 102	MR
	HIS 206	World History II	3	COM 102	MR
	GEO 201	World Cultural Geography	3	COM 102	MR
		Total	**15**		
Spring	THM 202	The Andalusian Symbiosis II	3	COM 102	GE
	COM XXX	COM GE	3	COM 102	GE
	POL 200	Globalization	3	COM 102	MR
	HIS 221	History of Science and Technology	3	COM 102	MR
	CSC 205	World Cultures	3	COM 102	MR
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	THM XXX	Theme Course	3	COM 102	GE
	POL 204	International Organizations	3	COM 102	MR
	POL 207	Wars, Conflicts and Diplomacy	3	COM 102	MR
	ECO 305	International Trade	3	ECO 201 and ECO 202	MR
	XXX	Advised Elective	3		ME
		Total	**15**		
Spring	THM XXX	Theme Course	3	COM 102	GE
	POL 205	Public International Law	3	COM 102	MR
	ECO 322	Global Political Economy	3	ECO 201, ECO 202 and HIS 206	MR
	XXX	Humanities / Social Sciences	3		GE
	XXX	Elective Within the International Relations Concentration	3		ME
		Total	**15**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	INS 495	Senior Seminar	3	Senior standing	MR
	XXX	Elective Within the International Relations Concentration	3		MR
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		
Spring	XXX	Advised Elective	3		ME
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **ME**: Advised (major) Elective; **FE**: Free Elective; **MR**: Major Requirement; **EPT**: English Placement Test; **MPT**: Math Placement Test

of Nation-States
- INS 494 Special Topics
- INS 497 Internship

b. Concentration in International Economics (24 credits)

The International Economics concentration offers students a sound foundation in the principles of economics combined with specialized study in international trade, finance, political economy, and economic development. The objective of the program is twofold. First, for terminal degree students, it is to deal with the numerous complex issues raised by a country's economic connections with the rest of the world, with special emphasis on a country that has not yet reached the status of being "developed," as defined by the standards of international economics. Second, for students planning to continue into post-graduate education, the objective is to prepare them for the more rigorous requirements of graduate programs in international economics and related subjects.

Required Courses
- ECO 301 Intermediate Microeconomics
- ECO 302 Intermediate Macroeconomics
- ECO 305 International Trade
- ECO 306 International Finance
- ECO 310 Development Economics
- INS 495 Senior Seminar

Students select two electives from the following:
- ECO 315 Economics of the Middle East
- ECO 318 Economics of Water Resources
- ECO 325 Public Economics
- ECO 326 Economics and the Law
- ECO 335 Economic History of the World Economy
- ECO 403 Economics of Natural and Energy Resources
- ECO 404 Economics of Environmental and Natural Resources
- ECO 405 Introduction to Econometrics
- ECO 413 Political Economy of the Arab World
- POL 200 Globalization
- POL 204 International Organizations
- POL 205 Public International Law

Proposed Course Sequence of Study

Bachelor of Arts in International Studies

Concentration: International Economics

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ARA 101	Readings in Arabic Heritage I	3		GE
	SCI XXX	Science Elective	3		GE
	COM 101	Academic Writing	3	EPT 4 or COM 001	GE
	ECO 201	Principles of Microeconomics	3		MR
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GE
		Total	**15**		
Spring	ACC 201	Fundamentals of Financial Accounting (Advised Elective)	3		ME
	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GE
	ECO 202	Principles of Macroeconomics	3		MR
	STA 202	Introduction to Statistics for Social Sciences	3		GE
	SCI XXX	Science Elective	3		GE
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	THM 201	The Andalusian Symbiosis I	3	COM 102	GE
	POL 202	International Relations	3	COM 102	MR
	HIS 206	World History II	3	COM 102	MR
	CSC 205	World Cultures	3	COM 102	MR
	GEO 201	World Cultural Geography	3	COM 102	MR
		Total	**15**		
Spring	THM 202	The Andalusian Symbiosis II	3	COM 102	GE
	COM 203 or 204	Genre Analysis or Advanced Academic Writing	3	COM 102	GE
	COM XXX	COM GE	3	COM 102	GE
	HIS 221	History of Science and Technology	3	COM 102	MR
	XXX	Advised Elective	3	COM 102	MR
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	THM XXX	Theme Course	3	COM 102	GE
	ECO 302	Intermediate Macroeconomics	3	ECO 201 and ECO 202	MR
	ECO 305	International Trade	3	ECO 201 and 202	MR
	XXX	Humanities / Social Sciences	3		GE
	XXX	Elective Within the International Economics Concentration	3		MR
		Total	**15**		
Spring	THM XXX	Theme Course	3	COM 102	GE
	ECO 301	Intermediate Microeconomics	3	ECO 201 and 202	MR
	ECO 306	International Finance	3	ECO 201 and 202	MR
	ECO 310	Development Economics	3	ECO 201 and 202	MR
	ECO 322	Global Political Economy	3	ECO 201, ECO 202 and HIS 206	MR
		Total	**15**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	INS 495	Senior Seminar	3	Senior standing	MR
	XXX	Elective Within the International Economics Concentration	3		ME
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		
Spring	XXX	Advised Elective	3		ME
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **ME**: Advised (major) Elective; **FE**: Free Elective; **MR**: Major Requirement; **EPT**: English Placement Test; **MPT**: Math Placement Test

- INS 494 Special Topics
- INS 497 Internship

c. Concentration in Arab Studies in a Global Context (24 credits)

Arab studies in a Global Context is an interdisciplinary program that aims to enhance understanding, especially among non-native students, of the Arab world, its people, history, economy, social life and culture. Unlike most western programs in Arab studies, this concentration studies the Arab peoples, culture, and institutions from an intellectually oriented Arab perspective. Students who take this concentration will be prepared for careers in journalism and the media, diplomacy, government, international business, and travel and tourism.

Required Courses

- ARA 302 Arab Identity and Thought
- ARA 303 Classical Arab/Islamic Culture
- ARA 213 Contemporary Arabic Literature
- ECO 413 Political Economy of the Arab World
- HIS 204 Modern Arab Histories
- INS 495 Senior Seminar

Students select two electives from the following:

- ARA 104 Arabic as a Second Language I
- ARA 200 Arabic as a Second Language II
- ARA 305 Arabic Literature of the Gulf
- ENG 315 East Meets West: Colonial and Post-Colonial Encounters
- HIS 207 History of Modern Palestine
- HIS 210 History of the Modern Arab

Proposed Course Sequence of Study

Bachelor of Arts in International Studies

Concentration: Arab Studies in a Global Context

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ARA 101	Readings in Arabic Heritage I	3		GE
	SCI XXX	Science Elective	3		GE
	COM 101	Academic Writing	3	EPT 4 or COM 001	GE
	ECO 201	Principles of Microeconomics	3		MR
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GE
		Total	**15**		
Spring	ARA 102	Readings in Arabic Heritage II (Advised Elective)	3		ME
	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GE
	ECO 202	Principles of Macroeconomics	3		MR
	STA 202	Introduction to Statistics for Social Sciences	3		GE
	SCI XXX	Science Elective	3		GE
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	THM 201	The Andalusian Symbiosis I	3	COM 102	GE
	CSC 205	World Cultures	3	COM 102	MR
	POL 202	International Relations	3	COM 102	MR
	GEO 201	World Cultural Geography	3	COM 102	MR
	HIS 206	World History II	3	COM 102	MR
		Total	**15**		
Spring	THM 202	The Andalusian Symbiosis II	3	COM 102	GE
	COM 203 or 204	Genre Analysis or Advanced Academic Writing	3	COM 102	GE
	ARA 213	Contemporary Arab Literature	3		MR
	HIS 204	Modern Arab History	3	COM 102	GE
	HIS 221	History of Science and Technology	3	COM 102	MR
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	THM XXX	Theme Course	3	COM 102	GE
	ARA 302	Arab Identity and Thought	3		MR
	COM XXX	COM General Education	3	COM 102	GE
	ECO 413	Political Economy of the Arab World	3	ECO 201 and ECO 202	MR
	XXX	Advised Elective	3		ME
		Total	**15**		
Spring	THM XXX	Theme Course	3	COM 102	GE
	ARA 303	Classical Arab/Islamic Culture	3		MR
	ECO 322	Global Political Economy	3	ECO 201, Eco 202 and HIS 206	MR
	XXX	Humanities / Social Sciences	3		GE
	XXX	Advised Elective	3		ME
		Total	**15**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	INS 495	Senior Seminar	3	Senior standing	MR
	XXX	Elective within Arab Studies Con-centration	3		ME
	XXX	Elective within Arab Studies Con-centration	3		ME
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		
Spring	XXX	Advised Elective	3		ME
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **ME**: Advised (major) Elective; **FE**: Free Elective; **MR**: Major Requirement; **EPT**: English Placement Test; **MPT**: Math Placement Test

Gulf
- INS 494 Special Topics
- INS 497 Internship

d. Concentration in Western Studies (24 credits)

Despite its importance, there is no institution or academic program in the Arab world devoted to the systematic, scholarly study of the West. This concentration seeks to fill this gap with a course of study focused on the West: its ideologies, systems of belief, history, political and administrative systems, economics, social life, culture and traditions. Designed especially for students from the Arab world, this course of study will give students an understanding of Western societies and peoples. Students who select this concentration will be prepared for careers in law and diplomacy, international business, travel and tourism, government and the media. Students will also be prepared for graduate studies in Western academic institutions.

Required Courses
- CSC 201 Western Cultural Studies I
- CSC 204 Belief Systems and Ideology in the Western Tradition
- ECO 311 Capitalism replaces ECO 310
- HIS 220 The Modern History of Europe and North America
- POL 206 Theories of Democracy
- INS 495 Senior Seminar

Students select two electives from the following:
- CSC 202 Western Cultural Studies II ECO 305 International Trade
- ECO 306 International Finance
- ENG 315 East Meets West: Colonial and Post-Colonial Encounters
- PBA 302 Comparative Public Administration Systems
- POL 204 International Organizations replaces ECO 305
- POL 205 Public International Law
- INS 494 Special Topics
- INS 497 Internship
- Any other relevant course in the International Studies curriculum offered in the area of expertise of new faculty

Minor in International Studies

A Minor in International Studies consists of twenty-one (21) credits and contains the following courses -

Lower division requirements (12 credits):
- ECO 201 (Principles of Microeconomics);
- HIS 206 (World History II); and
- POL 202 (International Relations);
- plus CSC 205 (World Cultures); or GEO 201 (World Cultural Geography).

Upper division requirements (9 credits):
- ECO 322 (Global Political Economy);
- plus six (6) elective credits drawn from the International Studies curriculum at the 300-level or above.

Proposed Course Sequence of Study

Bachelor of Arts in International Studies

Concentration: Western Studies

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ARA 101	Readings in Arabic Heritage I	3		GE
	SCI XXX	Science Elective	3		GE
	COM 101	Academic Writing	3	EPT 4 or COM 001	GE
	ECO 201	Principles of Microeconomics	3		MR
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GE
		Total	**15**		
Spring	XXX	Advised Elective	3		ME
	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GE
	ECO 202	Principles of Macroeconomics	3		MR
	STA 202	Introduction to Statistics for Social Sciences	3		GE
	SCI XXX	Science Elective	3		GE
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	THM 201	The Andalusian Symbiosis I	3	COM 102	GE
	POL 202	International Relations	3	COM 102	MR
	CSC 201	Western Cultural Studies I	3	COM 102	MR
	HIS 206	World History II	3	COM 102	MR
	GEO 201	World Cultural Geography	3	COM 102	MR
		Total	**15**		
Spring	THM 202	The Andalusian Symbiosis II	3	COM 102	GE
	COM 203 or 204	Genre Analysis or Advanced Academic Writing	3	COM 102	GE
	CSC 204	Belief Systems and Ideology in the Western Tradition	3	COM 102	MR
	HIS 221	History of Science and Technology	3	COM 102	MR
	HIS 220	The Modern History of Europe and North America	3	COM 102	MR
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	THM XXX	Theme Course	3	COM 102	GE
	ECO 311	Capitalism	3	ECO 201 and ECO 202	MR
	COM 208	Public Speaking	3	COM 102	GE
	CSC 205	World Cultures	3	COM 102	MR
	POL 206	Theories of Democracy	3	COM 102	MR
		Total	**15**		
Spring	THM XXX	Theme Course	3		GE
	XXX	Advised Elective	3		ME
	ECO 322	Global Political Economy	3	ECO 201, ECO 202 and HIS 206	MR
	XXX	Humanities / Social Sciences	3		GE
	XXX	Elective Within the Western Studies Concentration	3		MR
		Total	**15**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	INS 495	Senior Seminar	3	Senior standing	MR
	XXX	Elective Within the Western Studies Concentration	3		ME
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		
Spring	XXX	Advised Elective	3		ME
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		GE
	XXX	Free Elective	3		GE
	XXX	Free Elective	3		GE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **ME**: Advised (major) Elective; **FE**: Free Elective; **MR**: Major Requirement; **EPT**: English Placement Test; **MPT**: Math Placement Test

At least nine hours of the minor must not have counted towards degree requirements other than free electives.

Department of Biology and Chemistry

Department of Physics

The Environmental Sciences Program

The mission of this program is to provide graduates with qualifications for meaningful employment in the ever-expanding environmental field. It utilizes a holistic approach to environmental science so that students are prepared to deal with a wide range of environmental concerns as they receive their on-the-job training and perform tasks specific to their professions. The overall organization of the program reflects this philosophy with a broad core curriculum, a concentration area, and the opportunity to perform a senior research project providing advanced, hands-on experience. Students may choose to specialize in any one of three concentrations: biology and ecosystems, chemistry and analysis, and physics.

Recent events and current issues have raised major concerns related to the preservation of the environment. Local governments and private industries have begun to recognize the importance of conservation, recycling, and environmental awareness. The environmental sciences major at the American University of Sharjah will give students an understanding of these issues, the skills needed to function as an environmental science professional, and the necessary undergraduate education to pursue a graduate program in environmental science.

Career opportunities

Environmental scientists can work in four general areas:

- Environmental protection targets air, water and land quality and often has a human and environmental health and safety perspective
- Conservation and protection of natural resources deals both with park, fisheries and wildlife management and the operation of resource-based industries such as oil, mining, forestry and agriculture
- Environmental education and communications is relevant to both public and private sectors
- Environmental research includes developing analytical methods for detecting environmental pollutants and improving prediction of environmental and geophysical changes. This field is available in public and academic supported research facilities

Employers of environmental scientists include government, the natural resources sector, utilities, manufacturers and industry as well as small business. Governments at all levels need environmental scientists in the area of enforcing regulations, writing public information, writing and researching regulations, and ensuring government departmental compliance with existing regulations. The natural resource/utility sector (i.e. oil, mining, forestry, agriculture, and hydro) is interested in having environmental scientists consult on the sustainability of their operations, monitor and mitigate environmental effects on wildlife, fisheries, the watershed and natural beauty, and advise them on liability issues. Manufacturers (particularly those involved in the production of chemicals, plastics, paints, pesticides etc.) employ environmental scientists due to concerns that include smokestack specifications and volatile emissions, wastewater quality, minimization and disposal of hazardous waste, and health and safety issues. The service sector, including banks, real estate companies, lawyers, and insurance companies also relies on environmental scientists to accurately describe environmental risk so that they can assess potential liability. Businesses have been formed that service all these sectors in such areas as environmental impact consulting, compliances, recycling and waste management.

Currently, most work in the environmental sector is responsive to existing or anticipated problems such as treating or monitoring effluent or gaseous emissions, preparing environmental impact statements, assessments and audits as required by law, conducting land reclamation and remediation, and completing public consultations. People with an entrepreneurial inclination to take a proactive approach to environmental stewardship and sustainable development have the opportunity to innovate current practices. There are ample prospects for individuals to generate inventions and ideas that would fundamentally change the way business, society and technology function and through the creation of realistic alternatives to environmentally hazardous practices.

Graduation Requirements for the B.S.E.S. Degree

A total of 128 credits divided as follows:

- Forty-four credits in general education requirements
- Fifteen credits of additional basic science and mathematics requirements
- Twenty-four credits in core requirements
- Twenty-four credits in required courses
- Six credits in advised electives
- Fifteen credits in free electives
- 6-8 weeks of full-time, satisfactory internship in environmental science with a business or governmental organization

Basic Science and Mathematics Requirements

- BIO 101 General Biology I
- CHM 101 General Chemistry I
- CHM 102 General Chemistry II
- MTH 103 Calculus I
- MTH 104 Calculus II
- PHY 101 General Physics I
- PHY 102 General Physics II
- STA 201 Introduction to Statistics

Core Requirements (24 credits)

- ENV 101 Introduction to Environmental Science
- ENV 261 Physical Geography
- CHM 251 Environmental Chemistry
- ENV 311 Environmental Modeling

- ENV 351 Environmental Monitoring and Analysis Techniques
- ENV 411 Environmental Assessment and Management
- CHM 445 Instrumental Analysis
- ENV 491 Senior Project I

Concentrations:

a. Concentration in Biology and Ecosystems (30 credits)

Required Courses (24 credits)

- BIO 102 General Biology II
- CHM 215 Organic Chemistry I
- CHM 215L Organic Chemistry Lab I
- BIO 230 Ecosystems Management
- BIO 251 Environmental Ecology
- BIO 260 Genetics
- BIO 331 General Microbiology
- ENV 361 Evolution and Biodiversity

Advised Electives (6 credits)

- PHI 204 Ethics for Professionals
- ENV 231 Transition Metals and their Compounds in the Environment
- CHM 241 Quantitative Analysis
- PHY 301 Energy Sources
- ENV 335 Environmental Microbiology

Proposed Course Sequence of Study

Bachelor of Science in Environmental Sciences

Environmental Biology and Ecosystems Concentration

FIRST YEAR (35 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MTH 103	Calculus I	3	MPT or MTH 001	MR
	BIO 101	General Biology I	4		MR
	COM XXX	Communication I	3		GE
	PHY 101	General Physics I	4	PPT or PHY 001 and MTH 103 Concurrent	MR
	CHM 101	General Chemistry I	4		MR
		Total	**18**		
Spring	MTH 104	Calculus II	3	MTH 103	MR
	ENV 101	Introduction to Environmental Science	3	CHM 101	CR
	PHY 102	General Physics II	4	PHY 101	CR
	COM XXX	Communication II	3		GE
	CHM 102	General Chemistry II	4	CHM 101	MR
		Total	**17**		

SECOND YEAR (32 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	BIO 102	General Biology II	4	BIO 101	MR
	CHM 215	Organic Chemistry I	3	CHM 102 Concurrent	MR
	CHM 251	Environmental Chemistry	3	CHM 102	CR
	ARA XXX	Arabic language requirement	3		GE
	COM XXX	Communication III	3		GE
		Total	**16**		
Spring	BIO 251	Environmental Ecology	3	BIO 102	MR
	XXX	Free elective	3		FE
	CHM 215L	Organic Chemistry Lab I	1	CHM 215	MR
	BIO 230	Ecosystems Management	3	BIO 102	MR
	COM XXX	Communication IV	3		GE
	ENV 261	Physical Geography	3	PHY 101	GE
		Total	**16**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	STA 201	Introduction to Statistics	3		GE
	XXX	Advised elective	3		MR
	THM XXX	Theme course	3	COM 102	GE
	BIO 260	Genetics	3	BIO 102	MR
	ENV 311	Environmental Modeling	3	MTH 104	CR
		Total	**15**		
Spring	ENV 361	Evolution and Biodiversity	3	BIO 260	MR
	ENV 351	Environmental Monitoring and Analysis Techniques	3	STA 201 and CHM 251	CR
	XXX	Free elective	3		FE
	CHM 445	Instrumental Analysis	3	CHM 102	CR
	THM XXX	Theme course	3		GE
		Total	**15**		

FOURTH YEAR (31 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ENV 491	Senior Project I	3	Senior Standing	CR
	BIO 331	General Microbiology	4	BIO 102	MR
	THM XXX	Theme course	3		GE
	SOC XXX or ECO XXX	Social science requirement	3		GE
	XXX	Free elective	3		FE
		Total	**16**		
Spring	XXX	Advised elective	3		ME
	ENV 411	Environmental Assessment and Management	3		CR
	XXX	Free elective	3		FE
	XXX	Free elective	3		FE
	THM XXX	Theme course	3		GE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **ME**: Advised (major) Elective; **FE**: Free Elective; **MR**: Major Requirement; **PPT**: Physics Placement Test; **MPT**: Math Placement Test; **CR**; Core Courses

- ENV 421 Aquatic Environments
- ENV 430 Environmental Systems in the Arabian Peninsula
- ENV 451 Waste Treatment
- ENV 492 Senior Project II

b. Concentration in Environmental Chemistry and Analysis (at least 30 credits)

Required Courses (24 credits)

- CHM 215 Organic Chemistry I
- CHM 215L Organic Chemistry Lab I
- CHM 216 Organic Chemistry II
- CHM 216L Organic Chemistry Lab II
- CHM 231 Physical Chemistry I
- ENV 231 Transition Metals and their Compounds in the Environment
- CHM 241 Quantitative Analysis
- CHM 331 Physical Chemistry II
- ENV 451 Waste Treatment

Advised Electives (at least 6 credits)

- PHI 204 Ethics for Professionals
- PHY 251 Meteorology
- PHY 303 Atmospheric Physics
- CHM 335 Physical Chemistry Lab
- ENV 421 Aquatic Environments

Proposed Course Sequence of Study

Bachelor of Science in Environmental Sciences

Environmental Chemistry and Analysis Concentration

FIRST YEAR (35 CREDITS)

Term	Course #	Title	Credit	Prerequisite	Fulfills
Fall	MTH 103	Calculus I	3	MPT or MTH 001	MR
	BIO 101	General Biology I	4		MR
	COM XXX	Communication I	3		GE
	PHY 101	General Physics I	4	PPT or PHY 001 and MTH 103 Concurrent	MR
	CHM 101	General Chemistry I	4		MR
		Total	**18**		
Spring	MTH 104	Calculus II	3	MTH 103	MR
	ENV 101	Introduction to Environmental Science	3	CHM 101	CR
	PHY 102	General Physics II	4	PHY 101	CR
	COM XXX	Communication II	3		GE
	CHM 102	General Chemistry II	4	CHM 101	MR
		Total	**17**		

SECOND YEAR (32 CREDITS)

Term	Course #	Title	Credit	Prerequisite	Fulfills
Fall	XXX	Free elective	3		FE
	CHM 215	Organic Chemistry I	3	CHM 102 (co-requisite)	MR
	CHM 251	Environmental Chemistry	3	CHM 102	CR
	ARA XXX	Arabic language requirement	3		GE
	COM XXX	Communication III	3		GE
		Total	**15**		
Spring	CHM 241	Quantitative Analysis	4	CHM 102, MTH 104	MR
	CHM 216	Organic Chemistry II	3	CHM 215	MR
	CHM 215L	Organic Chemistry Lab I	1	CHM 215	MR
	ENV 231	Transition Metals and their Compounds in the Environment	3	ENV 101 and CHM 102	MR
	COM XXX	Communication IV	3		GE
	ENV 261	Physical Geography	3	PHY 101	MR
		Total	**17**		

THIRD YEAR (31 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	STA 201	Introduction to Statistics	3		MR
	CHM 231	Physical Chemistry I	3	CHM 102, MTH 104	MR
	THM XXX	Theme course	3	COM 102	GE
	XXX	Free elective	3		FE
	CHM 216L	Organic Chemistry lab II	1	CHM 215L, CHM 216	MR
	ENV 311	Environmental Modeling	3	MTH 104	CR
		Total	**16**		
Spring	ENV 351	Environmental Monitoring and Analysis Techniques	3	STA 201 and CHM 251	CR
	XXX	Humanities / Social Sciences Elective	3		GE
	CHM 445	Instrumental Analysis	3	CHM 102	CR
	THM XXX	Theme course	3		GE
	XXX	Free elective	3		FE
		Total	**15**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ENV 491	Senior Project I	3		CR
	ENV 451	Waste Treatment	3	CHM 251	MR
	CHM 331	Physical Chemistry II	3	CHM 231 or CHE 204	MR
	XXX	Advised elective	3		MR
	THM XXX	Theme course	3		GE
		Total	**15**		
Spring	XXX	Advised elective	3		MR
	ENV 411	Environmental Assessment and Management	3		CR
	THM XXX	Theme course	3		GE
	XXX	Free elective	3		FE
	XXX	Free elective	3		FE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **ME**: Advised (major) Elective; **FE**: Free Elective; **MR**: Major Requirement; **PPT**: Physics Placement Test; **MPT**: Math Placement Test; **CR**; Core Courses

- CHE 442 Corrosion
- ENV 452 Soil and Water Chemistry
- ENV 492 Senior Project II

c. Concentration in Environmental Physics (at least 30 credits)

Required Courses (24 credits)

- PHY 201 Modern Physics
- MTH 203 Calculus III
- CHM 231 Physical Chemistry I
- PHY 251 Meteorology
- PHY 301 Energy Sources
- PHY 304 Issues in Environmental Physics
- PHY 351 Analytical Techniques

Advised Electives (6 credits)

- PHI 204 Ethics for Professionals
- CVE 231 Environmental Geology
- PHY 303 Atmospheric Physics
- CHM 331 Physical Chemistry II
- ECO 403 Economics of Natural Energy Resources
- ECO 404 Economics of Environmental

Proposed Course Sequence of Study

Bachelor of Science in Environmental Sciences

Environmental Physics Concentration

FIRST YEAR (35 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MTH 103	Calculus I	3	MPT or MTH 001	MR
	BIO 101	General Biology I	4		MR
	COM XXX	Communication I	3		GE
	PHY 101	General Physics I	4	PPT or PHY 001 and MTH 103	MR
	CHM 101	General Chemistry I	4		MR
		Total	**18**		
Spring	MTH 104	Calculus II	3	MTH 103	MR
	ENV 101	Introduction to Environmental Science	3	CHM 101	CR
	PHY 102	General Physics II	4	PHY 101	CR
	COM XXX	Communication II	3		GE
	CHM 102	General Chemistry II	4	CHM 101	MR
		Total	**17**		

SECOND YEAR (32 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM XXX	Communication III	3		GE
	PHY 201	Modern Physics	4	PHY 102	MR
	CHM 251	Environmental Chemistry	3	CHM 102	CR
	ARA XXX	Arabic language requirement	3		GE
	XXX	Free elective	3		FE
		Total	**16**		
Spring	PHY 251	Meteorology	3	PHY 102	MR
	PHY301	Energy Sources	3		MR
	COM XXX	Communication IV	3		GE
	MTH 203	Calculus III	3	MTH 104	MR
	ENV 261	Physical Geography	3	PHY 101	MR
		Total	**16**		

THIRD YEAR (31 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	STA 201	Introduction to Statistics	3		MR
	THM XXX	Theme course	3		GE
	PHY304	Issues in Environmental Physics	3	MTH 201, PHY 201	MR
	ENV 311	Environmental Modeling	3	MTH 104	MR
	CHM 231	Physical Chemistry I	3	CHM 102, MTH 104	MR
		Total	**15**		
Spring	PHY 351	Analytical Techniques	4	PHY 201	MR
	XXX	Free elective	3		FE
	CHM 445	Instrumental Analysis	3	CHM 102	CR
	THM XXX	Theme course	3		GE
	ENV 351	Environmental Monitoring and Analysis Techniques	3	STA 201 and CHM 251	CR
		Total	**16**		

FOURTH YEAR (32 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	XXX	Free elective	3		FE
	ENV 491	Senior Project I	3	Senior Standing	CR
	XXX	Social science requirement	3		GE
	XXX	Advised elective	3		MR
	THM XXX	Theme course	3		GE
		Total	**15**		
Spring	XXX	Advised elective	3		MR
	ENV 411	Environmental Assessment and Management	3		CR
	XXX	Free elective	3		FE
	XXX	Free elective	3		FE
	THM XXX	Theme course	3		GE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **ME**: Advised (major) Elective; **FE**: Free Elective; **MR**: Major Requirement; **PPT**: Physics Placement Test; **MPT**: Math Placement Test; **CR**; Core Courses

and Natural Resources
- ENV 451 Waste Treatment
- ENV 492 Senior Project II

Department of Computer Science

The Computer Science Program

The Department of Computer Science offers a four-year program leading to a Bachelor of Science in Computer Science. The program is designed to meet the growing needs for computer science experts in the rapidly evolving 21st century economy. Its mission is to provide graduates with a strong computer science base that will enable them to capitalize on the increasing careers opportunities in the information technology sector, to expand the limits of their knowledge by pursuing further studies, and to explore innovative approaches to computer-related problems. A computer science degree from AUS is an extremely valuable commodity. It provides a highly demanded expertise, a great mobility and flexibility, and an impressive range of possible career choices in the information technology industry. The program provides students with a solid exposure to the fundamental concepts of computer science and their applications to solve concrete problems.

The highlights of the program goals are to develop:

- An understanding of the context and applications of computing and the structure, logic, and organization of modern computers
- Software application development skills involving most aspects of the software development process, including, analysis, design, implementation, testing and maintenance of quality software
- Strong soft skills, including interpersonal and group communication, presentation skills, and writing skills
- An understanding and appreciation of the ethical and social issues involved in the computing field and profession
- An understanding and appreciation of the economics of computing, including software project management and feasibility, and software complexity analysis
- A strong ability to grasp and learn new software and information technologies, and to further develop themselves professionally in their future careers
- Strength in specific areas of computer science through the choice of electives

Bachelor of Science in Computer Science

Admission to the Program

Formal admission to the program in computer science requires a cumulative grade point average (GPA) of 2.0 or higher.

Graduation Requirement for the B.S.C.S. Degree

A total of at least 130 credits, including
- Forty-four credits of general education requirements (GE)
- A minimum of seventy-one credits of major requirements (MR)
- Fifteen credits of free electives (FE)

Major Requirements

Students majoring in computer science must complete 71 credits of major requirements with a grade C- or better in each course. Those major requirements are divided as follows:

Core Requirements

Students must take the following 55 credits as core requirements:
- MTH 104 Calculus II
- MTH 221 Linear Algebra
- MTH 341 or CMP 341 Computational Methods
- CMP 111 Computing Fundamentals
- CMP 120 Introduction to Computer Science I
- CMP 210 Digital Systems
- CMP 211 Digital Systems Laboratory
- CMP 213 Discrete Structures or MTH 213 Discrete Mathematics
- CMP 220 Introduction to Computer Science II
- CMP 232 Data Structures and Algorithms
- CMP 235 Social and Professional Issues
- CMP 240 Introduction to Computer Systems
- CMP 310 Introduction to Operating Systems
- CMP 320 Database Systems
- CMP 321 Programming Languages Laboratory
- CMP 340 Design and Analysis of Algorithms
- CMP 350 Introduction to Software Engineering
- CMP 416 Internet and Network Computing
- CMP 490 Project in Computer Science

Computer Elective Requirements

After consultation with their academic advisors, students should take 12 credits as computer science elective courses from the following areas:

Computer Systems
- CMP 410 Computer System Architecture
- CMP 411 Performance Evaluation of Computer Systems
- CMP 412 Introduction to Distributed Systems
- CMP 415 Computer Networks
- CMP 417 Parallel Computing Systems
- CMP 418 Introduction to Simulation and Modeling
- COE 370 Data Communications
- COE 423 Computer Networks II

Information Processing
- CMP 430 Computer Graphics
- CMP 431 File Processing
- CMP 432 Image Processing
- CMP 433 Artificial Intelligence
- CMP 434 Information Theory
- CMP 435 Computer Security
- CMP 436 Introduction to Symbolic Computation
- CMP 437 Introduction to Neural Network

Software Engineering/Programming Languages
- CMP 450 Object-oriented Analysis and Design
- CMP 452 Compiler Construction
- CMP 453 Organization of Programming Languages
- CMP 454 Software Testing and Quality Engineering
- CMP 455 Human Computer Interactions

Theory of Computation

- CMP 470 Formal Languages and Computability I
- CMP 471 Hypermedia Computing
- CMP 472 Multimedia Computing

Others

- CMP 494 Topics in Computer Science
- CMP 496 Independent Study

Science Elective Requirement

Students must take a four-credit hour science elective course from the biology, chemistry or physics offerings.

Computer Science Minor

Minors in Computer Science for Architecture, Arts and Sciences, Business, and Engineering Students

In order to minor in computer science, students of business, engineering, and architecture and design must take 18 credits of which 9 credits must be at 300-level and above:

- Requirements for Architecture and Design students: CMP 120, CMP 220, CMP 430 and CMP 471 or CMP 472.
- Requirements for Arts and Sciences students: CMP 220, CMP 232 and CMP 340.
- Requirements for Business students: CMP 220, CMP 232 and CMP 340.
- Requirements for Engineering students: CMP 220, CMP 232, CMP 235, CMP 320 and CMP 340.

In addition to the above requirements, students of the above majors must choose other courses from the computer science program. Approval of the chair of the Department of Computer Science is required. At least nine hours of the

Proposed Course Sequence of Study

Bachelor of Science Degree in Computer Science

FIRST YEAR (33 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MTH 103	Calculus I	3	MPT or MTH 001	GE
	XXX XXX	Science Elective: Physics, Chemistry or Biology	4		GE
	COM XXX	Communication I	3		GE
	ECO201 / ECO202	Principles of Microeconomics/ Principles of Macroeconomics	3		GE
	CMP 111	Computing Fundamentals	3		CR
		Total	**16**		
Spring	MTH 104	Calculus II	3	MTH 103	CR
	XXX XXX	Science Elective: Physics, Chemistry or Biology	4		GE
	ARA XXX	Arabic language requirement	3		GE
	COM XXX	Communication II	3		GE
	CMP 120	Introduction to Computer Science I	4	CMP 111	CR
		Total	**17**		

SECOND YEAR (34 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM XXX	Communication III	3		GE
	MTH 221	Linear Algebra	3	MTH 104	CR
	CMP 210	Digital Systems	3	CMP 120	CR
	CMP 211	Digital Systems Laboratory	1	CMP 210 or Co-requisite	CR
	CMP 213 or MTH 213	Discrete Structures	3	MTH 103	CR
	CMP 220	Introduction to Computer Science II	3	CMP120	CR
		Total	**16**		
Spring	COM XXX	Communication IV	3		GE
	THM XXX	Theme course	3	COM 102	GE
	XXX XXX	Science Elective: Physics, Chemistry or Biology	4		SR
	STA 201	Introduction to Statistics	3	None	GE
	CMP 232	Data Structures and Algorithms	3	Co-req. CMP 213 & CMP 220	CR
	CMP 235	Social and Professional Issues	2	CMP 120	CR
		Total	**18**		

THIRD YEAR (33 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	THM XXX	Theme course	3	COM 102	GE
	XXX XXX	Free elective	3		FE
	CMP 240	Introduction to Computer Systems	3	CMP 210	CR
	CMP 320	Database Systems	3	CMP 232	CR
	CMP 321	Programming Languages Laboratory	3	CMP 220	CR
	CMP 340	Design and Analysis of Algorithms	3	CMP 232	CR
		Total	**18**		
Spring	THM XXX	Theme course	3	COM 102	GE
	CMP 341 or MTH 341	Computational Methods	3	CMP 120 and MTH 104	CR
	CMP 310	Introduction to Operating System	3	CMP 232 or COE311 & CMP240 or COE 331	CR
	CMP 350	Introduction to Software Engineering	3	CMP 232	CR
	CMP XXX	Computer elective	3		ME
		Total	**15**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	CMP 416	Internet and Network Computing	3	CMP 310	CR
	CMP XXX	Computer elective	3		ME
	CMP XXX	Computer elective	3		ME
	XXX XXX	Free elective	3		FE
	XXX XXX	Free elective	3		FE
		Total	**15**		
Spring	THM XXX	Theme course	3	COM 102	GE
	CMP 490	Project in Computer Science	3	CMP 350 and SS	CR
	CMP XXX	Computer elective	3		ME
	XXX XXX	Free elective	3		GE
	XXX XXX	Free elective	3		GE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement, **CR**: Core Requirement, **FE**: Free Elective , **PT**: Placement Test, **MPT**: Math Placement Test **EQ**: Equivalent, **ME**: Major Elective; **CI**: Consent of the Instructor, **SS**: Senior Standing.

Note: XXX XXX represents an elective course that can be taken in any discipline. If an elective course has a prefix (ex. ARA XXX), the course must be taken from the particular discipline specified.

minor must not have counted towards degree requirements other than free electives.

Department of Economics and Public Administration

The Economics Program

Resources are limited. Choice is inevitable. Economics is about making the best choices given those limits. Economics studies how consumers, businesses, non-profit organizations, and governments choose. It studies how markets coordinate economic activity, reconciling the independently planned choices of individual consumers, firms, and other organizations. It examines the scope for government in devising regulations and institutions that would improve upon the results of the market. Subject areas in economics include international trade, capitalism, market failure, unemployment, inflation, economic growth, pollution, economic development, central banking, government taxing and spending, economic data analysis, utilizing natural resources, conservation of the environment, the effects of law upon economic behavior, collective decision-making, and history of economics.

The student who majors in economics will learn to reason logically and systematically about the problems and subjects described above and to analyze economic data and other information that is relevant. This will enable the student to pursue rewarding career paths in private businesses, government agencies, and non-profit organizations. Alternatively, they may go on to graduate school in a number of disciplines, including economics, business administration, public administration, law, and various interdisciplinary fields like international studies and environmental studies.

Bachelor of Arts in Economics

Admission to the Major

Formal admission to the major in economics requires a cumulative grade point average (GPA) of 2.0 or higher. Students who have a cumulative GPA of less than 2.0 could be admitted to the major on probation subject to review of their application by the department.

Graduation Requirement for the B.A.E. Degree

A total of 120 credits, including

- Forty-two credits of general education requirements (GE)
- Sixty-three credits in the major requirements (MR)
- Fifteen credits of free electives

Designated General Education Requirements

- STA 202 Introduction to Statistics for Social Sciences
- Either MTH 101 (Mathematics for Business I) or MTH 103 (Calculus I) or their equivalent, if approved by the Department of Economics

Major Requirements

Students majoring in Economics must complete 63 credits of major requirements with a grade C- or better in each course. Those major requirements are divided as follows:

Core Requirements (24 credits)

- ECO 201 Principles of Microeconomics
- ECO 202 Principles of Macroeconomics
- ECO 301 Intermediate Microeconomics
- ECO 302 Intermediate Macroeconomics
- ECO 305 International Trade
- ECO 310 Development Economics
- ECO 330 Money and Banking
- ECO 495 Senior Seminar in Economics

Economics Elective Requirements (27 credits)

The student is free to choose these courses from among any of the other economics courses (those not already listed under required courses).

Advised Elective Requirements (12 credits)

Courses in Related Fields or a Minor in another Field: Likely courses are indicated inside the brackets that follow each field. The students must obtain the approval of his or her advisor before selecting courses for the satisfaction of this requirement. The requirement of nine credits in related fields is waived for students who take a minor outside of economics.

Related Fields

- Accounting (any course)
- Computer science
- Finance (any course)
- History (any course at the 200 level or higher)
- International Studies
- Management
- Management Information Systems
- Marketing
- Mathematics
- Political Science
- Psychology
- Public Administration
- Statistics (any course other than STA 201 or STA 202)

Requirements for a Minor in Economics

Students who minor in economics take 21 credits of Economics (seven courses), and must achieve a grade of C- or better in each course. Twelve of the 21 credits consist of the following required courses:

- ECO 201 Principles of Microeconomics
- ECO 202 Principles of Macroeconomics
- ECO 301 Intermediate Microeconomics
- ECO 302 Intermediate Macroeconomics

Proposed Course Sequence of Study

Bachelor of Arts in Economics

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	XXX	Science elective	3		GE
	ARA 101	Readings in Arabic Heritage 1	3		GE
	ECO 201	Principles of Microeconomics	3		CR
	COM 101	Academic Writing	3	EPT 4 or COM 001	GE
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GE
		Total	**15**		
Spring	XXX	Social science elective	3		GE
	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GE
	ECO 202	Principles of Macroeconomics	3		CR
	XXX	Science Elective	3		GE
	XXX	Advised Elective	3		ME
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	XXX	Advised elective	3		ME
	COM 225	Global Business Communication	3	COM 203 or COM 204	GE
	THM XXX	Theme course (1)	3	COM 102	GE
	ECO 302	Intermediate Macroeconomics	3	ECO 201 and ECO 202	CR
	ECO XXX	Economics elective	3		ME
		Total	**15**		
Spring	XXX	Advised elective	3		ME
	COM 208	Public Speaking	3	COM 102	GE
	ECO 305	International Trade	3	ECO 201 and ECO 202	CR
	ECO 301	Intermediate Microeconomics	3	ECO 201	CR
	THM XXX	Theme course (2)	3	COM 102	GE
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	STA 202	Introduction to Statistics for Social Sciences	3		GE
	ECO XXX	Economics elective	3	ECO 201 and ECO 202	ME
	THM XXX	Theme course (3)	3	COM 102	GE
	ECO XXX	Economics elective	3		ME
	XXX	Advised elective	3		ME
		Total	**15**		
Spring	ECO 330	Money and Banking	3	ECO 201 and ECO 202	CR
	ECO XXX	Economics elective	3		ME
	THM XXX	Theme course (4)	3	COM 102	GE
	ECO XXX	Economics elective	3		ME
	XXX	Free elective	3		FE
		Total	**15**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ECO 310	Development Economics	3	ECO 201 and EC0 202	CR
	ECO 495	Senior Seminar in Economics	3	ECO 301 and ECO 302	CR
	ECO XXX	Economics elective	3		ME
	ECO XXX	Economics elective	3		ME
	XXX	Free elective	3		FE
		Total	**15**		
Spring	ECO XXX	Economics elective	3	ECO 201 and ECO 202	ME
	ECO XXX	Economics elective	3		ME
	XXX	Free elective	3		FE
	XXX	Free elective	3		FE
	XXX	Free elective	3		FE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **FE**: Free Elective; **CR**: Core Requirement; **EPT**: English Placement Test; **MPT**: Math Placement Test; **ME**: Major elective

The remaining courses for the minor must be at the 300 level or higher. At least 9 of the credits must not have counted for any other degree requirement except free electives.

Bachelor of Arts in Public Administration

A Bachelor of Arts in Public Administration provides students with a strong foundation in administration, interpersonal relations, policy analysis and leadership skills. The program prepares students to manage the various aspects of government by providing them with professional training in the discipline of public administration/public policy. Students will learn managerial, political, and legal theories and processes to fulfill the legislative, executive, and judicial governmental mandates of providing regulatory and service functions for society. The Public Administration Program studies public management, public policy and policy analysis, organization theories and decision making, human resources, evaluation, public finance, administrative law, public economics, rules and regulations, political science, urban management, and public sector ethics. Service-learning experience in an internship in a public or non-profit organization is required to ensure graduates' competence necessary for an advancing career in the public sector.

Graduates who have the necessary administrative knowledge, people-skills and management competencies are uniquely qualified. The American University of Sharjah produces graduates who will make a valuable contribution to their communities. Graduates, for example, may improve the capacity of public service delivery in governmental organizations. There is a high demand worldwide in government agencies and non-profit organizations for applicants who have a familiarity with what it takes to be a successful public administrator. A student who is well prepared in public administration can expect to be the beneficiary of a great deal of social prestige in the Arab world.

Graduation Requirement for the B.A.P.A. Degree

A total of 120 credits, including

- Forty-two credits of general education requirements (GE)
- Sixty-three credits in the major requirements (MR)
- Fifteen credits of free electives (FE)

Designated University Requirements

- STA 202 Introduction to Statistics for Social Sciences
- MTH 101 Mathematics for Business

Major Requirements

Students majoring in Public Administration must complete 78 credits of major requirements with a grade C- or better in each course. Those major requirements are divided as follows:

Core Requirements (30 credits)

The following ten courses are the required core:

- PBA 101 Introduction to Public Administration
- ECO 201 Principles of Microeconomics
- ECO 202 Principles of Macroeconomics
- POL 201 Introduction to Political Studies
- PBA/ECO 345 Economics of Collective Decision Making
- PBA 306 Managing Human Resources in Public Organizations
- PHI 204 Ethics for Professionals
- PBA/ECO 325 Public Economics
- PBA 495 Senior Seminar in Public Administration
- PBA 497 Internship in a Public Organization

Advised Elective Requirements (9 credits)

Students must take a minimum of 9 credits of advised electives approved by the student's advisor.

Concentrations:

a. Concentration in Public Administration
(24 credits from the list below)

- PBA 201 Public Management
- PBA 205 Intergovernmental Relations
- PBA 210 Urban Management
- PBA 301 Organization Behavior
- PBA 302 Comparative Public Administration
- PBA 310 Research in Public Administration
- PBA 311 Nonprofit Organizational Management
- PBA 313 Government Regulation of Business
- PBA/ECO 326 Economics and the Law
- PBA 327 Competition, Free Markets and Antitrust
- PBA/ECO 328 Government Regulation of Business
- PBA 402 Local and Regional Administration
- PBA 407 Legal Issues in Public Administration
- PBA 408 Development Management
- PBA 410 Public Program Evaluation
- PBA 411 Foundations of Public Policy Analysis
- PBA 415 Law and Public Policy
- PBA 419 Seminar in Executive-Level Public Management
- PBA 494 Special Topics in Public Administration

b. Concentration in Human Resources Management (24 credits from the list below and six credits from the above list under the public administration major)

- PBA 108 Communication, and Mobilization of Interpersonal Relationships, in Public Organizations.
- PBA 204 Women in Public Management
- PSY 205 Industrial Organization Psychology
- PBA 206 Motivation, Employee Development and Performance Appraisal in Public Organizations
- PBA 305 Classification, Job Analysis, Compensation and Fringe Benefits in Public Organizations
- PBA 307 Recruitment, Selection, Promotion, Retention and Disciplinary Actions in Public Organizations
- PBA 308 Executive and Middle-Management Training Techniques in Public Organizations
- PBA 310 Research in Public Administration
- PBA/ECO 326 Economics and the Law
- PBA 494 Special Topics in Public Administration

NOTE: Taking a minor in another field is highly encouraged and the nine credits of advised and free electives can be used for that purpose.

Minor in Public Administration

A total of 21 credits are required for a minor in Public Administration.

Core Courses (A total of 15 credits)

- ECO 201 Principles of Microeconomics
- PBA 101 Introduction to Public Administration
- PBA 201 Public Management
- PBA/ECO 325 Public Economics
- PBA/ECO 345 Economics of Collective Decision Making

Plus any two PBA courses (six credits)

Proposed Course Sequence of Study

Bachelor of Arts in Public Administration

Concentration: Public Administration

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GE
	COM 101	Academic Writing	3	EPT 4 or COM 001	GE
	PBA 101	Introduction to Public Administration	3		MR
	XXX	Science elective	3		GE
	ECO 201	Principles of Microeconomics	3		MR
		Total	**15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GE
	ARA 101	Readings in Arabic Heritage	3		GE
	XXX	Advised Elective	3		MR
	PBA XXX	PBA Elective (PA)	3		MR
	ECO 202	Principles of Macroeconomics	3		MR
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 203 or COM 204	General Analysis or Advanced Academic Writing	3	COM 102	GE
	XXX	Science Elective	3		GE
	STA 202	Introduction to Statistics for Social Sciences	3		GE
	PBA XXX	PBA Elective (PA)	3		MR
	THM XXX	Theme Course (1)	3	COM 102	GE
		Total	**15**		
Spring	POL 201	Introduction to Political Studies	3	COM 102	MR
	XXX	Social Science Elective	3	COM 102	GE
	THM XXX	Theme Course (2)	3	COM 102	GE
	PBA XXX	PBA Elective (PA)	3	PBA 101	MR
	PBA 306	Human Resources Mgt. in Public Org.	3	PBA 101	MR
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 208	Public Speaking	3	COM 102	GE
	PHI 204	Ethics for Professional	3	COM 102	MR
	PBA XXX	PBA Elective (PA)	3	PBA 101	MR
	PBA/ECO 325	Public Economics	3	ECO 201	MR
	THM XXX	Theme course (3)	3	COM 102	GE
		Total	**15**		
Spring	PBA XXX	PBA Elective (PA)	3		MR
	PBA XXX	PBA Elective (PA)	3		MR
	XXX	Free Elective	3		FE
	PBA/ECO 345	Economics of Collective Decision-Making	3	ECO 201	MR
	THM XXX	Theme course (4)	3	COM 102	GE
		Total	**15**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	PBA XXX	PBA Elective (PA)	3		MR
	PBA 495	Seminar in Public Administration	3	PBA 201	MR
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		
Spring	PBA XXX	PBA Elective (PA)	3		MR
	PBA 497	Internship in a Public Organization	3	Senior Standing	MR
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **FE:** Free Elective; **MR**: Major Requirement; **EPT**: English Placement Test; **MPT**: Math Placement Test; **ME**: Advised (major) elective

Proposed Course Sequence of Study

Bachelor of Arts in Public Administration

Concentration: Human Resources Management

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GE
	COM 101	Academic Writing	3	EPT 4 or COM 001	GE
	PBA 101	Introduction to Public Administration	3		MR
	XXX	Science Elective	3		GE
	ECO 201	Principles of Microeconomics	3		MR
		Total	**15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GE
	ARA 101	Readings in Arabic Heritage	3		GE
	XXX	Advised Elective	3		ME
	PBA XXX	PBA Elective (HR)	3		MR
	ECO 202	Principles of Macroeconomics	3		MR
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 203 or COM 204	General Analysis or Advanced Academic Writing	3	COM 102	GE
	XXX	Science Elective	3		GE
	STA 202	Introduction to Statistics for Social Sciences	3		GE
	PBA XXX	PBA Elective (HR)	3		MR
	THM XXX	Theme Course (1)	3	COM 102	GE
		Total	**15**		
Spring	POL 201	Introduction to Political Studies	3	COM 102	MR
	XXX	Social Science Elective	3		GE
	THM XXX	Theme Course (2)	3	COM 102	GE
	PBA XXX	PBA Elective (HR)	3	PBA 101	MR
	PBA 306	Human Resources Mgt. In Public Org.	3	PBA 101	MR
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 208	Public Speaking	3	COM 102	GE
	PHI 204	Ethics for Professional	3	COM 102	MR
	PBA XXX	PBA Elective (HR)	3	PBA 101	MR
	PBA/ECO 325	Public Economics	3	ECO 201	MR
	THM XXX	Theme course (3)	3	COM 102	GE
		Total	**15**		
Spring	PBA XXX	PBA Elective (HR)	3		MR
	PBA XXX	PBA Elective (HR)	3		MR
	XXX	Free Elective	3		FE
	PBA/ECO 345	Economics of Collective Decision-Making	3	ECO 201	MR
	THM XXX	Theme course (4)	3	COM 102	GE
		Total	**15**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	PBA 495	Seminar in Public Administration	3	PBA 201	MR
	PBA XXX	PBA Elective (HR)	3		MR
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		
Spring	PBA XXX	PBA Elective (HR)	3		MR
	PBA 497	Internship in a Public Organization	3	Senior Standing	MR
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **FE:** Free Elective; **MR**: Major Requirement; **EPT**: English Placement Test; **MPT**: Math Placement Test; **ME**; Major Elective

with at least one course at 300-level or above. At least nine hours of the minor must not have counted towards degree requirements other than free electives.

Department of English, Mass Communication, & Translation

The mission of the Department of English, Mass Communication, and Translation at the American University of Sharjah is to cultivate student mastery in English Language/Literature, in Advertising, Print Journalism, Public Relations within the Mass Communications program, and in Translation.

The English Program teaches students the creative use of English, enables them to understand its structure and functions, fosters an appreciation for the literary tradition in English and equips graduates with the knowledge and skills required for effective communication. Our goal is to become the premier program in the area, in the Gulf, and in the Middle East in preparing students to become active members of the English-speaking global society.

The Mass Communications Program provides students with a broad-based understanding of human communication, leading to a Bachelor of Arts Degree in Mass Communications. The program prepares students for careers in one of three professional areas: Advertising, Print Journalism, and Public Relations.

To qualify for the Bachelor of Arts in English/Arabic Translation and Interpreting degree program, students must demonstrate fluency in English and Arabic. In tandem with a solid grounding offered by the Department in communicative skills, linguistic analysis and literary appreciation, the translation track focuses on basic written translation skills in a variety of settings such as government, private sector and international organizations and across a diverse range of fields (commercial and economic, scientific and technical, political and legal).

Bachelor of Arts in English Language and Literature

Program Description

The four-year program in English language and literature provides a comprehensive knowledge of the structure and use of English. Furthermore, it enables the student to understand English within its historical and cultural context, without which one cannot fully understand the literature or the society of the present English-speaking world. Above all, the program teaches students the research tools, critical processes, and analytic skills necessary for functioning effectively in today's English based information environment.

The courses required for the major are arranged in a sequence of increasing depth and complexity. The forty eight (48) specialized credits required for the major in the English language and literature program consist of a balanced foundation in both language and literature studies (18 credits in each), 12 credits in core departmental courses, and 18 credits in either literature or language.

The language component of the major helps students understand the history and structure of English and the interrelationship between society and language. This is particularly helpful to non-native speakers of English, who can compare English formations with those in their native language and gain insights into the reasons for these differences.

The language component includes courses which address underlying fundamental issues in language and linguistics studies, such as Introduction

to Language Study, Development of the English Language, Phonetics, Phonology, and Morphology, Structure and Function of English, Semantics and Pragmatics, Discourse Analysis, Second Language Acquisition, Language in Society and Psycholinguistics. The language program is thus designed not only to provide proficiency in the structure of English, but also to lead the student to explore the way in which language shapes thought and affects society.

In the literature concentration, the texts studied focus on British and American literature and literature written in English throughout the world. However, because literature does not exist in isolation, the program also includes translations of major writers who have influenced literature in English. Through this program, students come to understand the change of ideas from one time period to another and the exchange of ideas from one society to another.

Students begin their study of literature by learning the literary history of the United States and Great Britain, international English-language literature, the styles and elements of a particular genre, and the basic elements of critical and creative writing. They learn to use the English language as the medium for expressing their own thoughts and feelings, and they come to understand its richness and nuances. They also explore the philosophical and critical theories that underlie both the understanding of literature and the writing of literature itself.

Objectives

An English language concentration prepares its graduates for further studies in linguistics and for careers in communication, a fast growing sector in today's societies. Also, by receiving a solid grounding in the English language, graduates are well prepared to become teachers of English as a foreign language. All these outlets are current growth areas in the region and will be increasingly useful as the educational and communications systems in the UAE become more Emiratized.

A literature concentration prepares the student for professions requiring the highest levels of English language skills, research skills, and critical and analytical abilities. Moreover, it prepares students for any position requiring interaction with educated native speakers of English. Some of the specific professions for which the English literature major is qualified are in media, publishing, editing, research, teaching and diplomacy. A major in English literature is also an excellent preparation for graduate work in an English speaking country.

Admission to the Program

Formal admission to the English language and literature program by the Department of English requires a cumulative GPA of 2.0 or higher.

Graduation Requirement for the B.A.E.L.L. Degree

A total of at least 120 credits, including

- general education requirements: forty-two credits
- Major requirements: forty-eight credits
- Advised electives: fifteen credits
- Free electives: fifteen credits

Major Requirements

Both concentrations within the English language and literature major require students to take 48 credits of coursework. All students in this major will take thirty common credits as follows:

- Twelve credits of departmental core courses
- Nine credits of courses in language
- Nine credits of courses in literature

In addition, eighteen credits of concentration must be taken in language or literature.

Departmental core requirements (12 credits)

- COM 220 Intercultural Communication
- ENG 105 or ENG 108 Contemporary World Literature or Introduction to Genre
- ENG 123 Introduction to Language Study
- ENG 420 Seminar: Bridging the Disciplines

Common required courses language and literature (18 credits)

- ENG 126 Development of the English Language
- ENG 201or ENG 203 Creative Writing or Introduction to Literary Theory
- ENG 209 Survey of English Literature I
- ENG 219 Survey of American Literature I
- ENG 224 Structure and Function of English
- ENG 234 Language in Society

Concentrations:

a. Concentration in Language (18 credits)

- ENG 222 Phonetics, Phonology and Morphology
- ENG 334 Semantics and Pragmatics
- ENG 336 Discourse Analysis
- ENG 338 or ENG 400 Psycholinguistics or Second Language Acquisition
- ENG 401 or ENG 406 Advanced English Grammar or Survey of Topics in Linguistics and Communication
- ENG 495 Seminar in English Language

b. Concentration in Literature (18 credits)

- ENG 213 or ENG 205 Survey of English Literature II or Modern Drama and Beyond
- ENG 315 East Meets West: Colonial and Post Colonial Encounters
- ENG 303 Shakespeare and his Contemporaries
- ENG 309 or ENG 311 or ENG 313 The American Novel or Early English Novel or Modern British Novel
- ENG 411 or ENG 413 or ENG 415 Seminar in English Literature or Seminar in American Literature or Seminar in Post Colonial Literature
- ENG 490 Senior Research Project

Advised Electives (15 credits)

After consultation with their academic advisors, students should take 15 credits from the following courses

- For literature:

  ENG 105 if ENG 108 taken as requirement

ENG 201 if ENG 203 taken as requirement.

ENG 205 if ENG 213 taken as requirement

ENG 309 if ENG 311 or ENG 313 taken as requirement

ENG 313 if ENG 309 or ENG 311 taken as requirement

DES 100
TRA 101

- For language:

ENG 340 if ENG 338 taken as requirement

ENG 401 if ENG 406 taken as requirement

ENG 400
ENG 402
TRA 101
DES 100

Minor in Literature (21 credits)

- ENG 105 or ENG 108 Contemporary World Literature or Introduction to Genres
- ENG 209 Survey of English Literature I
- ENG 219 Survey of American Literature I
- ENG 213 or ENG 205 Survey of English Literature II or Modern Drama and Beyond
- ENG 303 Shakespeare and his Contemporaries
- ENG 309 or ENG 311 or ENG 313 The American Novel or Early English Novel or Modern British Novel
- ENG 315 East Meets West: Colonial and Post-Colonial Encounters

At least nine credits of the minor must not have counted towards degree requirements other than free electives.

Minor in Language (21 credits)

- ENG 123 Introduction to Language Study
- ENG 126 Development of the English Language
- ENG 222 or ENG 336 Phonetics, Phonology and Morphology or Discourse Analysis
- ENG 224 Structure and Function of English
- ENG 334 Semantics and Pragmatics
- ENG 400 or ENG 338 Second Language Acquisition or Psycholinguistics
- ENG 402 Applied Linguistics

At least nine credits of the minor must not have counted towards degree requirements other than free electives.

Minor in ESL/TEFL (21 credits)

- ENG 123 or ENG 224 Introduction to Language Study or Structure and Function of English
- ENG 234 or ENG 336 Language in Society or Discourse Analysis
- ENG 400 Second Language Acquisition
- ENG 404 or ENG 406 Using Literary Texts in TEFL Classrooms or Survey of Topics in Linguistics and Communication
- ENG 401 or 408 Advanced English Grammar or Reading and Writing in ESL/TEFL
- ENG 410 Language Teaching Methodology

Proposed Course Sequence of Study

Bachelor of Arts in English Language and Literature

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT 4 / COM 001	GE
	MATH 100	Fundamentals of Logic and Geometry	3		GE
	XXX	Advised elective (1)	3		ME
	XXX	Science requirement	3		GE
	XXX	Arabic requirement	3		GE
		Total	**15**		
Spring	COM 102	Writing and Reading	3	EPT 5 / COM 101	GE
	XXX	Advised elective (2)	3		ME
	XXX	Free elective (1)	3		FE
	XXX	Science requirement	3		GE
	STA 202	Introduction to Statistics for Social Sciences	3		GE
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 208/209	Public Speaking/Dramatic Expression	3	COM 102	GE
	COM 203/ 204	Writing about Literature/ Advanced Academic English	3	COM 102	GE
	THM XXX	Theme course (1)	3	COM 102	GE
	XXX	Free elective (2)	3		FE
	XXX	Advised elective (3)	3		ME
		Total	**15**		
Spring	ENG 123	Introduction to Language Study	3	COM 203 or COM 204 or COM 231	MR
	ENG 105/ 108	Contemporary World Literature/ Introduction to Genre	3	COM 203 or COM204 or COM 231	MR
	COM 220	Intercultural Communication	3	COM 102	MR
	THM XXX	Theme course (2)	3	COM 102	GE
	XXX	Humanities or Social Science requirement	3	COM 102	GE
		Total	**15**		

THIRD YEAR (33 CREDITS) - Language Concentration					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ENG 201/ENG 203	Creative Writing or Introduction to Literary Theory	3	COM203 or COM204 or COPM231, ENG 105 or ENG108	MR
	ENG 224	Structure & Function of Language	3	COM 102	MR
	ENG 209	Survey of English Literature	3	ENG 105 or 108	MR
	ENG 126	Development of the English Language	3	COM203 or COM204 or COM231	MR
	XXX	Theme course (3)	3	COM 102	GE
		Total	**15**		
Spring	ENG 234	Language in Society	3	ENG 123	MR
	ENG 219	Survey of American Literature	3	ENG 105 or ENG108	MR
	ENG 222	Phonology and Morphology	3	ENG 123	MR
	XXX	Theme course (4)	3	COM 102	GE
	XXX	Advised elective (3)	3		ME
		Total	**15**		

FOURTH YEAR (30 CREDITS) - Language Concentration					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ENG 336	Discourse Analysis	3	ENG 224	MR
	ENG 400 /ENG 338	Second Language Acquisition/Psycholinguistics	3	ENG 224, COM 204	MR
	ENG 406	Survey of Topics in Linguistics and Communication	3	ENG 336	GE
	XXX	Advised Elective (5)	3		ME
	XXX	Free Elective (3)	3		FE
		Total	**15**		
Spring	ENG 334	Semantics and Pragmatics	3	ENG 224	MR
	ENG 495	Seminar in English Language	3	ENG 401 or ENG 406	MR
	ENG 420	Seminar: Bridging the Disciplines	3	ENG 401 or ENG 406 or ENG 411 or ENG 413 or ENG 415	MR
	XXX	Free Elective (4)	3		FE
	XXX	Free Elective (5)	3		FE
		Total	**15**		

THIRD YEAR (33 CREDITS) - Literature Concentration					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ENG 201/ENG 203	Creative Writing or Introduction to Literary Theory	3	COM203 or COM204 or COM231 ENG 105/ or 108	MR
	ENG 224	Structure & Function of Language	3	COM 102	MR
	ENG 209	Survey of English Literature	3	ENG 105 or COM108	MR
	ENG 126	Development of the English Language	3	COM 203 or COM204 or COM231	MR
	XXX	Theme course (3)	3		GE
		Total	**15**		
Spring	ENG 234	Language in Society	3	ENG 123	MR
	ENG 219	Survey of American Literature	3	ENG 105 or ENG108	MR
	ENG 213 or 205	Survey of English Literature 2 or Modern Drama and Beyond	3	ENG 105 or ENG108	MR
	XXX	Theme course (4)	3		GE
	XXX	Advised elective (3)	3		ME
		Total	**15**		

FOURTH YEAR (30 CREDITS) - Literature Concentration					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ENG 303	Shakespeare and his Contemporaries	3	ENG 209	MR
	ENG 309/ENG 311/ ENG 313	The American Novel/Early English Novel/ Modern British Novel	3	ENG 219/ENG 209/ENG 209	MR
	ENG 315	East Meets West Colonial and Post Colonial Literature	3	ENG 201 or ENG 203	MR
	XXX	Advised Elective (5)	3		ME
	XXX	Free Elective (3)	3		FE
		Total	**15**		
Spring	ENG 411/ENG 413/ ENG 415	Seminar in English Literature/Seminar in American Literature/Seminar in Post-Colonial Literature	3	ENG311or ENG313/ ENG 309/ENG 315	MR
	ENG 490	Senior Research Project	3	ENG 411 or ENG 413 or ENG 415	MR
	ENG 420	Seminar: Bridging the Disciplines	3	ENG 401 or ENG 406 or ENG 411 or ENG 413 or ENG 415	MR
	XXX	Free Elective (4)	3		FE
	XXX	Free Elective (5)	3		FE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **FE:** Free Elective; **MR**: Major Requirement; **EPT**: English Placement Test; **MPT**: Math Placement Test; **ME**; Advised (Major) elective

• ENG 412 Curriculum Development

At least nine credits of the minor must not have counted towards degree requirements other than free electives.

Bachelor of Arts in Mass Communication

Goals and Objectives

The Mass Communication (MCM) Program provides students with a broad-based training in the techniques of human communication, leading to a Bachelor of Arts Degree in Mass Communication. The Program prepares students for careers in one of three professional tracks: Advertising, Print Journalism and Public Relations. The program teaches how (and with what success) one strategically employs symbols (language, art, science, and other modes of expression) to influence the circumstances of their personal and public lives, their communities and the world. Mass Communication majors examine the content, technologies, and consequences of mediated communication. The Program is designed to meet the growing needs of the dynamic communication specializations in the Middle East, particularly the job market needs at the entry level.

Mass Communication Concentrations:

The AUS Mass Communication degree program comprises of the three professional concentrations: Advertising, Print Journalism, and Public Relations. Each concentration draws heavily form the acquisition of technical, oral, and written communication competencies.

Advertising

The Advertising curriculum is designed to prepare students for careers in ad design, sales, management or production with advertising agencies or company advertising departments. Advances in computer and communication technologies are opening up unprecedented opportunities for advertising people.

Print Journalism

The curriculum focuses on print journalism--newspapers, magazines, the wire services, special interest publications and on-line publications. This writing-centered curriculum prepares students for careers as reporters, editors, copyeditors, special correspondents, columnists or editorial writers. In addition, the training can lead to entry level writing/editing jobs in specialized publications.

Public Relations

Students in the public relations curriculum are exposed to the art of communication that works from within, for, and about an organization to both create and maintain its positive image. Students will study and practice varied communication activities: special event planning, media relations, public speaking, and creation of news releases, brochures and newsletters. Graduates find jobs in major public relations firms, professional associations, non-profit agencies, health care companies and international corporations. The field of public relations has become stronger and more respected over the years, and employment of public relations specialists is expected to increase sharply in the coming years.

Admission to the BA in Mass Communication Program

Students interested in the Mass Communication program are encouraged to ensure they have completed ninety percent (38 credits) of their General Education Requirements (GE). Final admission into the Program requires a cumulative GPA of at least 2.50. Departmental entrance tests/personal interviews may be necessary.

Graduation Requirement for the B.A.M.C. Degree

A total of at least 120 credits as follow:

- Forty-two credits of General Education Requirements (GE)
- Thirty credits of MCM Major Requirements (MR)
- Twenty-one credits of concentration courses
- Twelve credits of advised electives
- Fifteen credits of free electives

Major Requirements (30 credits)

- DES 100 Digital Media in Design
- DES 200 Communication Design
- PHI 204 Ethics for Professionals
- MCM 223 Survey of Mass Communication
- MCM 225 Theories of Mass Communication
- MCM 229 Mass Communications and Society
- MCM 280 Mass Communications Research Methods
- MCM 321 Mass Media Law and Policy
- MCM 461 International Mass Communications
- MCM 497 Mass Communications Internship

Advised MCM Electives (12 credits from the following)

- ARA 240 Media Writing in Arabic
- DES 230 Digital Media in Communication
- DES 310 Sound and Video for Communication
- DES 310 Sound and Video for Communication
- MCM 229 Mass Communication and Society
- MCM 373 Scriptwriting for Television and Film
- MCM 277 Film Criticism
- MCM 363 Organizational Communication
- MCM 365 Employee Relations/Media Relations
- MCM 375 Editing for the Print Media
- MCM 473 Writing for Multimedia
- MCM 475 Writing and Producing Documentaries

Concentrations:

a. Concentration in Advertising (21 credits)

- MKT 201 Fundamentals of Marketing
- MCM 255 Principles of Advertising (formerly COM 235)
- MCM 351 Advertising Copy and Layout
- MCM 353 Direct Response Advertising
- MCM 453 Advertising Media Planning
- MCM 454 Case Studies in Advertising (formerly MCM 353)
- MCM 455 Advertising Campaigns

b. Concentration in Print Journalism (21 credits)

- COM 231 Writing for Visual Media

- MCM 371 News Writing
- MCM 372 Advanced News Writing
- MCM 374 Feature Writing
- MCM 375 Editing for the Print Media
- MCM 472 Editorial and Critical Writing
- MCM 477 Print Media Project

c. Concentration in the Public Relations (21 credits)

- MCM 227 Principles of Public Relations
- MCM 269 Public Relations Writing
- MCM 271 Public Relations Publications
- MCM 360 Public Relations Crisis Management
- MCM 361 Case Studies in Public Relations
- MCM 467 Public Relations for Non-Profit Organizations
- MCM 465 Public Relations Campaigns (capstone)

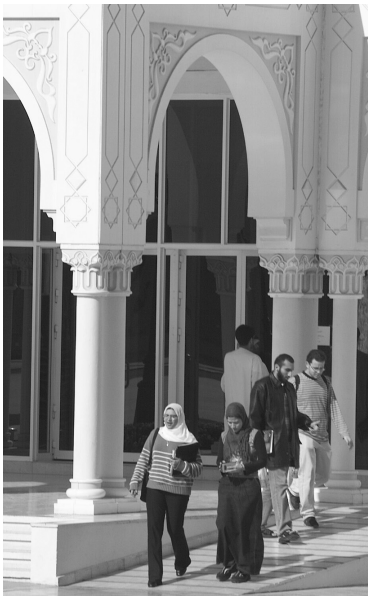
Available Double Concentration (For MCM majors only)

- Advertising and Public Relations
- Advertising and Print Journalism
- Print Journalism and Public relations

Minor in Mass Communication

AUS Students in good standing are eligible to pursue a minor in any of the Mass Communication tracks concentration areas. To complete a minor, a student must complete a minimum of 18 credits of the required courses in the chosen track area of interest.

Students must take at least 12 credits in 300 and 400 level courses in MCM



Proposed Course Sequence of Study

Bachelor of Arts in Mass Communication

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT 4 or COM 001	GE
	MATH 100	Fundamentals of Logic and Geometry	3		GE
	XXX	Advised elective	3		ME
	XXX	Science requirement	3		GE
	XXX	Arabic requirement	3		GE
		Total	**15**		
Spring	COM 102	Writing and Reading	3	EPT 5 or COM 101	GE
	DES 100	Digital Media in Design	3		MR
	XXX	Advised elective	3		ME
	XXX	Science requirement	3		GE
	STA 202	Introduction to Statistics for Social Sci.	3		GE
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 204	Advanced Academic English	3	COM 102	GE
	MCM 225	Theories of Mass Communication	3	COM 102	MR
	MCM 223	Survey of Mass Communication	3		MR
	MCM 229	Mass Communication and Society	3	COM 102	GE
	THM XXX	Theme course (1)	3	COM 102	GE
		Total	**15**		
Spring	MCM 255/ (Adv) MCM 227/ (PR) COM231 (Print J)	Principles of Advertising/ Principles of Public Relations/ Writing for Visual Media	3	COM 203 or COM 204/ MCM 223/COM 203 or COM 204	MR
	COM 208	Public Speaking	3	COM 102	GE
	MCM 280	Mass Communication Research Design	3	COM 203 or COM 204 and STA 202	GE
	PHI 204	Ethics for Professionals	3	COM 203 or COM 04	GE
	THM XXX	Theme course (2)	3	COM 102	GE
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 225	Global Business Communication	3	COM 203 or COM 204	GE
	MCM 321	Mass Media Law and Policy	3	MCM 227	MR
	MCM 351/ (Adv) MCM 269/ (PR) MCM 371 (Print J)	Advertising Copywriting & Layout/ Public Relations Writing/News Writing	3	MCM 255/MCM 227 and COM203 or COM204/COM 203 or COM 204 and MCM 269	MR
	DES 200	Communication Design	3	DES 100	MR
	THM XXX	Theme course (3)	3	COM 102	GE
		Total	**15**		
Spring	MCM 353/ (Adv) MCM 271/ (PR) MCM 372(Print J)	Direct Response Advertising/ Public Relations Publications/ Advanced News Writing	3	MCM 255/MCM 269/ MCM 371	MR
	MKT 201/(Adv) MCM 360 (PR)	Fundamentals of Marketing/ Public Relations Crisis Management	3	EC 201 and ECO 202/ MCM 227	MR
	MCM 461	International Mass Communication	3	MCM 363	MR
	XXX	Advised elective	3		ME
	THM XXX	Theme course (4)	3	COM 102	GE
		Total	**15**		

FOURTH YEAR (30 CREDITS) - Advertising Track					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	XXX	Free Elective	3		FE
	MCM 453	Advertising Media Planning	3	MCM 351	MR
	DES 310	Sound and Video for Communication (Advised Elective)	3	DES 100	GE
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		
Spring	MCM 454	Case Studies in Advertising	3	MCM 353	MR
	MCM 497	Mass Communication Internship	3	MCM 461	MR
	MCM 455	Advertising Campaigns	3	MCM 453	MR
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		

FOURTH YEAR (30 CREDITS) - Public Relations Track					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MCM 361	Case Studies in Public Relations	3	MCM 360	MR
	MCM 365	Employee/Media Relations (Advised Elective)	3	COM 204	ME
	XXX	Free elective	3		FE
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		
Spring	MCM 467	Public Relations for Non-Profit Orgs	3	MCM 461	MR
	MCM 465	Public Relations Campaigns	3	MCM 461	MR
	MCM 497	Mass Communication Internship	3	MCM 461	MR
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		

FOURTH YEAR (30 CREDITS) - Print Journalism Track					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MCM 375	Editing the Print Media	3	COM 203 or COM 204	MR
	MCM 472	Editorial and critical Writing	3	MCM 375	MR
	MCM 374	Feature Writing	3	COM 203 or COM 204	MR
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		
Spring	MCM 477	Media Project	3	MCM 473	MR
	MCM 497	Mass Communication Internship	3	MCM 461	MR
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **FE:** Free Elective; **MR**: Major Requirement; **EPT**: English Placement Test; **MPT**: Math Placement Test; **ME**: Advised (Major) elective

courses. Advertising minors must take MCM 255. Public Relations minors must take MCM 227; Print Journalism minors must take MCM 371. All minors must take MCM 223.

Bachelor of Arts in English/Arabic Translation and Interpreting

Program Description

To qualify for the Bachelor of Arts in English/Arabic Translation and Interpreting degree program, students must demonstrate fluency in English and Arabic. In tandem with a solid grounding offered by the Department of English in communicative skills, linguistic analysis and literary appreciation, the translation track focuses on basic written translation skills in a variety of settings such as government, private sector and international organizations and across a diverse range of fields (commercial and economic, scientific and technical, political and legal). Throughout the program, students are provided with relevant theoretical input that establishes a framework for the study of translation and offers the tools to identify, analyze and resolve translation problems. Interpreting is another track pursued in the degree program. Practice in interpreting emphasizes the development of professional skills in liaison interpreting in the community, the courts and so forth. Readings in translation and interpreting research are an important part of the overall training. To fulfill the requirements of the degree program, students must undertake large-scale translation or interpreting projects through in-depth research on a subject in the field.

Admission to the Program

Formal admission to the translation and interpreting program by the Department of English requires demonstrated language skills in Arabic and English and a cumulative GPA of 2.0 or higher.

Graduation Requirement for the B.A.E./A.T.I. Degree

A total of at least 120 credits, including

- General Education Requirements: 42 credits
- Major Requirements (MR): 48 credits
- Advised electives: 15 credits
- Free electives: 15 credits

Major Requirements (48 credits)

Students majoring in Translation and Interpreting must complete 48 credits of major requirements with a grade C- or better in each course.

- ARA 407 Advanced Studies in Arabic Grammar/Rhetoric
- COM 220 Intercultural Communication
- ENG 105 or ENG 108 Contemporary World Literature or Introduction to Genre
- ENG 123 Introduction to Language Study
- ENG 334 Semantics and Pragmatics
- ENG 420 Seminar: Bridging the Disciplines
- TRA 101 Introduction to Translation
- TRA 102 Practical Issues in Translation
- TRA 201 Theoretical and Practical Issues in Translation
- TRA 203 Modern Media Translation and Interpreting
- TRA 302 Contrastive Analysis
- TRA 303 Interpreting I: Focus on the Community
- TRA 305 Interpreting II: Focus on the Profession
- TRA 401 Translation Evaluation and History
- TRA 494 Special Topics in Translation
- TRA 498 Applied Research

Advised Electives (15 credits)

Students must take a minimum of 15 credits of advised electives from the following courses:

- ARA 103 Composition for Native Speakers of Arabic
- ARA 308 Introduction to Stylistics and Metrics
- DES 100 Digital Media in Design
- ENG 205 Modern Drama and Beyond
- ENG 224 Structure and Function of English
- ENG 309 American Novel
- MCM 371Hard News and Feature Writing

Minor in Translation (21 credits)

- TRA 101 Introduction to Translation
- TRA 102 Practical Issues in Translation
- TRA 201 Theoretical and Practical Issues in Translation
- TRA 203 Modern Media Translation and Interpreting
- TRA 303 Interpreting I: Focus on the Community

Proposed Course Sequence of Study

Bachelor of Arts in English/Arabic Translation and Interpreting

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM XXX	Academic Writing	3	EPT 4 or COM 001	GE
	MATH 100	Fundamentals of Logic and Geometry	3		GE
	ARA 101	Readings in Arabic Heritage	3		GE
	XXX	Science requirement	3		GE
	TRA 101	Introduction to Translation	3		MR
		Total	**15**		
Spring	COM XXX	Writing and Reading	3	EPT 5 or COM 101	GE
	ECO 201	Principles of Micro-economics	3		GE
	XXX	Science requirement	3	COM 102	GE
	TRA 102	Practical Issues in Translation	3	TRA 101	MR
	STA 202	Introduction to Statistics for Social Science	3		GE
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 208/209	Public Speaking/Dramatic Expression	3	COM 102	GE
	ENG 123	Introduction to Language Study	3	COM 203 or COM 204 or COM 231	MR
	XXX	Advised Elective	3		ME
	THM XXX	Theme I	3	COM 102	GE
	XXX	Free Elective	3		FE
		Total	**15**		
Spring	COM 204	Advanced Academic English	3	COM 102	GE
	ENG 105 / 108	Contemporary World Literature/ Introduction to Genre	3	COM 203 or COM 204 or COM 231	MR
	THM XXX	Theme II	3	COM 102	GE
	ARA 407	Adv Studies in Arabic Grammar/Rhetoric	3		MR
	XXX	Advised Elective	3		ME
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	TRA 201	Theoretical and Practical Issues in Translation	3	TRA 102	MR
	TRA 203	Modern Media Translation and Interpreting	3	TRA 101	MR
	THM XXX	Theme III	3	COM 102	GE
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
		Total	**15**		
Spring	TRA 303	Interpreting I	3	TRA 201	MR
	TRA 302	Contrastive Analysis	3	TRA 201	MR
	THM XXX	Theme IV	3	COM 102	GE
	XXX	Free Elective	3		FE
	ENG 334	Semantics & Pragmatics	3	COM102	MR
		Total	**15**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	TRA 401	Translation Evaluation and History	3	TRA 301	MR
	TRA 305	Interpreting II	3	TRA 303	MR
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
	COM 220	Intercultural Communication	3	COM 102	MR
		Total	**15**		
Spring	TRA 494	Special Topics in Translation	3	TRA 401	MR
	ENG 420	Seminar: Bridging the Disciplines	3	ENG 401/406/411/413/415	MR
	TRA 498	Applied Research	3	TRA 494	MR
	XXX	Advised Elective	3		ME
	XXX	Free Elective	3		FE
		Total	**15**		

Abbreviations: **GE**: General Education Requirement; **FE:** Free Elective; **MR**: Major Requirement; **EPT**: English Placement Test; **MPT**: Math Placement Test; **ME**: Major elective

- TRA 401 Translation Evaluation and History
- TRA 494 Special Topics in Translation

At least nine credits of the minor must not have counted towards degree requirements other than free electives.

The Master of Arts in Translation and Interpreting (Arabic/English) Program

Mission Statement: Goals & Objectives

Translation and interpreting services are in demand now more than ever as the world market expands and the trend towards globalization increases. The vital role that English continues to play in international communications, and the growing impact of the Arab World on world affairs combine to create a demand for highly trained English/Arabic translators and interpreters. The Masters in Translation & Interpreting at AUS is designed to respond to these demands. It is committed to the idea of offering individuals in the Gulf region the opportunity of acquiring the necessary skills in this new field of training.

The Masters program aims to equip graduates from a variety of disciplines with specialized translation and interpreting skills in English and Arabic. The program also addresses the need for upgrading amongst those professionals that are already working as translators and interpreters in the region. The courses are intended to produce graduates conversant with the various forms of deriving texts required in modern communication systems. This diverse range of skills is placed within a general theoretical framework, which provides the student with the conceptual tools to identify, analyze and resolve problems and develop a reflective approach to translation.

Degree Requirements

Preamble

The Masters program comprises two levels: the Graduate Certificate Level (3 courses, 9 credits), and the Masters Level (9 additional courses, 27 credits). The program may be terminated at the completion of the Graduate Certificate level in which case a Graduate Certificate of Competence will be awarded. The courses at the two levels must be taken in the sequence set out. Students may qualify to waive up to 6 credits from the Certificate-level courses only. A course may be waived if the student has completed comparable course work at the postgraduate level (with a minimum grade of B). Applicants must request that their file be reviewed for waivers at the time of application.

Entry Requirements

Applicants to the Master Program in English/Arabic Translation & Interpreting are required to hold a B.A. or B.S. from an accredited institution, with a grade point average of 3.0 or above. A Computer-Based TOEFL (CBT) score of at least 213 (or equivalent score on an English langage proficiency test) is required from non-native speakers of English. Only official ETS scores will be accepted.

The Masters Program

Level One: The Graduate Certificate of Competence in Translation & Interpreting is a comprehensive, sequenced and integrated series of 3 courses designed to provide the student with the basic techniques and strategies, together with the necessary research skills required of a professional translator and interpreter between English and Arabic. The Graduate Certificate is awarded to those candidates who successfully complete an approved program of study consisting of at least 9 semester hours of graduate credit. Only those candidates who score a GPA of 3.00 or above may proceed to the M.A. level.

An enrolled student who fails to maintain a GPA of 3.00 after completion of the first 12 credits of graduate study may be placed on academic probation for one semester after which the student must achieve and maintain a GPA of 3.00 or face

dismisssal.

Level Two: The Master of Arts is a comprehensive, sequenced and integrated series of 11 courses designed to provide the student with the competencies, techniques, and advanced research skills required of a professional translator and interpreter between English and Arabic. In addition, the Masters program provides students with the necessary background both to translation studies, terminology discourse analysis, Arabic rhetoric and contrastive linguistics. The Masters degree is conferred upon those candidates who successfully complete an approved program of study consisting of at least 36 semester hours of graduate credit with a cumulative GPA of 3.00 including a thesis.

The Sequence of Courses

Level 1: The Graduate Certificate of Competence (9 credits)

- TRA 500 Principles and Strategies in Translation & Interpreting
- TRA 501 Professional Trends in the Practice of Translation
- TRA 502 Translation Research & Academic Writing

[Possible Exit with a Graduate Certificate of Competence]

Level 2: The Master of Arts (24 credits)

The sequence of the courses

- TRA 500 Principles & Strategies in Translation & Interpreting
- TRA 501 Specialized Translation & Terminology I
- TRA 502 Specialized Translation & Terminology II

(Possible exit with a Graduate Certificate of Competence)

- TRA 503 Theoretical Models of Translation
- TRA 505 Interpreting and Profession
- TRA 507 Professional Trends in Translation
- TRA 556 Arabic Rhetoric for Translators
- TRA 558 Contrastive Linguistics
- TRA 695 Translation Research Seminar
- TRA 699 MA Thesis

+ 2 Advised Elective

Advised Electives

- ENG 501 Advanced English Grammar
- ENG 501 Advanced Arabic Grammar
- TRA 504 Discourse Semantics & Pragmatics in Translation
- TRA 506 Theoretical Perspectives on Translation Quality Assessment
- TRA 508 Research & Academic Writing
- TRA 610 Intercultural Communication

To evaluate the effectiveness of the M.A. program in English/Arabic Translation & Interpreting, the Graduate Program Review Committee (GPRC) will meet once a year with the specific aim of conducting a program evaluation. The GPRC relies on both internal and external sources of assessment. Internally, faculty involved in the translation program will participate in an ongoing assessment of the program, conducted twice yearly to review aims and objectives. Student course- and tutor- evaluation will also be used for the purpose of program's overall evaluation by the GPRC. Externally, the GPRC will seek feedback from the UAE Commission for Academic Accreditation, from its alumni, as well as from employers, to ascertain the fit of the program delivery with the UAE Standards for Licensure, and the needs of the profession in the UAE and elsewhere.

The Intensive English Program (IEP)

Mission Statement

English is the medium of instruction at the American University of Sharjah. Competence in English is a prerequisite for student success. The mission of the Intensive English Program (IEP) is to prepare learners to enter the university and excel as students. The main goals of the program are to increase student language proficiency to a level suitable for study in courses taught in English and to enhance their academic skills in order for them to function successfully in first year course work.

Admission and Placement

Students who score below 173 on the Test of English as a Foreign Language (TOEFL) and who otherwise qualify for admission to AUS are eligible for admission into the IEP. Assignment to one of the six proficiency levels of the program is based on placement and standardized proficiency test scores.

Academic Credit

Each level of study in the IEP carries with it three academic credits, except for the Basic level, which carries 1 credit. These credits are in addition to the requirements of the student's degree program of study. Only the grades of the last two IEP levels the student was registered in count toward the students' cumulative grade point average once students begin their studies in their majors. IEP credits are not transferable.

Organization of the Program

The IEP consists of six levels that are graded in terms of language proficiency. The aim of instruction is to improve the English language skills of each student in the areas of reading, writing, listening and speaking, and in the use of grammar and vocabulary. The instruction is also tailored to meet the individual academic learning needs of the students. The IEP program levels are detailed in the IEP program organization table that follows below.

Bridge Level: IEP 005

Students who are placed in Level 5 of the IEP may take one course in mathematics, physics, chemistry or business mathematics as determined by placement test results in these subjects.

Pedagogical Format

The focus of instruction at the lower levels is on general English. As language proficiency increases, IEP courses become more academic in nature. By the advanced level, course work begins to simulate full academic,

IEP Program Organization

Level	Inst.	Self-Access	Total Time	Uni. Cr. Courses
BSC	20 hours	5 hours	25 hours	0
001	20 hours	5 hours	25 hours	0
002	20 hours	5 hours	25 hours	0
003	20 hours	5 hours	25 hours	0
004	20 hours	5 hours	25 hours	0
005	20 hours	0 hours	20 hours	1

credit-bearing courses. In addition, throughout all of the levels, courses are given in reading and writing. The core skill components of the program are summarized in the text that follows.

Reading

The fundamental goals of the reading skills component are twofold: to improve student reading comprehension and to increase student reading speed. These goals will be met through the extended practice of a variety of reading skills within a diverse range of text forms and genres. Students will also gain an understanding of, and an appreciation for, the importance of reading both inside and outside the academic setting.

Writing

The writing component is designed to lead the student through the different steps of the writing process, from generating and organizing ideas to writing, editing and revising written work. Students will develop a range of skills necessary to produce academic texts, from basic sentences to university papers. The emphasis of instruction will be placed on developing fluency, grammatical accuracy and lexical accuracy by analyzing and practicing in the various rhetorical modes needed for academic writing.

Listening

The primary goal of the listening component is to develop and improve the ability of each student to effectively comprehend English in academic and social settings. This goal will be met through practice in interactive listening activities, which focus on understanding spoken English. The emphasis in lower level courses will be on understanding conversations, determining main ideas and details, and comprehending short lectures. The emphasis for higher level courses will be on improving comprehension of longer and more complex academic lectures, developing clear and accurate methods of taking notes, and organizing information in a useful format.

Speaking

The focus of the speaking component is to prepare students to communicate successfully in the social and academic environments of the university. Improving both fluency and accuracy are the goals of all courses in this area. Instruction will be given in how to express an opinion articulately, agree or disagree effectively and persuade and argue a point convincingly. The emphasis will be on developing the ability of each student to make speeches and oral presentations, to gather information, to participate in classroom and panel discussions, and to use computer technology for research and presentations.

Grammar

The aim of this component is to integrate grammar into four language skills: reading, writing, listening and speaking. The goal is to develop grammatical accuracy within written and oral contexts and to increase comprehension within listening and reading contexts. The emphasis is placed not only on knowing the forms but also on understanding the functions of grammatical structures in order to produce accurate language in appropriate contexts.

Vocabulary

Vocabulary is not specifically associated with a particular skill area; instead it is an integral part of every language skill. Therefore, its development must be integrated into all courses in the Intensive English Program. However, in an effort to best serve the needs of the students, vocabulary instruction will primarily be focused on high frequency survival English at the lower proficiency levels of the program, and gradually move along a continuum toward low frequency academic and technical language at the higher levels. By the time the students are ready to exit the IEP, they will have become familiar with much of the academic vocabulary necessary for success in their university studies.

Instructional Hours

On average, students receive 20 credits of classroom instruction a week. In addition, all students except those in level five are required to participate in a self-access program for five hours each week. This program consists of completing independent learning modules in the computer lab, reading lab and audio-visual lab.

Methods

All instructors are specially trained and experienced in teaching English across the curriculum. The methods, materials and equipment used are all state-of-the art and are targeted to meet student needs. Students are given as much individual attention as possible.

Evaluation

Progress tests are administered regularly. Practice tests, quizzes, midterms and final examinations are given to assess student progress in the English courses. Promotion to a higher level in the program is determined by examination and instructor assessment.

Academic Probation Policy

IEP students will be placed on academic probation at the end of any semester in which their grade point average (GPA) is below (2.0). Students on probation will have one semester in which to achieve a GPA (non-cumulative) of 2.0 or higher. If they do so they will be removed from academic probation. Failure to do so will result in dismissal from the program.

Duration

The length of time required to complete the program varies with the linguistic background and performance of the student. Students who enter with scores below 97 on the TOEFL will most likely require more than two semesters to complete the English language program.

Attendance

Classes meet daily, Saturday through Wednesday. Because of the intensive nature of the program, regular attendance in all courses is expected, and as a matter of policy, students are required to attend at least 85% of all IEP courses. If students miss 15% of the total classes for the semester, they will be dismissed from the program. Also, an absence, whether excused or unexcused, is still an absence. Therefore, missing class for any reason (e.g., illness, traffic accident, visa problem) will count as an absence from

School of Architecture and Design

Dean
Dr. Martin Giesen

Associate Dean
Professor Jay Randle

Mission Statement

Our mission is to educate architects and designers who will advance the world of built environment and visual culture with consideration, creativity and skill.

The School of Architecture and Design (SA&D) grounds its curriculum in the conviction that good design results from a combination of a deep understanding of culture, ethical engagement in society and a respect for the creative skills needed to build a sustainable material culture.

Against this background, the school is committed to the primary objective of providing its students with relevant, professional instruction in the fields of architecture, design management, interior design, multimedia design and visual communication.

The school is dedicated to inquiry and to the development of hands-on technical skills and competence in digital and other advanced media. SA&D also fosters in its students a regional and cultural awareness and the responsibility for creating humane environments. The school seeks to contribute to the development of professional standards and innovation in architecture and design.

The School of Architecture and Design meets its objectives through a program that features the following:

- An environment that encourages achievement and personal growth
- A faculty of professionals who balance continuing scholarship and creative work with their desire for excellence in teaching
- A comprehensive advisement and student counseling system that tracks student development and progress
- A general education curriculum that offers a solid foundation
- A clear and consistent philosophy that is evident throughout the curriculum
- A variety of courses that are continually updated to reflect rapidly changing design practices and the growing role of digital communication
- A respect for the limits imposed by feasibility, culture, traditions and needs of society

Faculty

The faculty members serving in the School of Architecture and Design have been selected on the basis of their familiarity with a university education based on the American model. All members of the teaching staff combine mastery in teaching with continuing growth in their respective disciplines and thus are well equipped to serve as role models for students in their quest for an empowering and professional education. The majority of the teaching load in foundations is shared by professors from the various majors.

Professors
Martin Giesen (Dean)

Associate Professors
Nadia Alhasani (Architecture, Chair)
Bruce Lonnman (Architecture)
Amer Moustafa (Architecture)
Jay Randle (Architecture, Associate Dean)
Mehdi Sabet (Architecture)
Dirk Van Wyk (Design)
Gregor Weiss (Architecture)

Assistant Professors
Shoaib Nabi Ahmad (Design)
Tarek Al Ghoussein (Design)
Claude Bérubé (Architecture)
Matthew Egan (Foundations)
Mona El-Mousfy (Architecture)
Eirik Heintz (Foundations)
David Hewitt (Foundations)
George Katodrytis (Architecture)
Muqeem Khan (Design)
Chris Kienke (Foundations)
Dinah Lazor (Architecture)
Gisela Loehlein (Architecture)
Kimberley Lund (Design, on leave)
Kevin Mitchell (Architecture, Director of Foundations)
Ahmed Mokhtar (Architecture)
David Parker (Architecture)
Mark Pilkington (Design)
Samia Rab (Architecture)
Ali Shakarchi (Architecture)
Philip Sheil (Design, Chair)
John Swanstrom (Design)
Florian Techel (Architecture)

Instructors
Paul Bantey (Design)
Masood Khan (Design)

Visiting Faculty
John Botthoff (Senior Designer)

Career Opportunities

The SA&D prepares students for careers in a wide variety of fields:

- Architecture, environmental design, landscape architecture, interior design, urban design
- Graphic design, advertising, packaging design, illustration, digital media, animation, computer simulations, video
- Communications and public relations, fine arts and cultural arts administration, gallery management, exhibit design, advertising campaign planning, client services specialist

Special Notes

Space Availability (Studio Majors)

Admission to the School of Architecture and Design is competitive and limited to 144 students in first-year studio courses. The number of available places in second-year studio majors in architecture, interior design, multimedia design and visual communication is limited to the following:

- Architecture 32
- Interior design 16
- Multimedia design/Visual communication 48

The number of available places in design management is not limited.

Selection for Promotion

Selection for promotion to second-year studios is competitive. Criteria for promotion may include an assessment of:

- GPA in the foundations studio sequence

- GPA in non-studio first-year courses including mathematics, communication / English, history and digital design
- Portfolio review

Year status in the School of Architecture and Design is determined by enrollment in the major studio, regardless of the total number of credits earned.

Computer Requirements

At the beginning of the third year, all students of architecture, interior design, multimedia design and visual communication are required to have a laptop computer available for their use. SA&D will provide software for student-owned laptops to students enrolled in upper level studio courses in these four majors. The laptop must meet specifications published by the School in order to be used within the program. Laptops that do not meet specifications published by the School may not adequately run software required to complete course work.

Course Selection

Students are cautioned that the specific selection of courses available for a chosen major at the time of initial registration is subject to change. The School of Architecture and Design will make every effort to monitor student progress through the advisement process. Students are encouraged to make course selections based on the stated degree requirements, subject to the listed prerequisites.

Studio Supplies

Supply expenses for studio courses are additional to tuition cost, and lab fees may apply for some courses. Students are given a limited account for printing.

Ownership of Student Work

The School of Architecture and Design reserves the right to retain, indefinitely, selected examples of student work.

Responsibility for Equipment

The School of Architecture and Design provides an extensive range of digital and electronic equipment for student use. For some courses, school equipment is checked out to a student or a group of students for use on or off campus. Students are expected to treat school equipment with care and will be held financially responsible for breakage, damage, or loss.

Programs Offered

The School of Architecture and Design offers the following degrees:

- Bachelor of Architecture
- Bachelor of Science in Architectural Studies
- Bachelor of Science in Design Management
- Bachelor of Interior Design
- Bachelor of Science in Multimedia Design
- Bachelor of Science in Visual Communication

Foundations Year

The foundations year is an autonomous one-year program that supports the common educational requirements for all fields of study within the School of Architecture and Design. As such, the program provides the basic design education that will enable students to function on appropriate practical, theoretical and critical levels in their sophomore (second) year. All students in the School of Architecture and Design are required to successfully complete this first year to be considered for advancement to the second year of their chosen major.

The foundations year aims to achieve three instructional objectives:

- Students will demonstrate competence in the fundamental skills and concepts of design analysis, representation and presentation through studio-based exercises and projects.
- Students will develop familiarity with the historical implications and chronology of design conventions through in-class lectures and written assignments.
- Students will demonstrate a basic proficiency in computer-aided design technology through exercises and project work in an information technology lab setting.

The foundations year utilizes three distinct teaching formats in order to provide a broad and inclusive introduction to design methods and practice.

Studio courses, which form the core of the foundations program, encourage one-on-one student/professor interaction and allow the student to develop individual and creative responses to design problem solving.

History courses are taught in a lecture context where information and ideas are disseminated in a classroom setting using visual images to support academic discourse.

Digital courses are taught using a combination of class lectures and information technology. Professors interact with students on various levels through the use of traditional lectures, digital media, network software and digital storage systems.

Within the foundations year, students are encouraged to develop a basic practical and critical understanding of design principles. Experimentation and exploration with materials, tools and techniques are fostered in the realization of two and three dimensional concepts and ideas.

The foundations year consists of the following courses, which are major requirements in all programs. Successful completion of these courses is required to advance to the second year of the chosen major:

DES 100, Digital Media in Design
DES 111, Descriptive Drawing I
DES 112, Descriptive Drawing II
DES 121, History of Material Culture I
DES 122, History of Material Culture II
DES 131, Design Foundations I
DES 132, Design Foundations II

Although some faculty specialize as foundations professors, the majority of the teaching load in foundations is shared by professors from various majors including architecture, interior design, multimedia design, and visual communication. This professional collaboration between disciplines at the foundations level initiates early student dialogue with senior level faculty and provides the program with a healthy influx of cross-disciplinary expertise and discourse. It is this important aspect of the foundations program that ensures a balanced response to the needs of the various degree programs it supports.

Architecture

Architecture arises from the same wellspring of civilization as other universal manifestations of material culture: arts, histories, letters, religion and commerce. Still, the artifacts we designate as architecture possess a scale, permanence and a pervasive influence unique among human endeavors. These qualities endow the discipline with a cultural prominence few other professions enjoy.

In its contemporary university setting, the study of architecture is naturally concerned with complex, interdisciplinary issues. Some matters are primarily individual and practical: the basic human need for shelter and the desire to contrive efficient, adequate forms for the patterns of daily life. Architecture, in this sense, may concern aspirations and meanings, but its primary intent is to attain a practical advantage for us, here and now.

Architecture also has a transcendent motive, arising from an imperative to articulate, physically and spatially, the social, ceremonial and environmental choices a given culture makes within a given setting. Architecture expresses our living values. It gives abiding form, order and proportion to our activities. Architecture is a message to the world about our certainties and doubts, our values and beliefs, our preoccupations and our neglects. It both expresses and reveals.

The practice of architecture today, as in the past, requires coordinated contributions from a multiplicity of fields. The craft of the architect runs a gamut of expertise and awareness: technical, environmental, aesthetic, cultural, historical and commercial.

Consequently, the study of architecture inquires into principles and applications of technology, art, humanities, engineering, physical and social sciences, business and management. Architectural design, finally, is the synthetic practice that links and gives significant form to these interdisciplinary contributions.

Bachelor of Architecture (B. Arch.)

The Bachelor of Architecture (B. Arch.) degree (five-year professional program) is intended for the student seeking a professional career in architecture. The program entails a minimum of five years of university studies plus professional training. A minimum of one hundred seventy-one (171) credits comprise the degree program, including a minimum of 120 credits of required coursework in architecture and closely associated fields. These courses represent the irreducible core of the discipline of architecture. Students in the Department of Architecture must take the thematic option with Arabic content. Some credits count towards multiple requirements. In such cases both requirements are considered as being met but the credits only count once towards total degree hours.

Each student is required to extend the core curriculum with 12 credits of approved Architecture electives. The intent is to balance the concern for in-depth professional competence with another for the individual's interest and aptitude. These courses should be selected in consultation with the student's advisor.

The specialized professional curriculum is supported by a minimum of 42 credits of general education requirements. Designed to ensure a broad educational foundation, this base is held in common among all graduates of the American University of Sharjah.

University studies present a unique

opportunity to explore other fields of interest. Based solely on individual interests, each architecture student must select nine credits of free electives from general university offerings.

The curriculum is designed to meet the requirements for licensure that prevail in the United Arab Emirates and to prepare the graduate for professional practice throughout the region. Some students may aspire either to advanced study in the field or to practice in a broader global setting. Accordingly, the curriculum follows established international norms for a first professional degree in architecture.

Advancement in the Professional Degree Program

The number of seats in architecture is limited. Formal advancement is competitive. Only the most highly qualified foundations students will be promoted. To be considered for advancement to the 2nd year of the Bachelor of Architecture program a student must successfully complete the following requirements:

- All four foundations studio courses (DES 111, 112, 131, 132) with a minimum grade point average (GPA) of 2.0 out of 4.0 in each sequence (design and drawing)
- Both courses in history of material culture (DES 121 and DES 122)
- Digital Media in Design (DES 100)
- Mathematics for Architects (MTH 111) or its prerequisite (MTH 003) or Calculus (MTH 103)
- At least one course in the university communication sequence (COM 101, 102 or higher)
- A minimum of 27 semester hours of university credit (including the above courses)
- An overall grade point average (GPA) of 2.0

Formal notification of advancement in the program will be given by SA&D two weeks after release of final grades by the Registrar's Office at the end of the spring semester. In the event that there are more students who qualify for advancement than available spaces, candidates will be promoted in the major based on academic achievement. If there are available spaces at the time of fall registration, consideration will be given to those students who fulfilled requirements during summer session or who wish to change majors, based on the same advancement criteria as noted above.

Promotion Reviews in Architecture

As an extension of the regular advisement process, the performance of each architecture student is reviewed following the completion of each of the second, third and fourth years in the program. A student must pass each review to continue in the major and must:

- Have attained a minimum cumulative grade point average (GPA) of C+ (2.3) in all university courses
- Have attained a minimum major studio average (MSA) of 2.5 in each year of the architectural design studio sequence (ARC 201 & 202, ARC 301 & 302, ARC 401 & 402)

Note:

- A grade of C- (1.70) is the minimum passing grade in a studio course. The minimum major studio average must be achieved to continue in the program.
- A student with a fall semester grade of D (1.00) may continue into the spring semester of the studio sequence. However, they will have to repeat the studio in which they earned the D.
- A student who does not attain the required major studio average may repeat any studio in which a grade of less than C+ (2.30) was earned.
- Any studio may be repeated only once for credit.
- To determine the new major studio average, the grade earned in a repeated studio replaces the previous grade [Note: All studio grades are used to calculate the cumulative GPA.]
- A repeating student who fails to achieve the minimum studio average necessary for promotion is dismissed from the program.

- Have attained a minimum grade of 2.5 in ARC 505 for enrolment in ARC 592.

If the review has a negative outcome, the department will assist an unsuccessful candidate in transferring to a field that holds better promise for the student.

Degree Requirements

A minimum of 171 credits, including the following:

- A minimum of 42 credits of general education requirements
- A minimum of 120 credits of architecture and architecture-related courses in the major including 12 credits of approved Architecture electives
- Nine credits of free electives
- Fourteen weeks of approved professional training

Designated General Education Courses

MTH 111 Mathematics for Architects or MTH 103 Calculus

PHY 104 Physics for Architects

Major Courses

In addition to the Foundations courses, the following courses constitute the major requirements for the Bachelor of Architecture degree:

ARC 201 Architectural and Interior Design Studio I

ARC 202 Architectural and Interior Design Studio II

ARC 213 Analysis and Methods in Architecture

ARC 224 Modern Foundations of Art and Architecture

ARC 232 Survey of Materials and Practices in Construction

ARC 242/CVE 272 Structural Principles: Statics and Strength of Materials

ARC 301 Architectural Design Studio III

ARC 302 Architectural Design Studio IV

ARC 325 Ideas in Architecture

ARC 333 Rough Construction Processes

ARC 343/CVE 371 Structural Analysis: Conceiving Forces in Buildings

ARC 344/CVE 372 Structural Design: Concrete, Steel and Wood

ARC 354 Environmental Energies and Building Form

ARC 397 Internship I (6 weeks)

ARC 401 Architectural Design Studio V

ARC 402 Architectural Design Studio VI

ARC 434 Finish Construction Processes

ARC 455 Environmental Control Systems

ARC 461 Project Management

ARC 462 Design Management

ARC 497 Internship II (8 weeks)

ARC 505 Architectural Design Studio VII

ARC 563/CVE 561 Construction Management

ARC 591 Final Project Research
ARC 592 Final Project Design

In order to graduate with a Bachelor of Architecture degree, a student must have attained a major studio average of 2.5 in the final project studio sequence (ARC 591 & ARC 592).

Please see the proposed sequence of study for a specific strategy for completing these graduation requirements in five years.

Proposed Course Sequence of Study

Bachelor of Architecture (B.ARCH.)

FIRST YEAR (30/31 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT 4	GE *Communication 1 of 4*
	DES 111	Descriptive Drawing I	3		MR
	DES 121	History of Material Culture I	3		MR/GE *GED 1 of 5*
	DES 131	Design Foundations I	3		MR
	MTH 111 or MTH 103	Mathematics for Architects or Calculus	4/3	MTH 003 or MPT	MR/GE *Math 1 of 2*
		Total	**15/16**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT score 5 or COM 101	GE *Communication 2 of 4*
	DES 100	Digital Media in Design	3		MR
	DES 112	Descriptive Drawing II	3	DES 111	MR
	DES 122	History of Material Culture II	3		MR/GE *GED 2 of 5*
	DES 132	Design Foundations II	3	DES 131	MR
		Total	**15**		

SECOND YEAR (36 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ARC 201	Architectural and Interior Design Studio I	6	DES 100, 111, 112, 121, 122, 131, 132, MTH 003 or 111 or 103	MR
	ARC 213	Analysis and Methods in Architecture	3	DES 100	MR
	COM XXX	Advised Requirement	3		GE *Communication 3 of 4*
	PHY 104	Physics for Architects	3	MTH 101 or 103 or 111	MR/GE *Science 1 of 2*
	ARC XXX	Major Elective	3		ME 1 of 4
		Total	**18**		
Spring	ARC 202	Architectural and Interior Design Studio II	6	ARC 201 or IDE 201	MR
	ARC 224	Modern Foundations of Art and Architecture	3	DES 100, 111, 112, 121, 122, 131, 132	MR
	ARC 232	Survey of Materials and Practices in Construction	3	DES 100, 111, 112, 121, 122, 131, 132	MR
	COM XXX	Advised Requirement	3		GE *Communication 4 of 4*
	ARC 242 / CVE 272	Structural Principles: Statics and Strength of Materials	3	PHY 104	MR
		Total	**18**		

THIRD YEAR (36 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ARC 301	Architectural Design Studio III	6	ARC 202 or IDE 202, PHY 104	MR
	ARC 325	Ideas in Architecture	3	ARC 224	MR
	ARC 333	Rough Construction Processes	3	ARC 232	MR
	ARC 343/ CVE 371	Structural Analysis: Conceiving Forces in Buildings	3	ARC 242 or CVE 272	MR
	THMXXX	Advised Requirement	3	COM 102	GE *Arabic 1 of 1 (or GED)*
		Total	**18**		
Spring	ARC 302	Architectural Design Studio IV	6	ARC 301, 213	MR
	ARC 344/ CVE 372	Structural Design in Concrete, Steel and Wood	3	ARC 343/CVE 371	MR
	ARC 354	Building Science	3	PHY 104	MR
	ARC XXX	Major Elective	3		ME 2 of 4
	THM XXX	Advised Requirement	3		GE *GED 3 o f 5 (or Arabic)*
		Total	**18**		
Summer	ARC 397	Internship I	0	ARC 302	MR

FOURTH YEAR (36 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ARC 401	Architectural Design Studio V	6	ARC 224, 232, 242 or CVE 272, ARC 302	MR
	ARC 455	Environmental Control Systems	3	ARC 354	MR
	ARC 461	Project Management	3	ARC 397 or IDE 397	MR
	ARC XXX	Major Elective	3		ME *3 of 4*
	THM XXX	Advised Requirement	3		GE *GED 4 of 5*
		Total	**18**		
Spring	ARC 402	Architectural Design Studio VI	6	ARC 401, 325, 333, 354, 397	MR
	ARC 434	Finish Construction Processes	3	ARC 333	MR
	ARC 462	Design Management	3	ARC 397 or IDE 397	MR
	ARC XXX	Major Elective	3		ME *4 of 4*
	THM XXX	Advised Requirement	3		GE *GED 5 of 5*
		Total	**18**		
Summer	ARC 497	Internship II	0	ARC 402	MR

FIFTH YEAR (33 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ARC 591	Final Project Research	3	ARC 402, 344 or CVE 372, ARC 434, 455, ARC 461 or IDE 461	MR
	ARC 505	Architectural Design Studio VII	6	ARC 402, 344 or CVE 372	MR
	ARC 561/ CVE 561	Construction Management	3	ARC 397 or IDE 397	MR
		Free Elective	3		FE *1 of 3*
	MTH/ STA XXX	Advised Requirement	3		GE *Math 2 of 2*
		Total	**18**		
Spring	ARC 592	Final Project Design	6	ARC 505, 591, 497	MR
	SCI XXX	Advised Requirement	3		GE *Science 2 of 2*
		Free Elective	3		FE *2 of 3*
		Free Elective	3		FE *3 of 3*
		Total	**15**		
		Total for the degree	**171/172**		

Abbreviations: **MR**: Major Requirement, **GE**: General Education Requirement, **ME**: Major Elective, **FE**: Free Elective, **EPT**: English Placement Test, **MPT**: Math Placement Test

Bachelor of Science in Architectural Studies (B.S.A.S.)

The four-year non-professional degree program in architectural studies is planned and formulated as a subset of the five-year professional degree in architecture. Accordingly, both programs share the first three years of study, both in terms of course offerings and curricula requirements. Students graduating with a non-professional degree will be able to practice architecture but do not qualify for professional licensing.

Degree Requirements

A minimum of 144 credits, including the following:

- A minimum of 42 credits of general education requirements
- A minimum of 93 credits of architecture and architecture-related courses in the major including 9 credits of approved Architecture electives
- Nine credits of free electives
- Six weeks of approved professional training

Designated General Education Courses

MTH 111 Mathematics for Architects or
MTH 103 Calculus

PHY 104 Physics for Architects

Major Courses

In addition to the Foundations courses, the following courses constitute the major requirements for the Bachelor of Science in Architectural Studies degree:

ARC 201 Architectural and Interior Design Studio I

ARC 202 Architectural and Interior Design Studio II

ARC 213 Analysis and Methods in Architecture

ARC 224 Modern Foundations of Art and Architecture

ARC 232 Survey of Materials and Practices in Construction

ARC 242/CVE 272 Structural Principles: Statics and Strength of Materials

ARC 301 Architectural Design Studio III

ARC 302 Architectural Design Studio IV

ARC 325 Ideas in Architecture

ARC 333 Rough Construction Processes

ARC 343/CVE 371 Structural Analysis: Conceiving Forces in Buildings

ARC 344/CVE 372 Structural Design: Concrete, Steel and Wood

ARC 354 Environmental Energies and Building Form

ARC 397 Internship I (6 weeks)

ARC 401 Architectural Design Studio V

ARC 402 Architectural Design Studio VI

ARC 434 Finish Construction Processes

ARC 455 Environmental Control Systems

Please see the proposed sequence of study for a specific strategy for completing these graduation requirements in four years.

Minor in Architectural Studies

This minor is offered within the Department of Architecture for SA&D students. Courses offered include only those within the discipline of architecture. Students must have completed a minimum of 30 credits of coursework with a GPA of 2.5 or higher prior to enrolling in the minor. A student must complete 9 credits from the following courses:

ARC 201 Architectural Design Studio I

ARC 202 Architectural Design Studio II

ARC 213 Analysis and Methods in Architecture

ARC 232 Materials and Methods of Construction

ARC 224 Fundamentals of Art and Architecture

and 9 credits at the 300 level or above.

At least 9 of the 18 credits must not have counted towards any other requirement except free electives.

Proposed Course Sequence of Study

Bachelor of Science in Architectural Studies (B.S.A.S.)

FIRST YEAR (30/31 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT 4	GE *Communication 1 of 4*
	DES 111	Descriptive Drawing I	3		MR
	DES 121	History of Material Culture I	3		MR/GE *GED 1 of 5*
	DES 131	Design Foundations I	3		MR
	MTH 111 or	Mathematics for Architects or	4/		
	MTH 103	Calculus	3	MTH 003 or MPT	MR/GE *Math 1 of 2*
		Total	**15/16**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT score 5 or COM 101	GE *Communication 2 of 4*
	DES 100	Digital Media in Design	3		MR
	DES 112	Descriptive Drawing II	3	DES 111	MR
	DES 122	History of Material Culture II	3		MR/GE *GED 2 of 5*
	DES 132	Design Foundations II	3	DES 131	MR
		Total	**15**		

SECOND YEAR (36 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ARC 201	Architectural and Interior Design Studio I	6	DES 100, 111, 112, 121, 122, 131, 132, MTH 003 or 111 or 103	MR
	ARC 213	Analysis and Methods in Architecture	3	DES 100, 111, 112, 121, 122, 131, 132	MR
	COM XXX	Advised Requirement	3		GE *Communication 3 of 4*
	PHY 104	Physics for Architects	3	MTH101 or 103 or 111	MR/GE *Science 1 of 2*
	ARC XXX	Major Elective	3		ME *1 of 3*
		Total	**18**		
Spring	ARC 202	Architectural and Interior Design Studio II	6	ARC 201or IDE 201	MR
	ARC 224	Modern Foundations of Art and Architecture	3	DES 100, 111, 112, 121, 122, 131, 132	MR
	ARC 232	Survey of Materials and Practices in Construction	3	DES 100, 111, 112, 121, 122, 131, 132	MR
	COM XXX	Advised Requirement	3		GE *Communication 4 of 4*
	ARC 242 / CVE 272	Structural Principles: Statics and Strength of Materials	3	PHY 104	MR
		Total	**18**		

THIRD YEAR (36 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ARC 301	Architectural Design Studio III	6	ARC 202 or IDE 202, PHY 104	MR
	ARC 325	Ideas in Architecture	3	ARC 224	MR
	ARC 333	Rough Construction Processes	3	ARC 232	MR
	ARC 343/ CVE 371	Structural Analysis: Conceiving Forces in Buildings	3	ARC 242 or CVE 272	MR
	THMXXX	Advised Requirement	3	COM 102	GE *Arabic1 of 1 (or GED)*
		Total	**18**		
Spring	ARC 302	Architectural Design Studio IV	6	ARC 301, 213	MR
	ARC 344 / CVE 372	Structural Design in Concrete, Steel and Wood	3	ARC 343 or CVE 371	MR
	ARC 354	Environmental Energies and Building Form	3	PHY 104	MR
	ARC XXX	Major Elective	3		ME *2 of 3*
	THM XXX	Advised Requirement	3		GE *GED 3 of 5 (or Arabic)*
		Total	**18**		
Summer	ARC 397	Internship I	0	ARC 302	MR

FOURTH YEAR (36 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ARC 401	Architectural Design Studio V	6	ARC 302, 224, 232, 242 or CVE 272	MR
	ARC 455	Environmental Control Systems	3	ARC 354	MR
	SCI XXX	Advised Requirement	3		GE *Science 2 of 2*
	ARC XXX	Major Elective	3		ME *3 of 3*
	THM XXX	Advised Requirement	3		GE *GED 4 of 5*
		Total	**18**		
Spring	ARC 402	Architectural Design Studio VI	6	ARC 401, 325, 333, 354, 397	MR
	ARC 434	Finish Construction Processes	3	ARC 333	MR
	MTH/STA XXX	Advised Requirement	3		GE *Math 2 of 2*
	THM XXX	Advised Requirement	3		GE *GED 4 of 5*
		Free Elective	3		FE *1 of 3*
		Total	**18**		
Summer		Free Elective	3		FE *2 of 3*
		Free Elective	3		FE *3 of 3*
		Total	**6**		
		Total for the degree	**144/145**		

Abbreviations: **MR**: Major Requirement, **GE**: General Education Requirement, **ME**: Major Elective, **FE**: Free Elective, **EPT**: English Placement Test, **MPT**: Math Placement Test

Design Management

The Bachelor of Science in Design Management (B.S.D.M.) at AUS provides students with the opportunity to engage in a design-based program with an entrepreneurial component. Design management as a discipline integrates visual design and business studies. This major is especially well suited to students who have a keen interest in the managerial aspects of design. The ability to communicate design needs, track progress and outcomes, effectively budget costs, identify the requirements of design projects and coordinate with clients as well as with professional teams in the field of design both inside and outside of creative departments are the essential elements of this profession.

Bachelor of Science in Design Management (B.S.D.M.)

The program provides broad insights into the foundations, theory and application of design and business studies. A solid foundation in visual design prepares students to understand the language and complexities involved in the efforts of the creative teams who work in the fields of graphic design, photography, illustration, video production, Web design, animation and interactive authoring, as well as to speak fluently the "language" of design. Additionally, complementary coursework in the disciplines of business and management trains students to recruit clients, pitch projects, conduct focus groups, write copy for print, television and radio, as well as master accounting and budgeting skills.

Typical professional positions in the fast growing field of Design Management include administrative and managerial careers in media and service industries, advertising agency principals, project managers and team leaders, advertising campaign planning, client services specialists, advertising buyers, account and sales representatives, communications specialists, public relations professionals, exhibition and event planners, gallery managers, fine arts and cultural arts administrators, film, television and radio producers, market-research analysts, and more.

Admission to the Program

Admission to the B.S.D.M. degree requires the fulfillment of the general university admission requirements.

Degree Requirements

The Bachelor of Science in Design Management (B.S.D.M.) requires a minimum of four years of university studies, and a minimum of 120 credits of coursework. All students are required to complete the common Architecture and Design Foundations courses, a professional practice internship, and 42 credits of university and general education requirements. Also required are nine credits of major electives in the School of Architecture and Design, 12 credits of major electives in the College of Arts and Sciences, 18 credits of major electives in the School of Business and Management, and nine credits of free electives. Some credits count towards multiple requirements. In such cases both requirements are considered as being met but the credits only count once towards total degree hours.

Students are required to take MTH 101 (Math for Business) and QAN 201 (Introduction to Statistics) to fulfill their University math requirements, and are advised to take ECO 201 (Introduction to Microeconomics) and ECO 202 (Introduction to Macroeconomics) as essential College of Arts and Sciences electives.

Graduation Requirements (B.S.D.M.)

General Education Requirements (GEs)	**42 cr.**
Major Requirements (MRs):	**30 cr.**
Major Electives (MEs) in SA&D:	**9 cr.**
Major Electives (MEs) in CAS (including ECO 201 and ECO 202):	**12 cr.**
Major Electives (MEs) in SBM:	**18 cr.**
Free Electives (FEs):	**9 cr.**
Total	**120 cr.**

Designated General Education Courses

MTH 101 Math for Business
DES 121 History of Material Culture I
DES 122 History of Material Culture II
STA 201 Introduction to Statistics for Engineering and Natural Sciences *or*
QAN 201 Introduction to Statistics

Major Courses

In addition to the successful completion of the Foundations courses, the following courses constitute the major requirements for the Bachelor of Science in Design Management degree:

DES 200 Communication Design
VIS 360 Fundamentals of Media Theory
VIS 361 The Media Industry
DES 397 Internship
MGT 201 Fundamentals of Management

Please see proposed sequence of study for a specific strategy for completing these graduation requirements in four years.

Minor in Design Management

Students can enroll in a minor in Design Management. Students must have completed a minimum of 30 credits of coursework with a GPA of 2.5 or higher prior to enrolling in the minor. To declare a minor in Design Management, a student must:

- Take at least nine credits in SA&D courses (ARC/DES/IDE/MUM/VIS), including DES 100;
- Take at least nine credits in SBM courses (ACC/BIS/SLW/BUS/FIN/INB/ MGT/ MIS/MKT/QAN), including MGT 201;
- Take nine of the required 18 credits on the 300 level or above

At least nine credits of the minor must not have counted for any degree requirements other than free electives.

Proposed Course Sequence of Study

Bachelor of Science in Design Management (B.S.D.M)

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT 4	GE *Communication 1 of 4*
	DES 111	Descriptive Drawing I	3		MR
	DES 121	History of Material Culture	3		MR/GE *GED 1 of 5*
	DES 131	Design Foundations I	3		MR
	MTH 101	Mathematics for Business	3	MTH 002 or MPT	MR/GE *Math 1 of 2*
		Total	**15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT score 5 or COM 101	GE *Communication 2 of 4*
	DES 100	Digital Media in Design	3		MR
	DES 112	Descriptive Drawing II	3	DES 111	MR
	DES 122	History of Material Culture II	3		MR/GE *GED 2 of 5*
	DES 132	Design Foundations II	3	DES 131	MR
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 235	Communication in Advertising	3	COM 102	GE *Communication 2 of 4*
	QAN 201	Introduction to Statistics	3		GE *Math 2 of 2*
	THM 101	Thematic Option Course I	3		GE *Arabic 1 of 1 (or GED)*
	DES 200	Communication Design	3		MR
	ECO 201	Principles of Microeconomics	3		ME *1 of 4*
		Total	**15**		
Spring	COM 231	Writing for Visual Media	3	COM 102	GE *Communication 3 of 4*
	VIS 360	Fundamentals of Media Theory	3	COM 101or 102	MR
	THM 102	Thematic Option Course II	3		GE *GED 3 of 5 (or Arabic)*
	ECO 202	Principles of Macroeconomics	3		ME *2 of 4*
		SA&D Elective	3		ME *1 of 3*
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	SCI XXX	Science Requirement I	3		GE *Science 1 of 2*
	VIS 361	The Media Industry	3	COM 101 or 102	MR
		SBM Elective	3		ME *1 of 6*
	THM 201	Thematic Option Course III	3		GE *GED 4 of 5*
	MGT 201	Fundamentals of Management	3		MR
		Total	**15**		
Spring	SCI XXX	Science Requirement II	3		GE *Science 2 of 2*
		CAS Elective	3		ME *3 of 4*
	THM 202	Thematic Option Course IV	3		GE *GED 5 of 5*
		SBM Elective	3		ME *2 of 6*
	DES 397	Internship	3		MR
		Total	**15**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Prerequisite**	**Credit**	**Fulfills**
Fall		SA&D Elective	3		ME *2 of 3*
		CAS Elective	3		ME *4 of 4*
		SBM Elective	3		ME *3 of 6*
		SBM Elective	3		ME *4 of 6*
		Open Elective	3		FE *1 of 3*
		Total	**15**		
Spring		SA&D Elective	3		ME *3 of 3*
		SBM Elective	3		ME *5 of 6*
		SBM Elective	3		ME *6 of 6*
		Open Elective	3		FE *2 of 3*
		Open Elective	3		FE *3 of 3*
		Total	**15**		

Abbreviations: **MR**: Major Requirement, **GE**: General Education Requirement, **ME**: Major Elective, **FE**: Free Elective, **EPT**: English Placement Test, **MPT**: Math Placement Test

Interior Design

The profession of interior design lies between interior decoration and architecture. The interior designer must be competent to operate in both professions, with an intimate knowledge of material selection, construction methods, and furnishings as well as technical skills and construction expertise.

Interior designers usually work as part of a design team, including architects, structural and mechanical engineers and specialty consultants. They must possess a broad base of knowledge and skills.

Interior designers create, and are responsible for all aspects of the interior environment: program, design, construction documents, supervision, lighting, and material and furniture selection. Like architects, they create interiors using space itself as a creative material, molded by architectural elements. They know intimately the materials of interior construction and finishing, decoration and lighting, and how to use these in innovative designs that support an overall spatial and formal idea.

Interior design services encompass research, development and implementation of plans and designs of interior environments. The objective is to improve the quality of life, increase productivity and protect the health, safety and welfare of the public. The professional interior designer must be able to see projects through from concept to physical completion.

Potential career options for persons majoring in interior design include interior designer, space planner, programmer, adaptive reuse designer, facilities planner, project manager, design journalist, educator, researcher, salesperson, renderer, healthcare designer, office planner and hospital designer.

The interior design program at AUS emphasizes creativity and innovation in the art of interior design while giving students a strong background in technique and practical knowledge. The program core is comprised of six rigorous design studios following the common foundations year. Interior design studios encourage the development of analytical and reasoning skills, as well as the ability to conceptualize, develop and present designs. Architecture and interior design share a common second year studio to heighten students' awareness and technical capabilities regarding primary formal, structural and tectonic issues. The interior design studios are supplemented by technical courses ranging from furniture design and materials and methods of interior construction to specific training in color and light.

The program prepares students for responsible design careers, and is firmly committed to graduating individuals who can join the regional or international workforce as competent and creative entry-level professionals. The American University of Sharjah is committed to providing students in interior design with traditional, as well as digital, design presentation skills to broaden their marketability and design capabilities.

The program emphasizes topics critical to the sustainable development of society and the quality of life in the region, with an emphasis on the United Arab Emirates. Professional training and internships solidify the student's contact and involvement with local practice. Interior design and architecture faculty members serve as both professional and academic mentors.

Bachelor of Interior Design (B.I.D.)

The Bachelor of Interior Design (B.I.D.) degree is intended for the student seeking a professional career in interior design. The program entails a minimum of four years of university studies plus professional training. A minimum of 138 semester credits comprise the degree program, including a minimum of 90 credits of required coursework in interior design and closely associated fields. These courses represent the core of the interior design discipline. Students in the Department of Architecture must take the thematic option with Arabic content. Some credits count towards multiple requirements. In such cases both requirements are considered as being met but the credits only count once towards total degree hours.

Each student is required to extend the core curriculum with nine credits of approved Interior Design electives. The intent is to balance the concern for in-depth professional competence with the concern for the individual's interest and aptitude. These courses should be selected in consultation with the student's advisor.

The specialized professional curriculum is supported by a minimum of 42 credits of university requirements. Designed to ensure a broad educational foundation, this base is held in common among all graduates of the American University of Sharjah.

University studies represent a unique opportunity to explore other areas of interest. Based solely on individual interests, each interior design student must select nine additional credits of free electives from general university offerings.

The curriculum is designed to meet requirements for licensure that prevail in the United Arab Emirates, and to prepare the graduate for professional practice throughout the region. Some students may aspire either to advanced study in the field or to practice in a broader global setting. Accordingly, the curriculum follows established international norms for a professional degree in interior design.

Advancement in the Program

The number of seats in interior design is limited. Formal advancement is competitive. Only the most highly qualified foundations students will be promoted. To be considered for advancement to the 2nd year of the Bachelor of Interior Design program a student must successfully complete following requirements:

- All four foundations studio courses (DES 111, 112, 131, 132) with a minimum grade point average (GPA) of 2.0 out of 4.0 in each sequence (design and drawing)

- Both courses in history of material culture (DES 121 and DES 122)
- Digital Media in Design (DES 100)
- Mathematics for Architects (MTH 111) or its prerequisite (MTH 003) or Calculus (MTH 103)
- At least one course in the university communication sequence (COM 101, 102 or higher)
- A minimum of 27 semester hours of university credit (including the above courses)
- An overall grade point average (GPA) of 2.0

Formal notification of advancement in the program will be given by SA&D two weeks after release of final grades by the Registrar's Office at the end of the spring semester. In the event that there are more students who qualify for advancement than available spaces, candidates will be promoted in the major based on academic achievement. If there are available spaces at the time of fall registration, consideration will be given to those students who fulfilled requirements during summer session or who wish to change majors, based on the same advancement criteria as noted above.

Promotion Review in Interior Design

As an extension of the regular advisement process, the performance of each interior design student is reviewed following the completion of each of the second and third years in the program. A student must pass each review to continue in the major and must:

- Have attained a minimum cumulative grade point average (GPA) of C+ (2.3) in all university courses
- Have attained a minimum major studio average (MSA) of 2.5 in each year of the interior design studio sequence (IDE 201 & 202, IDE 301 & 302, IDE 401 & 402)

***Note*:**

- A grade of C- (1.70) is the minimum passing grade in a studio course. The minimum major studio average must be achieved to continue in the program.
- A student with a fall semester grade of D (1.00) may continue into the spring semester of the studio sequence. However, they will have to repeat the studio in which they earned the D.
- A student who does not attain the required major studio average may repeat any studio in which a grade of less than C+ (2.30) was earned.
- Any studio may be repeated only once for credit.
- To determine the new major studio average, the grade earned in a repeated studio replaces the previous grade. [Note: All studio grades are used to calculate the cumulative GPA.]
- A repeating student who fails to achieve the minimum studio average necessary for promotion is dismissed from the program.

- Have attained a minimum grade of 2.5 in IDE 405 for enrolment in IDE 492.

If the review has a negative outcome, the department will assist an unsuccessful candidate in transferring to a field that holds better promise.

Degree Requirements

A minimum of 138 credits, including the following:

- A minimum of 42 credits of university requirements
- A minimum of 87 credits of interior design and related courses in the major including nine credits of approved interior design electives
- Nine credits of free electives
- Six weeks of approved professional training

Designated General Education Courses

MTH 111 Mathematics for Architects or
MTH 103 Calculus

PHY 104 Physics for Architects

Major Courses

In addition to the Foundations courses, the following courses constitute the major requirements for the Bachelor of Interior Design degree:

IDE 201 Architectural and Interior Design Studio I
IDE 202 Architectural and Interior Design Studio II
IDE 223 History of Interior Design
IDE 235 Interior Construction
IDE 236 Soft Furnishings
IDE 251 Color and Light
IDE 301 Interior Design Studio III
IDE 302 Interior Design Studio IV
IDE 335 Furniture Design
IDE 352 Environmental Control Systems in Interiors
IDE 397 Internship (6 weeks)
IDE 405 Interior Design Studio V
IDE 461 Project Management
IDE 462 Design Management
IDE 491 Final Project Research
IDE 492 Final Project Design

In order to graduate with a Bachelor of Interior Design degree, a student must have attained a major studio average of 2.5 in the final project studio sequence (IDE 491 & IDE 492).

Please see proposed sequence of study for a specific strategy for completing these graduation requirements in four years.

Minor in Interior Design

This minor is offered within the Department of Architecture for SA&D students. Courses include only those within the discipline of Interior Design. Students must have completed a minimum of 30 credits of coursework with a GPA of 2.5 or higher prior to enrolling in the minor. A student must complete nine credits from the following courses:

IDE 223 History of Interior Design
IDE 235 Interior Construction
IDE 236 Soft Furnishings
IDE 251 Color and Light
IDE 335 Furniture Design

and nine credits at the 300 level or above.

At least nine of the 18 credits must not have counted towards any other requirement except free electives.

Proposed Course Sequence of Study

Bachelor of Interior Design (B.I.D.)

FIRST YEAR (30/31 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT 4	GE *Communication 1 of 4*
	DES 111	Descriptive Drawing I	3		MR
	DES 121	History of Material Culture I	3		MR/GE *GED 1 of 5*
	DES 131	Design Foundations I	3		MR
	MTH 111 or MTH 103	Mathematics for Architects or Calculus	4/ 3	MTH 003 or MPT	MR/GE *Math 1 of 2*
		Total	**16/15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT score 5 or COM 101	GE *Communication 2 of 4*
	DES 100	Digital Media in Design	3		MR
	DES 112	Descriptive Drawing II	3	DES 111	MR
	DES 122	History of Material Culture II	3		MR/GE *GED 2 of 5*
	DES 132	Design Foundations II	3	DES 131	MR
		Total	**15**		

SECOND YEAR (36 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	IDE 201	Architectural and Interior Design Studio I	6	DES 100, 111, 112, 121, 122, 131, 132, MTH 003 or 111 or 103	MR
	COM XXX	Advised Requirement	3		GE *Communication 3 of 4*
	IDE 223	History of Interior Design	3	DES 100, 111, 112, 121, 122, 131, 132	MR
	IDE 235	Interior Construction	3	DES 100, 111, 112, 121, 122, 131, 132	MR
	PHY 104	Physics for Architects	3	MTH 101, 103 or 111	MR/GE *Science 1 of 2*
		Total	**18**		
Spring	COM XXX	Advised Requirement	3		GE *Communication 4 of 4*
	IDE 202	Architectural and Interior Design Studio II	6	IDE 201	MR
	IDE 236	Soft Furnishings	3	IDE 235 or ARC 232	MR
	IDE 251	Color and Light	3	PHY 104	MR
	STA XXX	Advised Elective	3		GE *Math 2 of 2*
		Total	**18**		

THIRD YEAR (36 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	IDE 301	Interior Design Studio III	6	IDE 202, PHY 104	MR
	IDE 335	Furniture Design	3	ARC 202 or IDE 202, IDE 235 or ARC 232	MR
	IDE XXX	Major Elective	3		ME *1 of 3*
	THM XXX	Advised Requirement	3	COM 102	GE *Arabic 1 of 1 (or GED)*
	SCIXXX	Advised Requirement	3		GE *Science 2 of 2*
		Total	**18**		
Spring	IDE 302	Interior Design Studio IV	6	IDE 301, 223	MR
	IDE 352	Environmental Control Systems in Interiors	3	PHY 104	MR
	IDE XXX	Major Elective	3		ME *2 of 3*
	THM XXX	Advised Requirement	3		GE *GED 3 of 5 (or Arabic)*
		Free Elective	3		FE *1 of 3*
		Total	**18**		
Summer	IDE 397	Internship	0	IDE 302	MR

FOURTH YEAR (36 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	IDE 405	Interior Design Studio V	6	IDE 302 or ARC 302	MR
	IDE 461	Project Management	3	IDE 397 or ARC 397	MR
	IDE 491	Final Project Research	3	IDE 302, 335, 352	MR
	THM XXX	Advised Requirement	3		GE *GED 4 of 5*
		Free Elective	3		FE *2 of 3*
		Total	**18**		
Spring	IDE 462	Design Management	3	IDE 397 or ARC 397	MR
	IDE 492	Final Project Design	6	IDE 405, 491, 397	MR
	IDE XXX	Major Elective	3		ME *3 of 3*
	THM XXX	Advised Requirement	3		GE *GED 5 of 5*
		Free Elective	3		FE *3 of 3*
		Total	**18**		
		Total for the degree	**138/139**		

Abbreviations: **MR**: Major Requirement, **GE**: General Education Requirement, **ME**: Major Elective, **FE:** Free Elective, **EPT**: English Placement Test, **MPT**: Math Placement Test

Multimedia Design

Multimedia design studies span a number of disciplines, including technology, communications, the arts, writing, photography, video, advertising and design. This major engages students with broad-ranging interests in graphic and 3-D design, digital technology and time-based media. To meet the challenges of this rapidly changing field, AUS offers the Bachelor of Science in Multimedia Design degree.

Bachelor of Science in Multimedia Design (B.S.M.D.)

The B.S.M.D. requires a minimum of four years (122 credits) of coursework, 56 hours of which are required in multimedia related studies, including sound, video, text, computer graphics, advertising and theory courses. The specialization is supported by 21credits of major electives, 42 credits of university and general education requirements and nine credits of free electives. Students in the Department of Design must take the thematic option with Arabic content. In addition, professional training (internship) is required of all students. Some credits count towards multiple requirements. In such cases both requirements are considered as being met but the credits only count once towards total degree hours.

The B.S.M.D. is a professional program designed for those who seek careers in the modern media industries. The curriculum follows standards of professional North American practice and is conceived to meet or exceed the requirements of multimedia industries in the United Arab Emirates.

Admission to the Program

Admission to the B.S.M.D. requires the fulfillment of the general university admission requirements.

Degree Requirements (B.S.M.D.)

General Education requirements (GEs): **42 cr.**

Major requirements (MRs): **71cr.**
(Including approved major electives)

Free electives (FEs) **9 cr.**

Total **122 cr.**

Major Courses

In addition to the Foundations courses, the following courses constitute the major requirements for the Bachelor of Science in Multimedia Design degree:

VIS 201 Graphic Design Studio I
VIS 221 Photography Basics
VIS 230 Digital Media in Visual Communication
VIS 202 Graphic Design Studio II
VIS 213 Illustration Drawing
VIS 360 Fundamentals of Media Theory
VIS 361 The Media Industry
MUM 301 Multimedia Studio
MUM 397 Internship
MUM 401 Senior Multimedia Studio
MUM 402 Senior Multimedia Portfolio

Major Electives (21 credits from the following):

DES 141 Introduction to Painting
DES 142 Painting II
DES 151 Introduction to Printmaking
MUM 310 Sound and Video I
MUM 312 Sound and Video II
MUM 320 Web Design
MUM 321 Photo Journalism
MUM 330 Interactive Design
MUM 331 Modeling & Animation
MUM 394 Special Topics in Multimedia Design
MUM 410 Advanced Sound & Video
MUM 496 Independent Study in Multimedia Design
VIS 311 Illustration Design
VIS 312 Illustration Genres
VIS 320 Multiples I
VIS 322 Multiples II
VIS 323 Photography for Communication
VIS 394 Special Topics in Visual Communication
COM 231 Writing for Visual Media
COM 235 Communication in Advertising
COM 237 Public Relations: Media and Case Studies
COM 403 Advanced Advertising Copy-Writing

COM 409 Advertising Campaign Research and Design
COM 413 Advertising Campaign Management
MCM 229 Mass Communication and Culture
MCM 225 Theories of Mass Communication
MCM 255 Principles of Advertising
MCM 277 Film Criticism
MCM 351 Advertising Copywriting and Design
MCM 353 Direct Response Advertising
MCM 373 Scriptwriting for Television and Film
MCM 451 Advertising Campaign Research and Design
MCM 453 Advertising Media Management
MCM 455 Advertising Campaign Management and Portfolio
PSY 101 General Psychology
PSY 102 Social Psychology

Please see the proposed sequence of study for a specific strategy for completing these graduation requirements in four years.

Promotion Review in Multimedia Design

First Year Review

The number of seats in multimedia design is limited. Formal advancement is competitive. Only the most highly qualified foundations students will be promoted. To be considered for advancement to the 2nd year of the Bachelor of Science in Multimedia Design program a student must successfully complete the following requirements. Additional promotion restrictions may also apply.

- All four foundations studio courses (DES 111, 112, 131, 132) with a minimum grade point average (GPA) of C (2.0) in each sequence (design and drawing)
- At least one course in history of material culture (DES 121 or DES 122)
- Digital Media in Design (DES 100)
- Mathematics (MTH xxx) or its prerequisite (MTH 001) for students who failed the Math placement test
- At least one course in the university communication sequence (COM 101 or higher)
- A minimum of 27 semester hours of university credit (including the above courses)
- An overall grade point average (GPA) of C (2.0)

Formal notification of advancement in the program will be given by SA&D two weeks after release of final grades by the Registrar's Office at the end of the spring semester. In the event that there are more students who qualify for advancement than available spaces, candidates will be promoted in the major based on academic achievement. If there are available spaces at the time of fall registration, consideration will be given to those students who fulfilled requirements during summer session or who wish to change majors, based on the same advancement criteria as noted above.

Second Year Review

As an extension of the regular advisement process, the performance of all students in multimedia design will be reviewed after the fourth semester for retention in the program. To successfully pass this review, a combined grade point average (GPA) of C+ (2.3) must be attained in VIS 201 and VIS 202, with a minimum grade of C- (1.7) in each class. If the review has a negative outcome, the department will assist an unsuccessful candidate in transferring to a field that holds better promise.

Proposed Course Sequence of Study

Bachelor of Science in Multimedia Design (B.S.M.D.)

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT 4	GE *Communication 1 of 4*
	DES 111	Descriptive Drawing I	3		MR
	DES 121	History of Material Culture	3		MR/GE *GED 1 of 5*
	DES 131	Design Foundations I	3		MR
	DES 100	Digital Media in Design	3		MR
		Total	**15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT score 5 or COM 101	GE *Communication 2 of 4*
	MTH XXX	Mathematics Requirement	3		MR/GE *Math 1 of 2*
	DES 112	Descriptive Drawing II	3	DES 111	MR
	DES 122	History of Material Culture II	3		MR/GE *GED 2 of 5*
	DES 132	Design Foundations II	3	DES 131	MR
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	VIS 201	Graphic Design Studio I	3	DES 100, 112 and 132; DES 121 or 122; MTH XXX; and COM 101 or 102	MR
	VIS 221	Photography Basics	3	DES 100, 112 and 132; DES 121 or 122; MTH XXX; and COM 101 or 102	MR
	VIS 230	Digital Media in VisCom	3	DES 100, 112 and 132; DES 121 or 122; MTH XXX; and COM 101 or 102	MR
	MTH XXX	Mathematics Requirement	3		GE *Math 2 of 2*
	THM XXX	Thematic Option Course I	3		GE *Arabic 1 of 1 (or GED)*
		Total	**15**		
Spring	VIS 202	Graphic Design Studio II	3	VIS 201, 221 and 230	MR
	VIS 213	Illustration Drawing	3	VIS 201, 221 and 230	MR
	VIS 360	Fundamentals of Media Theory	3	DES 112, 132	MR
	COM 231	Writing for Visual Media	3	COM 102	GE *Communication 3 of 4*
	THM XXX	Thematic Option Course II	3		GE *GED 3 of 5 (or Arabic)*
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MUM 301	Multimedia Studio I	3	VIS 202, 213 and 360	MR
	MUM XXX	Advised electives (at least two of the following for a total of 6 credits)			
		MUM 310 Sound and Video or	3	or concurrent:	ME *1&2 of 7*
		MUM 320 Web Design or	3	MUM 301 or VIS 301	
		MUM 321 Photo Journalism	3		
	VIS 361	The Media Industry	3	COM 101 or 102	MR
	THM XXX	Thematic Option Course III	3		GE *GED 4 of 5*
		Total	**15**		
Spring	MUM XXX	MUM 312 Sound and Video II	3	VIS 202, 213 and 360	ME *3&4 of 7*
		MUM 330 Interactive Design	3	VIS 202, 213 and 360	
		MUM 331 Modeling & Animation	3	VIS 202, 213 and 360	
	MUM 397	Internship	3	MUM 301	MR
	SCI XXX	Science Requirement	3		GE *Science 1 of 2*
	THM XXX	Thematic Option Course IV	3		GE *GED 5 of 5*
		Total	**15**		

FOURTH YEAR (32 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MUM 401	Senior Multimedia Studio	4	MUM 301	MR
	MUM 410	Advanced Sound & Video	3	MUM 310 or 312	ME *5 of 7*
	SCI XXX	Science Requirement	3		GE *Science 2 of 2*
	COM 235	Communication in Advertising	3	COM 102	GE *Communication 4 of 4*
		Free Elective	3		FE *1 of 3*
		Total	**16**		
Spring	MUM 402	Senior Multimedia Portfolio	4	MUM 401	MR
	MUM/VIS XXX	Major Elective	3	MUM 301 or VIS 301	ME *6 of 7*
	MUM/VIS XXX	Major Elective	3	MUM 301 or VIS 301	ME *7 of 7*
		Free Elective	3		FE *2 of 3*
		Free Elective	3		FE *3 of 3*
		Total	**16**		
		Total for the degree	**122**		

Abbreviations: **MR**: Major Requirement, **GE**: General Education Requirement, **ME**: Major Elective, **FE:** Free Elective, **EPT**: English Placement Test, **MPT**: Math Placement Test

Visual Communication

The creation, manipulation and production of visual images and text are at the core of this major. Visual communication is influenced to a large degree by fast changing worldwide technologies. Apart from broad technical, computer and artistic training, visual communication experts require an understanding of human nature, ethical boundaries and societal needs. Visual communicators aim to inform, persuade and influence behavior. To meet those and related objectives, AUS offers the Bachelor of Science in Visual Communication (B.S.V.C.).

Bachelor of Science in Visual Communication (B.S.V.C.)

The B.S.V.C degree requires a minimum of 4 years of university studies. The foundations year of visual communication (VisCom) consists of a basic education in the applied arts, training in computer applications and courses in the history and relevance of design and visual expression. In the following years, elements of advertising, package design and marketing are explored in individual, hands-on studio projects. The graphic design sequence is the program core that integrates practical, cultural and contextual aspects of visual communication.

The B.S.V.C. is a professional program. The 122 credits required for the degree comprise 62 credits in required visual communication, digital applications and visual design related courses This specialization is supported by 15 credits of major electives, 42 credits of university requirements and nine credits in free elective courses. Students in the Department of Design must take the thematic option with Arabic content. In addition, professional training (internship) is required of all students. Some credits count towards multiple requirements. In such cases both requirements are considered as being met but the credits only count once towards total degree hours.

The B.S.V.C. is configured to prepare those who seek careers as designers in advertising, publishing and related visual communication media. The curriculum follows standards of professional North American organizations and is conceived to meet or exceed requirements for visual communication experts in the United Arab Emirates.

Admission to the Program

Admission to the B.S.V.C. program requires the fulfillment of general university admission requirements.

Degree Requirements (B.S.V.C.)

General Education requirements: **42 cr.**
Major requirements: **71 cr.**
(Including approved major electives)
Free electives: **9 cr.**
Total **122 cr.**

Major Courses

In addition to the Foundations courses, the following courses constitute the major requirements for the Bachelor of Science in Visual Communication degree:

VIS 201 Graphic Design Studio I
VIS 221 Photography Basics
VIS 230 Digital Media in VisCom
VIS 202 Graphic Design Studio II
VIS 213 Illustration Drawing
VIS 301 Graphic Design Studio III
VIS 360 Fundamentals of Media Theory
VIS 361 The Media Industry
VIS 397 Internship
VIS 401 Senior Graphic Design Studio
VIS 402 Senior Graphic Design Portfolio
VIS 410 Senior VisCom Studio
VIS 420 Senior VisCom Portfolio

Major Electives (15 credits from the following):

DES 141 Introduction to Painting
DES 142 Painting II
DES 151 Introduction to Printmaking
VIS 311 Illustration Design
VIS 312 Illustration Genres
VIS 320 Multiples I
VIS 322 Multiples II
VIS 321 Photo Journalism
VIS 323 Photography for Communication
VIS 394 Special Topics in Visual Communication
VIS 496 Independent Study in Visual Communication
MUM 310 Sound and Video I
MUM 312 Sound and Video II
MUM 320 Web Design
MUM 321 Photo Journalism
MUM 330 Interactive Design
MUM 331 Modeling & Animation
MUM 394 Special Topics in Multimedia Design
MUM 410 Advanced Sound & Video
CMM 455 Advertising Campaign Management and Portfolio
COM 231 Writing for Visual Media
COM 235 Communication in Advertising
COM 237 Public Relations: Media and Case Studies
COM 403 Advanced Advertising Copy-Writing
COM 409 Advertising Campaign Research and Design
COM 413 Advertising Campaign Management
MCM 229 Mass Communication and Culture
MCM 225 Theories of Mass Communication
MCM 255 Principles of Advertising
MCM 277 Film Criticism
MCM 351 Advertising Copywriting and Design
MCM 353 Direct Response Advertising
MCM 373 Scriptwriting for Television and Film
MCM 451 Advertising Campaign Research and Design
MCM 453 Advertising Media Management
MCM 455 Advertising Campaign Management and Portfolio
PSY 101 General Psychology
PSY 102 Social Psychology

Please see the proposed sequence of study for a specific strategy for completing these graduation requirements in four years.

Promotion Review in Visual Communication

First Year Review

The number of seats in visual communication is limited. Formal advancement is competitive. Only the most highly qualified foundations students will be promoted. To be considered for advancement to the 2nd year of the Bachelor of Science in Multimedia Design program a student must successfully complete the following requirements. Additional promotion restrictions may also apply.

- All four foundations studio courses (DES 111, 112, 131, 132) with a minimum grade point average (GPA) of C (2.0) in each sequence (design and drawing)
- At least one course in history of material culture (DES 121 or DES 122)
- Digital Media in Design (DES 100)
- Mathematics (MTH xxx) or its prerequisite (MTH 00x) for students who failed the Math placement test
- At least one course in the university communication sequence (COM 101 or higher)
- A minimum of 27 semester hours of university credit (including the above courses)
- An overall grade point average (GPA) of C (2.0)

Formal notification of advancement in the program will be given by SA&D two weeks after release of final grades by the Registrar's Office at the end of the spring semester. In the event that there are more students who qualify for advancement than available spaces, candidates will be promoted in the major based on academic achievement. If there are available spaces at the time of fall registration, consideration will be given to those students who fulfilled requirements during summer session or who wish to change majors, based on the same advancement criteria as noted above.

Second Year Review

As an extension of the regular advisement process, the performance of all students in visual communication will be reviewed after the fourth semester for retention in the program. To successfully pass this review, a combined grade point average (GPA) of C+ (2.3) must be attained in VIS 201 and VIS 202, with a minimum grade of C- (1.7) in each class. If the review has a negative outcome, the department will assist an unsuccessful candidate in transferring to a field that holds better promise.

Proposed Course Sequence of Study

Bachelor of Science in Visual Communication (B.S.V.C)

FIRST YEAR (30 CREDITS)

Term	Course #	Title	Credit	Prerequisite	Fulfills
Fall	COM 101	Academic Writing	3	EPT 4	GE *Communication 1 of 4*
	DES 111	Descriptive Drawing I	3		MR
	DES 121	History of Material Culture	3		MR/GE *GED 1 of 5*
	DES 131	Design Foundations I	3		MR
	DES 100	Digital Media in Design	3		MR
		Total	**15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT score 5 or COM 101	GE *Communication 2 of 4*
	MTH XXX	Mathematics Requirement	3		MR/GE
	DES 112	Descriptive Drawing II	3	DES 111	MR
	DES 122	History of Material Culture II	3		MR/GE *GED 2 of 5*
	DES 132	Design Foundations II	3	DES 131	MR
		Total	**15**		

SECOND YEAR (30 CREDITS)

Term	Course #	Title	Credit	Prerequisite	Fulfills
Fall	VIS 201	Graphic Design Studio I	3	DES 100, 112 and 132; DES 121 or 122; MTH XXX; and COM 101 or 102	MR
	VIS 221	Photography Basics	3	DES 100, 112 and 132; DES 121 or 122; MTH XXX; and COM 101 or 102	MR
	VIS 230	Digital Media in VisCom	3	DES 100, 112 and 132; DES 121 or 122; MTH XXX; and COM 101 or 102	MR
	MTH XXX	Mathematics Requirement	3		GE *Math 1 of*
	THM XXX	Thematic Option Course I	3		GE *Arabic 1 of 1 (or GED)*
		Total	**15**		
Spring	VIS 202	Graphic Design Studio II	3	VIS 201, 221 and 230	MR
	VIS 213	Illustration Drawing	3	VIS 201, 221 and 230	MR
	VIS 360	Fundamentals of Media Theory	3	DES 112, 132	MR
	COM 231	Writing for Visual Media	3	COM 102	GE *Communication 3 of 4*
	THM XXX	Thematic Option Course II	3		GE *GED 3 of 5 (or Arabic)*
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Prerequisite**	**Credit**	**Fulfills**
Fall	VIS 301	Graphic Design Studio I	3	VIS 202, 213 and 360	MR
	VIS XXX	Advised electives (at least two of the following for a total of 6 credits)			
		VIS 311 Illustration Design or	3	or concurrent:	ME *1 & 2 of 6*
		VIS 320 Multiples I or	3	MUM 301 or VIS 301	
		VIS 321 Photo Journalism	3		
	VIS 361	The Media Industry	3	COM 101 or 102	MR
	THM XXX	Thematic Option Course III	3		GE *GED 4 of 5*
		Total	**15**		
Spring	VIS XXX	Advised electives (at least two followin for a total of 6 credits)			
		VIS 312 Illustration Genres	3	on concurrent:	ME *3&4 of 6*
		VIS 322 Multiples II	3	MUM 301 or VIS 301	
		VIS323 Photography for Comm.	3		
	VIS 397	Internship	3	MUM 301	MR
	SCI XXX	Science Requirement	3		GE *Science 1 of*
	THM XXX	Thematic Option Course IV	3		GE *GED 5 of 5*
		Total	**15**		

FOURTH YEAR (32 CREDITS)					
Term	**Course #**	**Title**	**Prerequisite**	**Credit**	**Fulfills**
Fall	VIS 401	Senior Graphic Design Studio	4	VIS 301	MR
	VIS 410	Senior VisCom Studio	3	Any 4 of: VIS 311, 312, 320, 321, 322, 323	MR
	SCI XXX	Science Requirement	3		GE *Science 2 of 2*
	COM 235	Communication in Advertising	3	COM 102	GE *Communication 4 of 4*
		Free Elective	3		FE *1 of 3*
		Total	**16**		
Spring	VIS 402	Senior Graphic Design Portfolio	4	VIS 401	MR
	VIS 420	Senior VisCom Portfolio	3	VIS 410	MR
	MUM/VIS XXX	Major Elective	3	MUM 301 or VIS 301	ME *5 of 5*
		Free Elective	3		FE *2 of 3*
		Free Elective	3		FE *3 of 3*
		Total	**16**		
		Total for the degree	**122**		

Abbreviations: **MR**: Major Requirement, **GE:** General Education Requirement, **ME**: Major Elective, **FE**: Free Elective, **EPT**: English Placement Test, **MPT**: Math Placement Test

Graduate Program in Urban Planning

Purpose

The Graduate Certificate in Urban Planning Program (GCUPP) is a one-year, five-course (15-credits) certificate program. The program is offered by the Institute of Urban and Regional Planning and Design (IURPD), a university-wide, interdisciplinary academic unit whose primary mission is to promote the education, research, training, and practice of urban planning and urban design. The first courses of the GCUPP were offered in Spring 2002.

The certificate program is intended to provide individuals with basic graduate level instruction in urban planning. As a professional field, urban planning is concerned with helping create convenient, healthful, efficient, and inspiring environments for people. It is about creating better environments for present and future generations in which to live, work, entertain, and engage in their customary community, social, religious, and cultural activities. Urban planners deal with diverse issues related to transportation, housing, community facilities, commercial areas, public safety, open space, urban design, land use and real estate development.

Students of the certificate program are expected to be individuals with a university degree in Engineering, Architecture, Business, or any sub-field in the Humanities or the Social Sciences (such as history, geography, sociology, English, biology, etc.). They will find a graduate education in urban planning at AUS a unique opportunity to widen their horizons, get ahead in their professional practice, and make a positive contribution to the urban environment they inhabit. Graduates of the certificate program will be better equipped to deal with the myriad of emerging challenges of living in urban settings. Courses will be held on evenings and weekends to meet the scheduling constraints of working professionals. Like all other AUS courses, instruction is in English.

Curriculum

The curriculum for the graduate certificate program is designed with particular consideration of a larger curriculum for a Master of Urban Planning, which is under consideration by AUS. The certificate program is designed to provide students with a set of courses that cover the very basics of the discipline of urban planning. In addition, the curriculum allocates one course to learning Geographic Information Systems (GIS), an increasingly essential research tool with far reaching practice application and use. Moreover, through offering the course UPL 588 (Special Topics in Planning), the program affords students the opportunity to advance their skills in an area of planning subspecialty (transportation, urban design, land use planning, housing, etc.). The specific content of this course will be determined after the first group of students are enrolled, and their interests and backgrounds known. Depending on the number and interests of students enrolled, and pending budgetary considerations, there might be more than one section offered of this particular course: one in transportation planning and another in land use planning.

Admision Rrquirements and Procedure

The admission requirements and procedures are consistent with those of AUS, particularly with those of other certificate programs already existing. To qualify for admission, the applicant must meet the following minimum educational requirements:

1) Must hold a 4-year university degree (from an accredited institution) with a minimum grade point average (GPA) of 2.5 on a scale of 4.0.
2) Must be proficient in English. The minimum TOEFL score of 500 or its equivalent is required.

Applicants who do not meet the GPA and/or the TOEFL/English proficiency requirements, but have a considerable relevant experience and/or have a higher GPA in a relevant course of study, will be considered for admission. A special admission status may be offered as a preliminary step towards full admission.

Applicants must complete an AUS application form and pay the required, non-refundable application fees (AED 150). Applicants must submit an official grade transcript, an official copy of the university degree obtained, and, if available, proof of English proficiency and/or other tests (e.g., TOEFL, GRE, etc.). In addition, the applicant must submit two letters of recommendation provided by individuals familiar with the applicant's academic and/or professional qualifications. The letters must be typed on the author's organization official letterhead.

In some cases, and upon the discretion of the Urban Planning Program Coordinator, a personal interview may be deemed necessary to better assess the applicant's qualifications for the certificate program. In such a case, the applicant will be contacted by the Office of Admissions to arrange for the interview.

The university is planning a Master of Urban Planning degree program. It is expected that the program will be submitted to the UAE Ministry of Higher Education and Scientific Research for evaluation and accreditation during the 2002-2003 academic year. The courses offered in this graduate certificate will be included in the proposed Master's program.

School of Business and Management

Dean
Wadiah Atiyah

Associate Dean
Zeinab Karake-Shalhoub

The American University of Sharjah School of Business and Management provides a high quality professional educational experience. The effective business professional of today must have competence in many disciplines, an understanding of a wide variety of relationships and the ability to analyze evolving business requirements. Regardless of the specialty area, the business professional must be an effective leader who knows how to organize and motivate groups to serve the goals of the organization. Effectively adapting business practices to emerging conditions, such as the accelerating growth of technology, communications and the internationalization of the business world, demands a thorough grasp of current business processes, theory and application. Through its pedagogy, the School of Business and Management:

- Prepares individuals to identify, analyze and understand the interrelationships among business organizations and international and domestic institutions in the Emirates, the Gulf States, and throughout the world
- Develops individuals who can lead organizations toward economic success and social and environmental responsibility in the global marketplace of the twenty-first century
- Prepares individuals to integrate information resources and technology to enable them to anticipate and manage change
- Advances students' knowledge of issues and practices affecting business organizations, international and domestic institutions and governments
- Develops an awareness of societal and environmental needs and concerns as they relate to ethical, professional and socially responsible business practices

Furthermore, the School of Business and Management provides its students with a solid core business education that emphasizes the following teaching methodologies:

- Cutting-edge business education, utilizing the latest American business methods, techniques and technologies
- Integrated multidisciplinary approaches to teaching and learning, utilizing the latest business theories coupled with real world business data analysis and presentations
- Multimedia computer based instruction integrated throughout the business curriculum to assist students in learning the latest techniques in business and management
- Research conducted using on-line electronic libraries with thousands of up-to-date business journals and databases

Faculty

The faculty of the School of Business and Management combine a scholarly record of research in the business field with years of practical corporate work experience. The faculty blend their academic and professional experience to create a class environment that is challenging, stimulating and applicable to the business world in the Gulf region and internationally.

Professor
James Grant (Marketing)
David Hunt (Management)
Zeinab Karake-Shalhoub (Information Systems)
George Kostopoulos (Information Systems)
Dennis Olson (Finance)

Associate Professor
Stephen Blythe (Accounting)
Reagan McLaurin (Chair, Accounting & Finance)
Louis Mottola (Quantitative Methods)
Gayle Russell (Finance)
Lewis Tucker (Marketing)
U. Jay Wiersma (Management)

Assistant Professor
Osamah Al Khazali (Finance)
Jorg Bley (Finance)
Abdelkader Daghfous (Information Systems)
Christo El Morr (Information Systems)
Daniel George (Management)
Patrice Gelinas (Finance)
Kermit Kuehn (Chair, Management & Marketing)
Brent McCallum (Accounting)
Donelda McKechnie (Marketing)
Ralph Palliam (Finance)
Sofiane Sahraoui (Information Systems)
Nasreen Shah (Information Systems)

Instructor
Najat Capar (Management)
Anthony Farah (Information Systems)
Toufic Saifi (Information Systems)
Ronald Williams (Accounting)

Adjunct Faculty
Alexander Abdennur (Management)
Wadad Cook (Marketing)
Virginia Jeker (Business Law)
Fadi Khlat (Accounting)
Romila Palliam (Accounting)
Joan Shams (Business Law)

Admission and Requirements

Students who qualify for admission to AUS as freshmen, may enroll in the School of Business and Management. Due to the quantitative emphasis of the business administration curriculum, students admitted into the Bachelor of Science in Business Administration (BSBA), Bachelor of Science in Management Information Systems (BSMIS) or Bachelor of Science in Finance (BSFIN) programs are required to take the Mathematics and Computer Literacy Placement Examinations. Initially all business students are enrolled in the B.S.B.A. program. Upon completion of at least 60 credits of study with a grade point average of 2.5 or higher a student may apply for acceptance to the BSMIS or the BSFIN.

Transfer students may be given credits for courses completed in the institution from which they are transferring. A grade of B or better must be achieved in business and related courses in order for them to be considered as transfer credits to the School of Business and Management.

Students wishing to transfer from other

schools at AUS may be considered for admission to the School of Business and Management only if they meet the school's minimum academic standards.

All BSBA, BSMIS and BSFIN transfer students are required to take MGT406 Business Policy and Strategy and at least 30 upper-level credits towards their concentration requirements. Transfer credits for upper-division business courses are subject to approval by the appropriate School of Business department. Transfer credit may be conditional upon the successful completion of a more advanced course at the American University of Sharjah.

Undergraduates Graduation Requirements

A minimum of 123 credits as follows:

- 42 credits of university education requirements
- 3 credits of additional English Communication
- 6 credits of additional mathematics and quantitative methods requirements
- 33 credits of core business courses
- 30 credits of business concentration requirements
- 9 credits of free electives

Designated Requirements

All School of Business and Management students must take the courses listed below as part of their university general education or school requirements:

- COM 225 Global Business Communication (formerly COM 206) - satisfies a general education English Communication requirement
- COM 208 Public Speaking - satisfies the school oral communication requirement
- ECO 201 Principles of Microeconomics - satisfies a university general education social science requirement
- ECO 202 Principles of Macroeconomics - satisfies a general education social science requirement
- MTH 101 Math for Business I - satisfies the general education math requirement
- MTH 102 Math for Business II - satisfies the school requirement
- THM 201& THM 202(*) Andalusian Symbiosis I & II - satisfy a university general education theme course sequence.
- QAN 201 Introduction to Statistics - satisfies a university general education statistics requirement.
- QAN 202 Quantitative Analysis for Decision Making - satisfies a school requirement
- BUS 392 Resume Writing and Interviewing Skills - a six-week, zero-credit course, graded on a pass-fail basis and mandatory for all juniors.

Maximum Course Loads in SBM

First semester freshmen are permitted to take a maximum of five courses (16 credits), including 00-level courses. Second-semester freshmen and sophomores in SBM may register for a sixth course during the add/drop period if they meet ALL of the following criteria:

- Have a cumulative GPA of at least 3.2,
- Took no 00-level courses in the previous semester,
- Have no grade below C in the previous semester,
- Successfully completed a minimum of 15 credits in the previous semester.

Juniors may register in more than up to six courses per semester during regular registration if they have a minimum cumulative GPA of 3.2 or by permission from the Associate Dean. Seniors may register for up to six courses (19 credits) if they meet the minimum general education requirements to do so.

University Free Electives

For students entering SBM in the Fall 2002 semester, the 9 credits of free electives must be taken outside the School of Business and Management.

Calculator Policy

All students taking courses in the School of Business and Management are required to have their own wireless laptop computers as specified by the School of Business and Management. Please check with the School regarding the specifications.

Students taking any course in the School of Business and Management may be required to use the Texas Instrument BAII Plus in exams, quizzes, or any other form of evaluation. No other calculator models will be allowed. If a student does not have the required model for an evaluation, the student will have to take the evaluation without any calculator.

Additional fees may be charged for certain courses that require supplementary materials provided by the School.

Business Administration Programs

The business administration program provides students with a business core that offers a broad knowledge of business functions while emphasizing the global business environment. In addition to the business core, the student must also complete a major area of specialization in finance or MIS or any combination of two areas of concentration from accounting, finance, management, marketing, and MIS. For non-SBM students, SBM also offers a minor in business administration.

Bachelor of Science in Business Administration (B.S.B.A.)

The objectives of the B.S.B.A. program are to:

- Develop an understanding of the UAE, American and international economic systems and the important relationship between business and society
- Develop a global perspective on business operations
- Provide a background in concepts, processes and institutions used in the production and marketing of goods and services and also in the financing of business organizations
- Provide a foundation in concepts and applications of accounting, quantitative methods and information technology
- Stimulate the students' intellectual curiosity, develop their ability to think creatively and reason logically and encourage their consideration of demographic diversity and ethical principles
- Allow students to concentrate in two

areas of business they are most interested in (i.e. accounting, finance, management, marketing, MIS)

Business Core

All School of Business and Management students must complete the following 33 credits (11 courses) of business core courses with a grade of C- or better, regardless of their areas of concentration.

ACC 201 Fundamentals of Financial Accounting

ACC 202 Fundamentals of Managerial Accounting

BLW 301Business Law

BIS 201 Business Information Systems

FIN 201 Fundamentals of Financial Management

FIN 301 Financial Statement Analysis

MGT 201 Fundamentals of Management

MGT 360 Business Ethics & Social Responsibility

MGT 406 Business Policy and Strategy

MIS 201 Fundamentals of Management Information Systems

MKT 201 Fundamentals of Marketing

Areas of Concentration

The School of Business and Management provides its students with the opportunity to pursue a concentration in two out of five areas of business specialization: accounting, finance, marketing, management, and management information systems.

Concentration in Accounting

The accounting concentration is designed to prepare graduates for management careers in the fields of accounting, financial management and consulting. Students who pursue this concentration will develop specific business competencies dealing with the financial management of private and public corporations. Furthermore, this concentration is designed to enable students who wish to continue with graduate study to qualify for professional certification, such as the CPA certificate (Certified Public Accountant) in the United States. Courses required for the accounting concentration are:

ACC 301 Intermediate Financial Accounting I

ACC 302 Intermediate Financial Accounting II

ACC 303 Cost Accounting (Normally offered only in Fall semester)

ACC 304 Auditing (Normally offered only in Spring semester)

ACC 401 Advanced Financial Accounting (Normally offered only in Fall semester)

Concentration in Finance

This concentration offers students an integrative approach to the fields of banking and finance. Students will develop the analytical tools and theoretical framework necessary to analyze and understand the financial and banking sectors. Furthermore, this concentration provides the essential tools for understanding investments, capital markets, financial management and financial institutions. Students will also develop competencies in the banking sector with regard to management of financial instruments, markets and risk management. Courses required for the finance concentration are:

FIN 302 Financial Markets and Institutions (Normally offered only in Fall semester)

FIN 303 Investment Analysis

FIN 403 Commercial Banking (Normally offered only in Fall semester)

FIN 404 Portfolio Management (Normally offered only in Fall semester)

FIN 405 Advanced Financial Management (Normally offered only in Spring semester)

Finance Electives (Not offered every semester, check course descriptions)

FIN 304 Real Estate Finance

FIN 306 Insurance and Financial Planning

FIN 394 Special Topics—Finance

FIN 401 International Finance

FIN 402 Futures and options

Field Trip

Proposed Course Sequence of Study

Bachelor of Science in Business Administration

Concentration: in Accounting & Finance

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT score 4 or COM 001	GE
	ECO 201	Principles of Microeconomics	3		GE
	MTH 101	Math for Business I	3	Pass Placement Test or MTH 002	GE
	BIS 201	Business Information Systems	3	Pass Placement Test or BIS 001	CR
	QAN 201	Introduction to Statistics	3		GE
		Total	**15**		
Spring	ACC 201	Fundament. Of Financial Accounting	3	QAN201	CR
	QAN 202	Quantitative Analysis for Decision Making	3	QAN201	CR
	COM 102	Writing and Reading Across the Curriculum	3	COM101 or Placement Test Waiver	GE
	ECO 202	Principles of Macroeconomics	3		GE
	MTH 102	Math for Business II	3	MTH 101	GE
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 204	Advanced Academic English	3	COM 102	GE
	MGT 201	Fundamentals of Management	3	COM102	CR
	ACC 202	Fundamentals of Managerial Accounting	3	ACC201, COM102	CR
	FIN 201	Fundamentals of Financial Management	3	ACC 201, QAN 202, COM102, MTH102 (Concurrent)	CR
	THM 201	The Andalusian Symbiosis I	3	COM102	GE
		Total	**15**		
Spring	COM 208	Public Speaking	3	COM 102	CR
	COM 225	Global Business Communication	3	COM204	
	MKT 201	Fundamentals of Marketing	3	ECO 201, ECO 202, ACC201	CR
	MIS 201	Fundamentals of MIS	3	BIS201, ACC201, QAN201	CR
	THM 202	The Andalusian Symbiosis II	3	COM102	GE
		Total	**15**		

THIRD YEAR (33 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	FIN 301	Financial Statement Analysis	3	ACC202, FIN201	CR
	FIN 302	Financial markets and institutions	3	FIN201, ACC202	MR
	ACC 301	Intermediate Financial Accounting I	3	ACC202, FIN201	MR
	ACC 303	Cost Accounting	3	ACC202, FIN201	MR
	THM xxx	Theme Course	3	COM102	GE
	BUS392	Resume writing and Interviewing Skills	0	Business Junior Standing	CR
		Total	**15**		
Spring	MGT 360	Business Ethics & Social Responsibility	3	MGT201, ACC202, FIN201	CR
	ACC 302	Intermediate Financial Accounting II	3	ACC301	MR
	FIN 303	Investment Analysis	3	FIN201, ACC202	MR
	ACC 304	Auditing	3	ACC302	MR
	THM xxx	Theme Course	3	COM 102	GE
	XXX	Science Elective	3		GE
		Total	**18**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	FIN 404	Portfolio Management	3	FIN 303	MR
	FIN 403	Commercial Banking	3	FIN 302	MR
	BLW 301	Business Law	3	ACC201, ECO202	CR
	THMXXX	Theme Course	3		GE
	ACC401	Advanced Financial Accounting	3	ACC302	MR
		Total	**15**		
Spring	FIN 405	Advanced Financial Management	3	FIN 303	MR
	MGT 406	Business Policy & Strategy-Capstone	3	Senior Business Standing, FIN201, MGT201, MKT201, MIS201	CR
	XXX	Free Elective	3		GE
	XXX	Free Elective	3		GE
	XXX	Free Elective	3		GE
		Total	**15**		

**Substitutions for upper level accounting and finance courses are done in exceptional cases upon approval of department chair.*

Concentration in Management

The Management concentration offers professional training in the complex art of human management as it relates to corporate and organizational behavior in the business world. The field of management requires knowledge of individual and group behavior, the processes of perception and how people select and interpret information. This concentration provides the tools and skills necessary to manage simultaneous complex tasks and objectives through rigorous project management training and project simulations. Students will gain an understanding of the importance of management to society and organizations, and how management can be a force for positive change in a rapidly changing business environment. Courses required for the Management concentration include:

MGT 301 Organizational Behavior

MGT 302 Managing Human Resources

MGT 303 Management and Leadership Development (Normally offered only in Fall semester)

MGT 380 Project Management, or approved management elective

MGT 403 Entrepreneurship (Normally offered only in Spring semester)

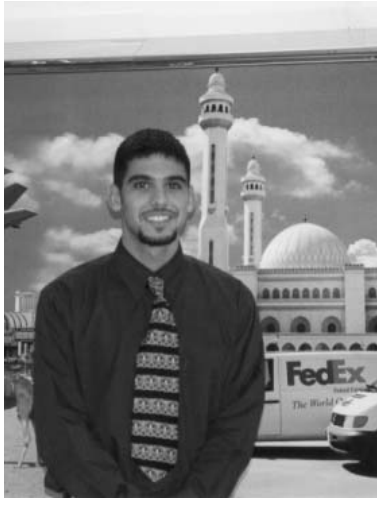
Concentration in Marketing

Students in this concentration study the practical application of marketing concepts such as procedures for developing promotions, pricing of products, distribution channels and sales management strategies. Furthermore, heavy emphasis is placed on market research utilizing statistical analytical techniques, consumer behavior and a variety of market programming methodologies. Particular emphasis is placed on interpersonal communication techniques and on the practical application of marketing concepts as they relate to sales management. Courses required for the Marketing concentration are:

MKT 301 Consumer Behavior
MKT 302 Marketing Research
MKT xxx Marketing Elective
MKT xxx Marketing Elective
MKT 401 Marketing Strategy

Marketing Electives (Offerings vary each semester; consult department for typical offerings)

MKT 303 E-Commerce
MKT 304 Sales Management
MKT 305 Retailing Management
MKT 309 International Marketing
MKT 394 Special Topics in Marketing
BUS 394 International Study Tour or BUS 397 Business Internship



Internship - MIS Major
Fed-Ex - Testing new softaware

Proposed Course Sequence of Study

Bachelor of Science in Business Administration

Concentration: in Marketing & Management

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT score 4 or COM 001	GE
	ECO 201	Principles of Microeconomics	3		GE
	MTH 101	Math for Business I	3	Pass Placement Test or MTH 002	GE
	BIS 201	Business Information Systems	3	Pass Placement Test or BIS 001	CR
	QAN 201	Introduction to Statistics	3		GE
		Total	**15**		
Spring	ACC201	Fundamentals of Financial Accounting	3	QAN201	CR
	QAN202	Quantitative Analysis for Decision Making	3	QAN201	GE
	COM102	Writing and Reading Across the Curriculum	3	COM101 or Placement Test Waiver	GE
	ECO 202	Principles of Macroeconomics	3		GE
	MTH 102	Math for Business II	3	MTH 101	GE
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM204	Advanced Academic English	3	COM 102	GE
	MGT201	Fundamentals of Management	3	COM102	CR
	ACC202	Fundamentals of Managerial Accounting	3	ACC201, COM102	CR
	FIN201	Fundamentals of Financial Management	3	ACC 201, QAN 202, COM102, MTH102 (Concurrent)	CR
	THM201	The Andalusian Symbiosis I	3	COM102	GE
		Total	**15**		
Spring	COM208	Public Speaking	3	COM 102	CR
	COM225	Global Business Communication	3	COM204	CR
	MKT201	Fundamentals of Marketing	3	ECO 201, ECO 202, ACC201	CR
	MIS201	Fundamentals of MIS	3	BIS201, ACC201, QAN202	CR
	THM202	The Andalusian Symbiosis II	3	COM102	GE
		Total	**15**		

THIRD YEAR (33 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MKT301	Consumer Behavior	3	MKT 201, ACC202, FIN201	MR
	MGT301	Organizational Behavior	3	MGT 201, ACC 202, FIN 201	MR
	BLW301	Business Law	3	ACC 201, ECO 202	CR
	FIN301	Financial Statement Analysis	3	ACC 202, FIN 201	CR
	THM xxx	Theme Course	3	COM 102	GE
	BUS392	Resume writing and Interviewing Skills	0	Business Junior Standing	CR
		Total	**15**		
Spring	MGT302	Managing Human Resources	3	MGT 201, ACC 202, FIN 201	MR
	MKT302	Marketing Research	3	MKT 201, ACC 202, FIN 201	MR
	MGT380	Project Management	3	MIS 201, MGT 301	MR
	MGT360	Bus. Ethics & Social Responsibility	3	MGT201, ACC 202, FIN 201	CR
	THM xxx	Theme Course	3	COM 102	GE
	XXX	Science Elective	3		GE
		Total	**18**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MGT303	Mgt & Leadership Development	3	MGT 301	MR
	MGT403	Entrepreneurship	3	University Senior Standing or Permission	MR
	MKT xxx	Marketing Elective	3	MKT 201, ACC 202, FIN 201	MR
	XXX	Science Elective	3		GE
	XXX	Free Elective	3		GE
		Total	**15**		
Spring	MKT xxx	Marketing Elective	3	MKT 201, ACC 202, FIN 201	MR
	MKT401	Marketing Strategy	3	MKT 301, MKT 302	MR
	MGT406	Business Policy & Strategy	3	Senior Business Standing, FIN201, MGT201, MKT201, MIS201	CR
	XXX	Free Elective	3		GE
	XXX	Free Elective	3		GE
		Total	**15**		

**Substitutions for upper level accounting and finance courses are done in exceptional cases upon approval of department chair.*

Concentration in Management Information Systems

Managers and non-managers alike depend upon information for decision-making. To be useful, information must be understandable, timely, thorough, focused and distributed to the appropriate individual. Accomplishing all this is the challenge of management information systems. In this concentration, students will acquire professional skills in the areas of computer-based information systems, networks, communications, data analysis and other skills needed by this expanding field of information technology management. Courses required for the management information systems concentration are:

MIS 200 Business Process Logic
MIS 301 Fundamentals of Database Management
MIS 303 Introduction to Systems Analysis
MIS 304 Applied Systems Design
MIS xxx MIS Elective

MIS Electives (Not offered every semester, check course descriptions)
MIS 300 Business Data Communications
MIS 302 Advanced Database Management
MIS 394 Special Topics in MIS
MIS 402 Knowledge Management
MIS 404 Internet Business Applications
MIS 496 Independent Study in MIS

Proposed Course Sequence of Study

Bachelor of Science in Business Administration

Concentration: in Accounting & MIS

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM101	Academic Writing	3	EPT score 4 or COM 001	GE
	ECO201	Principles of Microeconomics	3		GE
	MTH101	Math for Business I	3	Pass Placement Test or MTH 002	GE
	BIS201	Business Information Systems	3	Pass Placement Test or BIS 001	CR
	QAN201	Introduction to Statistics	3		GE
		Total	**15**		
Spring	ACC201	Fundamentals of Financial Accounting	3	QAN 201	CR
	QAN202	Quantitative Analysis for Decision Making	3	QAN 201	CR
	ECO202	Principles of Macroeconomics	3		GE
	COM102	Writing & Reading Across the Curriculum	3	COM 101 or Placement Test Waiver	GE
	MIS200	Business Process Logic	3	MTH101, BIS201	
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ACC202	Fundament of Managerial Accounting	3	ACC 201, COM 102	CR
	COM204	Advanced Academic English	3	COM 102	GE
	FIN201	Fundamentals of Financial Management	3	ACC 201, COM 102, QAN202, MTH102 (Concurrent)	CR
	THM201	The Andalusian Symbiosis I	3	COM 102	GE
	MTH102	Math for Business II	3	MTH 101	GE
		Total	**15**		
Spring	MKT201	Fundamentals of Marketing	3	ACC 201, ECO 201, ECO 202	CR
	MGT201	Fundamentals of Management	3	COM 102	CR
	COM225	Global Business Communications	3	COM 204	GE
	MIS201	Fundamentals of MIS	3	ACC 201, BIS 201, QAN202	CR
	THM202	The Andalusian Symbiosis 2	3	COM 102	GE
		Total	**15**		

THIRD YEAR (33 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MIS301	Fundamentals of Database Management	3	MIS200, MIS201, FIN201, ACC202	MR
	MIS303	Introduction to Systems Analysis	3	MIS200, MIS201, FIN201, ACC202	MR
	ACC301	Intermediate Financial Accounting I	3	ACC202, FIN201	MR
	ACC303	Cost Accounting	3	ACC202, FIN201	MR
	COM208	Public Speaking	3	COM 102	GE
		Total	**15**		
Spring	ACC302	Intermediate Financial Accounting II	3	ACC 301	MR
	BLW301	Business Law	3	ACC 201, ECO 202	CR
	MIS xxx	MIS Elective	3	MIS201, FIN201, ACC202	MR
	MIS304	Applied Systems Design	3	MIS 303	MR
	FIN301	Financial Statement Analysis	3	ACC 202, FIN 201	CR
	XXX	Theme Course	3	COM102	GE
		Total	**18**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ACC401	Advanced Financial Accounting	3	ACC 302	MR
	MGT360	Business Ethics & Social Responsibility	3	ACC 202, FIN 201, MGT 201	CR
	XXX	Theme Course	3	COM102	GE
	XXX	Science Elective	3		GE
	XXX	Free Elective	3		GE
	BUS392	Resume writing and Interviewing Skills	0	Business Junior Standing	CR
		Total	**15**		
Spring	MGT406	Business Policy & Strategy	3	Senior Bus. Standing, FIN201, MGT201, MKT201, MIS201	CR
	ACC304	Auditing	3	ACC 302	MR
	XXX	Science Elective	3		GE
	XXX	Free Elective	3		GE
	XXX	Free Elective	3		GE
		Total	**15**		

**Substitutions for upper level accounting courses are done only in exceptional cases upon approval of the department chair.*

Proposed Course Sequence of Study

Bachelor of Science in Business Administration

Concentration: in MIS & Marketing

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM101	Academic Writing	3	EPT score 4 or COM 001	GE
	ECO201	Principles of Microeconomics	3		GE
	MTH101	Math for Business I	3	Pass Placement Test or MTH 002	GE
	BIS201	Business Information Systems	3	Pass Placement Test or BIS 001	CR
	QAN201	Introduction to Statistics	3		GE
		Total	**15**		
Spring	ACC201	Fundamentals of Financial Accounting	3	QAN 201	CR
	QAN202	Quantitative Analysis for Decision Making	3	QAN 201	CR
	ECO202	Principles of Macroeconomics	3		GE
	COM102	Writing & Reading Across the Curriculum	3	COM 101 or Placement Test Waiver	GE
	MIS200	Business Process Logic	3	MTH101, BIS201	
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ACC202	Fundament of Managerial Accounting	3	ACC 201, COM 102	CR
	COM204	Advanced Academic English	3	COM 102	GE
	FIN201	Fundamentals of Financial Management	3	ACC 201, COM 102, QAN202, MTH102 (Concurrent)	CR
	THM201	The Andalusian Symbiosis I	3	COM 102	GE
	MTH102	Math for Business II	3	MTH 101	GE
		Total	**15**		
Spring	MKT201	Fundamentals of Marketing	3	ACC 201, ECO 201, ECO 202	CR
	MGT201	Fundamentals of Management	3	COM 102	CR
	COM225	Global Business Communications	3	COM 204	GE
	MIS201	Fundamentals of MIS	3	ACC 201, BIS 201, QAN202	CR
	THM202	The Andalusian Symbiosis 2	3	COM 102	GE
		Total	**15**		

THIRD YEAR (33 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MIS301	Fundamentals of Database Management	3	MIS200, MIS201, FIN201, ACC202	MR
	MIS303	Introduction to Systems Analysis	3	MIS200, MIS201, FIN201, ACC202	MR
	MKT301	Consumer Behavior	3	MKT201, FIN201, ACC202	MR
	MKT302	Marketing Research	3	MKT201, FIN201, ACC202	MR
	COM208	Public Speaking	3	COM 102	GE
	BUS392	Resume writing and Interviewing Skills	0	Business Junior Standing	CR
		Total	**15**		
Spring	MKT xxx	Marketing Elective	3	MKT201, FIN201, ACC202	MR
	MIS xxx	MIS Elective	3	MIS201, FIN201, ACC202	MR
	BLW301	Business Law	3	ACC 201, ECO 202	CR
	MIS304	Applied Systems Design	3	MIS 303	MR
	FIN301	Financial Statement Analysis	3	ACC 202, FIN 201	CR
	XXX	Theme Course	3	COM102	GE
		Total	**18**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MKT xxx	Marketing Elective	3	MKT201, FIN201, ACC202	MR
	MGT 360	Business Ethics & Social Responsibility	3	ACC 202, FIN 201, MGT 201	CR
	XXX	Theme Course	3	COM102	GE
	XXX	Science Elective	3		GE
	XXX	Free Elective	3		GE
		Total	**15**		
Spring	MGT 406	Business Policy & Strategy	3	Senior Bus. Standing, FIN201, MGT201, MKT201, MIS201	CR
	MKT 401	Marketing Strategy	3	MKT301, MKT302	MR
	XXX	Science Elective	3		GE
	XXX	Free Elective	3		GE
	XXX	Free Elective	3		GE
		Total	**15**		

Bachelor of Science in Finance (B.S.FIN.)

Finance is the art and science of obtaining, administering and managing money. Along with management and marketing, finance is one of the basic business functions of the free enterprise system. Every organization must perform the finance function and almost every decision that organizations make has financial implications. Students majoring in finance are introduced to the theory, concepts, applications, institutional environment and analytical tools essential for proper decision-making.

The finance program develops the analytical and behavioral skills necessary for success in dynamic domestic and global financial environments. Courses are designed to provide students with an understanding of the relationship between business finance and the economic system in the context of the management decision-making process.

The appropriate use of technology, new organizational structures, entrepreneurial thinking and international awareness is integrated throughout the program. The goal of the finance program is to impart knowledge and competence in finance that will prepare students for entry-level and leadership positions in private and public sector organizations. Students seeking careers in real estate, corporate control, treasury functions and investments will find the finance major well suited for their needs.

Mission

The mission of the Bachelor of Science in Finance degree program is to provide students with a strong undergraduate foundation in the theory and application of finance, building upon a liberal arts and science education. The finance program is intended to prepare students for graduate study in finance as well as to provide them with the financial concepts and tools necessary for positions in government, business and industry, both nationally and internationally.

The finance department provides courses for students in the School of Business and Management and the university that are appropriate for the business core requirements and for students seeking general knowledge of the application of finance in business.

The finance program is also committed to excellence in teaching. In a discipline that constantly evolves, it is important for the faculty and the curriculum to remain current. As such, the program encourages applied research and business consulting as methods of remaining current and bringing new thought and developing practices to the classroom.

The program recognizes the importance of having faculty with diverse interests and talents. Each faculty member is encouraged to use his or her strengths to contribute to the university, professional community, larger community and discipline.

Objectives of the Finance Program

The objectives of the program are to:

- Provide a quality education to students that will prepare them for leadership positions within the finance profession. Students acquire financial knowledge and skills that can be applied in a variety of environments.
- Help students understand the process of integration and applying core competencies and skills in business or business-related environments and/or situations
- Allow students to prepare and take the examinations of Chartered Financial Analyst (CFA) and Certified Financial Planner (CFP)
- Provide students with knowledge of the problems and opportunities that confront entities in the specific field of finance
- Provide students with an education that emphasizes the concepts of financial management, investment problems, capital markets, business ethics and decision making strategies

- Prepare students to be productive professionals who can make responsible decisions in a changing world
- Create students who are able to focus on the challenges found in an educational environment that emphasizes high quality teaching and learning
- Enhance students' learning processes through applied research and instructional development while recognizing the contribution of basic research

The required curriculum in finance provides students with a basic foundation in financial management and exposure to the nature and operations of the financial markets. Building upon this foundation, students may expand their knowledge with courses in banking, international finance, portfolio management, intermediate accounting, intermediate economics, calculus and statistics.

Unique Features of a B.S. in Finance at AUS

The Bachelor of Science in Finance degree program at AUS has a number of distinctive features that provide AUS graduates a competitive advantage in today's business world:

- Analytical tools to handle a variety of finance and business functions are developed throughout the program. Courses are designed to provide students with an understanding of the relationship between business finance and the economic system in the context of the management decision-making process
- The appropriate use of technology, new organizational structures, entrepreneurial thinking and international awareness are integrated into the majority of courses
- The finance curriculum is integrated with other business courses and non-business courses such as mathematics, statistics, English, psychology and economics
- Critical thinking is developed through an active learning process. The curriculum in finance helps the students acquire good analytical and communication skills and keep abreast of current economic and political developments
- The required curriculum in finance provides students with a basic foundation in finance and an exposure to the nature and operations of the financial markets. Building upon this foundation, students may expand their knowledge by electing courses in banking, international finance, portfolio management and more
- Faculty research findings are integrated into the curriculum. The School of Business and Management encourages scholarly work because it helps the faculty member update his or her knowledge and is incorporated into the classroom
- The program, with its partnerships in the business world, encourages faculty members to engage in applied research and business consulting as methods of remaining current and bringing new thought and developing practices to the classroom

Competencies at Time of Graduation

Below is a sample of the skills students will take away with them to utilize in their careers in finance:

- Solving problems
- Making_ decisions
- Developing budgets
- Preparing financial reports and projections
- Assessing risk
- Defining problems and designing solutions
- Interpreting accounting and financial data
- Presenting reports and proposals to groups
- Utilizing computer software for analysis and reports

Professional Outlook for Finance Graduates

Finance consists of three interrelated areas where graduates can practice: (1) financial management, which involves decisions within firms, (2) investment, which focuses on the decisions made by both individual and institutional investors as they choose securities for their investment portfolios, and (3) money and capital markets, which deals with securities markets and financial institutions.

Curriculum Design Philosophy

Finance, as an area of study, is designed to promote an analytical appreciation of the financial system and the financial decision-making process as determinants of the economic wealth of individuals, business firms, governments and countries.

The finance curriculum works in tandem with the broad university requirements. The university's emphasis of general requirements mirrors the School of Business and Management philosophy that the purpose of higher education is to create a well-rounded individual who is conversant not only in his or her specialty, but who also has a broad understanding of the humanities as well as natural and social sciences. The emphasis on the common body of knowledge for business students ensures that future finance professionals understand the concepts of assets' evaluation, investment and raising funds.

Admission and Requirements

Students must meet university general admission requirements and complete the common prerequisite courses listed in the catalog. Students can declare a major in finance at the end of their sophomore year after they complete the business foundation courses. A grade point average of 2.5 or better is required in the business foundation courses for the student to be considered for this major.

All BSFIN transfer students are required to take at least 30 upper-level credits towards their major requirements. Transfer credits for upper-division business courses are subject to approval by the appropriate School of Business department.

Program for Students Majoring in Finance

In addition to university and School of Business and Management requirements, the following finance and economics courses are required for finance majors:

Required Finance Core

FIN 302 Financial Markets and Institutions (Normally offered only in Fall semester)

FIN 303 Investment Analysis

FIN 402 Futures and Options (Normally offered only in Spring semester)

FIN 404 Portfolio Management (Normally offered only in Fall semester)

FIN 405 Advanced Financial Management (Normally offered only in Spring semester)

Finance Electives

Choose at least five courses from the following list with a minimum of three courses in finance and up to two courses in economics upon approval of department chair. Elective courses are not offered every semester (check course descriptions).

FIN 304 Real Estate Finance
FIN 306 Insurance and Financial Planning
FIN 394 Special Topics—Finance
FIN 401 International Finance
FIN 403 Commercial Banking
ECO XXX* Economics Elective
ECO XXX* Economics Elective

* Any 300-level or 400-level course in economics.

A recommended sequence of study is shown below for a representative student's four-year schedule.

Proposed Course Sequence of Study

Bachelor of Science in Finance

B.S. in Finance

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT score 4 or COM001	GE
	ECO 201	Principles of Microeconomics	3		GE
	MTH 101	Math for Business I	3	Pass Placement Test or MTH002	GE
	BIS 201	Business Information Systems	3	Pass Placement Test or BIS001	CR
	QAN 201	Introduction to Statistics	3		GE
		Total	**15**		
Spring	ACC 201	Fundamentals of Financial Accounting	3	QAN201	CR
	QAN 202	Quant. Analysis for Decision Making	3	QAN201	CR
	ECO 202	Principles of Macroeconomics	3		GE
	MTH 102	Math for Business II	3	MTH101	GE
	COM 102	Writing & Reading Across the Curriculum	3	COM101	GE
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ACC 202	Fundamentals of Managerial Accounting	3	ACC 201, COM 102	CR
	COM 204	Advanced Academic English	3	COM 102	GE
	MGT 201	Fundamentals of Management	3	COM 102	CR
	FIN 201	Fundamentals of Financial Management	3	ACC201, COM102, QAN202, MTH102 (Concurrent)	CR
	THM 201	The Andalusian Symbiosis I	3	COM 102	GE
		Total	**15**		
Spring	MKT 201	Fundamentals of Marketing	3	ACC201, ECO201, ECO202	CR
	MIS 201	Fundamentals of MIS	3	BIS201, ACC201, QAN202	CR
	FIN 301	Financial Statement Analysis	3	ACC202, FIN201	CR
	COM 208	Public Speaking	3	COM102	GE
	THM 202	The Andalusian Symbiosis II	3	COM102	GE
		Total	**15**		

THIRD YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	FIN302	Financial Markets and Institutions	3	FIN201, ACC202	MR
	FIN303	Investment Analysis	3	FIN201, ACC202	MR
	FIN304	Real Estate Finance	3	FIN 201, ACC202	MR
	BLW 301	Business Law	3	ACC 201, ECO 202	CR
	XXX	Science Elective	3		GE
		Total	**15**		
Spring	COM 225	Global Business Communications	3	COM204	GE
	FIN 402	Futures and Options	3	FIN303	MR
	FIN 405	Advanced Financial Management	3	FIN303	MR
	XXX	Theme Course	3	COM102	GE
	XXX	Scinece Elective	3		GE
	BUS392	Resume writing and Interviewing Skills	0	Business Junior Standing	CR
		Total	**15**		

FOURTH YEAR (33 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	FIN 403	Commercial Banking	3	FIN302	MR
	ECO xxx	Economics Elective	3		MR
	MGT 360	Business Ethics & Social Responsibility	3	ACC202, FIN201, MGT201	CR
	FIN 404	Portfolio Management	3	FIN 303	MR
	XXX	Theme Course	3		GE
	XXX	Free Elective	3		GE
		Total	**18**		
Spring	FIN401	International Finance	3	FIN303	MR
	FIN306	Insurance and Financial Planning	3	FIN201, ACC202	MR
	MGT406	Business Policy & Strategy	3	Senior Business Standing, MIS201, MGT201, MKT201, FIN201	CR
	XXX	Free Elective	3		GE
	XXX	Free Elective	3		GE
		Total	**15**		

** Substitutions for upper level finance courses are done in exceptional cases upon approval of department chair.*

Bachelor of Science in Management Information Systems (B.S.M.I.S.)

The Bachelor of Science in Management Information Systems (M.I.S.) program is dedicated to preparing successful graduates for professional business careers emphasizing the application of information technology to business processes and to engaging in service and research which serve the information technology needs of Society in general, and the Gulf region, in particular.

Information systems is the study of computer technologies, human cognition and scientific principles directed to the design, implementation and management of information systems. The discipline includes technical components such as computer programming, system design, telecommunications, database management systems and computer graphics as well as human factors in system design and human-computer interaction. The management information systems professional analyzes the significance of information in problem solving, investigates how to collect information, understands the need to validate information and evaluate information sources, appreciates the importance of sharing information with others, and determines how to utilize information in problem solving and decision making.

The problems solved by information systems graduates come from many disciplines such as mathematics, economics, business, engineering, linguistics and psychology, to name a few. As an information systems professional working on a problem in one of those areas, one must be knowledgeable in that discipline as well as in the capabilities and uses of computers. The successful information systems professional must possess considerable communication skills and must be able to learn new ideas quickly and adapt to ever-changing conditions to satisfy the needs of the users.

Mission

In the last three decades we have witnessed immense developments in computers and information technologies. The rate of new technical advances in recent years shows no signs of diminishing. Among the most noteworthy achievements are the implementation of microchip technology, the mass production of microcomputers, the reduction in the cost of manufacturing memories and processors, the development of distributed systems, parallel processors and database systems, the convergence of computing systems and telecommunications with the growth of LANs, WANs, and the Internet, and the increasing availability and power of software packages. These technical advances have brought computer-based data processing, word processing, on-line marketing, process monitoring, information resource sharing and managerial decision making to many more organizations than before. Presently, the task of information processing permeates the whole of each organization; the data processing department is ceasing to be an autonomous part. Increasingly, managers are turning to information services to assist their decision-making. In order to meet these challenges, more and more complex application systems often using databases or knowledge bases such as computer-integrated manufacturing, group decision support systems, automatic learning and diagnostic systems, are being introduced every day.

The rapid expansion of computer technology and the increasing complexity of information systems generate a need for more sophisticated and effective methods of structuring information for purposes of storage, analysis and retrieval. This requires information systems professionals to be aware of the opportunities and problems resulting from the application of computer technology and capable of understanding both the information needs of managers, administrators and other end-users and the information needs of designing the appropriate computer-based systems. Accordingly, the information analyst and system designer can no longer be regarded as technical experts only; in addition to having a professional knowledge and command of information technology, they must understand the basic needs of the organization in which they operate and of the users of the information systems which they develop. The B.S.M.I.S. will endeavor to educate students so that they can:

- Understand and plan for the use of current and emerging information technologies
- Develop a broad perspective of the integration of information technology in all functional areas of business
- Understand how to exploit information technology as a strategic resource
- Develop technical and managerial skills in the management information systems
- Integrate quality and continuous improvement concepts into information systems management
- Understand ethical issues related to the use of information technology

Objectives of the M.I.S. Program

The program objectives are to:

- Provide M.I.S. graduates with a curriculum that prepares them with the technical skills and conceptual knowledge necessary to succeed in an information systems career, primarily as business analysts
- Continuously improve students' skills and knowledge of emerging information systems approaches and technologies that have been identified and targeted for future development
- Provide service courses to students in the school and the university that are appropriate for the business core and for students seeking general knowledge of the applications of information systems in business
- Allow students to prepare and take the examinations for professional certifications such as OCP (Oracle Certified Professional), MSCP (Microsoft Certified Professional) and CISA (Certified Information Systems Auditor)
- Involve the faculty with the placement of students through contacts with potential employers, serving as references for students and advising students on job-search skills

- Enhance faculty interaction with information systems professionals to identify conceptual knowledge, technical skills and instructional methods appropriate for information systems careers
- Encourage faculty to engage in applied research in emerging technologies and approaches and publications of instructional development applied to the M.I.S. curriculum

M.I.S. Curriculum Outcomes

A successful graduate of the M.I.S. program should be able to:

- Create an application in a structured development environment to manipulate business data files using structured programming techniques
- Create GUI-based applications in an object-oriented programming language including the development of user interfaces, use of controls, writing/debugging code and the creation of interactive menus
- Apply data modeling techniques such as normalization and ER diagramming to create a database model
- Implement a database model in a relational database management system (RDBMS) such as ORACLE including the creation of tables, establishing referential integrity constraints, loading data, creating views and producing forms and reports using the RDBMS.
- Plan and manage a local area network including the creation of users, installation of software, establishment of security constraints, configuration of print services and configuration of clients
- Configure a web server and design a website
- Select and apply appropriate systems analysis and design methodologies and techniques to develop an information system for a business process
- Use modern application development products as prototyping tools in the systems development process
- Develop information system applications for solving business problems by completing a development project from initial requirements gathering to implementation
- Research emerging IS technologies and present recommendations to managers about the impact of those technologies on a business
- Design and implement web-based, interactive groupware applications to support collaborative work and to support access, tracking, sharing and organizing of information across time and space
- Apply telecommunication concepts to plan and manage wide-area networks and communicate plans to managers in both written and oral form

The curriculum is designed to be responsive to the rapidly changing role of information technology in the business environment. Courses cover current topics including: object-oriented analysis, design, programming, client server applications, using telecommunications for competitive advantage, electronic commerce, data mining and data warehousing, and technical and managerial issues related to the internet and corporate intranets. Advanced courses are designed for students who have completed the core and will challenge students to critically analyze issues faced by technology managers.

Unique features of a B.S.M.I.S. at AUS

The Bachelor of Science in Management Information Systems at AUS incorporates a number of distinctive features that set it apart from many other programs:

- Active learning methods that enhance the development of critical thinking abilities. The program curriculum places great emphasis on methods and skills of inquiry, analysis, judgment and decision making
- Courses that better integrate and reinforce general education requirements. The curriculum integrates, by extension and reinforcement in the M.I.S. field, the content and skills learned in basic courses such as English, accounting, marketing, economics
- A conceptual framework that cuts across functional areas. Courses in the M.I.S. curriculum are organized with an integrated conceptual structure common to all aspects of the discipline. This conceptual structure emphasizes the utility of information, together with information production and dissemination given various uses
- Better development and improvement of students' interpersonal and communication skills. These skills are reflected in the fabric of the curriculum through the use of team projects and written and oral reports
- Greater integration of research findings into the curriculum. M.I.S. courses to include knowledge gained through current research and related implications for the practice in the information technology field
- A working partnership between academe and practice is encouraged. The goal is to enable a continuous focus on the practical relevance of the educational process as well as a richer and more contemporary flavor to the content of course materials

Professional Outlook for Information Systems Graduates

A wide variety of rewarding professional opportunities are available to MIS graduates. These career options include the following:

- Analyzing and modeling work systems
- Analyzing and designing business processes
- Managing information services
- Evaluating and selecting business solutions
- Developing and maintaining advanced systems for information storage, retrieval and distribution
- Managing in information-intensive business environments
- Planning and managing IT-based organizational change programs
- Planning and developing the corporate data and system architecture
- Developing IS portfolios

Curriculum Design Philosophy

This curriculum design emphasizes the broad university requirements, the common body of knowledge for business students specified by accrediting entities, the specialized knowledge of information systems specified in model curricula developed by renowned professional societies, and hands-on training and practice of specialized computer skills and information technologies. The university's emphasis of general requirements echoes the School of Business and Management philosophy

that the purpose of higher education is to create a well-rounded individual who is knowledgeable not only in his or her specialty, but who also has a broad understanding of the humanities as well as natural and social sciences. The emphasis on the common body of knowledge for business students aids future information systems professionals understand the information needs of managers and other end-users, understand the linkages between information processes and other managerial processes and be aware of the ways to achieve overall organizational efficiency through designing effective information systems. The emphasis upon hands-on training and practice reflects our desire that students who complete this degree program must have working knowledge and skills in planning, analyzing, designing, and implementing information systems. These important issues will greatly differentiate the management information systems program from the computer science program and better match the increasing needs of a large number of businesses and public organizations. The curriculum is designed to ensure that a course selected either strengthens a student's understanding of the humanities, natural or social sciences, or improves the student's working knowledge of information systems planning, analysis, design, and implementation as it relates to the field of business.

Admission and Requirements

Students wishing to declare a major in management information systems may do so at the end of their sophomore year after demonstrating a high level of academic achievement in their business foundation courses. Students must apply, in writing, to the Dean of the School of Business and Management no later than the first week of May of their sophomore year. Usually a minimum Grade Point Average of 2.5 is required in the business foundation courses in order to be considered for this major.

For further information regarding admission, please refer to the School of Business and Management section on admission requirements.

Program for Students Majoring in MIS

In addition to university and School of Business and Management requirements, the following MIS and management courses are required for MIS majors:

MIS 200 Business Process Logic
MIS 300 Business Data Communications (Normally offered only in Fall semester)
MIS 301 Fundamentals of Database Management
MIS 302 Advanced Database Management (Normally offered only in Spring semester)
MIS 303 Introduction to Systems Analysis
MIS 304 Applied Systems Design
MIS 402 Knowledge Management (Normally offered only in Fall semester)
MIS 404 Internet Business Applications (Normally offered only in Fall semester)
MIS 405 Information Systems Strategy (Normally offered only in Spring semester)
MGT 380 Project Management

Proposed Course Sequence of Study

Bachelor of Science in Management Information Systems

B.S. in MIS

FIRST YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT score 4 or COM 001	GE
	ECO 201	Principles of Microeconomics	3		GE
	MTH 101	Math for Business I	3	Pass Placement Test or MTH 002	GE
	BIS 201	Business Information Systems	3	Pass Placement Test or BIS 001	CR
	QAN201	Introduction to Statistics	3		
		Total	**15**		
Spring	COM102	Writing and Reading Across the Curriculum	3	COM101 or Placement Test Waiver	GE
	ECO 202	Principles of Macroeconomics	3		GE
	MIS200	Business Process Logic	3	MTH101, BIS201	MR
	ACC 201	Fundamentals of Financial Accounting	3	QAN201	CR
	QAN 202	Quantitative analysis for decision-making	3	QAN201	GE
		Total	**15**		

SECOND YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	THM201	The Andalusian Symbiosis I	3	COM102	GE
	ACC202	Fundamentals of Managerial Accounting	3	ACC 201, COM102	CR
	MIS201	Fundamentals of MIS	3	BIS201, ACC201, QAN202	CR
	MGT 201	Introduction to Management	3	COM 102	CR
	MTH102	Math for Business II	3	MTH 101	GE
		Total	**15**		
Spring	COM204	Advanced Academic English	3	COM 102	GE
	COM208	Public Speaking	3	COM102	CR
	FIN201	Fundamentals of Financial Management	3	ACC 201, COM102, QAN 202, MTH102 (Concorrent)	CR
	MKT201	Introduction to Marketing	3	ECO 201, ECO 202, ACC201	CR
	THM202	The Andalusian Symbiosis II	3	COM102	GE
		Total	**15**		

THIRD YEAR (33 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM225	Global Business Communication	3	COM204	GE
	MIS300	Business Data Communications	3	MIS201, FIN201, ACC202	MR
	MIS301	Fundamentals of Database Management	3	MIS200, MIS201, FIN201, ACC202	MR
	MIS303	Introduction to Systems Analysis	3	MIS200, MIS201, FIN201, ACC202	MR
	FIN301	Financial Statement Analysis	3	ACC202, FIN201	CR
	BUS392	Resume writing and Interviewing Skills	0	Business Junior Standing	CR
		Total	**15**		
Spring	MGT360	Business Ethics & Social Responsibility	3	MGT201, ACC202, FIN201	CR
	MIS302	Advanced Database Management	3	MIS301	MR
	MIS304	Applied Systems Design	3	MIS303	MR
	BLW301	Business Law	3	ACC201, ECO202	CR
	MGT380	Project Management	3	MIS303	MR
	THMxxx	Theme Course	3	COM102	GE
		Total	**18**		

FOURTH YEAR (30 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MIS402	Knowledge Management	3	MIS303	MR
	MIS404	Internet Business Applications	3	MIS303	MR
	THMxxx	Theme Course	3	COM102	GE
	XXX	Science Elective	3		GE
	XXX	Free Elective	3		GE
		Total	**15**		
Spring	MIS405	Information Systems Strategy	3	Business Senior Standing, MIS304	MR
	MGT406	Business Policy & Strategy	3	Business Senior Standing, FIN201, MGT201, MKT201, MIS201	CR
	XXX	Science Elective	3		GE
	XXX	Free Elective	3		GE
	XXX	Free Elective	3		GE
		Total	**15**		

Minor in Business Administration

Students from other AUS college and schools can enroll in a minor specialization in one of the five areas of concentration within SBM. They must have approval of the department to do so. Interested students should meet with the relevant department before starting the minor in order to determine specific program requirements. Students must have completed 30 credits of coursework with a GPA of 2.5 or higher prior to taking the minor courses. A total of 18 credits are required as follows:

Prerequisites

ECO 201
ECO 202
COM 102
QAN 201 or STA 201 or STA 202 or NGN 111
BIS 201 (Not required of Students from Engineering and Computer Science).
One of three combinations (MTH 101 and MTH 102) or (MTH 100 and MTH 111) or (MTH 103 and MTH 104)

Foundation courses*

ACC 201
Foundation course in area of minor specialization (i.e. MIS 201, FIN 201, MKT 201, MGT 201)
Foundation course in one of the remaining areas (i.e. MIS 201, FIN 201, MKT 201, MGT 201)

Upper Division Courses

Students must take three 300 level or above courses which meet the prerequisite requirements.

Students planning to minor in business administration should take ECO 201 and ECO 202 early on as part of their social science requirement. Students who take only MTH 100 as a math requirement have to take another Math course. Students can use their free elective slots to partially fulfill the requirements for the minor.

- Students minoring in accounting or finance must take ACC 201, ACC 202, and FIN 201 as foundation courses.
- Students seeking to a minor in MIS must complete both MIS 200 and MIS 201, resulting in a total of 21 credits for the minor. In order to waive MIS 200, a student must demonstrate necessary background in programming courses. The upper division courses in MIS are MIS 301, MIS 303 and any other 300 level or above MIS course.

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Master of Business Administration (M.B.A.)

The Master of Business Administration program (M.B.A), offered by the School of Business and Management, is a graduate-level degree program designed by the American University of Sharjah faculty working in close cooperation with the American University of Washington, D.C. Applicants are required to hold a baccalaureate degree from an accredited institution. The M.B.A. degree is conferred upon completion of a 30 to 48 credits program utilizing an evening schedule of classes. Individual participation is emphasized through class discussions, interaction and cooperation with other students in the class.

Mission of the Program

The AUS M.B.A. program is committed to the idea of helping individuals in the Gulf region to think globally, act globally and integrate knowledge as the major tool of problem solving. The program provides advanced management education in an environment that encourages students to extend their leadership capabilities. It is built on the premise that up-to-date expertise is what gives knowledge workers a value added capacity in a knowledge-based economy. The program is designed to prepare students for careers in management and leadership positions in both the private and public sectors. Students will acquire a comprehensive foundation in the fundamentals of business, the global environment in which they will function and the analytical tools for prudent decision-making.

The American University of Sharjah is affiliated with the American University in Washington, D.C., one of the most respected and highly ranked American institutions in the United States. The American University of Sharjah has over 200 full-time faculty, and the School of Business and Management has 33 full-time faculty members, most of whom are holders of a Ph.D. from the most reputed universities in the United States. AUS offers its students the highest level of support and services associated with their studies. AUS students have access to computer labs, a massive number of electronic journals, books and databases, and most importantly the support of the full-time faculty and staff. Unlike other institutions, the only mission of AUS is to provide the best quality American education in the Arab World.

Goals and Objectives of the M.B.A. Program

- Prepare individuals to identify, analyze and understand the interrelationships among business organizations and international and domestic institutions in the UAE and throughout the world.
- Develop individuals who can lead organizations toward economic success and social responsibility in the global marketplace of the twenty-first century.
- Prepare individuals to integrate information resources and technology to enable them to anticipate and manage change.
- Advance students' knowledge of issues and practices affecting business organizations, international and domestic institutions, and governments.
- Develop an awareness of societal and environmental needs and concerns as they relate to ethical, professional and socially responsible business practices.
- Provide students with a solid core business education that emphasizes the following teaching methodologies: case analyses and presentations, seminars, and lectures.

M.B.A. Curriculum Outcomes

A graduate of the M.B.A. program shall be able to:

- Create a working environment where teamwork and team building are an integral part of the organization
- Define and evaluate various aspects of quality in managerial decision-making and apply these concepts to his/her organization
- Implement his/her communication skills in a way that enhances and presents effectively and convincingly his/her point of view
- Demonstrate technical proficiency in using state-of-the-art hardware and software for managerial decision support and expert systems,
- Apply diagnostic skills based on management concepts and theories to concrete real-life situations, and
- Apply analytical skills in evaluating business situations from a financial perspective

Unique Features of the M.B.A.

The M.B.A. program at AUS has a number of distinctive features that reflect the needs of student-professionals while providing AUS graduate students with a competitive edge:

- The delivery format allows the student to earn a master's degree without interrupting his/her career.
- The student develops an understanding of the full range of business disciplines, enhancing the skills required for career advancement.
- The student uses sophisticated new business tools in a state-of-the-art environment.
- The M.B.A. website provides easy access to assignments and professors from the comfort of home, which accommodate all students, particularly those from other emirates or countries.
- Participants benefit from the extensive use of the Internet, interactive learning and project work to assist with the comprehension of concepts.

The M.B.A. Course Structure

The degree is composed of 48 credits (16 courses). Twenty one credits (seven courses) comprise the "foundation" courses of the program and 27 credits (nine courses), comprise the "core" courses.

The M.B.A. program can be completed in 24 months, including summers, if all the foundation courses are required and 15 months if all the foundation courses are waived. Classes are held in the evening. Each class is offered one night per week for two hours and 45 minutes.

Participants must attend all classes except in the case of a personal emergency. Students must be prepared to devote significant additional time for class preparation and assignments. Grading is on an A , B, C, F scale. An average of B (3.0 GPA) is required to graduate. Each student must complete the approved course of study within five years of the date of first registration for graduate study.

Foundation Courses

MBA 601 Managerial Economics
MBA 602 Managing People and Organizations
MBA 603 Accounting Concepts and Applications
MBA 604 Applied Managerial Statistics
MBA 605 Financial Management
MBA 606 Management Information Systems
MBA 607 Business Communication

Core Courses

MBA 610 Business Research Applications
MBA 611 Advanced Financial Management
MBA 612 Leadership and Change
MBA 613 Accounting for Management
MBA 614 Marketing Management
MBA 6152 Innovation and Entrepreneurship
MBA 616 International Electronic Commerce
MBA 617 Ethical and Legal Issues
MBA 6183 Strategic Management in a Global Environment

Elective Courses

FIN 632 Securities Analysis
FIN 633 Financial Futures and Derivatives
MGT 670 Entrepreneurship and New Venture Management
MGT 672 Managing a Family Business
MKT 650 Internet Marketing Management
MKT 655 Internet Marketing Project

Students cannot take core courses before they are registered for the Business Communications course.

2Students may replace these courses by Elective Courses in the areas of Finance, Marketing or Management.

3Students are required to submit a project write up (thesis) reflecting various cross-disciplinary aspects covered throughout the M.B.A. program.

A minimum passing grade for each course taken in the MBA program is a B. The expectations of the program are that students will significantly exceed this minimum. As noted above, a B average, 3.0 GPA, is required to graduate. Only two C's (in two courses or one course twice) are allowed and a course can only be repeated twice if the original grade is below B.

Admission to the M.B.A.

Admission to the M.B.A. program is on a case-by-case basis. Applicants must show proof of their ability to conduct collegiate level work. In general, an undergraduate degree from an accredited university located in the US, Canada, or UK with a minimum grade-point average of 3.0 for the last two years of their baccalaureate program would be an indicator of such ability. In addition, admission to the M.B.A. program normally requires a minimum score of 500 in the Graduate Management Admission Test (GMAT). Students from non-English speaking universities are also required to furnish evidence of proficiency in English. This will generally be accomplished by submitting scores on the Test of English as a Foreign Language (TOEFL) of 550 and above. TOEFL scores over two years old and GMAT scores over five years old will not be accepted. Both tests may be administered locally.

Applicants must submit the following documents:

- Completed application form
- Passport photocopy
- Two passport size photos
- Copy of degree plus transcript of grades
- TOEFL score, if available
- GMAT score, if available
- Application fee

Conditional Admission

Conditional admission is limited and difficult to receive. Applicants who have received a bachelor's degree from an accredited institution, but who do not meet all the conditions of admission may be considered by the Graduate Committee for conditional admission.

Applicants who receive conditional admission have only one semester to meet the specific conditions established by the Graduate Committee. By the end of that semester, the Director of Graduate Programs notifies the Admissions Office of the final action to be taken, either unconditionally accepting into or dropping the student out of the MBA Program.

Waiver Policy

Students may qualify to waive up to 18 credits (six courses) from the foundation courses. In general, a course may be waived if the student has completed comparable course work at the undergraduate level. The waiver rules are:

1. Students may waive foundation courses if similar courses have been taken at an accredited university within five years prior to admission to the AUS program with a minimum grade of B.
2. Students with professional experience and/or holders of commonly recognized certificates, e.g., CPA or CFA, indicating mastery of a given foundation course content, may be granted a waiver.
3. Students may be required to submit course documentation.

Transfer Credits

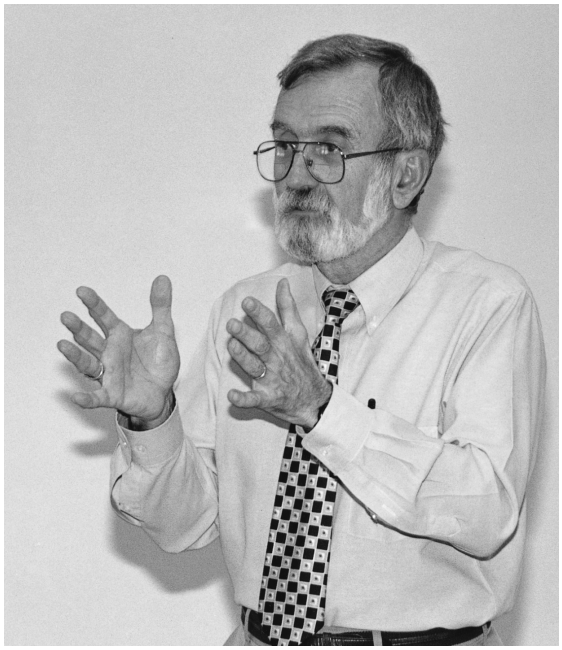
Up to 6 transfer credits (two courses) may be applied towards core courses if similar M.B.A. courses have been taken at an accredited business school within five years prior to admission to the AUS program with a minimum grade of B.

Academic Load

An M.B.A. student can register for up to nine credits per semester. Upon student's request, the Director of Graduate Programs can approve additional three credits if: (1) the first semester in the M.B.A. program has already been completed, and (2) the cumulative GPA is 3.5 or above.

For admission or other information, contact:

School of Business and Management
American University of Sharjah
P.O. Box 26666
Sharjah, United Arab Emirates
Tel: 00971 (6) 5152334
Fax: 00971 (6) 5152393
E-mail: graduate@aus.ac.ae



Executive Master of Business Administration (E.M.B.A.)

For the professional manager today a credible E.M.B.A. is more than an academic degree. It is evidence of specialized knowledge, a sign of recognition by the profession and an indication of commitment to continued learning. The E.M.B.A. today is a gateway to corporate leadership.

Managers without an M.B.A. often find themselves on the defensive today. They enroll in increasing numbers in the many M.B.A. program options available to them. Needless to say, such options vary in philosophy, objectives, styles, curricula and quality.

The AUS E.M.B.A. has been uniquely designed by the American University of Sharjah faculty working in close cooperation with the American University of Washington, D.C. The courses are taught primarily by full-time faculty members of the AUS School of Business and Management.

The AUS E.M.B.A. is built on the premise that up-to-date expertise is what gives executives a value added capacity in a knowledge-based economy. It addresses itself to organizations and individuals convinced that intellectual capital is the real basis for competitiveness today.

The program uses instructional technology and is highly interactive in nature. It provides participants with a rigorous, though relaxed, learning environment and a chance to team up and build long-lasting relationships with colleagues.

Why the "EXECUTIVE" in E.M.B.A.?

Several key facts in the design of this E.M.B.A. make it the appropriate choice for working executives:

- Career, family and a multitude of other factors are vying for the executive's time. The E.M.B.A. program is demanding, but the E.M.B.A. takes no more than 15 to 24 months to complete utilizing a schedule of alternate weekends and quarterly breaks that allows ample time for work, family and recreation
- Tomorrow's leaders will need to access and use both information and technology. Our E.M.B.A. enables the executive to use technology not only to access current information but also to analyze that information in order to make sound business decisions
- Business is constantly changing. Traditional business programs are not designed to cope with this new environment. We have designed our E.M.B.A. to ensure that the experience of our participants, the expertise of our faculty and the resources of our affiliate universities are fully utilized. The concepts learned and cases studied relate to the current business environment
- Most adults learn best in an interactive, experiential environment with a variety of teaching methodologies. Our primary objective is to guarantee the success of each participant. We utilize every available resource to ensure that we consistently meet that objective. The extensive use of case studies, video, Internet, interactive learning, computer-based learning, project work and practical application will ensure appropriate application of principles and solidify comprehension of concepts

Goals and Objectives

The main objectives of the E.M.B.A. program are to:

- Enable students to identify, critically evaluate and contribute to a wide range of business issues in today's dynamic economic environment,
- Prepare individuals to analyze and understand the interrelationships among business organizations and international and domestic institutions in the UAE and throughout the world,
- Promote students' leadership capabilities with an emphasis on corporate value creation, ethical implications, and social responsibility in the global marketplace of the twenty-first century,
- Prepare individuals to integrate information resources and technology to enable them to anticipate and manage change, and
- Provide students with an executive-level business education that helps them to deal with global competition, capitalize on business opportunities, benefit from advanced technologies, and engaged in strategic alliances.

E.M.B.A. Curriculum Outcomes

A graduate of the E.M.B.A. program will be able to:

- Develop business strategies and apply problem-solving techniques in a teamwork environment
- Strategically think and apply their broadened knowledge of sophisticated business techniques to real-world situations
- Enhance students' interpersonal communication skills to work effectively as managers and leaders
- Effectively incorporate state-of-the-art decision support and expert systems in strategic decision-making processes, and
- Use diagnostic skills refined throughout the program to analyze a current managerial problem situation, develop alternative solutions, define the risk and return profile of each suggested solution, and recommend a strategic course of action

Program Delivery

The E.M.B.A. program at AUS utilizes both traditional and innovative methods of teaching and participation. International learning resources will be tapped in a manner that will maximize their applicability to the local management community. Access to assignments and professors by e-mail will accommodate all students and particularly those attending from other Emirates or countries.

Participants in the program are required to attend the classes at AUS but will also utilize computer-based instruction (CBI) provided by AUS to supplement the classroom lectures. The participants will utilize the Internet to collaborate with their classmates and faculty. In some cases, videotapes will be available to supplement the lectures.

Since each course taught at the E.M.B.A. level requires significant use of CBI, Internet and video technologies, all students are required to have access to a P.C. and the Internet.

Program Design

The degree is composed of 48 credits (16 courses). Eighteen credits (six

courses) comprise the "foundation" courses of the program and 30 credits (ten courses) form the "core" courses.

The E.M.B.A. program can be completed in 24 months if the foundation courses are required and in 15 months if the foundation courses are waived. Two courses are completed each quarter (ten-week period) and classes are held every other weekend. Each year contains four quarters, usually with a four-week break between each quarter.

The participants selected for the E.M.B.A. program must have significant business experience. Therefore, the courses are taught in such a manner as to draw upon and extend the experience of the participants as well as the expertise of the faculty. The cohort approach ensures that concepts are systematically delivered thereby maximizing the value of in-class time.

The courses utilize the case method approach. In this manner, the participants not only acquire needed business skills, but also apply them through the extensive use of simulated business cases. The ongoing globalization of today's business environment is emphasized in every aspect of the E.M.B.A. curriculum.

Foundation Courses

The foundation courses are designed to provide the participants, who do not have a formal business education, with the basic tools and concepts that will be utilized in the core courses.

The foundation courses are:

EMB701 Economic Analysis in an Interdependent Environment

EMB702 Theories of Management and Organizational Behavior

EMB703 Financial Management I (Accounting)

EMB704 Information Systems Strategy

EMB705 Marketing Management

EMB706 Financial Management II (Finance)

Core Courses

The core courses represent the advanced business courses that the participants will need to successfully complete the E.M.B.A. These courses utilize case studies, group projects and a hands-on participatory approach to enhance the learning process. Because students are relatively advanced in their careers, topics for classroom discussion tend to be approached from a more strategic point of view.

The core courses are:

EMB710 Analytical Methods

EMB711 Corporate Finance

EMB712 Management in the International Environment

EMB713 Investment Analysis

EMB714 Advanced Systems Strategy and Implementation

EMB715 Entrepreneurship

EMB716 E-Commerce

EMB717 Corporate Communication Strategy

EMB718 Strategic Management

EMB719 Capstone: A Diagnostic Practicum

Policy for the Grade of "incomplete"

If an E.M.B.A. participant is unable to complete the course requirements, he/she may request of the Director of Graduate Programs a course grade of "incomplete." If approved, the student is to make arrangements with the Director for an Independent Study. E.M.B.A. participants are allowed no more than two "incompletes" during their entire program. Incompletes are to be satisfied within the subsequent 2-course segment. If the Incomplete requirements are not satisfied, the grade will become an F and the student will be withdrawn from the E.M.B.A. program.

Admission to the E.M.B.A.

The AUS E.M.B.A. is designed for experienced managers and admission is highly competitive. Each cohort in the program is made up of 15 members, representing various organizations.

The admission review takes into consideration academic and employment information, giving special attention to professional accomplishments and potential for growth within an organization. Most participants have earned Bachelor degrees in Business Administration. Some hold advanced degrees in other fields. All have demonstrated an ability to sustain intensive, graduate-level work. Under certain circumstances a standardized examination, such as the GMAT and/or TOEFL, may be required and may be administered locally.

Applicants must submit the following documents:

- Resume
- Completed application form
- Two letters of recommendation
- Passport photocopy
- Two passport size photos
- Copy of degree plus transcript of grades
- TOEFL score, if available
- Application fee

Processing of applications follows several steps including verification of academic credentials and work experience. Important considerations in the evaluation of applicants include level of management experience, maturity, motivation, and commitment to completing the program. The Graduate Committee will make the final determination of applicants.

Applicants who are notified of their admission to the program will be required to pay a non-refundable deposit to secure a seat in the program. This deposit will be applied to the total cost of the first three quarters of the program. If the deposit is not received within two weeks of acceptance, the position may be passed to the next successful candidate.

For admission or other information, contact:

School of Business & Management
American University of Sharjah
P.O. Box 26666
Sharjah, United Arab Emirates
Tel: 00971 (6) 5152334
Fax: 00971 (6) 5152393
E-mail: graduate@aus.ac.ae

School of Engineering

Dean
Leland T. Blank

Associate Dean
Steven W. Gyeszly

AUS engineering graduates are well equipped to face the future. An AUS engineering degree gives its holder access to a learned profession with opportunities for practice in industry, government, business, consulting, and entrepreneurship. AUS engineering graduates are also well qualified for advanced studies toward a masters or doctoral degree leading to careers in research and development, engineering management, and higher education teaching. Additionally, an engineering education is an excellent avenue to other professions such as law, medicine and public service.

Engineering is an excellent choice for young men and women who aspire to well-paid careers in which they are empowered to make a contribution to society on a local, regional, or global scale. Those who enter engineering today can look forward to a rewarding career that offers personal fulfillment, service to humankind, economic prosperity, as well as a national and international perspective to the world of professional work.

Mission Statement

The American University of Sharjah is a young dynamic institution of higher education. As such, it offers to its students an innovative educational environment. The University's degree programs are adapted to the needs of the citizenry of the United Arab Emirates (UAE) and the Gulf Cooperation Council (GCC). In order to fulfill current and projected needs, while maintaining an American-style curriculum, the School of Engineering has the following mission:

The School of Engineering at the American University of Sharjah aspires to be the recognized leader in engineering education in Sharjah, across the UAE and the GCC, and to become a top choice by students, parents, faculty and staff who choose to contribute to engineering higher education.

Degree programs offer the highest level of professional and technical preparation, global preparedness, and leadership development in an environment of English language education, and partnership between faculty and students. All programs offer state-of-the art technology, understanding and experimentation with the design and problem-solving processes of engineering, and unexcelled opportunities to experience real-world and research project involvement while working in close proximity with industry mentors.

Curriculum

The School of Engineering offers programs in computer engineering, chemical engineering, civil engineering, mechanical engineering, and electrical and electronic engineering, The AUS engineering faculty provides an educational experience that is equivalent to those offered by the best state and private universities in the United States and Europe.

Each engineering curriculum has its own distinguishable and integrative features, however, common threads of design have been woven into the fabric of each curriculum to ensure that all students receive the very best that an American-based education tailored to the needs of the Middle East student and industry can offer. The engineering programs are intended to prepare its graduates for regional as well as worldwide practice. Therefore, the program is designed to satisfy the general university requirements, and to meet the program criteria adopted by engineering accreditation agencies both in the United Arab Emirates and in the United States. The degree programs emphasize learning the effective use of technology, information resources and communication methods. The program instills in its graduates leadership qualities anchored in moral and ethical principles

Engineering graduates will work in an international and very competitive environment. Graduates therefore must achieve English fluency even if they intend to spend their careers in their native lands. English fluency is especially critical as more multinational corporations adopt English as the corporate language. AUS emphasizes the use of English in daily practice. To enhance the international communication skills of our graduates, instruction and interaction between students and faculty members are conducted in English.

All engineering freshmen take the same courses to ensure a sound, broadly based preparation in general education knowledge as well as a firm understanding of the principles and practices of all engineering disciplines. In various formats, the oral, written, graphical and software communication skills of a student are developed, demonstrated, and assessed. This is accomplished foremost in the required laboratories, research papers, senior projects, and internships. Also, independent study one-on-one with faculty is a valuable option available to the student. The critical use of paper and electronic forms of published literature is taught from the first semester in engineering, and in all curricula in the School of Engineering. Throughout the degree plan, students must use and are assessed on their ability to discover, understand and critically judge the quality of publicly available literature.

Well-equipped and supplied computer labs are provided for students during and after classes and laboratories. The menu of software systems available for design, analysis, and synthesis tasks in classes, labs, senior projects and

courses in other parts of campus is determined by what the faculty teach in all of their courses. Each engineering student must complete a team-based senior project that is commonly of two-semester duration. A real world problem requires specification, design, analysis, and synthesis as the problem-solving process is utilized. Faculty members serve as close advisors and monitor of each student's progress. Additionally, each student must complete a summer internship or training program in order to graduate. Many employers participate in this valuable experience.

In order to help students be successful at AUS, the major educational objectives of the School of Engineering are:

- To assist students in actualizing their potential through preparation for a successful and satisfying career in the engineering profession
- To graduate well-educated engineers able to serve in regional and international practice, with consideration of multi-cultural environments
- To offer undergraduate and graduate academic programs that are critical to the sustainable development of society and the quality of life in the region
- To offer broad-based engineering curricula worthy of accreditation nationally and internationally due to a thorough, balanced foundation in math, science, and design principles, as well as the humanities and social sciences

What an Engineering Graduate Can Do

The graduates of the School of Engineering are educated to be able to demonstrate the following outcomes:

- Approach the system stages of problem identification, needs analysis, requirements definition, design, implementation, maintenance, and phase-out using the life-cycle concept
- Write, read, and speak in private and public to peers, supervisors and employers in a coherent, organized fashion that demonstrates understanding of problems and solutions that are practical and implementable
- Utilize in a variety of settings the fundamentals of math, science and engineering principles
- Keep abreast of and utilize in work current computer and software technologies that are relevant to the engineering field chosen by the student and graduate
- Attain the professional form of engineering practice and certification available to an engineering graduate serving in professional practice
- Participate in, as well as lead, team-based activities using current technology, engineering practices, and science principles
- Make and implement ethical choices in all engineering endeavors

Faculty

The School of Engineering faculty members are distinguished experts in their fields. They are both educators and scholars. All engineering faculty members have an earned doctorate degree in engineering from leading US, Canadian and British universities. The engineering faculty provides an educational environment in which students can mature professionally and personally while preparing to live and work in a technologically rich global community.

Professors

Amr Abdel-Hamid (Mechanical Engineering)
Azm Al Homoud (Civil Engineering)
Leland T. Blank (Mechanical Engineering)

Associate Professors

Jamaleldin A. Abdalla (Civil Engineering)
Dana Stevenson-Abouelnasr (Chemical Engineering)
Rana Ahmed (Computer Engineering)
Saad Ahmed (Mechanical Engineering)
Abdul-Rahman K. Al-Ali (Computer Engineering)
Yousef Al-Assaf (Electrical and Electronic Engineering)
Hasan Al-Nashash (Electrical and Electronic Engineering)
Hany El Kadi (Mechanical Engineering)
Mohamed A. Gadalla (Mechanical Engineering
Steven W. Gyeszly (Mechanical Engineering)
Mohammad Ameen Jarrah (Mechanical Engineering)
Ibrahim Kattan (Mechanical Engineering)
Sami W. Tabsh (Civil Engineering)

Assistant Professors

Akmal S. Abdelfatah (Civil Engineering)
Mohammad Al-Rousan (Computer Engineering)
Khaled Assaleh (Electrical and Electronic Engineering)
Rached Dhaouadi (Electrical and Electronic Engineering)
Sameh M. El-Sayegh (Civil Engineering)
Mohamed El-Tarhuni (Electrical and Electronic Engineering)
Ali Ghrayeb (Electrical and Electronic Engineering)
Ahmad Hamad (Chemical Engineering)
Taleb Ibrahim (Chemical Engineering)
Izzat H. Izzat (Computer Engineering)
Abdul Khaliq Khan (Electrical and Electronic Engineering)
Tarik Ozkul (Computer Engineering)
Nasser N. Qaddoumi (Electrical and Electronic Engineering)
Adil Tamimi (Civil Engineering)

Visiting and Adjunct Faculty

Ali M. S. Zalzala (Electrical and Electronic Engineering)
Abdulla Al-Karam (Computer Engineering)

Degree Programs Offered

The School of Engineering offers five undergraduate BS degrees and two graduate certificate programs. The graduate offerings are in interdisciplinary areas: Mechatronics, and Engineering Systems and Management (ESM). An overview of these programs is provided at the end of the material for undergraduate degrees.

Undergraduate Programs

Admission and Degree Requirements for Undergraduate Programs

Formal admission to a major in all the programs of the School of Engineering requires the completion of all common freshman engineering courses and a cumulative grade point average (GPA) of 2.0. If the demand for a major exceeds the availability, then the students will be accepted in their intended major based on their GPA.

Graduation Requirements for the B.S. Degree

In order to qualify for graduation with a Bachelor of Science degree in engineering, students must complete a minimum of 140 credits with a cumulative GPA of 2.0 or better in the major, including:

- Prescribed courses that ensure the satisfaction of the AUS general education requirements (44 credits).
- Major requirements that include courses in mathematics, sciences, engineering sciences, and engineering design that ensure preparation for professional practice (87 credits).
- Summer internship or practicum for a minimum of six weeks after the second or third year, working in a professional environment (or with equivalent experience approved by the Dean of the School of Engineering.)
- Free Electives (9 credits).

Bachelor of Science in Engineering

The School of Engineering offers the B.S. degree in each of the following disciplines:

- Chemical Engineering (B.S.Ch.E.)
- Civil Engineering (B.S.C.E.)
- Computer Engineering (B.S.Co.E.)
- Electrical and Electronic Engineering (B.S.E.E.)
- Mechanical Engineering (B.S.M.E.)

Each program is designed for completion in four years including one summer session (six weeks) of study. Additionally, students are required to complete the summer internship. Students whose academic background requires the completion of preparatory courses in mathematics, English and physics will require more than four years to complete the engineering program. Even without preparatory courses, many students opt to take additional time to complete their B.S. program.

The B.S. requirements include: general education requirements (GE), major requirements (MR), technical elective (TE) courses that provide depth in a sub-specialty of a chosen field, and free electives (FE). The general education requirements include foundation courses in mathematics, science, the humanities, social sciences, Arabic heritage, and English. The first year, which provides a base in physics, chemistry, engineering and mathematics, is common to all engineering students. During the final year, a senior design (capstone) project must be completed. All engineering students are required to take a comprehensive assessment examination in the capstone senior design course. Practical training in an engineering environment is compulsory for one summer. This practicum, or internship, strengthens the student's preparation for engineering practice.

Curricula in Engineering

The freshman year is identical for all engineering majors. Students with acceptable grades can change majors within the School of Engineering with no credit loss during the first year. Other course requirements for follow-on years are listed under individual engineering majors.

Proposed First-Year Courses for All Engineering Students

COMMON ENGINEERING FRESHMAN YEAR (31 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	CHM 101	General Chemistry I	4		MR/GE
	COM 101	Academic Writing	3	EPT score 4 or COM 001	GE
	MTH 103	Calculus I	3	MTH 001 or placement test	MR/GE
	NGN 110	Introduction to Engineering	2	Admission to the SoE	MR
	PHY 101	General Physics I	4	PHY 001 or placement test, Prerequisite concurrent MTH 103	MR/GE
		Total	**16**		
Spring	HUM/SS XXX	Humanities or Social Science Course	3		GE
	COM 102	Writing & Reading Across the Curriculum	3	EPT score 5 or COM 101	GE
	MTH 104	Calculus II	3	MTH 103	MR/GE
	NGN 111	Engineering Statistics	2	NGN 110	MR
	PHY 102	General Physics II	4	PHY 101	MR
		Total	**15**		

Abbreviations: **EPT:** English Placement Test; **MR:** Major Requirement; **GE:** General Education Requirement

Bachelors of Science in Chemical Engineering (B.S.Ch.E.)

Program Purpose and Description

Chemical engineers have many different responsibilities including design, analysis, research and development, supervision, production and sales. They manage the development of new technologies and products; they develop safe and environmentally-benign processes that are efficient and economic to operate; and they direct the design, construction and operation of new plants, ranging from pilot plants to full scale chemical facilities.

Chemical Engineers are making unparalleled contributions in chemical and petrochemical processing, food and pharmaceutical industries, pollution control and abatement, process automation, process control and modeling, and biochemical technology. The Chemical Engineering program offers a four-year study program of study that prepares graduates to work in all areas of the chemical industry. Specifically, it is designed to help students in developing a basic knowledge in science, in engineering and in the fundamentals and practical knowledge of thermodynamics, fluid flow, heat transfer, mass transfer, reaction engineering, chemical unit operation, process control, process simulation, plant design, process integration, cost estimation, engineering economy, pollution prevention, and waste management.

Educational Objectives

The objectives of the B.S.Ch.E. program challenge students to achieve their maximum potential in diverse professional careers throughout their lifetime. Specifically, students are expected during their study to:

- Obtain the necessary technical skills and knowledge that will enable them to identify problems and develop solutions in the analysis, design, optimization, and control of systems and processes encountered in the practice of chemical engineering and related disciplines.
- Engage in an integrated academic-industrial curriculum and activities.
- Be self-confident team workers capable of functioning in a multidisciplinary atmosphere communicating effectively on oral, written, graphical and visual forms.
- Learn how to use economical and environmental analyses combined with sound technical knowledge to address projects encountered in chemical industries and related fields.
- Acquire a sufficiently broad, diverse, and rigorous education to excel in graduate work in chemical engineering as well as in a variety of other professional degree programs.
- Become familiar with process equipment and computer modeling, simulation, control and optimization software via hands-on learning.
- Be committed to life-long learning and be motivated towards continued professional development.
- Understand the professional and ethical responsibilities of the engineers, the safety and environmental aspects of engineering decisions, and the impact of engineering solutions in the context of societal needs and contemporary issues.
- Develop engineering judgment via learning how to analyze data, develop procedures and carry them out, and to work under minimal supervision.

What A Chemical Engineering Graduate Can Do

A graduate of the Chemical Engineering program is able to:

- Apply technical knowledge and use computer software to design, develop and model cost-effective, environmentally-benign, safe and operable chemical systems and processes.
- Constructively lead and participate in industrial, governmental and public environmental safety and waste management activities.
- Design and conduct experiments, and analyze and interpret technical data using modern experimental and computation-based techniques and tools.
- Gather and present information succinctly and convincingly through effective presentations, memoranda and reports.
- Succeed in engineering professional and licensing examinations.
- Pursue new concepts through self-directed study and life-long learning

Degree Requirements for the B.S.Ch.E.

The program requires 140 credits to graduate. After the third year, each student is required to devote at least six weeks to the summer internship with an industrial firm prior to graduation. In the fourth year, each student is required to apply the knowledge, including economical and environmental analyses, gained from previous years to perform and analyze experiments and to work on supervised projects of specific chemical engineering significance. All chemical engineering students are required to take a comprehensive assessment examination during this capstone course sequence. Students are required to participate in several laboratory courses: organic chemistry, physical chemistry, fluid flow, heat transfer, material, unit operations, process control, environmental, and computer-aided design.

Students seeking a B.S.Ch.E. degree must satisfy the following requirements:

General Education Requirements

- English language competency requirement: 12 credits comprised of COM 102, COM 203 or COM 204, and COM 2XX
- Arabic heritage requirement: THM 201 or THM 202 or ARA 101
- Mathematics and/or statistics requirement: MTH 103 and MTH 104
- Science requirement: CHM 101 and PHY 101
- Humanities and Social Sciences requirement: Four theme courses and a three credits humanities or social science course; or, four theme courses and six credits of humanities or social science courses, when one of the theme courses taken is listed as satisfying the Arabic heritage requirement, such as THM 201 or THM 202
- Computer literacy requirement:

Satisfied through extensive use of computer resources in courses throughout the engineering curriculum

Free Electives

Nine credits from any courses offered at AUS

Major Requirements

NGN 110 Introduction to Engineering
NGN 111 Engineering Statistics
CHE 203 Principles of Chemical Engineering
CHE 204 Chemical Engineering Thermodynamics I
CHE 215 Fluid Flow
CHE 230 Materials Science
CHE 304 Chemical Engineering Thermodynamics II

CHE 307 Heat Transfer
CHE 321 Chemical Reaction Engineering
CHE 329 Mass Transfer I
CHE 330 Simulation Techniques in Chemical Engineering
CHE 332 Engineering Economy
CHE 390 Mass Transfer II
CHE 421 Chemical Process Dynamics and Control
CHE 432 Chemical Systems Design and Integration
CHE 451 Chemical Engineering Lab I
CHE 452 Chemical Engineering Lab II
CHE 490 Senior Design Project I
CHE 491 Senior Design Project II
ELE 225 Electric Circuits and Devices
NGN 397 Professional Training
PHY 102 General Physics II
CHM 102 General Chemistry II
CHM 215 Organic Chemistry I
CHM 216 Organic Chemistry II
CHM 215L Organic Chemistry I Lab
CHM 331 Physical Chemistry
CHM 335 Physical Chemistry Lab
MTH 203 Calculus III
MTH 205 Differential Equations
MTH 221 Linear Algebra

Technical Elective Courses

CHE XXX Technical Elective

Proposed Sequence of Study for the B.S.Ch.E. Degree (Years 2 and later)

SECOND YEAR (42 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	CHE 203	Principles of Chemical Engineering	4	CHM 101	MR
	CHM 102	General Chemistry II	4	CHM 101	MR
	CHM 215	Organic Chemistry I	3	Prerequisite concurrent CHM 102	MR
	COM XXX	Communication III	3		GE
	MTH 203	Calculus III	3	MTH 104	MR
		Total	**17**		
Spring	CHE 204	Chemical Engineering Thermodynamics I	3	PHY 101, CHM 102, prerequisite concurrent CHE 203	MR
	CHE 215	Fluid Flow	3	MTH 104, prerequisite concurrent CHE 203	MR
	CHM 216	Organic Chemistry II	3	CHM 215	MR
	CHM 215L	Organic Chemistry Laboratory I	1	CHM 215	MR
	MTH 205	Differential Equations	3	MTH 104	MR
	THM XXX	Theme I	3		GE
	ELE 225	Electric Circuits and Devices	3	PHY 102	MR
		Total	**19**		
Summer	COM XXX	Communication IV	3		GE
	HUM/SS XXX	Humanities/Social Sciences elective	3		GE
		Total	**6**		

THIRD YEAR (34 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	CHE 307	Heat Transfer	3	CHE 204, CHE 215	MR
	CHM 331	Physical Chemistry	3	CHE 204 or CHM 231	MR
	CHM 335	Physical Chemistry Lab	2	prerequisite concurrent CHM 331	MR
	CHE 304	Chemical Engineering Thermodynamics II	3	CHE 204, CHE 203	MR
	CHE 329	Mass Transfer I	3	CHE 215, prerequisite concurrent CHE 304	MR
	THM XXX	Theme II	3		GE
		Total	**17**		
Spring	CHE 330	Simulation Techniques in Chemical Engineering	3	MTH 205, CHE 304	MR
	CHE 230/MCE 230	Materials Science	3	CHM 101	MR
	CHE 321	Chemical Reaction Engineering	3	CHM 331, prerequisite concurrent CHE 307	MR
	CHE 390	Mass Transfer II	3	CHE 329	MR
	CHE 332	Engineering Economy	2		MR
	THM XXX	Theme III	3		GE
		Total	**17**		
Summer	NGN 397	Professional Training	0	Approval of the training coordinator of the major	MR

FOURTH YEAR (33 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	CHE 421	Chemical Process Dynamics and Control	3	CHE 330	MR
	MTH 221	Linear Algebra	3	MTH 103	MR
	CHE 432	Chemical Systems Design and Integration	3	CHE 330, CHE 329	MR
	CHE 490	Senior Design Project I	1	CHE 390, prerequisite concurrent CHE 432	MR
	CHE 451	Chemical Engineering Laboratory I	1.5	CHE 321, CHE 390	MR
	CHE XXX	Technical elective	3		MR
	THM XXX	Theme IV	3		GE
		Total	**17.5**		
Spring	CHE 491	Senior Design Project II	2	CHE 490	MR
	CHE 452	Chemical Engineering Lab II	1.5	CHE 451	MR
	CHE XXX	Technical Elective	3		MR
		Free elective	3		FE
		Free elective	3		FE
		Free elective	3		FE
		Total	**15.5**		

CHE XXX Technical Elective

Bachelor of Science in Civil Engineering (B.S.C.E.)

Program Purpose and Description

The Civil Engineering degree program provides the necessary technical skills in mathematics, basic sciences, engineering sciences, engineering design, humanities and social sciences consistent with accreditation standards and national needs. The program provides critical learning for a broad foundation in structures, environmental engineering, geotechnical, materials, water resources, urban planning, and transportation. Considerable emphasis is placed on group-based, open-ended design projects to provide students with the necessary skills for creative teamwork and to prepare them professionally for diverse employment opportunities. Preparation for professional practice and graduate studies is accomplished through careful selection of professional and technical electives. Students are motivated to keep abreast of current technical developments, to pass the Fundamentals of Engineering (FE) examination, or its equivalent, for future professional registration, to improve communication skills, to use computer tools, to be aware of project constraints, and to develop and maintain high standards of ethics and professionalism. The Civil Engineering program provides an environment conducive to learning that stimulates both students and faculty.

Educational Mission and Objectives

The mission is to provide the skills necessary for graduates to carry out the duties and responsibilities of professional civil engineers, to become productive members of society, and to have the background to succeed in graduate studies. To accomplish this mission, the objectives are:

- Provide a sound and broad-based educational background in all major areas of the discipline that is necessary to succeed in a civil engineering career, both as an individual and as a member of a multi-disciplinary team.
- Ensure a thorough preparation in the fundamentals of mathematics, science and engineering that enables the student to address multi-faceted problems and also prepares him or her to pass the Fundamentals of Engineering Examination, thus leading to professional engineering licensure, or its equivalent
- Develop a sensitivity for and the skills necessary to understand and appreciate the global, ethical, and social implications of the duties and responsibilities of the profession with respect to public and occupational protection of health and safety
- Acquire proficiency in the use of computers as a communication and an engineering problem-solving tool
- Develop the capability to manage and lead technological and economic changes

What A Civil Engineering Graduate Can Do

A successful graduate of the civil engineering program is able to:

- Analyze and design of buildings and other structures and their foundations with proficiency in using computer software packages to complete structural analysis and structural design tasks.
- Plan, evaluate and design water and environmental engineering infrastructures such as water supply and drainage systems, sanitary and wastewater treatment plants
- Demonstrate knowledge in site investigation, planning, scheduling, and supervision of civil infrastructure projects such as building construction and road construction with expertise in using computer software packages for construction management
- Plan and design urban transportation systems and model, evaluate and analyze traffic systems with competency in using planning software packages
- Test and select suitable construction materials for civil infrastructure systems, especially reinforced concrete. Employ the widely used standard design mix procedures and testing methods
- Communicate effectively with a wide range of audiences on a broad spectrum of topics in both oral and written forms.
- Take and pass the FE exam, and, when eligible, take and pass the Professional Engineering (PE) examination, or its equivalent
- Conduct civil engineering tasks and make decisions ethically and professionally
- Demonstrate skills for conducting experiments, analyzing data and interpreting results effectively
- Pursue and succeed in graduate studies in civil engineering or related disciplines, as well as be inspired to be a life-long learner

Graduation Requirements for the B.S.C.E. Degree

A total of 140 credits are required. After the third year, each student is required to devote at least six weeks to the summer internship prior to graduation. In the fourth year, each student is required to complete a senior design project. All civil engineering students are required to take a comprehensive assessment examination during this capstone course sequence.

Students seeking a B.S.C.E degree must satisfy the following requirements:

General Education Requirements

- English language competency requirement: 12 credits comprised of COM 102, COM 203 or COM 204, and COM 2XX
- Arabic heritage requirement: THM 201 or THM 202 or ARA 101
- Mathematics and/or statistics requirement: MTH 103 and MTH 104
- Science requirement: CHM 101 and PHY 101
- Humanities and Social Sciences requirement: Four theme courses and a three credits humanities or social science course; or, four theme courses and six credits of humanities or social science courses, when one of the theme courses taken is listed as satisfying the Arabic heritage requirement, such as THM 201 or THM 202
- Computer literacy requirement: Satisfied through extensive use of computer resources in courses throughout the engineering curriculum

Free electives

Nine credits from any courses offered at AUS

Major Requirements

NGN 110 Introduction to Engineering
NGN 111 Engineering Statistics
CVE 220 Statics
CVE 221 Construction Materials and Quality Control
CVE 223 Mechanics of Materials
CVE 231 Engineering/Environmental Geology
CVE 240 Fluid Mechanics
CVE 241 Elementary Surveying
CVE 242 Field Plane Surveying
CVE 301 Theory of Structures
CVE 302 Construction Materials Lab
CVE 303 Geotechnical Engineering Lab
CVE 310 Fundamentals of Structural Dynamics
CVE 313 Reinforced Concrete Design
CVE 312 Structural Steel Design
CVE 321 Computational Methods
CVE 322 Civil Engineering Cost Analysis
CVE 331 Geotechnical Engineering Principles
CVE 333 Geotechnical Engineering Design
CVE 341 Hydraulic Engineering
CVE 351 Water and Wastewater Treatment
CVE 360 Urban Transportation Planning
CVE 363 Highway Design
CVE 401 Environmental Engineering Lab
CVE 467 Project Estimating, Planning and Control
CVE 490 Civil Engineering Design Project I
CVE 491 Civil Engineering Design Project II
NGN 397 Professional Training
MTH 203 Calculus III
MTH 205 Differential Equations
MTH 221 Linear Algebra
PHY 102 General Physics II

Technical Elective Courses

Student must complete two elective courses (six credits) in civil engineering, general engineering and basic science:

CVE 410 Computer Methods in Structural Analysis
CVE 411 Structural Concrete Design
CVE 412 Finite Element Method
CVE 413 Design of Bridges
CVE 437 Advanced Concrete Technology
CVE 441 Advanced Soil Mechanics
CVE 442 Advanced Foundation Engineering
CVE 445 Environmental Geotechnology
CVE 446 Geotechnical Dam Engineering
CVE 447 Irrigation and Drainage Engineering
CVE 448 Port and Harbor Engineering
CVE 450 Environmental Pollution Engineering and Control
CVE 455 Environmental Impact Assessment, Protection and Public Health
CVE 456 Traffic Engineering
CVE 457 Airport Planning and Design
CVE 461 Advanced Surveying
CVE 463 Construction Management
CVE 464 Building Construction
CVE 468 Systems Construction Management, Scheduling and Control
CVE 494 Selected Topics in Civil Engineering

Proposed Sequence of Study for the B.S.C.E. Degree (Years 2 and later)

SECOND YEAR (37 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM XXX	Communication III	3	COM 102	GE
	CVE 220	Statics	3	PHY 101	MR
	CVE 231	Engineering/Environmental Geology	3	NGN110	MR
	CVE 241	Elementary Surveying	3	MTH 104, Co-requisite CVE 242	MR
	CVE 242	Field Plane Surveying	1	Co-requisite: CVE 241	MR
	MTH 205	Differential Equations	3	MTH 104	MR
	THM XXX	Theme I	3		GE
		Total	**19**		
Spring	COM XXX	Communication IV	3	COM 102	GE
	MTH 203	Calculus III	3	MTH 104	MR
	THM XXX	Theme II	3		GE
	MTH 221	Linear Algebra	3	MTH 103	MR
	CVE 223	Mechanics of Materials	3	CVE 220	MR
	CVE 240	Fluid Mechanics	3	MTH 104, CVE 220	MR
		Total	**18**		

THIRD YEAR (37 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	CVE 221	Construction Materials & Quality Control	3	CVE220, Co-requisite: CVE 302	MR
	CVE 301	Theory of Structures	3	CVE 223	MR
	CVE 302	Construction Materials Lab	1	Co-requisite: CVE 221	MR
	CVE 303	Geotechnical Engineering Lab	1	Co-requisite: CVE 331	MR
	CVE 322	Civil Engineering Cost Analysis	2	NGN111	MR
	CVE 331	Geotechnical Engineering Principles	3	CVE 223, CVE 231, Co-requisite : CVE 303	MR
	CVE 360	Urban Transportation Planning	3	NGN 111	MR
	HM/SS XXX	Humanities and Social Sciences	3		GE
		Total	**19**		
Spring	CVE 313	Reinforced Concrete Design	3	CVE 301	MR
	CVE 312	Structural Steel Design	3	CVE 301	MR
	CVE 321	Computational Methods	3	MTH 205	MR
	CVE 333	Geotechnical Engineering Design	3	CVE 331	MR
	CVE 341	Hydraulic Engineering	3	CVE 240	MR
	CVE 363	Highway Design	3	CVE 241, CVE 360	MR
		Total	**18**		
Summer	NGN 397	Professional Training	0	Approval of the training coordinator for the major	MR

FOURTH YEAR (35 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	CVE310	Fundamental of Structural Dynamics	3	CVE 301, MTH205	MR
	CVE 351	Water and Waste Water treatment	3	CHM 101, co-requisite: CVE 401, prerequisite concurrent: CVE 341.	MR
	CVE 401	Environmental Engineering Lab	1	Co: CVE 351	MR
	CVE 467	Project Estimating, Planning & Control	3	CVE322	MR
	CVE 490	Civil Engineering Design Project I	1	Senior Standing	MR
	CVE XXX	Technical Elective	3		MR
	THM XXX	Theme III	3		GE
		Total	**17**		
Spring	CVE 491	Civil Engineering Design Project II	3	CVE 490	MR
	CVE XXX	Technical Elective	3		MR
	THM XXX	Theme IV	3		GE
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
	XXX	Free Elective	3		FE
		Total	**18**		

NGN 463 Quantitative Engineering Management

Bachelor of Science in Computer Engineering (B.S.Co.E.)

Program Description and Purpose

The phenomenal growth of the computer engineering field has been fueled by rapid advances in integrated circuits, microprocessors, software, and networking technologies. Many of the modern products and services used in our daily life have been developed by computer hardware and software engineers. The primary purpose of the Computer Engineering program is to educate students with an understanding of digital systems, programming languages, computer architecture, computer networks, computer applications in industry, and software engineering. These topics bridge traditional electrical engineering and computer science curricula. Computer engineers design, build and maintain integrated computer-based systems for home, business, government, and industrial use. The undergraduate program in Computer Engineering prepares students for a wide range of positions in business and government service, as well as higher education, and research and development roles.

The curriculum satisfies the needs of the engineering community, especially in the United Arab Emirates and the Gulf region. The program includes general education requirements and core requirements for all computer engineering students. In addition technical and free elective courses must be completed. A summer internship experience is required, as is a senior project accomplished over a two-semester period.

Required laboratory courses provide hands-on experience and support class work and the senior project. The laboratories are equipped with state-of-the are hardware, software and networking equipment.

Educational Objectives

The degree program is developed to accomplish the following objectives:

- To provide students with solid scientific and mathematical foundations to succeed in junior and senior level computer engineering topics
- To ensure that students acquire sufficient knowledge of computer engineering principles to analyze, design, implement, operate and maintain small-to-large scale computer-based systems such as modern computer systems, computer networks, software engineering and industrial applications.
- To prepare students for professional practice
- To develop skills for working in teams.
- To acquire oral, written and graphical communication skills necessary for professional engineering practice

What A Computer Engineering Graduate Can Do

The graduate of the Computer Engineering program is able to:

- Design, develop, operate and maintain computer-based systems as well as related hardware and software applications
- Pass the professional and certificate exams to improve their career opportunities.
- Demonstrate awareness of ethical issues, such as environmental, humanitarian and legal issues
- Enter graduate school anywhere in the world and engage in a life-long learning process
- Work in teams and make effective written and/or oral reports to public and professional audiences

Graduation Requirements for the B.S.Co.E. Degree

A total of 140 credits are required. After the third year, each student is required to devote at least six weeks to the summer internship prior to graduation. In the fourth year, each student is required to complete a senior design project. All computer engineering students are required to take a comprehensive assessment examination during this capstone course sequence.

Students seeking the B.S.Co.E. degree must complete the following requirements:

General Education Requirements

- Arabic heritage requirement: THM 201 or THM 202 or ARA 101
- English language competency requirement: 12 credits comprised of COM 101, COM 102, COM 203 or COM 204, and COM 2XX
- Mathematics and/or statistics requirement: MTH 103 and MTH 104
- Science requirement: CHM 101 and PHY 101
- Humanities and Social Sciences requirement: Four theme courses and a three credits humanities or social science course; or, four theme courses and six credits of humanities or social science courses, when one of the theme courses taken is listed as satisfying the Arabic heritage requirement, such as THM 201 or THM 202
- Computer literacy requirement: Satisfied through extensive use of computer resources in courses throughout the engineering curriculum

Free electives

Nine credits of any courses offered at AUS.

Major Requirements

NGN 110 Introduction to Engineering
NGN 111 Engineering Statistics
MTH 203 Calculus III
MTH 205 Differential Equations
MTH 213 Discrete Mathematics
MTH 221 Linear Algebra
PHY 102 General Physics II
NGN 397 Professional Training
COE 210 Introduction to Computing I
COE 211 Introduction to Computing II
COE 212 Program Development and Design in Java
COE 221 Digital Systems
COE 311 Data Structures and Algorithms
COE 331 Microprocessors
COE 332 Embedded Systems
COE 370 Communications Networks
COE 371 Computer Networks I
COE 381 Operating Systems
COE 411 Computer Architecture and Organization
COE 420 Software Engineering I
COE 424 Design of Digital Computers
COE 490 Design Project I

COE 491 Design Project II
ELE 211 Electric Circuits I
ELE 241 Electronics I
ELE 241L Electronics I Lab
ELE 341 Electronics II

Technical Elective Courses

Students are required to take four 3-credit courses from the approved technical elective courses shown below. At least three of the four courses should be in Computer Engineering.

COE 421 Software Engineering II
COE 422 Database Systems
COE 423 Computer Networks II
COE 425 Modern Computer Organizations
COE 427 Internet Computing
COE 428 VLSI Design
COE 429 Computer Graphics
COE 431 Computer Applications in Industry
COE 433 Distributed Systems Design
COE 434 Mobile Computing
COE 494 Selected Topics in Computer Engineering
COE 496 Direct Independent Study
ELE 311 Electromagnetics
ELE 426 Imaging Systems
CMP 411 Performance Evaluation of Computer Systems
CMP 418 Introduction to Simulation and Modeling

Proposed Sequence of Study for the B.S.Co.E. Degree (Years 2 and later)

SECOND YEAR (42 CREDITS)

Term	Course #	Title	Credit	Prerequisite	Fulfills
Fall	COE 210	Introduction to Computing I	3	MTH 103	MR
	COE 221	Digital Systems	4	Prerequisite concurrent ELE 211	MR
	COM XXX	Communications III	3	COM 102	GE
	ELE 211	Electric Circuits I	3	PHY 102	MR
	THM XXX	Theme I	3		GE
	MTH 203	Calculus III	3	MTH 104	MR
		Total	**19**		
Spring	COE 211	Introduction to Computing II	3	COE 210	MR
	COM XXX	Communications IV	3	COM 102	GE
	COE 212	Program Development and Design in Java	3	COE 210	MR
	ELE 241	Electronics I	3	ELE 211	MR
	ELE 241L	Electronics Lab I	1	Co-requisite ELE 241	MR
	THM XXX	Theme II	3		GE
		Total	**16**		
Summer	COE 331	Microprocessors	4	COE 221	MR
	MTH 205	Differential Equations	3	MTH 104	MR
		Total	**7**		

THIRD YEAR (34 CREDITS)

Term	Course #	Title	Credit	Prerequisite	Fulfills
Fall	COE 311	Data Structures and Algorithms	3	COE 211	MR
	COE 370	Communications Networks	3	Prerequisite concurrent COE 331 or CMP 240	MR
	MTH 221	Linear Algebra	3	MTH 103	MR
	XXX	Free Elective	3		FE
	THM XXX	Theme III	3		GE
	MTH 213	Discrete Mathematics	3	MTH 103	MR
		Total	**18**		
Spring	COE 332	Embedded Systems	3	COE 331 and ELE 241	MR
	COE 371	Computer Networks I	4	COE 370	MR
	COE 381	Operating Systems	3	COE 311 or CMP 232	MR
	ELE 341	Electronics II	3	ELE 241	MR
	THM XXX	Theme IV	3		GE
		Total	**16**		
Summer	NGN 397	Professional Training	0	Approval of the training coordinator for the major	MR

FOURTH YEAR (33 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COE 411	Computer Architecture and Organization	3	COE 331	MR
	COE 420	Software Engineering I	3	COE 311 or CMP 232	MR
	COE 424	Design of Digital Computers	3	COE 331	MR
	COE 490	Design Project I	1	Senior Standing	MR
	COE XXX	Technical Elective	3		MR
	COE XXX	Technical Elective	3		MR
		Total	**16**		
Spring	XXX	Free Elective	3		FE
	COE 491	Design Project II	2	COE 490	MR
	COE/ELE/ CMP XXX	Technical Elective	3		MR
	COE XXX	Technical Elective	3		MR
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GE
	XXX	Free Elective	3		FE
		Total	**17**		

CMP 433 Artificial Intelligence
CMP 435 Computer Security
CMP 438 Programming Robots
CMP 454 Software Testing and Quality Engineering

Bachelor of Science in Electrical and Electronic Engineering (B.S.E.E.)

Program Purpose and Description

Electrical and Electronic Engineering is a dynamic field of engineering that provides exciting and excellent career opportunities in all sectors of society. Electrical and electronic engineers analyze, design and implement a wide range of systems such as telecommunication networks, diagnostic medical equipment, power distribution, electrical machines and modern industrial control.

The purpose of the Electrical and Electronic Engineering (EEE) Program at AUS is to prepare graduates for professional engineering careers. The program emphasizes electrical and electronic engineering capabilities necessary to engage in service and research that serves the United Arab Emirates, Middle East countries and the world. In partnership with students, faculty members examine, refine and transfer knowledge and applications in EEE. Expanded knowledge through analysis, design and research offers advances in state of the art technology made available to students.

The curriculum, based on the US and UAE accreditation requirements, is structured to provide an optimal balance between fundamental theory and hands-on laboratory practice. Modern laboratories with up-to-date equipment are maintained to support course work and conduct state of the art research. The EEE curriculum is a 4-year program leading to a Bachelor of Science in Electrical and Electronic Engineering (B.S.E.E.). The curriculum has been designed with the aim of providing breadth and depth of knowledge and significant design experience across the key areas of electrical engineering and related disciplines. The EEE program prepares the graduate to work in a broad range of areas: electric power, telecommunication, power electronics, microwave systems, medical electronics, instrumentation, and control systems.

Educational Objectives

Specific objectives of the program are:

- Graduate engineers with the necessary math, basic science, and engineering sciences background to work professionally in the electrical engineering areas of power, communications, medical electronics, instrumentation, control and related disciplines.
- Provide graduates with the modern technical laboratory, computer aided design, and programming skills needed to professionally excel in utilizing state of the art technologies.
- Offer a curriculum that gives its graduates distinguishable communications skills.
- Prepare students for personal and professional awareness and commitment to the ethical and social responsibilities both as individuals and within work teams.
- Graduate individuals who can pursue and succeed in advanced studies.
- Provide opportunities for faculty/student teams to engage in research and development in collaboration with industry.

What an Electrical and Electronic Engineer Can Do

A successful graduate of the Electrical and Electronic Engineering program is able to:

- Identify and formulate electrical engineering problems, as well as propose and implement solutions for such problems
- Use techniques, skills and modern engineering tools for engineering practice
- Work individually and in team environments
- Use written and oral communications to document work and present project design and results

- Pursue advanced academic studies

Graduation Requirements for the B.S.E.E. Degree

A total of 140 credits are required. After the third year, each student is required to devote at least six weeks to the summer internship prior to graduation. In the fourth year, each student is required to complete a senior design project. All EEE students are required to take a comprehensive assessment examination during this capstone course sequence.

Students seeking a B.S.E.E degree must satisfy the following requirements:

General Education Requirements

- Arabic heritage requirement: THM 201 or THM 202 or ARA 101
- English language competency requirement: 12 credits comprised of COM 102, COM 203 or COM 204, and COM 2XX
- Mathematics and/or statistics requirement: MTH 103 and MTH 104
- Science requirement: CHM 101 and PHY 101
- Humanities and Social Sciences requirement: four theme courses and a three credit humanities or social science course; or, four theme courses and six credits of humanities or social science courses, when one of the theme courses taken is listed as satisfying the Arabic heritage requirement, such as THM 201 or THM 202
- Computer literacy requirement: Satisfied through extensive use of computer resources in courses throughout the engineering curriculum

Free electives

Nine credits of any courses offered at AUS.

Major Requirements

NGN 110 Introduction to Engineering
NGN 111 Engineering Statistics
MTH 203 Calculus III
MTH 205 Differential Equations
MTH 221 Linear Algebra
PHY 102 General Physics II
MCE 224 Statics and Dynamics
NGN 397 Professional Training
COE 210 Introduction to Computing I
COE 221 Digital Systems
COE 331 Microprocessors
ELE 211 Electric Circuits I
ELE 212 Electric Circuits II
ELE 241 Electronics I
ELE 241L Electronics I Lab
ELE 251 Electrical Energy Conversion
ELE 311 Electromagnetics
ELE 321 Signals and Systems
ELE 332L Measurements and Instrumentation Lab
ELE 341 Electronics II
ELE 341L Electronics II Lab
ELE 353 Control Systems I
ELE 353L Control Systems I Lab
ELE 361 Communications I
ELE 361L Communications I Lab
ELE 371 Power Systems Analysis
ELE 371L Electric Machines and Power Systems Lab
ELE 424 Digital Signal Processing
ELE 490 Design Project I
ELE 491 Design Project II

Technical Elective Courses

Students are required to take four 3-credit elective courses and a 1-credit laboratory from the approved list of major electives. There are six areas of specialization in electrical and electronic engineering: Communications, Electromagnetics, Electric Power Engineering, Power Electronics, Instrumentation and Control, and Medical Electronics. The following is a list of the elective courses in the six areas:

ELE 452 Digital Communications
ELE 451 Wireless Communications
ELE 457 Satellite Communications
COE 370 Communications Networks
ELE 458L Communications Systems Lab
ELE 453 Microwave Engineering
ELE 454 Antennas and Wave Propagation
ELE 459 Introduction to Radar Systems
ELE 485 Power Electronics
ELE 486 Electric Drives
ELE 484 Control of AC Machines
ELE 426 Imaging Systems
ELE 432 Medical Instrumentation I
ELE 433 Medical Instrumentation II
ELE 455 Digital Image Processing
ELE 439L Medical Electronics Systems Lab
ELE 444 Control Systems II
ELE 473 Industrial Instrumentation and Control
ELE 471 Digital Control Systems
ELE 472 Nonlinear Control
ELE 476L Instrumentation and Control

Proposed Sequence of Study for the B.S.E.E. Degree (Years 2 and later)

SECOND YEAR (42 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COE 210	Introduction to Computing I	3	MTH 103	MR
	COM XXX	Communications III	3	COM 102	GE
	ELE 211	Electric Circuits I	3	PHY 102	MR
	MTH 203	Calculus III	3	MTH 104	MR
	MTH 221	Linear Algebra	3	MTH 103	MR
	MTH 205	Differential Equations	3	MTH 104	MR
		Total	**18**		
Spring	COM XXX	Communications IV	3		GE
	ELE 212	Electric Circuits II	3	ELE 211	MR
	ELE 241	Electronics I	3	ELE 211	MR
	ELE 241L	Electronics I Lab	1	Co-requisite: ELE 241	MR
	ELE 251	Electrical Energy Conversion	3	Prerequisite concurrent: ELE 212	MR
	COE 221	Digital Systems	4	Prerequisite concurrent: ELE 211	MR
		Total	**17**		
Summer	COE 331	Microprocessors	4	COE 221	MR
	HUM/SS XXX	Humanities/ Social Sciences Elective	3		GE
		Total	**7**		

THIRD YEAR (34 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ELE 311	Electromagnetics	3	MTH 205, PHY 102	MR
	ELE 321	Signals and Systems	3	ELE 212, MTH 221	MR
	ELE 341	Electronics II	3	ELE 241	MR
	ELE 341L	Electronics II Lab	1	Prerequisite concurrent: ELE 341	MR
	ELE 353	Control Systems I	3	MTH 205, ELE 212	MR
	ELE 371	Power System Analysis	3	ELE 251	MR
	ELE 371L	Electric Machines and Power Systems Lab	1	Prerequisite concurrent: ELE 371	MR
		Total	**17**		
Spring	ELE 332L	Measurements and Instrumentation Lab	1	ELE 341	MR
	ELE XXX	Technical Elective	3		MR
	ELE 353L	Control Systems I Lab	1	ELE 353	MR
	ELE 361	Communications I	3	ELE 321	MR
	THM XXX	Theme I	3		GE
	XXX	Free Elective	3		GE
	MCE 224	Engineering Mechanics - Statics and Dynamics	3	MTH 104, PHY 101	MR
		Total	**17**		
Summer	NGN 397	Professional Training	0	Approval of the training coordinator for the major	MR

FOURTH YEAR (33 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	ELE 361L	Communications I Lab	1	ELE 361	MR
	ELE 424	Digital Signal Processing	3	ELE 321	MR
	ELE 4XX	Technical Elective	3		MR
	ELE 4XX	Technical Elective	3		MR
	ELE 490	Electrical and Electronic Engineering Design Project I	2	Senior standing	MR
	THM XXX	Theme II	3		GE
	THM XXX	Theme III	3		GE
		Total	**18**		
Spring	ELE 4XX	Technical Elective	3		MR
	ELE 4XX	Technical Elective Lab	1		MR
	ELE 491	Electrical and Electronics Engineering Design Project II	2	ELE 490	MR
	THM XXX	Theme IV	3		GE
	XXX	Free Elective	3		GE
	XXX	Free Elective	3		GE
		Total	**15**		

Systems Lab
ELE 481 Power Systems Protection
ELE 482 Electric Power Distribution Systems
ELE 487 Power Quality and Harmonics
ELE 483 Power Systems Operation
ELE 488L Power Engineering Lab
ELE 494 Selected Topics in Electrical Engineering
ELE 496 Independent Study

Bachelor of Science in Mechanical Engineering (B.S.M.E.)

Program Purpose and Description

Mechanical engineering provides an excellent broad education for today's technological world. Mechanical engineers model, analyze, test, manufacture the engines that power ground as well as aerospace vehicles; they design, operate and modify the power plants that convert the energy in fuels, atoms, wind, and sunlight into electricity, and they construct intelligent machines and robots in industry. Mechanical engineers also build prototypes of conventional, electric and sports vehicles, develop energy management systems for industry, design and manufacture smart products and develop new engineering materials that are used in manufacturing high tech products. Mechanical engineers use computers extensively in their everyday operation; they develop computer control systems for automobiles and industrial processes and design computer interfaces to mechanical and energy systems. In short, the mechanical engineer is a vital backbone element of the engineering profession.

The B.S.M.E. curriculum produces graduates who are exceptionally competent and whose work is notable for its breadth and technical excellence. The graduates have the ability to work logically, accurately, and efficiently, to gather and use information effectively, and the dedication to continue enhancing their careers through life-long learning. The program stresses the effective use of technology, information resources, and engineering tools. It prepares graduates to work in a broad range of areas related to the mechanical engineering profession. The program instills leadership qualities based on moral and ethical principles coupled with sound and rational judgment. Finally the program is designed to prepare interested students for graduate studies in mechanical engineering and other areas of professional practice.

Educational Objectives

The degree program is designed to accomplish the following objectives:

- To help a student understand the fundamentals and principles of mathematics, science and engineering and to be able to apply this knowledge to the identification and solution of technological problems in the fields of manufacturing, mechanics, materials, thermofluids, dynamics and control
- To provide the student with an ability to use a broad base of knowledge and systematic thinking to be creative, intellectual and capable contributors to society
- To develop a demonstrable awareness and understanding of the cultural, ethical, environmental, societal and global context in which a professional engineer must work
- To instill a commitment to life-long learning and motivation towards continued professional research and development
- To equip a student to be proficient in the use of computers as analysis and design tools.
- To develop graduates who are self-confident team workers capable of

functioning effectively on multidisciplinary, open-ended design activities, yet able to carry out tasks individually with a minimum of supervision and have the ability to communicate effectively with a wide range of audiences on a wide range of subjects in oral, written, graphical and visual forms

What a Mechanical Engineer Can Do

A Mechanical Engineering graduate is able to:

- Apply the engineering fundamentals and modern engineering tools necessary to identify and analyze mechanical engineering problems, formulate constraints, devise and assess alternative solution approaches, and implement an optimal solution that satisfies specific performance requirements
- Function on multi-disciplinary teams in both leadership roles and as an individual contributor and to communicate effectively with a wide range of audiences in oral, written, graphical and visual forms within the context of mechanical engineering practice
- Understand professional and ethical responsibilities, as well as contemporary issues and their influence on technology evolution and implementation including the impact of mechanical engineering solutions in a global and societal context
- Engage in advanced studies and life-long learning in mechanical engineering and related professional areas
- Research an engineering topic and present the results to managers, and, for interested and qualified students, to conduct scholarly research and development

Graduation Requirements for the B.S.M.E. Degree

A total of 140 credits is required. After the third year, each student is required to devote at least six weeks to the summer internship prior to graduation. In the fourth year, each student is required to complete a senior design project. All Mechanical Engineering students are required to take a comprehensive assessment examination during this capstone course sequence.

Students seeking a B.S.M.E degree must satisfy the following requirements:

General Education Requirements

- Arabic heritage requirement: THM 201 or THM 202 or ARA 101
- English language competency requirement: 12 credits comprised of COM 102, COM 203 or COM 204, and COM 2XX
- Mathematics and/or statistics requirement: MTH 103 and MTH 104
- Science requirement: CHM 101 and PHY 101
- Humanities and Social Sciences requirement: Four theme courses and a three credits humanities or social science course; or, four theme courses and six credits of humanities or social science courses, when one of the theme courses taken is listed as satisfying the Arabic heritage requirement, such as THM 201 or THM 202
- Computer literacy requirement: Satisfied through extensive use of computer resources in courses throughout the engineering curriculum

Free electives

Nine credits of any courses offered at AUS.

Major Requirements

NGN 110 Introduction to Engineering
NGN 111 Engineering Statistics
MCE 215 Engineering Drawing and Workshop
MCE 220 Statics
MCE 222 Dynamics
MCE 223 Mechanics of Materials
MCE 230 Materials Science
MCE 231 Manufacturing Processes
MCE 240 Fluid Mechanics
MCE 241 Thermodynamics I
MCE 311 Engineering Measurements
MCE 316 Kinematics and Dynamics of Machinery
MCE 321 Mechanical Design I
MCE 322 Mechanical Design II
MCE 335 Computational Techniques
MCE 341 Thermodynamics II
MCE 344 Heat Transfer
MCE 410 Control Systems
MCE 482 Intermediate Fluid Mechanics
MCE 490 Design Project I
MCE 491 Design Project II
MTH 203 Calculus III
MTH 205 Differential Equations
MTH 221 Linear Algebra
NGN397 Professional Training
ELE 225 Electric Circuits and Devices
PHY 102 General Physics II

Technical Elective Courses

Students must complete four technical elective courses (12 credits) in the major areas of mechanical engineering. Two courses (six credits) should be from the areas of mechatronics, dynamics, control, manufacturing, design, mechanics or materials, and two courses (six credits) from the thermosciences area.

Mechatronics, Dynamics, Control, and Manufacturing (list A)

MCE 418 Modeling and Simulation of Dynamic Systems
MCE 423 Mechanical Vibrations
MCE 430 Fundamentals of Computer-Aided Design and Manufacturing
MCE 439 Computer Integrated Manufacturing
MCE 440 Advanced Manufacturing Processes
MCE 464 Introduction to Robotics
MCE 466 Introduction to Mechatronics
MCE 494 Selected Topics in Mechanical Engineering
MCE 496 Independent Study

Design, Mechanics and Materials (list A)

MCE 435 Advanced Mechanics of Materials
MCE 443 Introduction to Engineering Fracture Mechanics
MCE 473 Applied Finite Element Analysis
MCE 477 Composite Materials
MCE 480 Plastics and Plastic Processing
MCE 494 Selected Topics in Mechanical Engineering
MCE 496 Independent Study

Thermosciences (list B)

MCE 445 Energy Systems
MCE 446 Refrigeration and Air Conditioning
MCE 447 Internal Combustion Engines

Proposed Sequence of Study for the B.S.M.E. Degree (Years 2 and later)

SECOND YEAR (42 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	COM XXX	Communication III	3	COM 102	GE
	THM XXX	Theme I	3		GE
	MTH 203	Calculus III	3	MTH 104	MR
	MCE 215	Engineering Drawing and Workshop	3		MR
	MCE 220	Statics	3	PHY 101	MR
	MCE 230	Materials Science	3	CHM 101	MR
		Total	**18**		
Spring	THM XXX	Theme II	3		GE
	MCE 222	Dynamics	3	MCE 220	MR
	MCE 223	Mechanics of Materials	3	MCE 220	MR
	MCE 240	Fluid Mechanics	3	MTH 104, MCE 220	MR
	MCE 231	Manufacturing Processes	3	MCE 215, MCE 230	MR
	MTH 205	Differential Equations	3	MTH 104	MR
		Total	**18**		
Summer	HUM/SS XXX	Humanities/Social Sciences elective	3		GE
	COM XXX	Communication IV	3		GE
		Total	**6**		

THIRD YEAR (36 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	THM XXX	Theme III	3		GE
	MTH 221	Linear Algebra	3	MTH 103	MR
	MCE 241	Thermodynamics I	3	PHY 101	MR
	MCE 321	Mechanical Design I	3	MCE 215, MCE 223	MR
	MCE 335	Computational Techniques	3	MTH205	MR
	ELE 225	Electric Circuits & Devices	3	PHY 102	MR
		Total	**18**		
Spring	THM XXX	Theme IV	3		GE
	MCE 311	Engineering Measurements	3	ELE 225, MCE 240	MR
	MCE 316	Kinematics & Dynamics of Machinery	3	MCE 222	MR
	MCE 322	Mechanical Design II	3	MCE321	MR
	MCE 341	Thermodynamics II	3	MCE 241	MR
	MCE 344	Heat Transfer	3	MCE 240, MCE 241	MR
		Total	**18**		
Summer	NGN 397	Professional Training	0	Approval of the training coordinator for the major	MR

FOURTH YEAR (31 CREDITS)					
Term	**Course #**	**Title**	**Credit**	**Prerequisite**	**Fulfills**
Fall	MCE 410	Control Systems	3	MCE 311, MTH 205	MR
	MCE490	Design Project I	2	Senior standing	MR
	MCE 4XX	Technical Elective (A)	3		MR
	MCE 482	Intermediate Fluid Mechanics	3	MCE 240, MCE 241, MTH 205	MR
	MCE 4XX	Technical Elective (B)	3		MR
	XXX	Free Elective	3		GE
		Total	**17**		
Spring	MCE 4XX	Technical Elective (A)	3		MR
	MCE 491	Design Project II	2	MCE 490	MR
	MCE 4XX	Technical Elective (B)	3		MR
	XXX	Free Elective	3		GE
	XXX	Free Elective	3		GE
		Total	**14**		

Graduate Certificate Programs

The emphasis at the graduate level is on interdisciplinary learning for those who have successfully completed a BS degree in an engineering discipline. The graduate certificate is awarded to a student who studies for a total of at most one full equivalent year and follows the program defined by the graduate certificate faculty. The purposes and objectives of the two current programs are given below. Details of admission and course requirements may be obtained by contacting the School of Engineering or the Graduate Program Director. The School expects to offer the Masters of Science (MS) in these areas in the future.

Mechatronics

Mechatronics is the synergistic use of precision engineering, control theory, computer science, and sensor and actuator technology to design improved products and processes. Mechatronics students study a range of disciplines, thus making them well prepared to enter a wide variety of jobs in electrical or mechanical engineering, as well as software development and management. A graduate of the Mechatronics certificate program is:

- Capable of working with integrated systems from design, operation, and troubleshooting and diagnosis perspectives
- Prepared to be leaders in technology transfer and industry modernization, and to be better decision makers when selecting, procuring or commissioning engineering systems
- Committed to lifelong learning emphasizing optimal technical solutions, taking into account socioeconomic, environmental, and state of the art technology
- Able to work in multidisciplinary teams and prepared to be team leaders and future managers

Engineering Systems and Management

The purpose of the new graduate certificate program in Engineering Systems and Management (CESM) is to prepare graduate engineers in the Gulf Region to lead the technical and management dimensions of engineering systems design, integration, deployment, and operation in a wide spectrum of processes, with an emphasis on engineering management activities and interdisciplinary engineering systems. The objectives of the program are that the CESM graduate is able to:

- Understand and apply principles and techniques of systems analysis and modeling applicable to most engineering-based processes and systems
- Broaden skills and technical knowledge in the application of engineering principles and methods needed for project coordination and management positions
- Apply engineering and management decision making processes to real-world problems
- Carry out project coordination and management responsibilities of technically-oriented functions that add value to a product or service
- Present to industry and government agency management in concise written and spoken forms the results of brief and extended studies that involve design, analysis and synthesis.

The Graduate Certificate Director can provide information on admission, courses, and further graduate study opportunities in both of these

Master of Science in Mechatronics Engineering

The market needs and the development plans in the Gulf region call for a flexible, multidisciplinary, technically-based engineering workforce equipped with information technology, embedded systems, modeling, and precision engineering. Engineering education in the new millennium is a challenge marked by knowledge doubling every few years. Mechatronics graduate education in the Gulf region is meeting the challenges facing engineers.

Mechatronics has come to mean the synergistic use of precision engineering, control theory, computer science, and sensor and actuator technology to design improved products and processes. Mechatronics is simply the application of the latest techniques in precision mechanical engineering, control theory, computer science, and electronics to the design process to create more functional and adaptable products. Jobs considered as mechatronics are based on the multidisciplinary aspects of electrical, mechanical, control, computer, and software engineering. The unique skills of the mechatronics graduate are becoming increasingly valuable to the employer, especially in areas such as:

- Modern industrial installations and systems
- Computer integrated manufacturing systems
- Maintenance diagnosis and troubleshooting
- Defense systems
- Micro electro-mechanical systems
- Vehicle design and manufacturing
- Robotics
- Electrical control and drives
- Software development
- Electrical consumer goods
- Food processing
- Automated production systems.
- Sales and marketing

Educational Objectives

The MS in Mechatronics Engineering program has the following objectives:

- To provide industry with highly trained engineers having interdisciplinary skills necessary to deal with state of the art tools in design, development and advancing of modern engineering systems.
- To satisfy industry needs for a special engineering workforce equipped with know-how in: information technology, embedded systems, and precision engineering systems.
- To develop graduates confident in addressing open-ended problems and who possess an attitude of self-learning.
- To develop appropriate skills of modeling and simulating of modern integrated engineering products, thus enabling participants to carrying out the design and development of 'smart' products.
- To apply the latest techniques in precision mechanical engineering, control theory, computer engineering and science, and electronics to the design process to create more functional, adaptable, and cost effective products
- To insure that all students have enough familiarity with advanced systems elements to be able to apply mechatronics principles in their own disciplines and in the broad context of engineering system design.

Admission Categories

Details of application, deadlines and admission are included in material on Graduate Admissions and Academic Regulations. For full admission an applicant should hold a bachelor's degree in engineering with a minimum grade point average of 2.75. An applicant who meets these standards, but lacks prerequisite coursework may be admitted as a special status admission and must make up any deficiencies with a B average in a set of prescribed courses before reconsideration for full admission.

Degree Requirements

Graduate students must file formal study plans with their adviser, school and university office no later than the end of the semester in which the 12th credit hour of approved courses is completed. The formal program of study must include a minimum of 30 credits (at least 18 of which must be at the 600 level and 12 in the 500 level).

Each student must propose and complete a scholarly work that is pertinent to mechatronics and their selected area of specialization. There are two options to accomplish this in the MS in Mechatronics Engineering program: thesis program, which requires coursework, a written thesis and an oral defense of the results; or a non-thesis option, which involves two design projects and presentations on their results.

Thesis option

- Five core courses (15 credits) with a minimum grade of B in each course. Up to two courses may be transferred from another program or institution with the permission of the academic advisor, the Mechatronics Graduate Committee, and the Dean of Engineering. Pre-requisite discipline-bridging courses may be taken at the senior undergraduate level and should be approved by the Mechatronics Graduate Committee.
- A minimum of 9 additional credits with at least two courses at the 600 level with a cumulative grade of B.
- A program of research culminating in a 6 credits thesis that makes a contribution to the area of knowledge in which the work is carried out.
- The degree normally takes 24 months to complete. All requirements must be satisfied within 5 years.
- The minimum residency requirements are 3 consecutive academic semesters of full-time (9 credits/semester) study and research at AUS while registered as a graduate student.
- Be under the supervision of a faculty member or committee with a main adviser to supervise the research topic. The research advisor is appointed not

later than end of the second semester after initial registration.

- Pass a final oral thesis presentation exam with at least a grade of B

Design projects option

- Four core courses (12 credits) with a minimum grade of B in each course. Up to two courses may be transferred from another program or institution with the permission of the academic advisor, the Mechatronics Graduate Committee, and the Dean of Engineering. Pre-requisite discipline-bridging courses may be taken at the senior undergraduate level and should be approved by the Mechatronics Graduate Committee
- A minimum of 12 additional credits with at least three courses at the 600 level with a cumulative grade of B
- Two comprehensive design projects for 3 credits each. The first project is during the first year of the program and the second project is during the final semester
- The degree normally takes 24 months to complete. All requirements must be satisfied within 5 years
- The minimum residency requirements are 3 consecutive academic semesters of full-time (9 credits/semester) study and research at AUS while registered as a graduate student
- Be under the supervision of a faculty member to supervise each project. Projects are strongly encouraged to be industry related and developed through an industrial partner
- Pass a final oral project presentation exam with at least a grade of B

MS Committee Composition and Role

The MS Committee formed for the student will be comprised of three faculty members, including the thesis advisor or project advisor. For students who selected the project option and the work is accomplished with an industrial or municipal partner, a representative from the sponsoring organization is appointed as a full member of the committee. The committee chaired by the dean or a designated faculty, shall approve the following:

- MS degree plan
- Project plan or thesis proposal describing the research to be performed
- Project reports and presentations, or thesis document and defense

The committee chair recommends the student for graduation when all requirements have been completed. This recommendation is presented to the Mechatronics Faculty Committee, the Dean, and to the Vice Chancellor for Academic Affairs.

The curriculum requirements are as follows. All courses are 3 credit hours, unless specified.

Pre-requisite discipline-bridging courses:

MTR 505 Applied Electrical and Electronics Systems (Students with a BS in Electrical Engineering are exempted)

MTR 510 Applied Mechanical Systems (Students with a BS in Mechanical Engineering are exempted)

MTR 515 Information Technology for Mechatronics (Students with a BS in Computer Engineering are exempted)

Students with an Engineering BS degree in disciplines other than Mechanical, Electrical and Electronics, or Computer Engineering must take MTR505, MTR510, and MTR515 and their prerequisites.

Core Courses (12 credits required):

MTR 500 Advanced Engineering Mathematics

MTR 520 Embedded Systems for Mechatronics

MTR 600 Modeling and Simulation of Dynamic Systems

MTR 605 Advanced Digital Signal Processing and Control Systems

MTR 645 Mechatronics Seminar (0 credits)

Elective courses (minimum of 12 credits with at least three courses at the 600 level, students opting for a research thesis option must take MTR540):

MTR 530 Power Electronics and Electrical Drives

MTR 535 Electro-Pneumatic and Hydraulic Systems

MTR 540 Advanced Industrial Instrumentation and Control

MTR 610 Automated Manufacturing Systems

MTR 615 Artificial Intelligent Systems

MTR 620 Machinery Dynamics and Vibration

MTR 625 Distributed Control Systems

MTR 630 Real-Time Robotics Systems

MTR 635 Smart Structures

MTR 640 pecial Topics

Project Courses or Research Thesis (minimum of 6 credits):

MTR 525 Mechatronics Design I (3 credits)

MTR 695 Mechatronics Design II (3 credits)

MTR 699 Research Thesis (1-6 credits)

The Continuing Education Center

Director
Bashir AboLail, MBA

The Continuing Education Center (CEC) provides access to the educational resources of AUS and offers quality educational and training programs to meet the ongoing professional needs of the United Arab Emirates' workforce and adult community. CEC offers programs, workshops, seminars, conferences, and various other educational and training opportunities, both on campus and in different locations around the Emirates. CEC provides a unique combination of experienced personnel, excellent facilities, and the latest technology available in the Emirates.

Professional Certificate Programs

The rapid changes in scientific and technological fields in the new millennium have created the need for people who possess updated skills to cope with this new environment. CEC has launched professional certificate programs to increase the number of competent personnel in the market. These programs include a wide range of professional disciplines such as sales and marketing, accounting, finance, computers, human resources, and professional English. The professional certificate programs utilize a modular approach to learning that is directly applicable to the workplace. These modules allow individuals to access different aspects of various disciplines while simultaneously building practical skills. By successfully completing a specified number of independent modules, individuals will earn an AUS Continuing Education Center certificate.

Other certificates prepare students to sit for internationally recognized examinations such as the CPA, CMA/CFM, GMAT and others. These certificates enhance individual professional ability, and provide the certificate holder with increased earning potential.

Programs of the Continuing Education Center

Professional Certificates (8 Months)

1. Professional Certificate in Business Administration
2. Professional Certificate in Sales and Marketing
3. Professional Certificate in Accounting and Finance
4. Professional Certificate in Information Technology and Computing
5. Professional Certificate in Digital Media Production
6. Professional Certificate in E-Commerce
7. Professional Certificate in Human Resources

Certificate of Achievement (1 - 3 Months)

1. Certificate of Achievement in Selling Skills
2. Certificate of Achievement in Accounting
3. Certificate of Achievement in Business English
4. Certificate of Achievement in American English Conversation

Certificate of Attendance (3 to 15 Days)

1. Strategic, Collaborative Leadership
2. Effective Communication
3. Effective Negotiation
4. Professional Selling Skills
5. Managing Diversity and Cross-Cultural Issues
6. Developing Corporate E- Strategy
7. Professional Project Management
8. Executive Programs for Growing Companies
9. Finance for Non-Financial Managers
10. Stress Management
11. Customer Services

Customized Training

For organizational development to be effective, the unique needs of an organization must be incorporated into the design and delivery of a training plan. This plan should be consistently applied and flexible enough to react to the changing business environment. At CEC education and development in organizations are considered long-term partners. CEC provides access to the faculty and facilities of AUS in the most economical way to serve organizational needs. The expertise of affiliates and other national and international experts are also utilized. The administration of CEC is a group of experienced professionals with years of expertise in developing and delivering continuing education programs both in the UAE and the USA.

By working in partnership with key management staff, CEC can assist organizations in many ways:

* Assess internal and external needs
* Set training objectives and plans
* Develop customized training sessions to achieve specific organizational goals
* Provide certification and develops internal certification programs

Course Delivery

In recognition of the schedule of working professionals, these courses are delivered mostly in a part-time evening format. At the request of an organization or group of students, programs may be offered at different times or in a more intensive format.

For further information regarding CEC and the certificate and diploma programs, please contact the following numbers:

Tel: 971-06 515 2050
Fax: 971-06 515 2020
E-mail: cec@aus.ac.ae

College of Arts and Sciences

ARA Arabic

Arabic Language

Most Arabic Language courses meet the university requirement of three credits of Arabic. When in doubt, confirmation should be sought from the CAS Dean's office.

ARA 103 Composition for Native Speakers of Arabic (3-0-3). A practical language-based course that aims to develop the writing skills of the native speaker of Arabic. Develops themes such as letter writing and gives attention to the development of personal style. An additional element will be a historical look at styles of composition in Arabic.

ARA 104 Arabic as a Second Language I (3-0-3). Introduces students to the script of modern written Arabic and develops their confidence and knowledge in the four skill areas. The materials are designed using a modern approach to foreign language teaching. (Formerly ARA 100). This course does not satisfy the Arabic heritage requirement.

ARA 200 Arabic as a Second Language II (3-0-3). An extension of ARA 100 this course is designed to develop further the student's knowledge and proficiency in modern Arabic. As with the previous course this one will also be video-driven. Prerequisite: equivalent of approximately 60 – 70 classroom hours of Arabic. This course does not satisfy the Arabic heritage requirement.

ARA 300 Arabic as a Second Language III (3-0-3). This course builds on the earlier Arabic courses using more advanced materials. Video materials will be used as the main focus for this course that build on grammatical structures and conversational skills practiced in earlier courses. Prerequisite: equivalent of approximately 125-150 classroom hours of Arabic. This course does not satisfy the Arabic Heritage requirement.

ARA 308 Introduction to Stylistics and Metrics (3-0-3). This course falls into two major parts: stylistics (balaghah) and metrics ('arud). In stylistics, a brief theoretical survey of the major components of the field is followed by extensive textual analysis. In metrics, the basic principles of the taf'ilat and their variations are introduced and applied to selected examples.

ARA 407 Advanced Studies in Arabic Grammar / Rhetoric (3-0-3). This course examines in-depth the syntax and idiom of Modern Standard Arabic. Emphasis will be placed on the study rules of sentence formation in Arabic as well the patterns of coordination, complementation, predication and modification.

ARA 408 The Arabic Language and Modern Linguistics (3-0-3). This course will focus on the application of modern linguistic theory to the study of medieval and modern Arabic. By introducing the student to modern linguistic terminology and theory, it will assess the importance of modern linguistics in furthering our understanding of traditional Arab grammatical theory.

Arabic Literature

Most Arabic literature courses meet the university requirement of three credits of Arabic. When in doubt, confirmation should be sought from the CAS Dean's office.

ARA 101 and 102 Readings in Arabic Heritage (3-0-3). These two courses survey selections from writings in Arabic prose, literature and poetry which reflect the intellectual, literary and cultural development of the Arabs from pre-Islamic times up to the present day. ARA101 in English has a prerequisite / or concurrent: COM 102.

ARA 201 Arabic Literature in Translation (for non-native speakers only) (3-0-3). This course is a detailed study of genre and theme in Arabic literature, with special emphasis on the modern period. It focuses on literature as a vital reflection of Arab culture and society.

ARA 202 Arab-Islamic History and the History of Arabic Literature (3-0-3). This is a very intensive and wide-ranging survey course designed to illustrate the essential facts of Arab history. It focuses on the landmarks of Arabic literature from pre-Islamic to modern times, and provides glimpses of the literary fruits borne within that milieu. The course will also deal with the fundamental facts of Arab history.

ARA 203 Pre-Islamic Poetry (3-0-3). Examines relevant aspects of pre-Islamic Arabian life and history, and deals with the main issues and trends related to pre-Islamic poetry using major primary sources. A direct textual approach is adopted based on a close critical analysis of selected poems.

ARA 204 Early Islamic and Umayyad Poetry (3-0-3). Surveys Arabic poetry from the advent of Islam to the end of the Umayyad era. Ideological, cultural, economic, social and political factors affecting poetry in both phases of this period are studied. The course highlights the revival of poetry under the Umayyads, the restoration of pre-Islamic poetic traditions, and the major poetic trends and features that testify to the contemporaneous nature of this poetry. The foundation of this course is a critical analysis of selected poems.

ARA 205 Poetry in the Abbasid Age (3-0-3). Covers the whole period from the fall of the Umayyads to the fall of Baghdad, and the entire territory from Transoxania to Al Andalus. The contemporaneous nature of Abbasid poetry, in its artistic techniques and in its response to the changing social and cultural life, represents a genuine break with the Arab poetic code which pervaded pre-Islamic and Umayyad poetry. Major trends and issues of this new poetry are surveyed, with a special emphasis on at least four major poets: Abu Nuwwas, Abu Tammam, Al Mutanabbi and Al Macarri.

ARA 206 Modern Arabic Prose (3-0-3). Surveys the renaissance of Arabic prose from the nineteenth century to the present. The general burden of the course is the study of the modern Arabic novel, short story, play and autobiography. Special attention is paid to the factors leading to the rise of these fundamentally Western literary forms in the Arab world as a result of the 'Nahda', and to elements of fiction and drama in 'parallel' forms in classical Arabic

literature. The focus of the course is the study of the established works of Naguib Mahfouz and Tawfiq Al Hakim.

ARA 207 Arabic Drama (3-0-3). Looks at the emergence of Arabic drama in the nineteenth century until the present day and assesses prototype drama forms of the medieval period. Through a study of selected plays by prominent authors, a picture will emerge of the influence of Arabic drama on Arabic literature. Attention will be given to the effect created by the use of colloquial dialogues in play scripts. A selection of video recordings will also accompany this course.

ARA 213 Contemporary Arabic Literature (3-0-3). The course offers a survey of modern and postmodern Arabic fiction drama, poetry and criticism. Themes include love, death, exile, and social and political concerns. The course illustrates the nexus between literary works and contemporary Arab life.

ARA 301 Classical Arabic Prose until the end of the Third Century A.H. (3-0-3). Through critical textual analysis, this course tracks the evolution and development of classical Arabic prose from pre-Islamic times until the late second century A.H. after the death of Al Jahiz. Major trends, styles and forms are examined from a complex perspective, combining the evolutionary chronological approach with the artistic and analytical. It assesses the significance of the oratory tradition in early Islam, and also looks at the early development of the epistolary genre which was to become the main focus of Arabic prose literature. It also looks at the influence of the Qur'an and Hadith on the development of Arabic prose.

ARA 302 Arab Identity and Thought (3-0-3). Since the Arab awakening of the late 19th century Arab thought has been largely concerned with identity formation in relation or in opposition to other cultures and nationalisms. This course examines representative writings by Arab thinkers and authors, which deal with issues concerning the state formation, modernization, nationalism, democracy, Islamism, women rights, and minority issues.

ARA 303 Classical Arab/Islamic Culture (3-0-3). This course explores the ways in which Islam has shaped the history and culture of the Arabs. It discusses some of the significant features of Arab/Islamic culture and the several contributions this culture had made.

ARA 304 Modern Arabic Poetry (3-0-3). Surveys the renaissance of Arabic poetry from the nineteenth century to the present, principally through the stimulating first exposure to the West and the rise of Neo-Classicism by Al Barudi, Shawqi and others. It also investigates the steady and progressive exposure to the territory and soul of the West, which produced successive and contemporaneous waves of imitation, assimilation, 'apostasy' and rejection.

ARA 305 Literature of the Arabian Gulf (3-0-3). Through selected texts, this course examines the contribution of literary figures in the Arabian Gulf, especially those of the United Arab Emirates, to Arabic literature in general.

ARA 312 Modern Arabic Literature: Prose and Poetry (3-0-3). This course surveys the renaissance (Nahda) of Arabic literature from the early twentieth century to the present day. Modern literary trends such as romanticism, realism and existentialism will be illustrated through the study of selected works: novels, short stories , drama and poetry (free verse) by prominent writers.

ARA 401 Literary Criticism from the Arab Perspective (3-0-3). This course is a survey of the history of Arab literary theories and of Arab literary criticism in classical times. The authoritative work by Ihsan Abbas (Tarikh Al Naqd Al Adabi 'ind Al Arab) provides the ideal framework for the course.

ARA 402 Qur'anic Studies (3-0-3). An introduction to the major Qur'an related issues such as the collection of the Qur'anic suras, Qur'anic imagery and the various trends in Qur'anic studies and interpretations and exegesis. It will also examine the important contribution made by the rationalist Mu'tazila to Muslim exegesis.

ARA 403 Sufi Literature (3-0-3). The purpose of this course is to familiarize students with Sufi literature and Sufi traditions and doctrines.

BIO Biology

BIO 101 General Biology I (3-3-4). This is part one of a rigorous two semester course covering the scientific method, the molecular basis of life, the carbon atom, cells, organelles, plant and animal physiology, genetics, speciation, behavior and evolution. The course is designed to give students an in-depth study of biology that will prepare them for a profession in biology. A required laboratory is part of the course. Prerequisites: None.

BIO 102 General Biology II (3-3-4). This is part two of a rigorous two semester course covering the origins of life, plant and animal diversity, animal evolution, plant and animal form and function, body systems, ecology and conservation biology. The course is designed to give students an in-depth study of organism biology that will prepare them for a profession in biology. A required laboratory is part of the course. Prerequisite: BIO 101.

BIO 103 Introduction to Life Sciences (3-0-3). This course is a survey of biological concepts. It presents essential general information about microbes, plants and animals. It also explains fundamental laws governing the biological world. Main topics include evolution, metabolism, genetics, diversity of life, and ecosystems. Not open to Science or Engineering students. Not open to Science or Engineering students. Prerequisite: None.

BIO 230 Ecosystems Management (2-3-3); The course focuses on the policies of ecosystems management from a scientific and natural approach. Special attention will be given to current research and case studies of organism adaptations and roles in specific habitats and adverse environments, and to formulate approaches and policies most suitable for the management of natural, restored and artificial ecosystems. Conservation practices will be reviewed in light of current scientific and sociobiological understanding of biodiversity, conservation and sustainability. Prerequisite: BIO 102.

BIO 251 Environmental Ecology (2-3-3). This course deals with the general principles of ecology with a strong emphasis on the ecological effects of pollution, disturbance, natural and anthropogenic stress factors. Students will

learn from case studies unique to the topics covered, with emphasis on the United Arab Emirates. Laboratory exercises emphasize basic ecological techniques, ecosystems structures, energy flow, data collection and analysis from a case study approach. A final written professional quality report is required. Prerequisite: BIO 102.

BIO 260 Genetics (3-0-3). This course will cover the general principles of genetics from Mendelian to modern molecular genetics and DNA analysis. The emphasis will be on molecular genetics and how techniques are being used in genetic engineering, medicine, agriculture, and industry and law enforcement. The student will also obtain a strong understanding of genetic principles applied to biogeography, population dynamics, species diversity, conservation and evolution. Prerequisite: BIO 102.

BIO 331 General Microbiology (3-3-4). This is a general course covering the biology of microorganisms (viruses, bacteria, fungi and helminthes). It emphasizes the role they play in our lives in pathology, industry, bioremediation and the environment. Students will learn sterile techniques, how to culture and identify bacteria and how to control them in clinical, personal, industrial and environmental settings. Prerequisite: BIO 102.

CHM Chemistry

CHM 101 General Chemistry I (3-3-4). This is an introductory course that covers the fundamental chemical principles, concepts and laws. Topics include reaction stoichiometry, types of chemical reactions, solution stoichiometry, gas laws, kinetic theory of gases, thermochemistry, atomic structure and periodicity, the Bohr model, Lewis structures, ionic and covalent bonding, the solid state and crystallography, the liquid state and phase diagrams. Laboratory experiments illustrate principles discussed in the course. Prerequisites: None.

CHM 102 General Chemistry II (3-3-4). This course deals with properties of solutions, including colligative and chemical properties; acid-base and complex ion equilibria; laws of thermodynamics; enthalpy and free energy; electrochemistry; nuclear chemistry; representative elements; transition metals and coordination compounds. Laboratory includes experiments illustrating principles discussed in the course. Prerequisite: CHM 101.

CHM 103 Chemistry and Everyday Life (3-0-3). This course introduces the student to the fundamental principles of chemistry and the role of chemistry in everyday activities.. Topics include chemistry of the nucleus and the atomic bomb, acids and bases, petroleum products, environmental chemistry, perfumes, cosmetics, soaps and detergents, chemistry in the kitchen, food additives and food coloring, pesticides, toxins and poisons, chemistry of the mind, forensic chemistry and DNA finger printing. Not open to Science or Engineering students. Prerequisites: None.

CHM 105 Chemistry and the Environment (3-0-3). The main topics are air and energy, toxic substances, water and waste treatment. Special attention is paid to the ozone layer, ground level pollution, air and marine pollution, heavy metals in soil, global warming and environmental impact of energy production. Learning activities include projects, Web searches, laboratory experiments and field trips. Not open to Science or Engineering students. Prerequisites: None.

CHM 215 Organic Chemistry I (3-0-3). this course surveys reactions of aliphatic and aromatic compounds including modern concepts of bonding, mechanisms, conformational analysis, and stereochemistry. Topics include alkanes and cycloalkanes, alkenes, alkynes, biologically active acetylenic compounds, electrophilic and nucleophilic reactions, resonance, alkyl halides, SN1, SN2, E1 and E2 mechanisms. Prerequisite / concurrent: CHM 102.

CHM 215L Organic Chemistry Laboratory I (0-4-1). Organic laboratory that includes experiments on purification, separation and identification techniques. It also includes synthesis of various organic compounds. Prerequisite: CHM 215.

CHM 216 Organic Chemistry II (3-0-3). This course deals with modern spectroscopic techniques for structure determination; chemistry of oxygen and nitrogen compounds; chemistry of alcohols, ethers, carbonyl compounds and amines. Special attention is given to mechanistic aspects. Prerequisite: CHM 215.

CHM 216L Organic Chemistry Laboratory II (0-4-1). An advanced organic laboratory with experiments related to the theoretical principles and synthetic methods of modern organic chemistry. Prerequisites: CHM 215L and CHM 216.

CHM 231 Physical Chemistry I (3-0-3). This course investigates in depth the basic concepts of thermodynamics. The properties of gases are analyzed as the basis for the study of the laws of thermodynamics, which are applied to questions of chemical equilibrium, phases and solutions, phase equilibrium and other applications. Prerequisites: CHM 102 and MTH 104.

CHM 241 Quantitative Analysis (3-3-4). This course introduces the basic theories underlying analytical methods of chemical analysis. It covers fundamentals and applications of electrochemistry; complexometric titrations; spectrophotometry; gravimetric and combustion analysis. Special attention is given to analysis of environmental samples. The laboratory component deals with a variety of analytical techniques. Prerequisite: CHM 102.

CHM 251 Environmental Chemistry (3-0-3). The course investigates in detail the interaction between natural systems and human activity. Topics include biogeochemical cycles, aquatic chemistry, water pollution and treatment, atmospheric chemistry and air pollutants, organic pollutants, photochemical smog, hazardous wastes, toxicological chemistry, nuclear waste disposal and treatment of oil spills. Local and regional pollution problems are emphasized and investigated in detail. Prerequisite: CHM 102.

CHM 331 Physical Chemistry II (3-0-3). The course covers kinetics, electrochemistry, surface chemistry and transport properties. In kinetics emphasis is on the theory of reaction rates and methods of handling kinetic data. The electrochemical section examines the conventions, underlying theory, and practical applications of electrochemical cells. Prerequisite: CHM 231 or CHE 204.

CHM 335 Physical Chemistry Laboratory (1-5-2). This is an advanced laboratory course in physical chemistry. Students are assigned a series of experiments to be performed individually. Experiments cover the topics of

thermodynamics, kinetics, electrochemistry, surface chemistry and transport phenomena. An original report is submitted after each experiment, including sample calculations and error analysis. Prerequisite / concurrent: CHM 331.

CHM 445 Instrumental Analysis (2-3-3); This course introduces modern instrumental methods of analysis utilized by scientists, environmentalists and engineers. Its objective is to provide an understanding of the principles, laws and operation of modern instrumentation. This includes molecular and optical spectroscopy; flame and plasma absorption spectroscopy; electrochemical and analytical methods; thermal methods; separation and chromatographic techniques; mass spectroscopy. Prerequisite: CHM 102

CMP Computer Science

CMP 105 Introduction to C++ Programming (3-1-3). A general overview of programming design and analysis of programs in C++: data types, arithmetic and logic operators and expressions, input/output, conditional expressions and statements, repetitive structure, functions, arrays and pointers, concepts of object-oriented programming: classes, objects, inheritance.

CMP 107 COBOL Programming (3-1-3). Elementary and intermediate programming techniques in COBOL. Computer solutions to business-oriented problems.

CMP 108 Java Programming (3-1-3). Basic concepts of problem solving and programming in Java. Basic data types, operators, variables and expressions. Arrays and Strings. Fundamental concepts of object-oriented programming such as classes, objects, methods and attributes, inheritance and reusability. Designing interactive web applets and applications. Graphical user interfaces and its components. Greater emphasis in this course is placed on business-oriented applications.

CMP 110 Visual Basic (2-2-3). Covers the standards of the Windows interface and its link to the Basic programming language. It includes the following concepts: forms, controls, functions, graphics, programming in Visual Basic, arrays, files and designing of custom menus.

CMP 111 Computing Fundamentals (3-1-3). History of computing, the concept of algorithm, computing disciplines, Survey of aspects of the application of computer Science: Hardware and software engineering, basic computer organization, system software; Programming languages paradigms and history, Databases, Storage, Networks and the Internet, Artificial Intelligence.

CMP 120 Introduction to Computer Science I (3-2-4). Algorithms, problem solving strategies, program documentation, fundamental programming constructs: syntax and semantics of a high-level programming language, data types, variables, operators, expressions and statements, conditional and iterative control structures, classes, objects, methods, parameter passing, program input and output. Arrays, strings and lists. Testing and debugging programs. Prerequisite: CMP 111.

CMP 210 Digital Systems (3-0-3). Number systems, Boolean algebra, analysis and design of combinational circuits, minimization techniques, analysis and design of sequential circuits, and introduction to computer design. Prerequisite: CMP 120.

CMP 211 Digital Systems Laboratory (0-2-1). Experiments and laboratory work to support CMP 210. Prerequisite or concurrent: CMP 210.

CMP 213 Discrete Structures (3-0-3) (Cross-listed as MTH 213). This course covers propositional and predicate calculus, sets, major classes of functions and related algorithms, principal of mathematical induction, proof techniques, recursive definitions, counting, relations, graph, and trees. Prerequisite: MTH 103.

CMP 220 Introduction to Computer Science II (3-1-3). Data abstraction, encapsulation and information hiding. Abstract data types: linked lists, stacks and queues. Recursion and recursive functions. Object-oriented programming concepts: constructor methods, overloaded and overriding methods, inheritance and polymorphism. Selected advanced programming concepts such as exception handling, multithreading, event-driven programming and application programming interfaces. Prerequisite: CMP 120.

CMP 232 Data Structures and Algorithms (3-1-3). Data structures and the complexity of algorithms. Abstract data types: binary search tress, hash tables, lists, graphs and priority queues. Searching and sorting algorithms. Applications of abstract data types. Advanced data structures. Prerequisite: CMP 220 and Co-requisite: CMP 213.

CMP 235 Social and Professional Issues (2-0-2). Social impact of computers, economics of computing, policy, moral and legal issues, privacy and security issues, computer crimes and law. Work in this course will be based on group and class discussions and essays addressing the above topics. Prerequisite: CMP 120.

CMP 240 Introduction to Computer Systems (3-0-3). Introduction to computer organization, registers, machine instructions, data representations, execution control and addressing techniques, segmentation, linkage and recursion. Prerequisite: CMP 210.

CMP 310 Introduction to Operating Systems (3-1-3). Operating systems architectures, process scheduling and synchronization, memory management, virtual memory, deadlocks management, file system, input/output management, and distributed systems. Prerequisites: CMP 232 or COE311 and CMP 240 or COE331. Equivalent to COE 381.

CMP 320 Database Systems (3-1-3). Introduction to database concepts, data independence, logical and physical views of database systems. Data models: hierarchical, network and relational. Data description languages, query functions, relational algebra. Prerequisite: CMP 232. Equivalent to COE 422.

CMP 321 Programming Languages Laboratory (2-2-3). Overview of programming languages syntax and semantic definitions, language translators, language categories, programming in a high level language other than the one taken in CMP 120. Prerequisite: CMP 220.

CMP 340 Design and Analysis of Algorithms (3-0-3). Algorithmic analysis. Algorithmic strategies. Hashing, graph and spanning trees algorithms. Topological sort. Pattern matching. Number-theoretic algorithms. Matrix operations. Distributed algorithms. Complexity classes. Basic

computability theory. Prerequisite: CMP 232.

CMP 341 Computational Methods (3-0-3). An introduction to the fundamentals of numerical algorithms and their application for scientific computing. Includes topics such as error analysis, root finding, interpolation and function approximations, optimization techniques and linear programming. Prerequisite: CMP120 and MTH 221.

CMP 350 Introduction to Software Engineering (3-1-3). The software development life cycle. Software project management. Software metrics and cost estimation. Software specification and requirement analysis. Software testing and maintenance. Prerequisite: CMP 232. Equivalent to COE 420.

CMP 410 Computer System Architecture (3-0-3). Advanced study of the architecture of computer systems. Processor organizations, hardwired and micro-programmed control, input/output subsystem, bus control, programmed I/O, DMA and interrupts, memory subsystem, interleaved, cache and associative memory, pipelines and their scheduling, RISC and CISC architectures. Prerequisite: CMP 240.

CMP 411 Performance Evaluation of Computer Systems (3-0-3). Modeling and evaluation of computer systems. Probability spaces and probability calculus, random variables and their distribution functions, the calculus of expectations. Markov chains, birth-death processes, Poisson processes, single queue, network of queues and their simulation. System simulation for performance prediction. Modeling concurrent processes and the resources they share. Prerequisite: CMP 310 or COE381 and STA 201 or NGN111.

CMP 412 Introduction to Distributed Systems (3-0-3). Architectures for distributed systems. Overview of network topologies and networking technologies and infrastructures. Distributed algorithms, deadlock and termination detection. N-Tier client-server computing systems. Fault-tolerance and recoverability issues. Applications and case studies. Prerequisite: CMP 340 and CMP 310. Equivalent to COE 433.

CMP 415 Computer Networks (3-0-3). Introduction to computer networks, network architectures, Overview of layered protocol hierarchies. OSI reference model, the physical, link and network layers, network protocols, error control, flow control and routing algorithms. Application layer protocols. Prerequisite: CMP 240 and CMP 310.

CMP 416 Internet and Network Computing (3-0-3). The internet, its protocols and architecture, TCP/IP and internet application protocols, designing internet-based clients and servers, and multi-tiered applications, network security and network management. Distributed object computing, remote method invocation, emerging internet technology standards: CORBA, XML. Building internet-based applications. Prerequisites: CMP 310.

CMP 417 Parallel Computing Systems (3-0-3). Models of parallel computation. Shared memory parallel machines. Interconnection networks. Parallel architectures. Parallel algorithms, complexity and performance measures. Parallel searching and sorting. Parallel evaluation of expressions. Issues of non-determinism, synchronization and deadlock. Survey of parallel applications. Prerequisite: CMP 240 and CMP 340.

CMP 418 Introduction to Simulation and Modeling (3-0-3). Design and implementation of simulation models for systems design and analysis. Emphasis on discrete stochastic systems and real-world business and government problems including resource allocation, queuing, simulation languages and their applicability to problem solving. Prerequisite: CMP 232 or COE 311.

CMP 430 Computer Graphics (3-0-3). Study of two- and three-dimensional graphics, graphics representation, algorithms for computing graphics and producing images, clipping, windowing, transformation, graphics hardware and applications. Prerequisite: CMP220 and MTH 221. Equivalent to COE 429.

CMP 431 File Processing (3-0-3). External storage devices. Sequential, indexed sequential and direct file organizations. Tree-structured, multi-list, inverted, cellular multi-list and hybrid file organizations. File systems. External sorting and merging. The protection problem. Prerequisite: CMP 232.

CMP 432 Image Processing (3-0-3). An introduction to basic techniques of analysis and manipulation of pictorial data by computer. Image input/output devices, image processing software, enhancement, segmentation, property measurement, Fourier analysis, computer encoding, processing and analysis of curves. Prerequisite: CMP232.

CMP 433 Artificial Intelligence (3-0-3). Introduction to problems and techniques in artificial intelligence. Problem-solving methods. Major structures used in artificial intelligence programs. Study of knowledge representation techniques such as probabilistic reasoning, predicate and nonmonotonic logic. Examples of expert systems. Introduction to natural language understanding and various syntatic and semantic structures. Learning as a form of problem-solving through problem decomposition and subparts interaction. Prerequisite: CMP 232 or COE311.

CMP 434 Information Theory (3-0-3). Information concepts, communication and data transmission, Shannon's theory, the mathematical concept of information, encoding of data and binary representation, Hoffman coding, entropy as a measure of the amount of information, Markov processes and probability, area of application. Prerequisite: STA 201 or NGN111.

CMP 435 Computer Security (3-0-3). Security issues in computer systems. Basic encryption and decryption, secure encryption and encryption protocols. Security in operating systems, databases, and communications. Risk analysis and assessment. Security planning and management. Security platforms. Application to electronic commerce systems. Prerequisite: CMP 310 or COE381.

CMP 436 Introduction to Symbolic Computation. (3-0-3). History of systems for symbolic computation. Algebraic structures. Forms and data structures. Arithmetic on integers, polynomials, rational functions and power series. Modular arithmetic. Homomorphism methods. Greatest Common Divisor Algorithms. Polynomial factoring. Solution of equations. Symbolic integration. Prerequisite: CMP 213 and CMP 232.

CMP 437 Introduction to Neural Networks (3-0-3). Presents different types of neural networks and describes the basic mechanisms that underlie each network.

Discusses fundamental network properties necessary to achieve autonomous behavior. Analyzes how well each network satisfies these properties. Prerequisite: CMP232.

CMP 438 Programming Robots (3-0-3). An examination of programming issues involved in creating autonomous robots, which can interact with their environments in "intelligent" ways. Topics include traditional robotics, behavior-based robotics, sensor processing, sensor-based control, programming robotic behaviors. Prerequisite: CMP 220 or COE211.

CMP 450 Object-Oriented Analysis and Design (3-0-3). An exploration of object-oriented design and software construction. Topics in object-oriented analysis and programming: classes, methods, messages, inheritance, static and dynamic binding, polymorphism, templates, design methodologies, class libraries and software reuse. Substantial object-oriented software project required. Prerequisite: CMP 350 or COE420.

CMP 452 Compiler Construction (3-0-3). Review of program language structures, translation, loading, execution and storage allocation. Compilation of simple expressions and statements. Organization of a compiler including compile-time and run-time symbol tables, lexical and syntax scan, object code generation, error diagnostics, object code optimization techniques and overall design. Use of compiler writing languages and bootstrapping. Prerequisite: CMP 350 or COE420.

CMP 453 Organization of Programming Languages (3-0-3). History and classification of programming languages. Formal definition of syntax and semantics of programming languages. Expressions, statements, data types, naming structures, type checking, and control structures. Binding and memory allocation. Block structure and scoping. Parameter passing, subprograms and implementation. Exception handling, Concurrency. Logic programming languages, object-oriented programming languages. Prerequisite: CMP 232.

CMP 454 Software Testing and Quality Engineering (3-0-3). Overview of software engineering. Validation and verification activities. Software quality assurance. Black-box and white-box testing. Acceptance testing. Integration and regression testing. Data flow analysis. Test execution. Distributed systems testing. Object-oriented software testing. Prerequisite: CMP 350 or COE420.

CMP 455 Human Computer Interaction (3-0-3). Human behavior and user interface design. Issues in graphical user interface design. Interface representation and user-centered prototyping tools. Analysis and evaluation of user interfaces. Multimedia objects and interfaces. Usability engineering. User interface design and project organization. Case studies and project. Prerequisite: CMP 350.

CMP 470 Formal Languages and Computability I (3-0-3). An introduction to theoretical computer science. Topics include: regular expression and finite state concepts, basic automata theory, formal grammars and languages, computability, Turing machines and elementary recursive function theory. Prerequisite: CMP 213.

CMP 471 Hypermedia Computing (3-0-3). Hypermedia covers integration of text, graphics, animation, sound and video into a single computer application: gives students a broad understanding of the technical aspects of hypermedia application development as well as the conceptual issues that affect this technology. Prerequisite: CMP232 or COE311.

CMP 472 Multimedia Computing (3-0-3). Integration of multimedia objects: text, sound, video, images and animations. Multimedia data technologies. Compression and decompression techniques. Multimedia objects and databases. Multimedia synchronization. Multimedia applications. Multimedia authoring tools. Simulation and performance evaluation for multimedia systems. Prerequisite: CMP 310 or COE381.

CMP 490 Project in Computer Science (3-0-3). Faculty supervised projects by students on special topics of current interest. Both oral and written presentations on the topics are required. Prerequisite: CMP350. and Senior Standing.

CMP 494 Topics in Computer Science (3-0-3). Selected topics of current interest in computer science. Prerequisites: CMP 232.

CMP 496 Independent Study (variable credit: 1-3 credits). Involves investigation under faculty supervision beyond what is offered in existing courses. Prerequisite: Senior standing.

CMP 497 Internship in Computer Science (0-0-0). A student spends at least 240 hours of work in a computer related job. A Pass or Fail grade will show on the transcript. Prerequisite: Senior standing.

COM Communication

English Communications Competency Program

COM 001 Fundamentals of Writing (3-0-3). Develops the skills of reading and writing, and teaches grammar competencies needed to write complex English sentences. Students will learn how to write and support topic sentences and build coherent and unified paragraphs. Prerequisite: EPT below 4.

COM 101 Academic Writing (3-0-3). Students practice the process of writing different essay types by reading a variety of texts and focusing on the development of writing unified, coherent and supported academic essays. Students are expected to refine their grammatical skills and demonstrate the ability to produce appropriate sentences. Prerequisite: EPT 4 or COM 001.

COM 102 Writing and Reading Across the Curriculum (3-0-3). Builds upon the skills developed in COM 101 and focuses on the development of critical thinking, active reading and analytical writing skills across the curriculum. Students are expected to read and respond to texts from a variety of disciplines and achieve further refinement of grammar and vocabulary skills. Students are also introduced to basic research techniques. Prerequisite: EPT 5 or COM 101.

COM 203 Writing about Literature (3-0-3). Builds upon the skills acquired in COM 102 to develop further students' critical thinking, and academic writing competencies. Students will read short stories, poetry and drama and produce a research paper using analytical and critical skills in response to literary texts. Prerequisite: COM 102.

COM 204 Advanced Academic Writing (3-0-3). Builds upon the skills acquired in COM 102 to develop further students' critical thinking, and academic writing competencies. Students will read and respond to a variety of texts from different disciplines and produce a research paper using analytical and critical skills in

response to non-literary texts. Prerequisite: COM 102.

COM207 English for Engineering (3-0-3). Intended for Engineering students only. Its purpose is to introduce them to English used for communication in their field with a special emphasis on writing and presenting technical reports. Prerequisite: COM203 or 204.

COM 208 Public Speaking (3-0-3). Introduces students to the art of public speaking, debate and argument. Students gain confidence as public speakers by learning the techniques of making effective presentations and by gaining extensive practice in public speaking. Prerequisite: COM 102.

COM 209 Dramatic Expression (3-0-3). This course is intended to give students an opportunity to perform publicly in a variety of formats, including poetry reading, acting, miming and singing. Prerequisite: COM 102.

COM 220 Intercultural Communication (3-0-3). Provides an overview of the way in which cultures influence communication. From this course, the student will be able to acquire knowledge about and skills to understand and interpret communication patterns of people from diverse cultures. A broad range of topics will be covered including perception differences, verbal and non verbal communication in high and low context cultures, and the effect of bias and conflicting value systems on cross-cultural communication. Prerequisites: COM102

COM 225 Global Business Communication (3-0-3). Aims at developing students' skills in writing business documents such as CVs, correspondence, memoranda, short and long reports, proposals, necessary to communicate effectively in the business world. It also focuses on developing oral communication skills in business settings. Prerequisite: COM 203 or 204

COM 231 Writing for Visual Media (3-0-3). Introduces students to existing and emerging communication technology, and examines its impact on the communication process. This course also prepares students to manage the process of designing documents, from the planning stage through final production. Students learn basic rhetorical principles and apply them by writing articles, stories and advertising copy. Prerequisite: COM 203 or 204

COM 396 Independent study of Language , Variable Credit (1 - 3). This course explores how language is used in communication, for personal and social functions, in its written and oral channels. Students reflect on language issues and practice the use of language in selected disciplines. Students are expected to analyze texts exploring various issues in language and write critical evaluations of the essays studied.

CSC Cultural Studies

CSC 201 Western Cultural Studies I (3-0-3). Introduces the student to the basic doctrines and concepts of Western civilization. It covers reading material from the Renaissance to modern times, focusing on selections from the great books that have made Western civilization what it is. It deals with readings that cover theology, politics, science and literature. Prerequisite: COM102.

CSC 202 Western Cultural Studies II (3-0-3). Like CSC 201, this course continues the introduction of students to the basic doctrines and concepts of Western civilization. It covers reading material from modern and contemporary authors focusing on selections from the great books that have made Western civilization what it is. It deals with readings that cover theology, politics and literature. Prerequisite: COM102.

CSC 204 Belief Systems and Ideology in the Western Tradition (3-0-3). This course explores major belief systems and ideologies of the West from the Greco-Roman period to the present. The goal of the course is to introduce students to the major theological, philosophical and political traditions of Western culture and society. Prerequisite : COM 102

CSC 205. World Cultures (3-0-3). This course is an exploration into the varied cultures of the world. Student will acquire an appreciation for the critical importance of societal culture as a tool of human survival. The course provides the framework for an appreciation of cultural differences and similarities and thereby increases understanding of the complex world with which we must cope. Prerequisite : COM 102

ECO Economics

ECO 201 Principles of Microeconomics (3-0-3). Introduction to the basic principles of microeconomics and their applications; supply and demand, operation of markets, consumer and enterprise behavior, competition and monopoly, income distribution, and international trade.

ECO 202 Principles of Macroeconomics (3-0-3). Introduction to the basic principles of macroeconomics, stressing national income, unemployment, inflation, economic growth, business cycles and open economies.

ECO 301 Intermediate Microeconomics (3-0-3). Theory of relative prices of commodities and productive services under perfect and imperfect competition. Theory of the firm and consumer demand. Prerequisite: ECO 201.

ECO 302 Intermediate Macroeconomics (3-0-3). Concepts and theory of national income determination, unemployment, inflation and economic growth. Prerequisite: ECO 201 and ECO 202. (Formerly ECO 204.)

ECO 305 International Trade (3-0-3). Introduction to the economics of international trade, including why countries trade, commercial trade policies and their effects, growth and international trade, and multinational firms. Prerequisite: ECO 201 and ECO 202.

ECO 306 International Finance (3-0-3). (cross listed with FIN 401) Introduction to the economics of international finance, including why countries trade, commercial trade policies and their effects, growth, and international trade, and multinational firms. Prerequisite: ECO 201 and ECO 202.

ECO 310 Development Economics (3-0-3). Theories of economic development. The colonial and neo-colonial legacy. Problems of poor countries. New strategies of development and economic relations between poor and rich countries. Prerequisite: ECO 201 and ECO 202.

ECO 311 Capitalism (3-0-3). Capitalism, or economic individualism, is a system of unfettered voluntary exchange where the role of government is to enforce property rights. Are capitalist economics successful? Who are the proponents and opponents of capitalism, and what arguments and evidence do they use? Prerequisite: ECO 201 and ECO 202.

ECO 312 Economics of Labor (3-0-3). Economic analysis of employment and wages, including the economics of education, unemployment, labor unions, discrimination and income inequality. Prerequisite: ECO 201 and ECO 202.

ECO 314 Political Economy of the Asia Pacific Region (3-0-3). This course provides an exploration of political, economic, social and environmental issues in the Asia Pacific. This region includes South, Southeast, East and Northeast Asia, Australasia, and the Pacific littoral states of North, Central and South America. Special emphasis will be placed upon the efforts of regional cooperation organizations and lessons to be gleaned by the states of Southwest Asia and the Middle East.

ECO 315 Economics of the Middle East (3-0-3). Detailed historical and contemporary investigation of the Middle Eastern economies, including the role of oil in economic growth, trade relations, development patterns, labor and financial flows. Prerequisite: ECO 201 and ECO 202.

ECO 318 Economics of Water Resources (3-0-3). Water resources: supply, demand, pricing, allocation and distribution. Impact of water policy on economic growth and conservation. Planning, development and management of water resources. Prerequisites: ECO 201.

ECO 320 History of Economic Ideas (3-0-3). Exposition and analysis of the development of economic theory. Emphasis on tracing evolution of economic theories out of specific historical contexts. Major figures and schools in economic thought from Adam Smith to the present. Prerequisite: ECO 201 and ECO 202.

ECO 321 Theories of Political Economy (3-0-3). Analysis of political economic theories including old and new institutionalists, neo-Ricardians and modern Marxist perspectives. Emphasis on interdependence of political, economic and social forces in shaping contemporary social problems. Prerequisite: ECO 201 and ECO 202.

ECO 322 Global Political Economy (3-0-3). This course deals with the roots and evolution of the global political economy from the end of the World War II and the launching of the Bretton Woods system to the Asia crisis of 1997 and its spread to Russia, Latin America, and the Middle East. It will focus on the interplay between politics and economics for topics such as management of the international financial system via the IMF, World Bank, World Trade Organization, globalization, trade, multinational corporations and changes in world production patterns, trade agreements such as the European Union, development strategies, debt crises, and attempts at political and economic liberalization in various countries. Prerequisite: ECO 201, ECO 202 and HIS 206

ECO 325 Public Economics (3-0-3) (cross-listed with PBA 325). Microeconomic theory as a framework for understanding the problems of public managers. Resource scarcity, consumer behavior, production costs, economics of efficient management, operation of product markets under competition and monopoly, labor markets, market failure and public goods. Prerequisite: ECO 201.

ECO 326 Economics and the Law (cross-listed with PBA 326) (3-0-3). Major topics include property rights, contract rights and liability rules. Both efficiency and fairness will be analyzed. For efficiency, emphasis is placed upon the incentive effects that legal rulings create for economic behavior in the future. Fairness is analyzed mostly in terms of the effects which legal rulings have upon the distribution of wealth. Prerequisite: ECO 201.

ECO 327 Competition, Free Markets and Antitrust (cross-listed with PBA 327) (3-0-3). Firms take actions which improve their own competitive position and which harm their rivals. This course discusses the benefits and harms of such actions, and introduces the basic framework which can help determine which actions should be legal, and which should not. Topics include: a comparison of competition with market power, vertical integration, price fixing and cartels, vertical restrictions, price discrimination and predatory pricing. Prerequisite: ECO 201.

ECO 328 Government Regulation of Business (3-0-3). (Cross-listed with PBA 328). Examination of the reasons why governments regulate business. Such reasons include: fairness, excessive competition, natural monopoly, externalities, imperfect information and transactions costs. Class time will be divided between examining the theories for regulation and investigating actual legal cases. Prerequisite: ECO 201.

ECO 330 Money and Banking (3-0-3). The role of money and credit in the economy. The structure and operations of commercial banks. Central banking and the operation of monetary policy. Non-banking institutions and the structure of financial markets. Elements of monetary theory. Prerequisite: ECO 201 and ECO 202.

ECO 335 Economic History of the World Economy (3-0-3). Historical investigation of economic development using Western Europe, Russia, the Third World and the United States as case studies. Prerequisite: ECO 201 and ECO 202.

ECO 340 Great Economic Thinkers (3-0-3). This course explores in depth the economic thinking of well-known economists, including those of earlier history and Nobel Prize winners. The instructor chooses the economists covered. Prerequisite : ECO 201 and ECO 202

ECO 345 Economics of Collective Decision-Making (3-0-3). (Cross-listed with PBA 345) This course is designed as an introductory course in the economics of collective decision-making, including decision-making in a democratic government. It describes the history of the subject, explores alternative definitions of public choice, describes the major subject areas, and discusses some well-known economist' views of a democratic society. Subject areas subjects include the theory of constitutions, voting and elections, political parties, law making, bureaucracy, rent-seeking , and privatization. Prerequisite : ECO 201.

ECO 403 Economics of Natural and Energy Resources (3-0-3). This course addresses the policy issues related to the changing role of natural resources in modern economies. Issues related to valuation of renewable and non-renewable resources, optimal resource extraction rates and economic development will be central to the course. The issues of oil and gas supply, demand and pricing the role of energy in Gulf economies will also be addressed in detail. Prerequisite: ECO 201.

ECO 404 Economics of Environmental and Natural Resources (3-0-3). This course deals with the economic issues that arise in the use of environmental resources. The course begins with an economic analysis of

the contention that markets fail to adequately control environmental pollution. Alternative policy mechanisms that have been proposed for control of environmental pollution will also be addressed. The environmental problems covered may include water and air pollution, global climate change, temperate and tropical forest management, fisheries, biodiversity and habitat preservation. Prerequisite: ECO 201.

ECO 405 Introduction to Econometrics (3-0-3). Review of the theory of economic statistics and statistical techniques. Emphasis on applying statistical models to economic data. Regression analysis and estimation of economic models. Includes: violations of the basic assumptions of the regression model, dummy variables, analysis of variance, cross section and time series data analysis, index numbers and time series analysis. Prerequisite: ECO 301, ECO 302, STA 202 and MTH 101.

ECO 413 Political Economy of the Arab World (3-0-3). This course is a study of the political and economic incentives and events that have influenced, and continue to influence, the political and economic environment in the Arab World. Topics to be addressed will include world energy markets, trade patterns, global environmental issues, nationalism, globalization, economic development policies, impacts or regional and international conflict, regional organizations, and international political movements. Prerequisite: ECO 201 and ECO 202.

ECO 495 Senior Seminar in Economics (3-0-3). Intensive investigation of special topics in economics chosen by the instructor. Ordinarily, this course must be taken over two semesters for six credits. Only fourth-year students may take this class. Prerequisite: ECO 301 and ECO 302.

ECO 497 Internship in Economics (3-0-3). Applied work in economics with businesses or government organizations in the Emirates. The student's economics advisor must approve admission to class. Only fourth-year students may take this course. Prerequisite: ECO 301 and ECO 302 and Senior Standing.

ENG English

English Language

ENG 123 Introduction to Language Study (3-0-3). Defines language and how it works. Leads students to examine their own beliefs and attitudes about language and provides them with techniques of language analysis. Topics covered include: grammar and appropriate usage, oral vs written language, formal vs informal language, standard vs non-standard languages, language universals and language typology. Prerequisite: COM 203 or 204 or 231

ENG 126 Development of the English Language (3-0-3). Traces the development of the English language from its Indo-European roots to the present day. Linguistic change in English throughout the various periods (Indo-European; Germanic, Old, Middle and Modern English) is studied, covering phonological, morphological, syntactic, lexical and semantic changes. Prerequisite: COM 203 or 204 or 231

ENG 222 Phonetics, Phonology and Morphology (3-0-3). Examines the nature of the rules governing the sound system of language with special emphasis on English. Introduces the study of the physiology of speech production and phonetic transcription through practical exercises. Students also examine inflectional and derivational rules in language and study word formation processes. Prerequisite: ENG 123.

ENG 224 English Grammar (3-0-3). Focuses on the fundamental rules of English grammar as they relate to sentence structure and function. Students will also learn about different systems of analysis, including an introduction to the analysis of texts. Prerequisite: COM 102

ENG 234 Language in Society (3-0-3). Introduces the student to the sociolinguistic approach to language. It focuses on issues about how language structure and language use are interrelated. It also examines variables responsible for language variation within a speech community. Definitions of language, dialect, diglossia and multilingualism are explored. The practicum component of this course initiates the student to field methods techniques in data collection. Prerequisite: ENG 123.

ENG 334 Semantics and Pragmatics (3-0-3). Students will be introduced to various approaches to the study of meaning in language both at the word and sentence levels. This course examines linguistic reference and truth conditions of linguistic signs and expressions. It also explores the role of shared inferential strategies, presuppositions and speech acts in human communication, and how situational context determines language use. Prerequisite: ENG 224.

ENG 336 Discourse Analysis (3-0-3). This course looks at the interpretation of meaning situated beyond the level of the sentence. To achieve a better understanding of how language works as a communication medium, the role of notions such as background knowledge, cohesion and coherence, in texts and conversational interaction are examined. Prerequisite: ENG 224.

ENG 338 Psycholinguistics (3-0-3). Introduces the study of the psychology of language by exploring the relationship between language and the mind. Examines processes involved in comprehension, production and acquisition of language and initiates students to research techniques and linguistic data collection. Prerequisite: COM204.

ENG 400 Second Language Acquisition (3-0-3). Focuses on the prominent research trends in second language learning, the process of L2 acquisition and learning, and the social and individual factors affecting this process. Examines ways in which research in this area can be used in ESL classroom contexts. Prerequisite: ENG 224.

ENG 401 Advanced English Grammar (3-0-3). (Cross-listed with ENG 501) The course provides an intensive investigation into contemporary English sentence structure, function, and meaning. It also analyzes how structure types and sentence relationships are realized in various texts and genres. In addition, the course discusses issues relative to descriptive/prescriptive approaches to language. Prerequisites: ENG 224. Meets with ENG 501

ENG 402 Applied Linguistics (3-0-3). alternate years. Investigates the relationship between the field of applied linguistics and the language communication process, in and outside the classroom. Views linguistics in terms of real world applications and from the perspective of teaching practitioners in different

professional settings. Prerequisite: ENG 336.

ENG 404 Using Literary Texts in TEFL Classrooms (3-0-3). Introduces practicing teachers to the use of literature in teaching English in the more advanced levels of instruction. Early short stories and other selected texts would be used by teachers to motivate students to read and continue learning English by developing vocabulary and structure, and gaining an appreciation of literature. Prerequisite: ENG 400.

ENG 406 Survey of Topics in Linguistics and Communication (3-0-3). Presents an overview of different trends in linguistic inquiry and examines how these trends have influenced various fields such as computational linguistics, lexicography, sign language, speech pathology, artificial intelligence and artificial voice communication. Prerequisite: ENG 336.

ENG 408 Reading and Writing in ESL/TEFL (3-0-3). Discusses various theoretical models dealing with teaching literacy skills in a foreign language to children and adults. Processes involved in reading and learning strategies in language learning are examined and discussed, together with effective instructional strategies based on current research. Prerequisite: ENG 400.

ENG 410 Language Teaching Methodology (3-0-3). Overviews theories, methodological approaches and techniques of teaching English as a Second or Foreign Language. Analyzes aspects of classroom practice, including teacher and learner roles. Offers opportunities to survey and create ESL/TEFL materials, evaluate commercially available texts and consider their value and adaptation of authentic texts. Prerequisite: ENG 400 .

ENG 412 Curriculum Development (3-0-3). Introduces students to principles of ESL/TEFL course design. Examines the stages of developing and evaluating learner centered/communicative curriculum. Topics to be discussed include: students' needs analysis, setting goals and objectives, analyzing resources, content selection, methodology, materials and texts, implementation, evaluation and assessment. Prerequisite: ENG 410.

ENG 420 Seminar: Bridging the Disciplines (3-0-3). Introduces an interdisciplinary approach to the analysis of English language issues within the contexts of English literature, communication and translation. Develops students' understanding of how texts work across these three disciplines to heighten their understanding of critical issues that cross linguistic and cultural boundaries. Prerequisite: ENG 401 or 406 or 411 or 413 or 415 .

ENG 495 Seminar in English Language (3-0-3). The content of this course changes from year to year. The focus will be on various topics of the English language from the practical such as computer-assisted language learning to studies in dialectology and bilingualism or linguistic anthropology. Prerequisite: ENG 401 or ENG 406.

English Literature

ENG 105 Contemporary World Literature (3-0-3). Introduces students to contemporary literary movements such as postmodernism, magic, realism, feminism, regionalism and postmodernism. Students study the works of major international writers such as Grass, Calvino, Kundera, Allende, Mahfouz, Mimouni and Soyenka. Works studied will be written in, or translated into English. Prerequisite: COM 203 or COM 204 or COM 231.

ENG 108 Introduction to Literature (3-0-3). Focuses on the study of fiction, poetry or drama and shows how writers use the basic elements of their craft to convey their insights into human nature. Whatever genre is featured in a given semester, the course will focus primarily on accessible modern and contemporary work. The course is designed for non-majors who need to fulfill their communications or humanities requirement as well as for English majors. Prerequisite: COM 203 or COM 204 or COM 231.

ENG 201 Creative Writing (3-0-3). This course is an introduction to the basic elements of writing and evaluating poetry, fiction and creative non-fiction, in which students will submit at least 20 pages of material suitable for inclusion in the student literary magazine. Students will also be responsible for editing the magazine. Fulfills writing requirement for majors. Prerequisite: COM 203 or COM 204 or COM 231.

ENG 203 Introduction to Literary Theory (3-0-3). Highlights a variety of twentieth century critical practices and theoretical approaches to the study of literature. It offers practical applications of the theoretical texts under examination. Prerequisite: ENG 105 or ENG 108.

ENG 205 Modern Drama and Beyond (3-0-3). Introduces students to developments in drama from the modern period to the present. It exposes students to major literary developments in drama such as realism, theater of the absurd, epic theater and various types of experimental and contemporary theater. The course may include works by such playwrights as Ibsen, Chekov, Shaw, Brecht, Ionesco, Beckett, Fornes, Helman, Hansberry, Hwang, Mishima, Soyenka, Havel, Mroczek, Gad and Wanoos. Prerequisite: ENG 105 or ENG 108.

ENG 209 Survey of English Literature I (3-0-3). fall. Surveys English literature (poetry, prose and drama) from the Anglo-Saxon, Medieval, Renaissance, Restoration and the Age of Reason literary periods. Representative texts are studied in relationship to their social, political and historical background. Prerequisite: ENG 105 or ENG 108.

ENG 213 Survey of English Literature II (3-0-3). Surveys English literature (poetry, prose and drama) from the Romantic, Victorian and Modern literary periods. Representative texts are studied in relationship to their social, political and historical background. Prerequisite: ENG 105 or ENG 108.

ENG 219 Survey of American Literature I (3-0-3). Examines American literature from the colonial period to the present, concentrating on the philosophical, social and political issues that shaped the styles and ideas of such writers as Franklin, Poe, Emerson, Thoreau, Dickenson, Whitman, Twain, O'Neil, Cather, Hemingway and Faulkner. Focus is on poetry, drama, the essay and the short story. Prerequisite: ENG 105 or ENG 108.

ENG 303 Shakespeare and His Contemporaries (3-0-3). Examines works by both Shakespeare and a few other major writers in his time. It exposes students to Shakespeare's poetry, especially his sonnets, in relation to other major poets in his time such as Spenser, Sidney and Wyatt. The course will also introduce students to English Renaissance drama, exposing them to selections from histories, comedies,

tragedies and romances by Shakespeare and some of his contemporaries such as Marlowe, Jonson, Middleton, Webster and Carey. A term paper is required. Prerequisite: ENG 209.

ENG 309 The American Novel (3-0-3). Examines the styles and concerns of the American novel from the 19th Century to the present and includes representative examples of such national and international literary movements as Romanticism, Realism, Modernism, Post Modernism and Magic Realism, with particular emphasis on how American novelists adapted these styles to suit their own society and culture. The course will include such novelists as Melville, Hawthorne, Twain, Crane, James, Wharton, Cather, Hemingway, Welty, Pynchon and Morrison. Five novels will be studied. A term paper is required. Prerequisite: ENG 219.

ENG 311 Early English Novel (3-0-3). Traces the development of the novel from its rise in the early 18th century to its flowering in the great realistic novels of the 19th century. It includes such writers as Defoe, Smollett, Richardson, Fielding, Austen, the Brontes, Dickens, Elliot and Hardy. Prerequisite: ENG 209.

ENG 313 Modern British Novel (3-0-3). Examines trends in the 20th century British novel, including such literary movements as Realism, Modernism and Post Modernism. It considers the novels of such authors as Joyce, Conrad, Wolfe, Forster, Lawrence, Snow, Greene, Byatt and Lessing. Five novels will be studied. A term paper is required. Prerequisite: ENG 209.

ENG 315 East Meets West: Colonial and Post-Colonial Encounters (3-0-3). Examines the representations of the Middle East, India, China and North Africa in the works of North American and European writers. It also addresses the responses to and representations of westerners by non-western writers. Some of the writers studied may include Kipling, Forster, Durrell, Camus, Hersey, Kiteley, Desai, Shamas, Ghali, El-Saadawi, Kabbani, Adnan and Maalof. The course will introduce students to basic ideas in the writings of such post-colonial theorists as Said, Spivak, Mohanty, Mernissi and others. A term paper is required. Prerequisite: ENG 201 or ENG 203.

ENG 411 Seminar in English Literature (3-0-3). Examines in-depth the career of a single literary figure with particular interest in historical and cultural milieu. The needs and desires of students and the preferences of the instructor determine the literary figure. Among the literary figures typically considered are Spenser, Shakespeare, Milton, Dryden, Pope, Swift, Johnson, Blake, Byron, Keats, Austen, Dickens, Eliot and Joyce. Prerequisite: ENG 311 or ENG 313.

ENG 413 Seminar in American Literature (3-0-3). Focuses on the work of a major American writer and the critical assessment of that writer. Some of the writers to be studied may be Melville, Whitman, Dickinson, Twain, Faulkner, Cather, Hemingway, Welty, Frost or Morrison, as decided by the instructor. A critical paper will be required. Prerequisite: ENG 309.

ENG 415 Seminar in Post-Colonial Literature (3-0-3). Focuses on the work and the historical, political and social context of a major writer who was raised in a culture other than that of Britain or North America but who writes in English. It also examines the literary theories underlying the "subaltern voice" and the inclusion or exclusion of texts from the mainstream literary canon, with particular emphasis on the ideas of literary and cultural critics such as Edward Said and Gayatri Chabravorty Spivak . Some of the writers studied may include Derek Wollcott, Chinua Achebe, R.K. Narayan, V.S. Naipaul, Gita Mehta, and Michael Ondaatje. Prerequisite: ENG 315.

ENG 490 Senior Research Project (3-0-3). Focuses on the study of a literary movement or literary writer of the student's and professor's choice and the writing of a long critical paper on this writer or movement. Prerequisite: ENG 411 or ENG 413 or ENG 415.

Graduate Courses in TESOL

ELT 503 Contrastive English/Arabic Linguistics (3-0-3). (cross-listed with TRA558) Deals with how English and Arabic compare and contrast at various levels of linguistic organization: phonology, morphology, syntax and semantics. A discourse pragmatic perspective is promoted to enable students to look at the way texts are organized functionally.

ELT 505 Culture and the Language Teacher (3-0-3). This course examines the relationship between language, society, and culture. It investigates how teaching and learning a second language is affected by factors such as verbal and nonverbal behaviors, assumptions, values, identity, worldviews, expectations, communication styles, and conflicts. In addition, students examine methods and approaches for cross-cultural research..

ELT 509 Applied Linguistics (3-0-3). This course is concerned with the relationship between the field of applied linguistics and the preparation of ESL/EFL teachers. Topics to be covered include: the nature of language acquisition and its classroom implications, foreign language teaching methods and approaches, theories of foreign language learning, the role of the first language, and factors affecting second language learning in the classroom.

ELT 513 Language Acquisition and Development (3-0-3). This course focuses on processes involved in understanding and producing language, and it investigates the relationship between linguistic and cognitive development. It critically examines current research trends in first and second language acquisition and examines individual and social factors affecting language development and learning. Students explore how research in this area can be applied in ESL classroom contexts.

ELT 515 English Teaching Methodology (3-0-3). This course critically examines traditional and contemporary approaches to English language teaching. Aspects of classroom practice are analyzed, including teacher and learner roles, classroom management, and teaching the language skills integratively and separately. Opportunities are offered to observe applications of classroom pedagogy, to survey and create ESL materials, to evaluate textbooks, and to adapt authentic texts to the ESL classroom. Prerequisite: ENG 511.

ELT 517 Curriculum and Material Development (3-0-3) .This course introduces students to principles of ESL course design and examines the stages of

developing and evaluating learning centered curricula and materials. Topics covered include analyzing student needs, defining program missions, setting goals and objectives, assessing resource needs, selecting appropriate content, methodology, materials and texts for a given instructional setting, and evaluating course effectiveness. In addition, students examine course syllabi reflecting various pedagogical approaches (e.g., notional-functional, content-based, communicative, situational, and task-based and so on) along with their theoretical bases and then design relevant materials. Prerequisite: ENG 511.

ELT 519 Practicum in TESL (3-0-3) This course provides the opportunity to observe, explore, and implement effective teaching ideas. Students experience applying theoretical knowledge to teaching practice, design lesson plans and classroom activities, select teaching materials, and monitor and assess students' progress. Students attend weekly seminars to discuss their classroom experiences and reflect on their personal growth as English language teachers. Prerequisite: ELT 515.

ELT 521 Reading and Writing in ESL (3-0-3) This course discusses various theoretical models dealing with teaching literacy skills in a second language to children and adults. Students examine processes and strategies involved in second language reading and learning and explore ways to apply them for effective language instruction. Prerequisite: ELT 513.

ELT 523 Issues in Bilingual Education (3-0-3) Reviews different models of bilingual education and issues in bilingualism. Students discuss ways of achieving a balanced bilingual education system by examining the challenges posed by cultural and linguistic diversity in a bilingual education setting Prerequisite: ELT 513.

ELT 551 Language Testing and Evaluation (3-0-3) This course reviews the fundamental concepts, principles, standards and uses of language testing and evaluation. Students examine the factors involved in assessing proficiency in second language skills and in selecting testing instruments and evaluation tools appropriate for various age groups, competency levels, skills and purposes. Prerequisite: ELT 517.

ELT 553 Technology in the ESL Curriculum (3-0-3). This course introduces students to current applications of instructional technology. Various technologies such as audio-visual materials, computer software, Internet applications and electronic communication forums are demonstrated and discussed. In addition, students are provided with standards for evaluating these technologies, as well as strategies for integrating them in their classrooms. Prerequisite: ELT 517.

ELT 611 Classroom Research (3-0-3). This course reviews ESL classroom-based research as a means of understanding how instruction and learning take place. Students examine research topics such as teacher talk, wait time, conversational repair, error correction, learning strategies and feedback. They are introduced to research approaches including interaction analysis, ethnographic classroom observation, action research and quantitative analysis. Prerequisite: ELT 513.

ELT 613 Research Seminar (3-0-3). The Research Seminar is for all MA students nearing the conclusion of their program of studies, and who are about to commence work on their thesis. It allows them to share what they have learned throughout the course as they develop their thesis proposals. Students further refine their research skills, learn appropriate presentation formats and enhance their professionalism in a supportive environment. Prerequisite: Second year standing.

ENG 501 Advanced English Grammar (3-0-3). (cross-listed with ENG401). The course provides an intensive investigation into contemporary English sentence structure, function, and meaning. It also analyzes how structure types and sentence relationships are realized in various texts and genres. In addition, the course discusses issues relative to descriptive/prescriptive approaches to language. Students are expected to produce a research paper at the end of this course.

ENG 507 Sociolinguistics (3-0-3). This course examines the relationship between language and society at both macro and micro levels. It also studies the methods and techniques used in sociolinguistic research and analysis. A major component of this course will look at the implications of sociolinguistic research in the teaching of English as a foreign or second language. Topics to be covered include: communication styles, registers, language variation, teaching language in various social contexts, speech acts and conversing, bilingualism, diglossia, language and gender, ethnography and ethnomethodology, politeness and solidarity, language maintenance and language shift.

ENG 511 Linguistics for ESL Teachers (3-0-3). This course investigates areas in linguistics relevant to ESL teachers. Students examine key linguistic concepts and definitions in phonology, morphology, syntax and semantics and their applications to teaching and learning English. Students also read and discuss selected topics from a variety of linguistic fields.

ENV Environmental Science

ENV 100 Environmental issues and Problems (3-0-3). This course introduces the basic principles of environmental science followed by discussion of local, regional and global environmental issues. Main topics will include environmental concepts and models, population growth, management of natural resources, energy; air, water and soil pollution: causes, remedies and prevention; global warming, acid rain, ozone depletion; environmental regulations and social and economic implications of environmental issues. Not open to Science and Engineering students. Prerequisites: None.

ENV 101 Introduction to Environmental Science (3-0-3). This course is an interdisciplinary study, combining ideas and information from chemical, physical and biological disciplines. Students will acquire knowledge on how nature works and how environmental systems are interconnected. This course employs scientific laws, principles and concepts to help understand environmental and resource problems and their possible solutions. Connections are made between natural systems and environmental issues using different physical science perspectives. In addition to the pure science component, issues related to environmental ethics and environmental

justice will be discussed. The information presented in this course will ultimately be related to real world environmental problems. Prerequisites: CHM 101.

ENV 231 Transition Metals and their Compounds in the Environment (3-0-3). This course introduces the basic principles of bonding, stereochemistry, and reactivity of transition metals and their compounds; surveys coordination compounds that occur in, or have relevance to natural processes of the environment; and discusses applications of coordination compounds in the environment, with emphasis on catalysis, enzymes, biological activity, and pollution. Prerequisites: ENV101 and CHM102.

ENV 261 Physical Geography (3-0-3). This course deals with the physical aspects of the geographic environment. Topics covered include cartography and geographic information systems, the global energy balance, air temperature and pressure, atmospheric moisture content and precipitation, global wind circulation, weather systems, earth materials, forming and weathering processes, water cycling, fluvial processes, landforms. Prerequisite: PHY 101.

ENV 311 Environmental Modeling (3-0-3). Involves the study of the collection, evaluation and interpretation of data and the modeling and analysis of urban and environmental problems. Topics include population, pollution, mass transportation systems and climate modeling. Prerequisite: MTH 104.

ENV 335 Environmental Microbiology (2-3-3). Students in this course will learn about the roles of bacteria in diverse microenvironments, some controlled and others natural. They will learn the functions, physiology and metabolism of microorganisms in the air, soil, marine and fresh water environments; geochemical cycles, water treatment, sewage treatment, bioremediation, food, culture reactors, mining, waste disposal, recycling and agriculture. Prerequisite: BIO 331.

ENV 351 Environmental Monitoring and Analysis Techniques (3-0-3). This course covers chemical and radiation safety, risk assessment, regulatory legislation, statistics and monitoring, as well as chemical and nuclear detection and identification procedures and their impact on living organisms. Practical work is supplemented by case studies, together with visits to municipal offices and other environmental monitoring agencies. Prerequisites: STA 201 and CHM 251.

ENV 361 Evolution and Biodiversity (3-0-3). Evolution is the unifying theme for all biology; therefore, this course will introduce the principles of evolution as applied to all organisms. The course covers the origins of life, prehistoric events, biogeography, history of evolution and applications to current problems in agriculture, species conservation, population dynamics, the effects of environmental changes and genetic manipulation of species. The emphasis will be on obtaining skills that allow the student to accurately predict evolutionary outcomes in a changing global environment. Prerequisite: BIO 260.

ENV 400 Environmental Physiology Systems (2-3-3). This course explores the natural and anthropogenic stresses encountered by microorganisms, plants and animals in the environment and the roles they play in the environment. The general physiology of organisms will be explored first and then taken to the cellular and metabolic pathway levels. The student will gain an understanding of the functions and dysfunctions in plants and animals and the reactions and adaptations to environmental stresses, pollution and manipulation. Prerequisite: BIO 331.

ENV 411 Environmental Assessment and Management (3-0-3). This is a multidisciplinary course that deals with the impact of human activities on the ecosystem. It demonstrates how environmental assessment results provide a basis for comparing various management options, enabling decision makers and the public to make informed decisions about the management of ecological resources. Ethical and legal dimensions of a number of environmental problems will be discussed. Local and regional issues are emphasized. Prerequisites: None.

ENV 421 Aquatic Environments (2-3-3). This course focuses on the interactions between biological, chemical and physical processes in the unique local marine environments found in the United Arab Emirates. The interactions between the terrestrial sources of freshwater and the marine ecosystems will be covered with specific topics on the diversity of environments found in the UAE and how they are related to open and closed marine systems and the broader regional and global concerns. Topics covered will include the migration and introduction of species, effects of pollution, food webs modeling, energy flow, niche partitioning, physiological stress, climate, geochemical cycling, habitat conservation, conservation of biodiversity, protection of endangered habitats and species. Prerequisite: BIO 251.

ENV 430 Environmental Systems in the Arabian Peninsula (3-0-3). Emphasis in this course will be on those terrestrial ecosystems that are located in the Arabian Peninsula, particularly in the UAE and the surrounding areas, and how they relate to the larger regional and global systems in the same latitudes. The systems will include deserts, grasslands, tropical forests, mountain, fresh water and marine influenced terrestrial habitats. Readings from research done throughout the region and neighboring environments as well as local examples will be used to obtain an in depth understanding of specific methods and research techniques currently used by environmental scientists working in industry and for the government. Prerequisite: BIO 251.

ENV 451 Waste Treatment (3-0-3). Introduces the modern concepts of solid and liquid waste treatment. It covers sources and classifications of hazardous waste and their transport in the environment; hazardous waste management problems; physical, chemical and biological waste treatment processes; waste minimization; analysis systems for regional planning. Prerequisite: CHM 251.

ENV 452 Soil and Water Chemistry (3-0-3). Discusses the development of soil/water chemistry. It includes modern analysis methods for humic substances, minerals, particulates and pollutants in the soil. Topics covered are mineralogy, soil solution, ion exchange/sorption, water acidity, wetlands and redox processes in aerobic soils and nitrogen transformations. Prerequisite: CHM 251.

ENV 491 Senior Research Project I (0-6-3). Student selects an environmental problem for independent research project. Upon approval by the department, student begins literature search then follows up with field and laboratory studies. In

addition to the scientific component of the project, students are expected to research and comment on the ethical and legal dimensions of the environment issue being investigated. The results are presented in seminar as well as in thesis form. This is a capstone course in the development of the student as an environmental scientist. Prerequisite: Senior standing.

ENV 492 Senior Research Project II (0-6-3). Continuation of ENV 491. Student selects a new or related environmental problem for independent research. Upon approval by the department, student begins literature search then follows up with field and laboratory studies. The results are presented in seminar as well as in thesis form. Prerequisite: Senior standing.

FRN French

FRN 101 French For Beginners (3-0-3). For students who have never studied French. The course introduces the student to the main patterns of French grammar, written exercises, directed composition and conversation practice. Language lab may be required.

FRN 102 French Language and Culture for Upper Beginners (3-0-3). The course is a continuation of FRN 101 using French in Action (the Caprentz method) to improve students' conversational French, use of basic grammar patterns, everyday vocabulary and basic reading and writing skills. The course uses audio and video material to practice listening and speaking skills, and to facilitate the understanding of languages in social interaction and in a cultural context. Prerequisite: FRN 101.

GEO Geography

GEO 201 World Cultural Geography (3-0-3). This course provides a broad survey of the cultural geography of the world. Among other topics, the course will address cultural systems, agriculture and natural resources, urbanization, industrialization, development, and political Geography. Prerequisite: COM 102.

HIS History

HIS 204 Modern Arab History (3-0-3). This course studies the history of the modern Arab world focusing mainly on the history of the region from 1800 and the changes that began to take place at that time. It concentrates on four aspects of the region's transformation: the experience of imperialism and colonialism, modernity, nationalism and the development of the modern state system. Prerequisite: COM102.

HIS 205 World History I [up to 1500] (3-0-3). A study of the world's major civilizations prior to 1500 concentrating on their primary institutions and their cultural contacts. Particular attention is devoted to the Arab and Islamic world and Western Europe. Prerequisite: COM102.

HIS 206 World History II [1500 – Present] (3-0-3). Looks at some of the major changes that have taken place since 1500 including: the exploitation and settlement of the Americas, the shift in power from the East (the Middle East and Asia) to the West (Europe and the United States), the Industrial Revolution and the globalization of capitalism, the domination of most of the societies of the world by the European powers and the United States (i.e., colonialism and imperialism), political and social revolutions including wars of national liberation against colonial regimes, and changes in technology. Prerequisite: COM102.

HIS 207 History of Modern Palestine (3-0-3). A historical study of modern Palestine with particular emphasis on the conflict with Israel from its genesis in the late nineteenth century to the present. Students will examine the issues and events that led to the social, economic and political transformation of the Arab State of Palestine, with a majority Arab population, to the Jewish State of Israel, with a majority Jewish population. Prerequisite: COM102.

HIS 208 Women in History (3-0-3). A comparative survey of women's history from antiquity to the present in Europe and the Middle East. The course aims not only to examine the lives, achievements, contributions and position of women historically, but also to introduce students to the methodology of women's history, the sources for the study of women and the theories that provide the framework for the research and writing of women's history. Prerequisite: COM102.

HIS 209 Modern Arab History through Literature (3-0-3). Introduces students to modern Arab history through literature and links literary production to its historical and cultural context. In this course, students become aware of how history and literature intersect and of the similarities and differences in historical and literary writing. The readings for the course include works of fiction and non-fiction such as novels, short stories, memoirs, biographies and auto-biographies. Prerequisite: COM102. (Formerly listed as HIS 394).

HIS 210 The Modern Arab Gulf (3-0-3). Introduces students to the modern history of the Arab Gulf, which is the period from 1820 to post-independence, and the cultural heritage of the region. The major topics of the course are British imperialism and indigenous resistance to British domination, the socio-economic transformation of the region as the traditional economy based on pearling and trading goes into decline; the rise of nationalism and the creation of the modern state system, and the impact of oil production on the society and culture. Prerequisite: COM102.

HIS 211 Modern Arab History and Biography (3-0-3). This course takes a biographical approach to the subject, Modern Arab History. It examines the major social and economic changes of the 19th and 20th centuries through the lives of ordinary men and women who lived through these changes. Prerequisite : COM 102 (Formerly listed as HIS 394.06).

HIS 220 The Modern History of Europe and North America (3-0-3). This course focuses on Europe and North America from the late 19th century to the present and on the major political, economic, social and cultural developments of the period. Some of the issues and events covered in the course include the economic and social effects of the Second Industrial Revolution, the economic and political crisis of the 1930s, global conflicts of the 20th century, the explosion of science and technology, the ethnic and cultural diversity of the population, major social movements, the Cold War and the fall of totalitarian regimes and the military and economic institutions that link both sides of the Atlantic. Prerequisite: COM 102.

HIS 221 History of Science and Technology (3-0-3). A study of the development of scientific thought and

methodology from ancient Greece to the modern era. Topics include contributions of China, Islamic lands and Europe, the surge of French and seventeenth century English science, influence of science on patterns of thinking and behavior. The course touches upon diverse areas such as the histories of astronomy, nuclear energy, chemistry, forensics, as well as life and environmental sciences. Prerequisite : COM 102.

HIS 230 Resistance and Collaboration in Modern France and Algeria (3-0-3). A detailed analysis of the nature of resistance and collaboration in France and Algeria in the period 1940-1970. Students will investigate the reasons why different groups and individuals chose to either resist or collaborate in the Second World War and the Algerian War of Independence. Through films, original documents, novels and academic writing, the course will study the history of moral behavior in war, the role of Islam in colonial struggles, and the ways in which western and Islamic forms of history are constructed in Europe and North Africa. The course demands a personal engagement with ethical questions such as the following: for what causes is it just to kill ? and, in what circumstances would you collaborate with an enemy ? . Prerequisite: COM 102.

IEP Intensive English

IEP BSC Basic Level (1 credit). This level provides students with an introduction to the English language. They learn to understand simplified prose texts dealing with general topics, to develop writing fluency and accuracy at the sentence level, to improve discrete listening and basic conversation skills, and to increase their confidence in speaking, They are also introduced to the form and function of simple verb tenses and grammatical structures.

IEP 001 Novice Level (3 credits). At this level, instruction involves the presentation of large amounts of language. The primary goals are to improve student fluency in both the conversational and written modes, to increase vocabulary as rapidly as possible, to develop basic reading skills and to introduce the mechanics of writing at the sentence and paragraph level.

IEP 002 Elementary Level (3 credits). At this level, language instruction moves from functional, survival English to academic discourse. To that end, important reading skills such as skimming, scanning and predicting are practiced and writing activities extend beyond the paragraph to the multi-paragraph essay. Complex grammatical concepts involving time relationships are also introduced, note-taking from authentic materials is practiced and oral presentations are given.

IEP 003 Intermediate Level (3 credits). At the intermediate level, instruction takes on an overtly academic quality. High-level reading skills such as inferencing and synthesizing information from more than one source are introduced, while writing instruction involves the exploration of various rhetorical modes. Students are also expected to develop an awareness of contextual clues, an understanding of speaker purpose, a recognition of idiomatic usage and an accurate and fluent speech production.

IEP 004 Advanced Level (3 credits). This level prepares students for university studies, though the focus is still on the major language skills rather than the actual content being covered. Students are required to read longer texts and to write longer essays. They study complex grammatical usage at the clause level. Finally, public speaking skills are refined through the discussion of complex source material and through oral presentations on topics involving persuasion and argumentation skills.

IEP 005 Bridge Level (3 credits). This level simulates credit-bearing instruction at the university by integrating academic listening, speaking, reading and writing into the daily classroom pedagogy. Extensive reading is expected and major reading skills reviewed and thus, reinforced through large amounts of practice. The instruction includes an introduction to writing term papers.

INS International Studies

INS 494 Special Topics in International Studies (3-0-3). This course will address issues in international studies that, in the judgment of the faculty, would not be addressed in depth in other courses and which are worthy of special consideration. Normally, these issues would be topical and related to on going world events that are important and evolving during the period of the students' course of study. The topics may range from economics and trade, conflict and diplomacy, world politics, technological change, or cultural change. Prerequisites: Senior standing.

INS 495 Senior Seminar (3-0-3). This course is offered once a year and is considered the capstone course of the concentration. The topic of the course changes from year to year. Students are required to write a major research paper on the seminar topic. Prerequisite: Senior standing.

INS 497 Internship (3-0-3). Applied work in International Studies with businesses, government organization or private agencies. Admission to class must be approved by the student's advisor. Only 4th year students may take this course. Prerequisite: Senior standing.

MCM Mass Communication

MCM 223 Survey of Mass Communication (3-0-3). Examines the nature of the various areas of the mass media, (i.e., television, radio, newspapers, magazines, and interactive outlets) and how they impact on the individual and society. Prerequisites: COM 102.

MCM 225 Theories of Mass Communication (3-0-3). Designed to introduce students to the various prevailing communication theories, including agenda setting, uses and gratification, and diffusion constructs. Prerequisites: COM102.

MCM 227 Principles of Public Relations (3-0-3). Surveys the fundamentals and techniques involved in puhlic relations operations, including the history, philosophy and ethics of the practice, the functions of management, planning, research and commnications. It explores the theoretical and practical applications of public relations in contemporary society. Prerequisites: MCM 223.

MCM 229 Mass Communication and Society (3-0-3). Provides students with an overview of the effect of media on culture and society. The course explores how media reflect and mold culture. It examines the role the media play in creating "the global village." The course

examines how the audience uses and is used by various media outlet and how that use affect perception of various cultures. Prerequisites: COM 102

MCM 255 Principles of Advertising (3-0-3). (formerly COM 235) Provides students with an analysis of commercial advertising from a global perspective with attention to communication theory. Students will examine the structure of advertising messages, how they are adapted to specific audiences, and the social settings in which they occur. Issues of Internet advertising and e-commerce will be explored. Prerequisite: COM 203 or COM 204.

MCM 269 Public Relations Writing (3-0-3) Designed to introduce the student to the essentials of how to prepare and present written material for use in the practice of public relations. It teaches the student the techniques needed for creating effective written communication at a standard generally expected of persons entering into the practice of public relations. Prerequisites: COM 203 or COM 204 MCM 227.

MCM 271 Public Relations Publications (3-0-3) . Introduces students to producing and editing techniques for public relations for a variety of publications, including brochures, business reports, newsletter, corporate videos., etc. Students also become proficient in art of copy preparation, typography, graphic design, layout, and desktop publishing. Prerequisites: COM 203 or COM 204 and MCM 269.

MCM 277 Film Criticism (3-0-3). Introduces students to film genres and formulas (film noir, polyphonic narrative, comedy, romance, verite, etc.) and to critical approaches with which to analyze the cinematic text. Students will explore, discuss, research and write about films as well as screenplay-texts, using such theoretical approaches as semiotics and structuralist, feminist, psychoanalytic, formalist, and social criticism. Prerequisites: COM 203 or COM 204.

MCM 280 Mass Communication Research Methods (3-0-3). Introduces students to social science research methods within a mass communication context. It emphasizes the scientific method; survey of basic concepts of theoretical and empirical research; a variety of methodologies; elementary Statistics; criteria for adequate research. Prerequisites: COM 203 or COM 204 and STA 202

MCM 321 Mass Media Law (3-0-3). The law as it affects the mass media. Considered are such areas as libel, privacy, public records, criminal pre-trial publicity, freedom of information, obscenity. Prerequisites: MCM 227.

MCM 351 Advertising Copy and Layout (3-0-3) . Explores issues, strategies, theories and practices in writing and editing advertising messages This course also teaches the technical aspects of advertising: Writing advertising copy and designing effective layouts based on clients' strategies, elements of reproduction mechanicals. Students learn how to embrace new technologies and design parameters to produce affective advertising. Audience differentiation, media strategy and creative strategy all are considered. Emphasis is on persuasive and attention-getting techniques. Prerequisites: MCM 255.

MCM 353 Direct Response Advertising. (3-0-3). Introduces students to the marketing communication that achieves an action-oriented objective as a result of the advertising message sent through a number of media, telemarketing, direct mail, point-of-purchase. Prerequisites: MCM 255.

MCM 360 Public Relations Crisis Management (3-0-3). Provides practical insights into how Public relations professionals prevent corporate crises and how public relations professionals plan, execute and evaluate damage control mechanisms. Corequisites: MCM 227

MCM 361 Case Studies in Public Relations (3-0-3) Teaches students how to apply the principles and theories of public relations to solve problems or initiate opportunities for actual occurrences in the practice of public relations. Prerequisites : COM 203 or COM 204. Corequisites: MCM 360.

MCM 363 Organizational Communication (3-0-3). Teaches students the role of communication in creating a productive organizational environment in terms of interpersonal and group behavior. Reviews the theory and practice of team-building, conflict resolution, and problem-solving and explores how communication and organizational cultures relate to each other. Prerequisites: COM 225.

MCM 365 Employee Relations/Media Relations (3-0-3). Examines interactive employee communication programs, strategies, and the manager's role in establishing and environment that encourages smooth dialogue and information flow. Also focuses on media relations, with specific attention to media/information management through strategic initiatives targeted at business/financial, electronic, and print media.Prerequisites: COM 204.

MCM 371 News Writing (3-0-3) (formerly Hard news and feature writing CMM 371). Part one of a two–semester course. Builds students' expertise in the writing of news for newspapers and magazines. Students will experience concentrated practice in the methods of research, interviewing, writing, marketing and publishing of articles, and in the skills required in the production of the AUS student newspaper, The Leopard. Prerequisites: COM 204 .

MCM 372 Advanced News Writing (3-0-3). Builds on Part one MCM 371. Teaches students how to write carefully researched stories, using wiring, reporting, and interviewing skills they have acquired in previous classes. Emphasis is placed on immersion or in-depth reporting; students spend a great deal of time with a subject to develop skills in storytelling and organization. Prerequisites: MCM 371.

MCM 373 Scriptwriting for Television and Film (3-0-3). Teaches students the craft of writing for the electronic media and broadcasting. Students will explore the types of scripts used in the media profession, such as industrials, in-house promotional vehicles, corporate training, public service and documentary forms, as well as entertainment and features. Coursework will consist of practice in research, interviewing, production planning and budgeting, the treatment, writing for picture, and writing for talent (actors, narrators). Prerequisites: COM 203 or COM 204 and MCM 277.

MCM 374 Feature Writing. Teaches students how to develop, write, and edit news features, personality profiles, issue-oriented articles, and human impact stories for print media.. Emphasis is placed narrative, descriptive, analytic, and storytelling skills. One-on-one instructor-student conferences

stress story building and revision. Prerequisites: COM 203 or COM 204

MCM 375 Editing for the Print Media (3-0-3). Provides students practical exposure to skills in preparing and editing manuscripts for publications. Emphasis is placed on a number of editing styles, and appropriate editing symbols employed. Prerequisite. Junior standing and instructor permission. Prerequisites: COM 203 or COM 204.

MCM 377 Arab Media Discourse (3-0-3). Seminar. Examines media in the Arab World, including prevailing media agenda, coverage style, editorial foci. Prerequisites: MCM 321

MCM 451 Advertising Campaign Research (3-0-3). (formerly Research and Design) Introduces students to concept of media mix--matching product, consumer and media profiles for retail and business-to-business applications; conception, research, planning and design of advertising campaigns for print, broadcast and new media; ethics in advertising. Focuses on research methods in advertising. Prerequisites: MCM 351.

MCM 453 Advertising Media Planning (3-0-3) (formerly management) Examines media planning, buying and sales as performed by advertising agencies, clients and the media. Students learn how to evaluate and select advertising media for various market situations and that deliver messages to a target audience, media characteristics and sources of media data. Examines contemporary trends in communications media and their effects on advertisers. Prerequisites: MCM 351 .

MCM 454 Case Studies in Advertising (3-0-3). Seminar. (formerly CMM 353) Exposes students to the major issues in advertising, with on characteristics of successful ad campaigns. In addition, students examine international and cross-cultural problems in advertising within and across industry, government, and institutions. Prerequisites : MCM 353

MCM 455 Advertising Campaigns (4-0-4). Capstone. The class will function as an advertising agency that will prepare advertising campaign for actual clients. Conceived as the capstone of the advertising track. Students will embark on a semester-long project, collaborating on the conception research, planning and execution of advertising campaigns. Special emphasis will be given to advanced copywriting, as well as to layout and production concerns for print, broadcast and new media. Part of this course consists of lab work in which student run a full-service advertising agency. Students organize, manage and perform all functions: solicit business, perform market and consumer research, contact clients, write plans, create advertising campaigns, evaluate media, and prepare campaign evaluations for community-service agencies. Prerequisites: MCM 453.

MCM 461 International Mass Communication (3-0-3). Designed to help the students gain an understanding world mass media systems: what they are like, how they operate, what impact they have on people, and what policies are, and could be used by the various countries to develop or regulate them, and how they are influenced by a country's political, economic, social, and cultural make-up. Prerequisites: MCM 363

MCM 463 International Public Relations (3-0-3). Designed to help students develop the skills necessary to plan and implement international public relations programs, taking into account social, economic, political, legal, and cultural factors. Prerequisites: MCM 227

MCM 465 Public Relations Campaigns (3-0-3). Teaches the application of public relations theory and writing to strategies and techniques for the planning, execution, and evaluation of communications for fund raising, special events including direct mail, feature stories, and media kits. Prerequisites: MCM461.

MCM 467 Public Relations for Non-Profit Organizations. (3-0-3). Explores fund-raising techniques, alumni relations and foundation management. Prerequisites: MCM 461.

MCM 472 Editorial and Critical Writing (3-0-3). Teaches the basics of writing editorials, op-eds, and columns, including analyzing arguments, generating ideas, researching supporting data, assessing and engaging the audience, structuring the article, writing concisely, controlling style voice and tone appropriate to subject matter and audience, and writing to meet deadlines. Prerequisites: CMM 375.

MCM 473 Writing for Multimedia (3-0-3) Offers advanced students hands-on experience with writing and producing shorter-form texts for electronic media. Comparative perspectives of writing for radio, television, Internet and CD-Rom texts will be studied, and the creation of projects will include generating ideas, writing proposals, research and development of topics, planning, and employing the stylistic conventions of professional writers in the field. Students learn the distinctive competencies of writing for each medium, and of working from concepts to actual productions. Prerequisites: MCM 373; Co-requisite: DES 230.

MCM 475 Writing and Producing Documentaries (3-0-3). Exposes students to representative documentaries with regard to history, form, technique, trends, and audience objectives. Students will examine different formats used in documentary production and the concepts used in transforming research efforts into production of a full half-hour program. The course will emphasize genre-specific research methodologies, planning a production schedule, interviewing skills, videotape shooting, sound, scriptwriting and rewriting for longer form reports, sound and video editing, graphics and post-production. Prerequisites: MCM 473

MCM 477 Print Media Project. (3-0-3) (formerly Print Media Project Management). Print Journalism capstone. Requires students to conceptualize, write, develop, manage and produce a multimedia campaign using a variety of forms (print, broadcast, Web-based, etc.). The semester-long project culminates in discrete, marketable productions as well as a coherent campaign, thus providing each student with a writer-producer's portfolio and demo-reel to present to prospective employers, as the student embarks on a career as a media professional. Prerequisites: MCM 473.

MCM 497 Mass Communication Internship (3-0-3). Provides MCM students with a minimum of six weeks on-the-job training and experience with a professional firm, either in advertising creativity, sales, advertising media, writing and/or editing for print and/or newspapers or magazines. MCM 461.

MTH Mathematics

MTH 001 Preparatory Mathematics (3-0-3), This course is preparatory to MTH103. Polynomials, functions, exponents and logarithms, coordinate geometry and graphing, complex numbers, vectors and their basic operations.

MTH 002 Preparatory Business Mathematics (3-0-3). This course is preparatory to MTH 101 Mathematics for Business. It covers integers and variable expression, fractions, decimals and real numbers, polynomials, ratio and proportion, percentage, geometry and application.

MTH 003 Preparatory Mathematics for Architects (3-0-3). This course is preparatory to MTH 111, Mathematics for Architects. It covers a review of basic arithmetic. Algebra, geometry and trigonometry to prepare students for the geometry and calculus based MTH 111.

MTH 100 Fundamentals of Logic and Geometry (3-0-3). Covers logic and set theory, and geometry in the plane and space. Topics include: fundamentals of inductive and deductive reasoning, propositional and first order logic; sets, relations and functions; Euclidean and Analytical geometries in two and three dimensions; linear transformations and quadratic forms. Not open to Science or Engineering students.

MTH 101 Mathematics for Business I (3-0-3). Coordinate systems and graphs, matrices, linear systems and applications, elementary linear programming, set theory, counting techniques, permutations and combinations, introduction to probability, topics in the mathematics of finance. Emphasis is placed on techniques and applications. Not open to Science or Engineering students. Prerequisite: MTH 002 or placement test.

MTH 102 Mathematics for Business II (3-0-3). The derivative, rules for differentiation and their applications, definite and indefinite integrals, methods of integration and applications, functions of more than one variable, partial differentiation, applications to optimization. Emphasis is placed on techniques and applications. Not open to Science or Engineering students. Prerequisite: MTH 101.

MTH 103 Calculus I (3-1-3). Functions and limits, differentiation with applications including maxima and minima, related rates, approximations, theory of integration with applications including areas, volumes, lengths, moments, center of mass and work. The course has a computer laboratory component. Prerequisite: MTH 001 or placement test.

MTH 104 Calculus II (3-1-3). Transcendental functions, exponential and logarithmic functions, trigonometric functions. Techniques of integration, indeterminate forms. Infinite series, power series, parameterized curves, polar coordinates and integration in polar coordinates. The course has a computer laboratory component. Prerequisite: MTH 103.

MTH 111 Mathematics for Architects (3-2-4). An introduction to the topics of geometry and calculus needed for architecture. Review of trigonometry, areas and volumes of elementary geometric figures, and the analytic geometry of lines, planes and vectors in two and three dimensions. Differential and integral calculus, including applications optimization, areas and volumes by integration. The course has a computer laboratory component. Prerequisite: MTH 003 or placement test.

MTH 203 Calculus III (3-1-3). Calculus of functions of several variables, vectors and analytic geometry of three dimensional space, partial derivatives, gradients, directional derivatives, maxima and minima, multiple integrals, line and surface integrals, Green's theorem, divergence theorem and Stokes' theorem. The course has a computer laboratory component. Prerequisite: MTH 104.

MTH 205 Differential Equations (3-0-3). Mathematical formulation of ordinary differential equations, methods of solution and applications of first order and second order differential equations, power series solutions, solutions by Laplace transforms and solutions of first order linear systems. Prerequisite: MTH 104.

MTH 213/CMP213 Discrete Mathematics (3-0-3). Covers prepositional and predicate calculus, sets, functions and related algorithms, mathematical induction, recursive definitions, counting, relations, graphs, trees and Boolean algebra. Prerequisite: MTH 103.

MTH 221 Linear Algebra (3-0-3). Systems of linear equation, algebra of matrices, linear transformations, determinants, vector spaces, inner product spaces, eigenvalues and eigenvectors, diagonalization and orthogonality, special matrices and applications. The use of computer software is essential. Prerequisite: MTH 103.

MTH 311 Advanced Calculus I (3-0-3). The real number system. Rigorous presentation of limits, continuity, differentiability and Taylor's theorem for functions of a real variable. Definition, existence and properties of the Riemann integral. Prerequisite: MTH 203.

MTH 313 Number Theory and its Applications (3-0-3). The Euclidean algorithm, linear congruencies and the Chinese Remainder Theorem, Fermat's Little Theorem, quadratic residues and quadratic reciprocity, Pythagorean triples and sums of squares. Applications in communication, public key cryptography, computer arithmetic, random number generators and music. Prerequisite: MTH 213.

MTH 314 Combinatorics (3-0-3). Techniques for counting configurations of objects, recurrence relations, principle of inclusion-exclusion; graphs, trees and circuits. Additional topics include Polya's Theorem, generating functions and network flows. Prerequisite: MTH 213.

MTH 320 Modern Algebra (3-0-3). Groups, subgroups, normal subgroups, quotient groups, homomorphisms, permutation groups, matrix groups, symmetry groups. Definition and examples of rings. Prerequisite: MTH 213 and MTH 221.

MTH 325 Coding Theory I (3-0-3). Introduction to coding theory, linear codes, Hamming codes, Hamming distances, Hamming weights, probability, Shannon's theorem, dual codes, weight distribution of linear codes, cyclic codes, BCH codes, convolutional codes, encoding and decoding. Prerequisite: MTH 221.

MTH341/CMP 341 Computational Methods (3-0-3). An introduction to the fundamentals of numerical algorithms and their application for scientific computing. Includes topics such as error analysis, root finding, interpolation and function approximations, optimization techniques and linear programming. Prerequisite: CMP120 and MTH 221.

MTH 342 Numerical Linear Algebra (3-0-3). Direct and iterative methods for solving general and special systems of linear equations, includes LU and Choleski decomposition, nested dissection, Jacobi, Gauss–Seidel, successive overrelaxation, alternating directions and conjugate gradient methods. Singular value decomposition. Iterative methods for algebraic eigenvalue problem. Prerequisite: MTH 221.

MTH 351 Methods of Applied Mathematics I (3-0-3). Initial and boundary value problems. Higher–order equations, the Laplace transform and its inverse, applications of Laplace transform to linear ordinary differential and integral equations, the z-transform, applications of z-transform to difference equations and linear networks. Prerequisite: MTH 205.

MTH 352 Methods of Applied Mathematics II (3-0-3). Fourier series, the Fourier transform, inverse Fourier transform, introduction to partial differential equations, classification of second-order partial differential equations, initial and boundary value problems, the method of separation of variables, methods of solution and behavior of elliptic, parabolic and hyperbolic equations. Prerequisite: MTH 351 or MTH 205.

MTH 381 Linear Control Systems (3-0-3). Linear systems, time and frequency domain representation, open and closed loop systems, time and frequency domain analysis, stability, root locus, frequency response, compensators, output and state feedback. Prerequisite: MTH 205.

MTH 382 Linear Programming (3-0-3). Methods and applications of optimizing a linear function subject to linear constraints. Theory of the simplex method and duality, parametric linear programs, sensitivity analysis, integer linear programming and some applications, modeling and computer implementation. Prerequisite: MTH 221.

MTH 411 Advanced Calculus II (3-0-3). Theory of sequences and series of numbers and functions; power series, topological structure of Rn; continuity, differentiation, and integration of real functions of several variables, chain rule, Taylor's theorem, Fubini's theorem, differentiation of integrals involving a parameter. Prerequisite: MTH 311.

MTH 412 Complex Variables (3-0-3). A first study of functions of a complex variable. Algebra of complex numbers, elementary functions with their mapping properties, analytic functions, power series, integration, Cauchy's Theorem, Laurent series and residue calculus, elementary conformal mappings and boundary value problems. Prerequisite: MTH 311.

MTH 418 Graph Theory (3-0-3). Graphs and subgraphs, connected and disconnected graphs, matrices, trees and girth, planar and nonplanar graphs, graph embeddings, connectivity and edge connectivity, Hamiltonian graphs, matchings, factorization and coverings, Networks, applications to science and engineering. Prerequisite: MTH 213.

MTH 421 Applied Matrix Theory (3-0-3). Review of the theory of linear systems, eigenvalues and eigenvectors, the Jordan canonical form, bilinear and quadratic forms, matrix analysis of differential equations. Variational principles and perturbation theory: the Courant minimax theorem, Weyl's inequalities Gershgorin's theorem, perturbations of the spectrum, vector norms and related matrix norms. Prerequisite: MTH 221.

MTH 431 Dynamical Systems (3-0-3). Second order differential equations in phase plane, linear systems and exponential operators, canonical forms, stability of equilibria. Lyapunov functions, the existence of periodic solutions, applications to various fields. Prerequisite: MTH 221 and MTH 205.

MTH 432 Partial Differential Equations (3-0-3). Mathematical formulations and solutions of partial differential equations of physical problems, includes the wave, heat and Laplace's equation. The mathematical tools include Fourier transform, Fourier series and Laplace transform. Prerequisite: MTH 351 and MTH 352.

MTH 441 Numerical Solutions of Ordinary Differential Equations (3-0-3). Theory of numerical techniques for linear and nonlinear initial, boundary-value and eigenvalue problems. Stiff equations and multiple time scales. The analysis of the numerical techniques will focus on consistency, accuracy, stability, stiffness, numerical efficiency, etc. Prerequisite: MTH 342.

MTH 442 Numerical Solutions of Partial Differential Equations (3-0-3). Computationally efficient schemes for solving PDE numerically: finite difference schemes, stability and convergence of finite difference schemes, an introduction to finite element methods. Prerequisite: MTH 441.

MTH 451 Methods of Applied Mathematics III (3-0-3). Integral equations, volterra and Fredholm type equations, relation to differential equations, solutions by Neumann series, Green's function, asymptotic analysis of solutions, perturbation techniques connection with eigenvalue problems. Prerequisite: MTH 351.

MTH 460 Mathematical Logic (3-0-3). The formal study of truth and provability, propositional calculus; predicate calculus, Godel's completeness theorem, applications to formal number theory and incompleteness. Additional topics chosen from areas such as undecidability or nonstandard analysis. Prerequisite: MTH 320.

MTH 465 Topics in Mathematics (3-0-3). Topics of current interest in mathematics not covered in existing courses. May be repeated under a different subtitle. Prerequisite: Senior Standing.

MTH 470 Modeling and Simulation (3-0-3). Basic principles of modeling and simulation, description and treatment of deterministic and random processes, computational methods and applications with emphasis on the use of microcomputers. The course will include a major project. Prerequisite: MTH 205.

MTH 481 Calculus of Variations and Control Theory (3-0-3). An introduction to the classical theory of calculus of variations, necessary and sufficient conditions for optimality, the Pontryagin maximum principle, dynamic programming in continuous-time and Hamilton-Jacobi theory, introduction to control theory, the linear regulator problem. Prerequisite: MTH 205.

MTH 483 Discrete Optimization (3-0-3). Theory and applications of discrete optimization algorithms, transportation problems and network flow problems; integer programming; computer implementation. Prerequisite: MTH 382.

MTH 495 Seminar in Mathematics (3-0-3). Investigation of and oral report on a mathematical topic under the direction of a faculty member. Prerequisite: Senior Standing.

MTH 496 Independent Study (1-6). Involves investigation of special topics, under faculty supervision, beyond what is offered in existing courses. Prerequisite: Senior Standing.

PBA Public Administration

PBA 101 Introduction to Public Administration (3-0-3). An introduction to the basic concepts and models of public administration including: organization theory, leadership, communication, decision making, interpersonal relations, public policy processes, regulations, legal authority, politics and power relations.

PBA 108 Communication and Mobilization of Interpersonal Relationships in Public Organizations (3-0-3). An introduction to the concepts of symbolic interactionism, organizational communication, building interpersonal relationships in the workplace; and the public management perspective of the social and psychological aspects of public organizations.

PBA 201 Public Management (3-0-3). An introduction to the contemporary techniques of management and leadership in public organizations. Problems of public agencies, nonprofit organizations and others will be analyzed; with a focus on how to cope with the challenges, internal and external, which the top level of management faces. Prerequisite: PBA 101.

PBA 204 Women in Public Management (3-0-3). An examination and analysis of the emerging role of women in management positions in government, business and nonprofit organizations. Unique problems and challenges which may be related to gender including: building effective management, teamwork and espirit de corps in the context of a diverse workforce. Prerequisite: PBA 101.

PBA 205 Intergovernmental Relations (3-0-3). The political, fiscal, administrative relationships, which help to shape complex intergovernmental systems. Focus on federal, centrally unified, Emirate (provincial), municipal and other jurisdictions. Prerequisite: PBA 101.

PBA 206 Motivation, Employee Development and Performance Appraisal in Public Organizations (3-0-3). Consideration of the theories of motivation, productivity, development of the self, and self-fulfillment in the workplace. There will be a study of models of performance appraisal and employee rehabilitation and employee assistance programs. Prerequisite: PBA 101.

PBA 210 Urban Management. Structure, process, and policy issues in urban public administration and public policy. Major theoretical approaches to urban government, local autonomy, public and private authority, economic constraints, social welfare, and service delivery. Race, gender, and ethnicity. Policy focus on education, crime, social welfare, and economic development. Prerequisite: PBA 101.

PBA 301 Public Management Skill Modules (3-0-3). Focuses on leadership, communication, techniques of motivation, delegation of authority and strategic planning. Prerequisite: PBA 101.

PBA 302 Comparative Public Administrative Systems (3-0-3). An examination of governmental administrative systems in Europe, North America, the Arab world, Asia and Africa. The emphasis is on a comparative analysis of industrialized nations with nations of the Third World. Prerequisite: PBA 101.

PBA 304 Public Budgeting (3-0-3). A survey of the principles of and problems of financial organization and management in the public service, with emphasis on: fiscal planning, the annual budget process, program budgeting, political factors and accounting in Western systems and Third-World nations. Prerequisite: PBA 101.

PBA 305 Classification, Job Analysis, Compensation and Fringe Benefits in Public Organizations (3-0-3). Classification systems and techniques, rational job analysis, compensation and incentive plans, and fringe benefit management, as aspects of achieving maximum organizational efficiency and effectiveness. Prerequisite: PBA 101.

PBA 306 Human Resources Management in Public Organizations (3-0-3). An introduction to management and leadership tasks of running a professional-level, human resources subsystem. Focus will be on the challenges, opportunities, and strategies, which human resources managers face, including the dynamics of external and internal conflict resolution, and acting in an advisory capacity to executive-level managers. Prerequisite: PBA 101.

PBA 307 Recruitment, Selection, Promotion, Retention and Disciplinary Actions in Public Organizations (3-0-3). Techniques for the mobilization of a workforce; affirmative recruiting, incentive plans for long-term service, grievance procedures; concepts of probation, reprimand, suspension and termination. Prerequisite: PBA 101.

PBA 308 Executive and Middle Management Training in Public Organizations (3-0-3). Techniques of training others to be proficient executive-level and middle-level managers. Emphasis will be on creative formats, learn-by-doing techniques, case study analysis, hands-on interaction with peers, management inventory approaches, coping with social change, role-playing, effective dealing with failures, leveling communication with others. Prerequisite: PBA 101.

PBA 310 Research in Public Administration (3-0-3). An introduction to research methods in public administration. Research design, the concept of validity, data collection and data analysis. Prerequisite: PBA 101.

PBA 311 Nonprofit Organization Management (3-0-3). Concepts of management and organizational development, which are appropriate to the nonprofit sector. Emphasis will be on developing people skills, a volunteer workforce, fundraising, goal-setting, motivation and communication techniques. Prerequisite: PBA 101.

PBA 313 Government Regulation of Business (3-0-3). (Cross-listed with ECO 328). Examination of the reasons why governments regulate business. Attention will be given to contemporary legal issues and case studies in the West and in the UAE. Prerequisite: PBA 101.

PBA 325 Public Economics (3-0-3) (Cross-listed with ECO 325). Microeconomic theory as a framework for understanding the problems of public managers. Resource scarcity, consumer behavior, production costs, economics of efficient management, operation of product markets under competition and monopoly, labor markets, market failure and public goods. Prerequisite: ECO 201

PBA 326 Economics and the Law (3-0-3). (Cross-listed with ECO 326). Major topics include property rights, contract rights and liability rules. Both efficiency and fairness will be analyzed. For efficiency, emphasis is placed upon the incentive effects that legal rulings create for economic behavior in the future. Fairness is analyzed mostly in terms of the effects which legal rulings have upon the distribution of wealth. Prerequisite: ECO 201.

PBA 327 Competition, Free Markets and Antitrust (3-0-3). (Cross-listed with ECO 327). Firms take actions which improve their own competitive position and which harm their rivals. This course discusses the benefits and harms of such actions, and introduces the basic framework, which can help determine which actions should be legal and which should not. Topics include: a comparison of competition with market power, vertical integration, price fixing and cartels, vertical restrictions, price discrimination and predatory pricing. Prerequisite: ECO 201.

PBA 328 Government Regulation of Business (3-0-3) (Cross –listed with ECO 328) In this course, students will examine the reasons governments regulate business. Such reasons include: fairness, excessive competition natural monopoly externalities, imperfect information and transactions costs. Class time will be divided between examining the theories for regulation and investigating actual legal cases. Prerequisite: ECO 201

PBA 345 Economics of Collective Decision-Making (3-0-3) (cross-listed with ECO 345). This course is designed as an introductory course in the economics of collective decision-making, including decision-making in a democratic government. It describes the history of the subject explores alternative definitions of public choice, describes the major subject areas, and discusses some well-known economists' views of a democratic society. Subject areas subjects include the theory of constitutions, voting and elections, political parties, law making bureaucracy, rent-seeking, and privatization. Prerequisite: ECO 201.

PBA 380 Special Topics in Human Resources Management (3-0-3). An in-depth focus on selected contemporary human resources trends, the impact of social changes and workforce demographics, or contemporary problems in human resources management, in the Middle East, Asia, Europe and the U.S. Prerequisite: PBA 101.

PBA 402 Local and Regional Administration (3-0-3). Survey of the structure, function and process of administration in a local government setting and regional levels. Focus on the unique challenges public organizations face, with respect to national issues, local issues, funding, social groups, environmental pollution and politics. Prerequisite: PBA 101.

PBA 407 Legal Issues in Public Administration (3-0-3). An introduction to legal issues facing public managers; including risk management, due process for employees, judicial review aspects, administrative ethics and personal liability. Prerequisite: PBA 101.

PBA 408 Development Management (3-0-3). The concepts and techniques of development administration with a focus on Third World nations and societies which are pre-eminently concerned with basic economic development, capital formation and exports. Prerequisite: PBA 101.

PBA 410 Public Program Evaluation (3-0-3). An introduction to the elements of program evaluation in public organizations. Qualitative and quantitative analysis; valid methods. Prerequisite: PBA 101.

PBA 411 Foundations of Public Policy Analysis (3-0-3). An examination of the public policy process in the Middle East and the West. Focus on concepts of externalities, risk and uncertainty, and public choice models in public policy analysis. Prerequisite: PBA 101.

PBA 413 Public Financial Analysis (3-0-3). How to analyze the financial health of state and local governments and other organizations, and develop remedies for financial problems. Financial condition is related to expenditures, revenue, borrowing, the economic base, needs of the community, capital markets and public employees. Prerequisite: PBA 101.

PBA 415 Law and Public Policy (3-0-3). An analysis of selected public policy issues such as: poverty, population, density, housing, transportation, energy, education, crime or environmental pollution. The response of laws and regulations to social problems, and the political processes which affect governmental decision making. Prerequisite: PBA 101.

PBA 417 Public Finance (3-0-3). Public revenue sources for public organizations. Examines the concepts of taxation, export sales revenues, public accounting systems, auditing and maximizing the search for additional revenue funds. Prerequisite: PBA 101.

PBA 419 Seminar in Executive-Level Public Management (3-0-3). A specialized course which concentrates on identifying the tasks, challenges and responsibilities of being a CEO, a CAO or an executive director of an organization. Prerequisite: PBA 101.

CMP 494 Special Topics in Public Administration (3-0-3). Selected topics of current interest in Public Administration. Prerequisites: PBA 201.

PBA 495 Seminar in Public Administration. This is a specialized course that concentrates on expertise and bureaucratic power, relations between political institutions, the role of public employees, the politics of administrative processes, and administrative ethics. Prerequisite: PBA 201.

PBA 497 Internship in a Public Organization (3-6). Placement of students by a Public Administration professor in a government agency, a nonprofit organization or a private firm. The emphasis will be on administrative-level, hands-on, experience, which will benefit the agency and the student. A written report, a daily journal and an agency supervisor's evaluation are required. Prerequisite: Senior Standing .

PHI Philosophy

PHI 201 Introduction to Philosophy (3-0-3). An introduction to basic issues and concepts of philosophy; e.g., epistemology, ethics, classical idealism, naturalism, humanism, existentialism, ontology, ethics, skepticism, post-modernism or phenomenology. Thinkers will be selected from the classic, modern and contemporary periods. Prerequisite: COM102.

PHI 202 Introduction to Islamic Philosophy (3-0-3). This course is an introductory survey of major philosophers in Islam: for example, Al-Ghazzi, Ibn Rashid, the Sufis or Al-Farabi. Focus will be on the

concepts of religious and philosophical doctrines. Prerequisite: COM102.

PHI 203 Political Philosophy (3-0-3). An introduction to the abiding questions of a civil society, pertaining to freedom, equality, justice, glory, power, law, nature, convention and civic virtue. (Cross-listed with POL 203). Prerequisite: COM102.

PHI 204 Ethics for Professionals (3-0-3). Examines the ethical duties of professional practice, in such fields as engineering, architecture, business, public administration, or environmental science. The emphasis will be on developing a framework for moral thinking and judging; and becoming aware of the moral viewpoint of others. Focus on case studies, which evoke conflicts between personal convictions, and public responsibilities. A special concern will be an emphasis on how institutions may support or inhibit professionals in exercising moral leadership and making moral choices. Prerequisite: COM102.

PHY Physics

PHY 001 Preparatory Physics (3-0-3). This course is designed for science and engineering students with an insufficient background in physics. Through the study of elements of kinematics (motion in one and two dimensions) and dynamics (Newton's laws, momentum, work and energy), students will develop problem-solving skills using algebra, trigonometry, and calculus. Prerequisites: None.

PHY 100 Conceptual Physics (3-0-3). Introductory course for non-science and non-engineering majors designed to give the student an understanding of the basic concepts of physics without complex mathematics. The course emphasizes conceptual understanding of physical phenomena, firmly grounded in the scientific method. Topics covered include simple elements of mechanics, waves and light, electricity and magnetism, atoms and nuclei. Not open to science and engineering students. Prerequisites: None.

PHY 101 General Physics I (3-3-4). A calculus-based introductory course for scientists and engineers covering the fundamental principles, laws and concepts of physics. The course will cover mechanics, and mechanical waves. Laboratory includes experiments illustrating the principles, laws and concepts discussed in the course. Prerequisite: PHY 001 or Placement and prerequisite or concurrent MTH 103.

PHY 102 General Physics II (3-3-4). This is a continuation of General Physics I. Topics covered are electricity and magnetism as well as light and optics. The laboratory includes experiments illustrating the principles, laws and concepts discussed in the course. Prerequisite: PHY 101.

PHY 103 Astronomy (3-0-3). This course presents a broad view of descriptive Astronomy without complex mathematics. It is designed to introduce and familiarize the students with basic astronomical facts and phenomena that one can observe, study, and explain using scientific methods. It consists of: studying the night sky, using celestial coordinates, understanding the motion of heavenly bodies, familiarizing oneself with the tools of astronomers, reviewing the solar system, understanding what stars are and how they evolve, and getting a general overview of galaxies and the universe. Prerequisites: None

PHY 104 Physics for Architects (3-0-3). This is a general physics course, based on algebra, with selected emphasis appropriate to the background and needs of architecture students. The course covers elements of mechanics (kinematics and dynamics); optics (geometrical as well as interference); sound (including general principles of acoustics, such as the propagation, transmission, attenuation, and reverberation of sound); heat and energy. Prerequisites: MTH 101, or MTH 103, or MTH 111.

PHY 105 Environmental Physics (3-0-3). This is an introductory course for Environmental Science majors designed to give the student an understanding of the basic concepts of physics as they apply to environmental problems. Topics covered include: elements of fluid mechanics (fluid flow, Bernoulli's equation); electricity and magnetism (high voltages, electric power, transmission); optics (light dispersion, interference); atomic physics (Bohr model, atomic and molecular structure, absorption and emission, X-rays), and radioactivity. The course will also consider some specific applications in the general areas of energy processes. Prerequisite: PHY 101.

PHY 201 Modern Physics (3-3-4). This course deals with special relativity, introductory quantum mechanics, nuclear physics, elements of solid state and semi-conductor physics. The laboratory part consists of experiments illustrating the principles, laws and concepts discussed in the course. Prerequisite: PHY 102.

PHY 251 Meteorology (3-0-3). This course deals with weather phenomena, general climatology, meteorological control, techniques and problems of weather forecasting, air quality, atmospheric effects, radiation and pollution, storms and general air circulation, and meteorological instruments. Prerequisites: None.

PHY 301 Energy Sources (3-0-3). This course examines energy from a physics perspective. Present and future alternative energy sources are examined. These include hydroelectric, nuclear, solar, geothermal and tidal energy. The course also investigates the problems caused by each energy source and the issue of sustainability. Prerequisites: None.

PHY 303 Atmospheric Physics (3-0-3). This course deals with applications of thermodynamics, radiation theory, optics, and mechanics to atmospheric phenomena: composition, origin and structure; atmospheric processes; extra-tropical synoptic scale disturbances; cloud microphysical processes; radiation transfer and trapping; energy balance; atmospheric dynamics. Prerequisite: PHY 251.

PHY 304 Issues in Environmental Physics (3-0-3). This course examines current environmental issues from a physical perspective. These include nuclear waste disposal and contamination, nuclear radiation and shielding, electromagnetic radiation and its effects, ozone depletion and global warming. Prerequisites: None.

PHY 351 Analytical Techniques (3-3-4). This course deals with the various physical analytical tools for pollution detection, characterization, and measurements. The analysis of remote sensing data is also studied; satellite remote sensing data is analyzed and interpreted. Laboratory experiments deal with applications of nuclear and laser techniques to atmospheric pollution. Prerequisites: PHY 201.

POL Political Science

POL 200 Globalization (3-0-3). The process of globalization is well underway at all levels of society, with socio-political impacts on all cultures. An introduction to the globalization of economic systems, multi-national organizations, technological, consumerism and world-wide communication systems. Prerequisite: COM102.

POL 201 Introduction to Political Studies (3-0-3). An introduction to the science of politics, including an examination of the nature of government and public policymaking. Focus on the processes of government, including public administration, foreign policy and international relations. Prerequisite: COM102.

POL 202 International Relations (3-0-3). This course aims at making students acquainted with the main stages of the evolution of IR as a discipline since 1945 which can be seen as an ongoing debate about the explanatory value of one particular theory, namely Realism. The course gives a profound introduction into theories of International Relations as well as a theory-based introduction into foreign policy analysis. It offers an analysis of the different schools of IR-Theory as well as their respective critiques. Prerequisite: COM102.

POL 203 Political Philosophy (3-0-3) (Cross-listed with PHI 203). An introduction to the abiding questions of a civil society, pertaining to freedom, equality, justice, glory, power, law, nature, convention and civic virtue. (Cross-listed with PHI 203). Prerequisite: COM102.

POL 204 International Organizations (3-0-3). An introduction to the structure and function of international organizations, and their role in economic, political, military, cultural or humanitarian relations, among nation-states. Selected organizations, such as, the United Nations, NATO, OPEC and the WTO, are examples. Prerequisite: COM102.

POL 205 Public International Law (3-0-3). An examination of substantive international law, including the Law of the Seas, crimes against humanity, environmental law, the Geneva accords, international treaties, regional treaties, the Charter of the United Nations and trade agreements. Selected legal institutions, like the International Court of Justice in The Hague, and other tribunals, dealing with international disputes will be analyzed. Prerequisite: COM102.

POL 206 Theories of Democracy (3-0-3). This course discusses alternative definitions and viewpoints of democracy. It compares full-participation democracy with different types of representative democracy, including the constitutional democracy and the majority rule democracy. It compares different types of representative democracy, including the presidential and parliamentary systems and their variations. It discusses the relationship between democracy and human welfare, including the prospect for war and economic progress. Prerequisite : COM 102.

POL 207 Wars, Conflicts, and Diplomacy (3-0-3). This course provides an introduction to the causes of war and other levels of violent international conflict; and the efforts which nations, and international organizations make to avoid it. Among other topics, the course includes an examination of the techniques of diplomacy, which have been utilized, historically speaking, in these attempts to avoid wars, and violent conflicts. Special emphasis will be placed on concepts of national self-interest, realpolitik, just and unjust wars, non-interference with internal sovereign issues, and nuclear weapons issues. Case studies of specific wars will be analyzed, and consideration will be made of various theories for controlling potential future flare-ups, and real international conflict situations. Prerequisite : COM 102

POL 300 Comparative Chief Executives of Nation-States (3-0-3). An analysis of the legal framework, and political power relationships, between heads of government, vis a vis parliaments, and/or national public bureaucracies, in the East and the West. Focus will be on executive privilege, administrative discretion, legislative oversight, separation of powers, rule of law and an independent judiciary. Prerequisite: COM102.

PSY Psychology

PSY 101 General Psychology (3-0-3). Topics include: research methods, the nature of psychological phenomena, physiological bases of behavior, life-span development, altered states of consciousness, sensation, perception, learning, conditioning, memory, language, thinking, motivation, emotion, personality, individual differences, conflict and stress, abnormal behavior, therapeutic techniques and social psychology. Prerequisite: COM102.

PSY 102 Social Psychology (3-0-3). Focuses on the impact of group dynamics on individual behavior. Topics to be discussed include: the nature and methodology of social psychology research and various major theoretical concepts, including childhood development and socialization, causality attribution, attitude formation, anti-social behavior, interpersonal attraction and intimacy and the social effects and function of groups. Particular emphasis will be placed on the application of social psychology concepts in the workplace. Prerequisite: COM102.

PSY 202 Abnormal Psychology (3-0-3). Examines the symptoms and causes of various types of psychological disorders – particularly the neurotic, psychotic and mood disorders. Diagnoses, suggested treatments, advantages and disadvantages of classifications schemes, and examinations of organic (i.e., genetic) and learning factors in the development of mental illness are among the topics that will be discussed. This course will be of particular interest to all students who wish to understand the underlying causes, and suggested treatments, of a wide range of mental illnesses, including depression, schizophrenia, anxiety disorders and other illnesses. Prerequisite: COM102.

PSY 205 Industrial and Organizational Psychology (3-0-3). This subject addresses the issues of using psychology at work by analyzing human work behavior. A focus on the development of employees and organizational structure helps students understand how psychology is applied in the work place with special emphasis on social behavior, including management of work groups and organizations. Students are presented with strategies for solving "human problems of work" that result from environment, technological and social factors. This course presents topics of using psychology at work (the history of I/O Psychology, methods of study and research), establishing a strong work force (preparing for employee selection, the selection of effective personnel,using

psychological tests in selection, training and development at work, evaluating job performance), social organization (the motivation to work ,satisfaction with work , leadership at work, designing effective work organization , the dynamics of interaction) and solving human problems of work (stress and its effect on work, employee health problems and organizational interventions , designing the work environment). Prerequisite: COM102

SOC Sociology

SOC 101 Introduction to Sociology (3-0-3). Introduces the basic concepts and models of sociology, including: functionalism, conflict theory and symbolic interaction theory. The sociology of the family, organizations, social systems, religion and social movements will be examined. Concepts, such as, social inequality, social deviance, culture, social structure, socialization, social stratification, poverty, gender, the environment and power will be introduced. Prerequisite: COM102.

SOC 202 Environmental Sociology (3-0-3). An introduction to the critical issues entailed in the reciprocal relations between human populations and the environment. The environment, broadly defined, includes the air, the water, the plant-life, animals; and the economic, aesthetic, political and social mores, aspects of the human culture. An analysis of social change and public policy that affects environmental degradation and natural resources depletion, and the social groups which affect the protection of the environment. Prerequisite: COM102.

SOC 380 Sociology of Urban Politics (3-0-3). An analysis of cities and the suburban areas, including the community power structure, the inequalities of wealth, and the problems of transportation, housing, poverty, homelessness, crime, social class, social change, racism, public health and education. A special focus on the politics of public service delivery systems related to economic development policies and redistribution policies. Prerequisite: COM102.

STA Statistics

STA 101 Engineering Statistics (2-0-2). Summarizing data and descriptive statistics; designing experiments; sampling distributions; introduction to statistical inference (estimation and hypothesis testing); simple regression and correlation; using statistical software; probability. Examples from the five engineering disciplines are used.

STA 201 Introduction to Statistics for Engineering and Natural Sciences (3-1-3). Descriptive statistics; probability distributions; experimental design; estimation; hypothesis testing; mean and variance tests; analysis of variance; simple regression and correlation; and the use of statistical computer software.

STA 202 Introduction to Statistics for Social Sciences (3-1-3). Acquisition and development of statistical methods that are commonly used in social sciences. Methods include: techniques for classification of data, descriptive statistics; probability distributions; experimental design; sampling techniques; index numbers; estimation; hypothesis testing; analysis of variance; nonparametric techniques; simple regression and correlation; and the use of statistical computer software.

STA 361 Probability and Statistics I (3-0-3). Random variables and their probability distributions; moments and generating functions; random vectors; some special distributions; limit theorems; sample moments and their distributions; the theory of point estimation. Prerequisite: MTH 104 and STA 201.

STA 362 Probability and Statistics II (3-0-3). Theory of testing of hypotheses (Neyman-Pearson, likelihood ratio, etc.); some further results on hypotheses testing; confidence estimation; the general linear hypothesis; nonparametric statistical inference; sequential statistical inference. Prerequisite: STA 361.

STA 380 Applied Statistics with Applications in Economics (3-0-3). Estimation, inference, multiple regression and correlation; elementary decision theory; introduction to time series; quality control techniques; applications in economics such as organization and interpretation of economic data, analysis of price, production and income data. Prerequisite: STA 201.

STA 401 Regression Analysis (3-0-3). Simple and multiple regression; least squares; curve fitting; graphic techniques; diagnostics and remedial measures (topics include multicollinearity, autocorrelation, problems with the model); polynomial models; intrinsically linear and nonlinear models; the general linear model; categorical response variable. Prerequisite: STA 201.

STA 450 Introduction to Stochastic Processes (3-0-3). Introduction to random walk, Markov chains and processes; birth and death processes, Poisson processes, renewal theory, Brownian motion, Gaussian processes, white noise, spectral analysis; queuing systems and applications. Prerequisite: STA 361 or STA 360.

STA 460 Applied Time Series Analysis (3-0-3). An introduction to the theory of time-dependent data; moving average and autoregressive processes; spectral theory and filtering; some large sample theory; estimation of the mean and autocorrelations; the periodogram, estimated spectrum; parameter estimation; regression, trend, and seasonality; unit roots; applications from economics, finance, engineering and others. Prerequisite: STA 361 or STA 380.

STA 470 Applied Multivariate Statistics (3-0-3). Aspects of multivariate analysis with applications; matrix theory and random vectors; sample geometry and random sampling; multivariate normal distribution; test of hypotheses; multivariate analysis of variance; multivariate regression; analysis of covariance structure (topics include: principal components, factor analysis, discriminant analysis, canonical correlation); classification and grouping techniques. Prerequisite: STA 361 or STA 401.

STA 480 Sampling Techniques (3-0-3). Theory of probability sampling and survey designs; methods for determining expected value, bias, variance; unrestricted random sampling, stratified sampling, cluster sampling, multistage or subsampling, ratio estimates, regression and composite estimation, double sampling; introduction to measurement error and comparison of alternative designs. Prerequisite: STA 201.

THM Theme courses

THM 101 Arabs and the West: The Andalusian Symbiosis I (3-0-3). A two-semester interdisciplinary course that

introduces students to the cultural symbiosis between Arabs and Europeans during the eight centuries of Arab/Muslim rule in Spain. The literary, cultural and scientific developments of that time will be closely examined and reevaluated. In the first semester, students will learn about the historical, literary, linguistic, artistic, and architectural products of al-Andalus (This course satisfies the Arabic Heritage requirement). Prerequisite: COM 102.

THM 102 Arabs and the West: The Andalusian Symbiosis II (3-0-3), Examines the channels through which philosophical and religious, as well as scientific and technological knowledge, in Muslim Spain was produced and transmitted. The course ends with a reevaluation of the Andalusian legacy to the Arab World and the West (This course satisfies the Arabic Heritage requirement). Prerequisite: COM 102.

TRA Translation and Interpreting

TRA 101 Introduction to Translation (3-0-3). Aims to familiarize students with the field of translation and the skills necessary to work as successful translators. Emphasis is placed on a problem-solving approach, supported by text analysis (both in the pre-translation phase and in subsequent editing and evaluation). Practical tasks will involve translation into and out of English and Arabic.

TRA 102 Practical Issues in Translation (3-0-3). Integrates both theory and practice: What is translation and how can it be studied most effectively? The course addresses in some detail the issues involved in the process of translating a text, the various kinds of translation and how translators deal with problems of text in context. The course also focuses on the professional translator, the pre-translation techniques needed for analyzing a text and the final stage of assessing the end-product. Prerequisite: TRA 101.

TRA 201 Theoretical and Practical Issues in Translation (3-0-3). Views translation practice as seen in the light of various theories and models of translation. Theories informed by modern linguistics, cultural studies and literary criticism are invoked with the aim of sensitizing the translator to the intricacies of the task. Throughout, the key notion of 'equivalence' is assessed and examined at various levels of language organization (word level, sentence level, text level, pragmatics, etc.) Issues covered include the translation of metaphor and idiomatic expressions, dealing with meaningful repetition, biased translation shifts. Prerequisite: TRA 102.

TRA 203 Modern Media Translation and Interpreting (3-0-3). Focuses on those modes and situations which relate to the translation and interpreting of the non-print media, film and television. Areas covered include: transcription and translation of narration and dialogue; translation of film scripts and sound tracks; subtitling; dubbing; interpreting for documentary and feature films, TV newscasts, video clips and commercials, teleconferences, telephone communication. Work on advertising, the translation of PR and promotional literature, publicity materials, etc. is also included. Prerequisite: TRA 101.

TRA 302 Contrastive Analysis (3-0-3). Examines the theoretical and practical principles of contrastive analysis and introduces students to basic techniques of identifying significant differences between English and Arabic. The comparison and contrasts established will span the entire spectrum from the level of words and sentences to discourse and genre. The interface between two or more languages will be viewed from linguistic and literary perspectives for a range of applications in translation and interpreting. Prerequisite: TRA 201.

TRA 303 Interpreting I: Focus on the Community (3-0-3). Introduces interpreting and distinguishes this skill from translation. The course is intended to develop the basic professional skills of Liaison Interpreting, with special emphasis on community interpreting (doctor-patient, court, official transactions). Other areas covered include business meetings, diplomatic/political negotiations, press interviews. The course aims to prepare students for these interpreting situations through nurturing the ability to understand and analyze a message in the source language and convey it in the target language in a straightforward and clear manner. Prerequisite: TRA 201.

TRA 305 Interpreting II: Focus on the Profession (3-0-3). Presents interpreting as a profession and prepares students for practical work. Students are introduced to different professional environments, professional ethics, interpersonal relations and conference organization. Consecutive interpreting is introduced, and notetaking techniques refined. In addition to the usual settings of court or doctor-patient interpreting, students receive training in organizing and convening a forum, selecting topics and delegates and interpreting formal and informal (e.g. after-dinner) speeches. Prerequisite: TRA 303.

TRA 401 Translation Evaluation and History (3-0-3). Aims to explore the conceptual map of translation studies and to reflect on important points in the history of translation. Emphasis is placed on both Western and Eastern translation traditions and on the role of translation in the development of culture and identity. Translation evaluation is introduced, and rigorous assessments schemes worked out. The course will draw on both literary and non-literary materials, as well as technical and non-technical texts. Prerequisite: TRA 301.

TRA 494 Special Topics in Translation (3-0-3). Focuses on salient issues in the theory and practice of translation and interpreting. Various themes are selected, and the arguments for and against the various proposals examined. Topics will differ in subject matter and scope, invoking paradigms ranging from linguistics to cultural studies, feminist translation and deconstruction. Prerequisite: TRA 401.

TRA 498 Applied Research (3-0-3). Introduces students to multidisciplinary research on translation and interpreting, and explores the relevance of this theoretical work to individual practice. Students identify salient issues in translation and interpreting, and design and conduct action research projects based on a practical situation and the state of current research in the chosen area. Prerequisite: TRA 494.

Graduate Courses in Translation

TRA 500 Principles and Strategies in Translation & Interpreting (3-0-3). The course provides advanced training in principles and methods of translation &

interpreting from English to Arabic and vice versa. A variety of text types are covered, ranging from legal to journalistic genres.

TRA 501 Professional Trends in the Practice of Translation (3-0-3). The course builds on the theoretical principles introduced so far, and deals with the constraints within which translations are made. Linguistic, cultural and translation-professional norms are explained and related to the work of the professional translator.

TRA 502 Translation Research & Academic Writing (3-0-3). The course is designed with the dual purpose of introducing the students to the conventions of academic writing in both English and Arabic, and of promoting an 'action research' stance. These research skills are applied to the work of the translator and interpreter both as practitioners and as analysts.

TRA 503 Theoretical Models of Translation (3-0-3). The course provides the students with a conceptual map of translation studies, and outlines the various theoretical approaches to translation equivalence. Students are introduced to the range of factors, which govern the process of translation, and to the theoretical underpinnings, which have motivated different attitudes to translating and translations. Prerequisite: TRA 500.

TRA 504 Discourse Semantics and Pragmatics in Translation (3-0-3). The course is intended to address the needs of the practising translator and interpreter within a discourse framework. Advanced training in semantics and pragmatics is provided, and linguistic analysis in these domains is re-considered from the vantage point of cross-cultural communication. Prerequisite: TRA 500.

TRA 505 Interpreting & the Profession (3-0-3). The course is designed to provide the students with high-level training in those interpreting skills most relevant to the translator at work. Advanced training in liaison and consecutive training is provided with a focus on professional standards and community needs. Theoretical insights into the process of interpreting are presented and placed within an overall, practice-driven model of the process. Prerequisite: TRA 504.

TRA 506 Theoretical Perspectives on Translation Quality Assessment (3-0-3). The course is designed to enable students both to achieve competent standards of translation and to reflect on the process of deriving texts from English or Arabic. Emphasis will be placed on texts with a persuasive function in professional settings such as journalism, advertising and translation for the media. Prerequisite: TRA 503.

TRA 556 Arabic Rhetoric for Translators (3-0-3). The course surveys the various rhetorical traditions and focuses on classical Arabic grammar and rhetoric. This is related to the concerns of the translator in dealing with modern standard Arabic and English composition. A text-linguistic model rooted in the rhetorical thinking of the Arabs is developed and applied particularly to the translation of sacred and sensitive texts.

TRA 558 Contrastive English/Arabic Linguistics (3-0-3). The course deals with how English and Arabic compare and contrast at various levels of linguistic organization: phonology, morphology, syntax and semantics. A discourse pragmatic perspective is promoted throughout to enable students look at the way texts are organized functionally. Prerequisite: TRA 556.

TRA 600 Area Studies & Translation Practicum (3-0-3). The course provides students with two forms of work experience: a topic-based approach which facilitates training in the terminology of certain fields of interest to the translator, and on-site, hands-on experience of becoming part of a translation or interpreting team. The topic-based approach relies on lectures and presentations given by experts on their chosen fields of specialization. The on-site experience is gained through work placements in collaboration with relevant professional organizations operating in the community at large.

TRA 602 Translation Research Seminar (3-0-3). The Research Seminar is for all MA students nearing the conclusion of their program of studies, and who are about to commence work on their thesis. It allows them to share what they have learned throughout the course as they develop their thesis proposals. Students further refine their research skills, learn appropriate presentation formats, and enhance their professionalism in a supportive environment.

TRA 699 M.A. Thesis (3-0-3). The MA thesis is an extended piece of individual research (10,000 words). Students will be responsible for a major translation or interpreting task, a critical evaluation of the problems encountered during the translation or the process of interpreting, and a detailed commentary of the strategies used to resolve the problems. The commentary must focus on a specific topic or area drawn from grammar, rhetoric, pragmatics, register, etc, and related to translation/interpreting. Emphasis is placed on the theoretical aspects of translating or interpreting.

School of Architecture and Design

ARC Architecture

ARC 201 Architectural and Interior Design Studio I (12-0-6). **(Cross-listed as IDE 201).** Studio-based investigation of the fundamentals of making architectural form and space, with emphasis on design inquiry, exploration and process. Concentrates on classic instances of form sources in architectural and interior design: function, experience, structure, construction and context. Digital media are integral to the studio, and students receive instruction in software appropriate for design purposes. Prerequisite: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132, MTH 003 or MTH 111 or MTH 103.

ARC 202 Architectural and Interior Design Studio II (12-0-6). (Cross-listed as IDE 202). Continues the content and purpose of ARC 201, with increased emphasis on design development and physical and technical resolution. Digital media are integral to the studio, and students receive continued instruction and practice in software appropriate for design. Prerequisite: ARC 201 or IDE 201.

ARC 213 Analysis and Methods in Architecture (3-0-3). Introduction to models of process and conception in architectural design, addressing fundamental concepts of method, spatial organization, material, structure and context as aspects of a comprehensive design intention. Course format includes lectures, seminars, field visits and readings. Assignments involve written and graphic communication. Prerequisite: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132. (Formerly ARC 212).

ARC 215 Descriptive Geometry (4-0-3). Introduction to concepts and practices of the precise description of form in space. Systematic treatment of projection systems, including orthographic, oblique and perspective projections. Instruction and assignments involve both traditional and digital design media. Course format includes lectures and supervised applications. Prerequisite: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132.

ARC 224 Modern Foundations of Art and Architecture (3-0-3). Principles and practices fundamental to an understanding of the art and architecture of the modern era. Presentation integrates history and theory with practical design and application and proceeds topically, rather than chronologically. Prerequisite: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132. (Formerly ARC 220).

ARC 232 Survey of Materials and Practices in Construction (3-0-3). Broad survey of building materials and their properties, assembly sequences and methods of construction in the context of their influence on the form, cost and quality of the built environment. Taught utilizing a case study approach to demonstrate both the continuing evolution of the building process, and the timeless nature of the issues involved. Course format includes lectures and supervised applications. Prerequisite: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132 (Formerly ARC 231).

ARC 242 Structural Principles: Statics and Strength of Materials (3-1-3). **(Cross-listed as CVE 272).** Introduction to the graphic and mathematical description of structural behavior, as well as to the structural properties of the various materials used in typical architectural construction. Includes discussion of material quality and performance within the context of international standards (DIN, ISO, etc.). Prerequisite: PHY 104. (Formerly ARC 240).

ARC 301 Architectural Design Studio III (12-0-6). Investigations into the spatial, structural, environmental and visual design of actual site projects. Exploration of the syntax of architecture and advanced means of representation, and integration of building systems into the design. Emphasis on site and context analysis. Several individual and group assignments are presented. Prerequisite: ARC 202 or IDE 202, and PHY 104.

ARC 302 Architectural Design Studio IV (12-0-6). Continuation of ARC 301, with emphasis on investigation of urban programs and sites, requiring not only the integration of form, structure, space and technologies, but the consideration of specific contextual issues of physical form and activities. Fundamental urban design and planning issues, methods and techniques are explored. Several individual and group assignments are presented. Prerequisite: ARC 301, ARC 213.

ARC 310 Modeling and Rendering (4-0-3). Presents a rationalized, geometrical approach to the conception and description of form. Selected examples of architectural form are first rigorously analyzed to re-derive their constructional logic, then 'built' as detailed electronic models. Students explore the potential of digital design technologies as instruments to achieve vivid, authentic, holistic simulations of architectural reality, appropriate to the testing of architectural ideas. Taught in a modified studio format. Prerequisite: ARC 301 or IDE 301.

ARC 311 Illustration and Rendering (4-0-3). (Cross-listed as IDE 311). Illustration and rendering techniques enabling students to express their ideas faster with more precise results. This course covers free hand color drawing techniques using markers, color pencils and watercolors. Prerequisite: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132.

ARC 312 Advanced Representation (4-0-3). Expanding on representational techniques. Focusing on the application and use of these techniques in the presentation and representation of design concepts and drawings compositions. Introduction to color drawing techniques using mixed media of hand drawing and computer generated drawings and illustrations, photomontage and collage. Prerequisite: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132.

ARC 322 Global Issues in Architecture (3-0-3). Examination of our emerging understanding of global issues confronting humankind, including population growth, declining reserves of non-renewable resources, etc. Overview of the environmental impact of human communities through history. Introduction

to concepts of energetic, including both the long-term operating economy of buildings, and the embedded energy invested in the physical form of the built environment. Prerequisite: ARC 224, PHY 104.

ARC 325 Ideas in Architecture (3-0-3). A seminar to introduce the conceptual basis of the work of specific architects, historical and contemporary architectural historians and theoreticians, and schools of thought in architecture with an emphasis on the understanding of both written and visual analysis of built form and design. Prerequisite: ARC 224 (Formerly ARC 321).

ARC 333 Rough Construction Processes (2-3-3). In depth presentation of contemporary regional construction practices used to prepare the sites and to erect the building's basic structure. These include site preparation, foundations, concrete, steel and timber structures, and masonry work. Production to preliminary construction drawings for small buildings. Prerequisite: ARC 232. (Formerly ARC 330).

ARC 343 Structural Analysis: Conceiving Forces in Buildings (3-0-3). (Cross-listed as CVE 371). An introduction to the concepts and procedures used to analyze and predict the behavior of buildings in response to static and dynamic loads on the structure. Extensive use of the computer and appropriate software to model, analyze, simulate and animate structural behavior. Prerequisite: ARC 242 or CVE 272. (Formerly ARC 341).

ARC 344 Structural Design in Concrete, Steel and Wood (3-1-3). (Cross-listed as CVE 372). An introduction to methods and concepts used by the structural engineer in the design of reinforced concrete buildings. Structural design is presented as a search for strategies appropriate to realize architectural form, synthesizing the structural imperatives of regularity and rationality with specific desires for formal relationships and environmental qualities. Prerequisite: ARC 343 or CVE 371. (Formerly ARC 342).

ARC 354 Environmental Energies and Building Form (2-3-3). Study of the physical phenomena that make climate (rain, humidity, temperature, wind, sun, etc.) influence buildings. The topics include heat transfer methods, solar radiation, vapor in air, air leakage and water condensation and wind movement. Study of indoor thermal environment and thermal comfort of building occupants is offered as well. Prerequisite: PHY 104. (Formerly ARC 351).

ARC 365 Computer Aided Design (4-0-3). Systematic introduction to computer aided architectural design. Discussion and training focuses on a variety of CAAD applications in order to show the similarities (basic principles of CAAD) as well as the idiosyncrasies of the individual applications. Modeling of existing buildings utilizing CAAD applications from the core software suite utilized by SA&D. Topics include: objects, layers, classes, dimensions, units, scales, groups, symbols, different description models in 3D, levels of precision, different construction methods, work strategies. Prerequisite: ARC 201 or IDE 201 (Formerly ARC 371).

ARC 366 Applied Computer Aided Design (4-0-3). Systematic introduction to the basic practice of computer aided architectural design. Presentation and training focuses on two mainstream production CAAD applications: ArchiCAD and AutoCAD, with the intent to develop basic familiarity and proficiency with the applications most likely be encountered in offices during professional training. Introduction to AutoCAD occurs on PCs running the Windows NT operation system. Topics extend those introduced in ARC 365 to include detailed treatment of tool palettes and inter-platform compatibility. Prerequisite: ARC 201 or IDE 201.

ARC 374 Environmentally Sustainable Design (4-0-3). **(Cross-listed as IDE 374).** Course develops a greater focus on holistic and sustainable approaches to design. Issues such a demand and supply of energy and water and the generation of waste will be covered. Principles of reduce, reuse and recycle will be reiterated. Predominant emphasis will be on practical strategies directly applicable in design. Material is presented as lectures and seminars, supplemented with readings. Prerequisite: PHY 104.

ARC 397 Internship I (0-0-0). Minimum of six weeks of approved professional experience. Work undertaken must be documented in a formal report to the department by the beginning of the following term. Prerequisite: ARC 302.

ARC 401 Architectural Design Studio V (12-0-6). Study and analysis of large scale projects through a sequence of design problems of increasing complexity. Emphasis on the planning of buildings and the inter-relationship among form, structure, technologies, materials and detail. Prerequisite: ARC 224, ARC 232, ARC 242 or CVE 272, ARC 302,

ARC 402 Architectural Design Studio VI (12-0-6). Study and analysis of large scale projects through a sequence of design problems of increasing complexity. Emphasis on the planning of buildings and the inter-relationship among form, structure, technologies, materials and detail. Prerequisite: ARC 325, ARC 333, ARC 354, ARC 397, ARC 401.

ARC 424 Evolution of Cities (3-0-3). Introduction to the origin, growth, and development of cities throughout the history. Examines the various socio-economic, historic, political and environmental forces that help explain city form. Explores case studies of sites from ancient times to the present with particular emphasis on cities in Islamic and Middle Eastern cultures. Prerequisite: ARC 202 or IDE 202.

ARC 434 Finish Construction Processes (2-3-3). In-depth examination of the trades and processes involved in finishing a building. These are the major components that are built following the erection of the building's basic structure. They include stairs, doors, windows, partitions, ceilings, floors, claddings, and joints. Discussion of design considerations and construction methods with hands-on experience on producing detailed drawings some elements. Prerequisite: ARC 333. (Formerly ARC 431).

ARC 436 Working Drawings (4-0-3). An introduction to the production of working drawings used in the building industry. A preliminary building design is developed to produce a set of complete architectural working drawings. Emphasis will be put on the use of computer technology in drawing production and information coordination. Prerequisite: ARC 301 or IDE 301. (Formerly ARC 472).

ARC 451 Lighting and Acoustics (2-3-3). Introduction to the basic concepts of acoustics and illumination. Explains and

demonstrates both the qualitative and quantitative aspects of sound and light in the built environment to obtain an awareness and understanding of their impact on overall design decisions. The course is divided into two parts: the architecture of sound, its terminology, process of transmission and practical applications, and the architecture of light, its nature, sources, characteristics, calculation and application. Each part will address both the art and science of the respective disciplines. Computer simulation and modeling will be used as research tools. Prerequisite: ARC 202 or IDE 202, PHY 104.

ARC 455 Environmental Control Systems (2-3-3). A presentation of the basic principles for the selection and the design of the main environmental control systems in buildings. These include plumbing, heating, ventilation, air conditioning, electric, lighting, and fire suppression and protection systems. Prerequisite: ARC 354. (Formerly ARC 452).

ARC 461 Project Management (3-0-3). (Cross-listed as IDE 461). Introduction to the basic and advanced concepts of running design projects: Project Management. Exploring the design process and project phases analyzing in detail under the project management concept of delivering projects "on time, on budget, every time". Prerequisite: ARC 397 or IDE 397.

ARC 462 Design Management (3-0-3). (Cross-listed as IDE 462). Introduction to the principles and practices of the economic and commercial aspects of architectural and design practice in a global economy. Includes microeconomics theory as it applies to private enterprise: basic business economics, planning and management. Attention is also given to the processes and skills required in establishing an independent architectural office. Prerequisite: ARC 397 or IDE 397. (Formerly ARC 460).

ARC 465 Advanced Computer Aided Design (4-0-3). Concentrates on the specific demands on CAD systems by the architecture and building professions. Application of CAD systems to the different phases of planning: preliminary design, design, construction documents, extraction of volumetric data and transfer to spreadsheet and/or database software, rendering software, post-rendering work in pixel-editing software, technical drawing layout software, etc. Prerequisite: ARC 301 or IDE 301.

ARC 471 Site Planning (4-0-3). The course focuses on one of the fundamental components of building design, Site Planning. In site planning , determination of the interrelationship of intended site use with the environment with consideration of topography, vegetation, climate, geographic aspects and theoretical aspects of site development. Focus on the synthesis of programmatic and environmental requirements into a coherent concept for the placement of buildings and/or other improvements on a site. Prerequisite: ARC 302.

ARC 473 Introduction to Landscape Architecture (4-0-3). Prerequisite: ARC 302.

ARC 493 Study Abroad (1 to 3 Credits). On-site visits offer the opportunity to experience first hand regional and international design practices; highlighting particular themes relevant to the specific location. Department permission is required for enrolment and credit. Prerequisite: ARC 302 or IDE 302.

ARC 494 Special Topics in Architecture (2 to 4 Credits). Prerequisite: ARC 202 or IDE 202.

ARC 496 Independent Study (1 to 4 Credits). This course involves investigation under faculty supervision beyond what is offered in existing courses. May be repeated to a maximum of 6 credits of Independent Study. Prerequisite: junior or senior standing and consent of the instructor.

ARC 497 Internship II (0-0-0). Minimum of eight weeks of on-the-job experience with an approved professional firm. Work undertaken must be documented in a formal report to the department by mid-semester of the following term. Prerequisite: ARC 402.

ARC 498 Studio Abroad (3 to 6 Credits). Studio activities conducted in regional and international sites promoting a global-oriented approach to design. Prerequisite: ARC 302 or IDE 302.

ARC 505 Architectural Design Studio VII (12-0-6). Comprehensive design project integrating all aspects of design, theoretical, technological, urban and representational. Allowing students various scales of investigation with one design problem. Prerequisite: ARC 344 or CVE 372, ARC 402.

ARC 520 Architectural Criticism (4-0-3). Addresses a coherent understanding of contemporary architecture by focusing on readings, discussions, and presentations in order to mature the student's cognition to today's architectural strategies. Prerequisite: ARC 325.

ARC 530 Case Studies in Building Construction (4-0-3). Prerequisite: ARC 434.

ARC 561 Construction Management (3-0-3). (Cross-listed as CVE 561). In-depth study of the interrelationships among the various professional disciplines in the building and construction industry as they pertain to issues of management and planning of complex construction projects. Includes review of standard practices of tendering, contracting, quantity surveying, cost estimation, supervision, quality control and economy. Taught in Department of Civil Engineering. Prerequisite: ARC 397 or IDE 397.

ARC 573 Principles of Urban Planning and Design (4-0-3). Examining the basic theoretical frameworks that foster the making of livable cities. Exploring approaches, methods, and tools commonly used in the practice of urban planning and urban design. Hands-on exercises dealing with such problems as housing and community development, urban conservation, environmental protection and public space provision and design. Prerequisite: ARC 301. (Formerly ARC 573).

ARC 591 Final Project Research (6-0-3). Students choose a design topic with the guidance of an advisor and approval of the faculty. Each student prepares an individual program for ARC 592. Final Project Design, concluding with a formal, bound document. Prerequisite: ARC 344 or CVE 372, ARC 402, ARC 434, ARC 455, ARC 461 or IDE 461.

ARC 592 Final Project Design (12-0-6). Individual resolution of the design problems initiated in ARC 591, prepared under the guidance of a selected faculty advisor, presented and defended in a formal public critique. Prerequisite: ARC 497, ARC 505, ARC 591.

DES Design

DES 100 Digital Media in Design (4-0-3). Intended to introduce digital media as an integral part of design process and internet communications. Covers care and operation of hardware, an introduction to the function and features of the Mac operating system, use of the keyboard, mouse, and other input devices such as digital cameras and scanners, and output devices such as printers and plotters. The course introduces students to the integrated use of software appropriate for word processing, document layout, spreadsheets, communication and research, drawing and modeling. (Formerly ARC 211 or CMP 103 or ARC 230 or CMP 101 in 1997/98).

DES 111 Descriptive Drawing I (6-0-3). This basic course introduces the students to the fundamental principles of observational and analytical drawing. Various representational and analytical approaches are explored through assignments which encourage the development of skills needed to effectively represent and communicate visual information. (Formerly AA 111).

DES 112 Descriptive Drawing II (6-0-3). This drawing course will further introduce the student to the principles of drawing. Emphasis will be given to the development of an individual approach to representation and a wide variety of assignments will encourage the student to develop an understanding of a range of techniques and materials of drawing. Prerequisite: DES 111. (Formerly AA 112).

DES 121 History of Material Culture I (3-0-3). This course examines the artistic material culture of humanity through architecture, monuments, sculpture and painting. The technological, religious and social forces that shaped these works are explored. The first part of this course covers the time span from the Stone Age through the Ancient Middle East, Classical, Medieval and Islamic eras. (Formerly AA 121).

DES 122 History of Material Culture II (3-0-3). This course is a continuation of DES 121; it traces development of world artistic material culture from the fifteenth century to the present time. (Formerly AA 122).

DES 131 Design Foundations I (6-0-3). In this course students are introduced to the principles, conceptual and critical skills, and the techniques of design. Students learn to observe the world critically and meticulously, to analyze both the broad structures and the small details of visual phenomena, and master skills needed to conceptualize and communicate their observations through traditional means (drawing, painting and drafting), as well as through digital and other media. They learn craft and acquire making skills with a variety of materials and methods. Class assignments, critiques and presentations will enable students to begin developing an aesthetic awareness coupled with critical thinking skills. (Formerly AA 131).

DES 132 Design Foundations II (6-0-3). This course continues the principles of design, with an emphasis on testing aesthetic and perceptual assumptions. Students develop problem solving techniques through individual design solutions. While Design I focuses on skills and the discovery and critical understanding of the phenomenal world, Design II is primarily concerned with manipulation and synthesis, and the design and creation of unique two and three dimensional design concepts. Prerequisite: DES 131. (Formerly AA 132).

DES 141 Introductory Painting (6-0-3). This course is a basic introduction to the fundamentals and principles of observational painting. Various representational strategies, methods, materials and techniques are explored, with exercises and assignments designed to develop skills needed to communicate visual information in a painterly context.

DES 142 Painting: The Practice of Color (6-0-3). This course is suitable to both beginners and intermediate level students interested in learning about color and paint. The course is designed to both build on the students' knowledge of the principles, techniques and critical skills developed in Introductory Painting I, as well as introduce new students to the basic theories of color and paint application.

DES 151 Introduction to Printmaking (6-0-3). An introduction to the fundamental methods, materials and processes of printmaking. The emphasis is placed on technique, craft and development of proper studio working habits, studio safety and the development of accurate printing skills and printing consistency. Students will work on monochrome and polychrome projects working with single and multiple matrixes. They will learn the essentials of color printing and how to build color through CMYK methods.

DES 200 Communication Design (6-0-3). This course provides an introduction to the materials and techniques most commonly used by designers in the field of communication, and stresses the development of skill in these areas through the completion of class assignments and projects representative of the concepts discussed in class. Students will develop a deeper understanding of visual communication, and will become well versed in the capacities and restrictions inherent in the materials and techniques most commonly used by professional designers. Prerequisite: DES 100. Multimedia Design and Visual Communication majors may not take this course.

DES 230 Digital Media in Communication Design (6-0-3). This course is a continuation of DES 100 and will build on the development and skills associated with digital design. Working with the latest in industry-specific hardware and software, students will gain a more complete understanding of how digital media is used in electronic design, and will learn the capabilities available to communication designers. Emphasis will be given to the creation, preparation and presentation of finished digital media projects. Prerequisite: DES 100. Multimedia Design and Visual Communication majors may not take this course.

DES 310 Introduction to Video and Audio Production (6-0-3). This course provides a basic, hands-on introduction to the practical techniques of scriptwriting, video and audio production, and post production editing using computer-based, non-linear technology. The development of skills is accomplished through the completion of individual and group projects which are representative of the concepts discussed in class. Students will develop some practical abilities in the use of a comprehensive range of production equipment, while gaining a deeper understanding and appreciation of the materials and techniques most commonly used by professional producers, directors

and editors of educational, commercial, industrial and dramatic media programs. Prerequisite: DES 100. Multimedia Design and Visual Communication majors may only take this course as a free elective.

DES 320 Introduction to Web Design (6-0-3). This course provides an introduction to Web site design. Students will learn to use a variety of graphic design and Web page authoring tools, and Internet technologies and other relevant issues will be discussed. Students are expected to learn and use software packages for developing real life Web pages. Prerequisite: DES 100. Multimedia Design and Visual Communication majors may not take this course.

DES 397 Internship (3-0-3). Minimum of six weeks of on-the-job experience with an approved professional firm. Prerequisite: consent of the chair.

DES 493 Study Abroad (1 to 3 Credits). On-site visits offer the opportunity to experience first hand regional and international design practices; highlighting particular themes relevant to the specific location. Department permission is required for enrolment and credit. Prerequisite: ARC 202 or IDE 202 or MUM 202 or VIS 202.

DES 494 Special Topics in Design (2 to 4 Credits).

DES 498 Studio Abroad (3 to 6 Credits). Studio activities conducted in regional and international sites promoting a global-oriented approach to design. Prerequisite: ARC 202 or IDE 202 or MUM 202 or VIS 202.

HRM Heritage Management

HRM 201 History of Material Culture in the Arabian Gulf I (3-0-3). Tracing the historical development of art and architecture in the Arabian Gulf region, this course examines the material culture of the ancient Middle East, medieval Islam and its associated pan-Islamic and regional styles. Specific attention is paid to the art and architecture of the United Arab Emirates. Prerequisite: COM 102.

HRM 202 History of Material Culture in the Arabian Gulf II (3-0-3). This course charts the development of art and architecture in the Arabian Gulf after the fifteenth century, including the impact of non-Arab colonization on the material culture of the Emirates. It also examines the development of contemporary artistic and architectural expression. Prerequisite: COM 102.

HRM 321 Introduction to Issues in Heritage Management I (3-0-3). An introduction to relevant theories and history, this course defines the practice of Heritage Management. It also outlines the different disciplines and professions involved and their roles in the conservation of both movable and immovable cultural property. It further discusses the development of inter-government and non-government agencies for conservation and analyzes current critical thinking about defining and displaying heritage. Prerequisite: HRM 201 or HRM 202.

HRM 322 Introduction to Issues in Heritage Management II (3-0-3). This course introduces students to the specific issues, skills and techniques associated with museum management, documentation, exhibition design, and the preservation and conservation of movable and immovable cultural property. Instruction is through a combination of faculty lectures, assigned readings, field trips and guest lectures and workshops. Prerequisite: HRM 201 or HRM 202.

HRM 332 Theory and Practice of Building Restoration (3-0-3). Students explore the steps involved in the rehabilitation and restoration of historic buildings, including documentation, assessment, structural and material analysis, project planning, conservation and preservation intervention strategies. Discrete techniques to incorporate contemporary requirements regarding sanitary and air conditioning are explored. Instruction combines on-going readings and lectures, guest lectures, workshops and field trips. Prerequisite: HRM 201 or HRM 202.

HRM 494 Special Topics in Heritage Management (2 to 4 Credits). Prerequisite: HRM 201 or HRM 202 or ARC 202 or IDE 202.

IDE Interior Design

IDE 201 Architectural and Interior Design Studio I (12-0-6). (Cross-listed as ARC 201). Studio-based investigation of the fundamentals of making architectural form and space, with emphasis on design inquiry, exploration and process. Concentrates on classic instances of form sources in architectural and interior design: function, experience, structure, construction and context. Digital media are integral to the studio and students receive instruction in software appropriate for design purposes. Prerequisite: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132, MTH 003 or MTH 111 or MTH 103.

IDE 202 Architectural and Interior Design Studio II (12-0-6). (Cross-listed as ARC 202). Continues the content and purpose of ARC/IDE 201, with increased emphasis on design development and physical and technical resolution. Digital media are integral to the studio and students receive continued instruction and practice in software appropriate for design. Prerequisite: IDE 201.

IDE 223 History of Interior Design (3-0-3). An overview of interior design historical development as a collective expression of art, architecture, science and culture, however, as by-product of its own time and as a resource for stimulating new ideas. The history of interior design draws upon several different fields of scholarly study. It is based on architectural history but incorporates unique interior space typology, specific elements of the interior decorative arts and ornamentation including furniture, metal work, glass, ceramics and textiles. Prerequisite: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132. (Formerly IDE 320).

IDE 235 Interior Construction (4-0-3). This course covers basic interior detailing, millwork and cabinetry elements. These elements must be developed and coordinated to construct interior space. Detailing, technical drawings, specifications and scheduling are therefore integral to design development. Prerequisite: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132. (Formerly IDE 204).

IDE 236 Soft Furnishings (4-0-3). Introduction to the aesthetic, practical and technical aspects of interior finish materials. Presents composition of materials, texture, installation and maintenance. Covering several categories of applied finishes: floor finishes, wall and ceiling finishes, window treatments,

furniture and joinery finishes, plus others. Prerequisite: IDE 235 or ARC 232.

IDE 251 Color and Light (4-0-3). Introduction to the fundamentals, principles and art of lighting and color, and their visual and physical effects in interior design. Content explores light and color as important elements in interior space through the study of related perceptual and physical factors. Introduces relevant terminology to define light and color as attributes of architectural and interior space: illumination levels and temperatures, light sources, fixtures, materials, etc. Prerequisite: PHY 104. (Formerly IDE 310).

IDE 301 Interior Design Studio III (12-0-6). Studio-based investigation focusing on advanced concepts used in the development and application of planning techniques and spatial concepts. Concentrates specifically on the design of medium-scale residential and commercial projects. Emphasis on research and analysis of existing structures, contextual development of interior solutions, building constraints, accessibility standards and specialized product and materials specifications. Prerequisite: IDE 202, PHY 104.

IDE 302 Interior Design Studio IV (12-0-6). Continues the content and purpose of IDE 301, with special emphasis on planning techniques and volumetric concepts for the design of large-scale residences and public spaces. Course components: research applied to selected client identities, design criteria for special population groups, building constraints and accessibility standards, project specifications and creative presentation methods. Prerequisite: IDE 301, IDE 223.

IDE 311 Illustration and Rendering (4-0-3). (Cross-listed as ARC 311). Illustration and rendering techniques enabling students to express their ideas faster with more precise results. This course covers free hand color drawing techniques using markers, color pencils and watercolors. Prerequisite: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132.

IDE 324 Modern Practices in Interior Design (3-0-3). The course focuses on 19th and 20th century interior design theories and practices, exposing students to the various international schools of thought. Lectures and discussions focus on practitioners who have influenced contemporary practices worldwide. Prerequisite: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132.

IDE 335 Furniture Design (4-0-3). Course explores the basic function and design of furniture and topics of human factors, i.e. anthropometrics and ergonomics related to furniture design. Each student will develop a unique furniture project and will define, research, design, draw, select material for and build a study model of the final furniture piece. Prerequisite: IDE 235 or ARC 232. (Formerly ARC 410).

IDE 352 Environmental Control Systems in Interior Design (2-3-3). An integrated presentation of environmental control systems (lighting, heating, ventilating, air conditioning, sanitary and acoustics) with special attention to the needs of Interior Designers. Systems are presented as they influence one another and as they constrain interior space planning and design. Prerequisite: PHY 104. (Formerly ARC 352).

IDE 365 Introduction to Computer-Aided Design for Interior Design (4-0-3). Systematic Introduction to Computer aided Architectural Design. Discussion and training focuses on a variety of CAAD applications in order to show the similarities (basic principles of CAAD) as well as the idiosyncrasies of the individual applications. Modeling of existing interior spaces, utilizing selected CAAD applications. Prerequisite: ARC 201 or IDE 201.

IDE 374 Environmentally Sustainable Design (4-0-3). (Cross-listed as ARC 374). Course develops a greater focus on holistic and sustainable approaches to design. Issues such as demand and supply of energy and water, and the generation of waste, will be covered. Principles of reduce, reuse and recycle will be reiterated. Predominant emphasis will be on practical strategies directly applicable in design. Material is presented as lectures and seminars, supplemented with readings. Prerequisite: PHY 104. (Formerly ARC 352).

IDE 397 Internship (0-0-0). Minimum of six weeks on-the-job experience with an approved professional firm. Work undertaken must be documented in a formal report to the department by mid-semester of the following term. Prerequisite: IDE 302.

IDE 405 Interior Design Studio V (12-0-6). Comprehensive design project integrating all aspects of design, theoretical, technological, and representational, allowing students various scales of investigation within one design problem. Prerequisite: IDE 302 or ARC 302.

IDE 432 Advanced Detailing (4-0-3). Continuation of Interior Construction, focusing on advanced levels of detailing, design development, conceptual and technical drawing, specifications and craftsmanship. Prerequisite: IDE 235 or ARC 232.

IDE 460 Exhibition Design (4-0-3). Equips students with the essential research, planning and design tools to conceive, prepare and produce persuasive exhibition and educational environments such as product shows, museums and gallery interiors. Explores issues of planning, lighting, stagecraft, narrative composition and human perception. Prerequisite: IDE 202 or ARC 202 302. (Formerly IDE 503).

IDE 461 Project Management (3-0-3). (Cross-listed as ARC 461). Introduction to the basic and advanced concepts of running design projects – Project Management. Exploring the design process and project phases analyzing in detail under the project management concept of delivering projects "on time, on budget, every time". Prerequisite: ARC 397 or IDE 397.

IDE 462 Design Management (3-0-3). (Cross-listed as ARC 462). Introduction to the principles and practices of the economic and commercial aspects of architectural and design practice in a global economy. Includes microeconomics theory as it applies to establishing an independent architectural office. Prerequisite: ARC 397 or IDE 397. private enterprise: basic business economics, planning and management. Attention is also given to the processes and skills required in

IDE 491 Final Project Research (6-0-3). Students chose a design topic with the guidance of an advisor, and approval of the faculty. Each student prepares an individual program for IDE 491. Final Project Design, concluding with a formal, bound document. Prerequisite: IDE 302, IDE 335, IDE 352. (Formerly IDE 401).

IDE 492 Final Project Design (12-0-6). Individual design resolution based upon the

research findings initiated in Final Project Research (IDE 491). The final project is developed under the guidance and advice of a faculty member and is presented and defended in a formal public jury. Prerequisite: IDE 405, IDE 491, IDE 397. (Formerly IDE 490).

IDE 493 Study Abroad (1 to 3 Credits). On-site visits offer the opportunity to experience first hand regional and international design practices; highlighting particular themes relevant to the specific location. Department permission is required for enrolment and credit. Prerequisite: ARC 302 or IDE 302.

IDE 494 Special Topics in Interior Design (2 to 4 Credits). Prerequisite: IDE 302.

IDE 496 Independent Study (1 to 4 Credits). This course involves investigation under faculty supervision beyond what is offered in existing courses. May be repeated to a maximum of 6 credits of Independent Study. Prerequisite: junior or senior standing and consent of the instructor.

IDE 498 Studio Abroad (3 to 6 Credits). Studio activities conducted in regional and international sites promoting a global-oriented approach to design. Prerequisite: ARC 302 or IDE 302.

MUM Multimedia Design

MUM 301 Multimedia Studio I (6-0-3). Interactive authoring using a variety of media, 3-D modeling and an introduction to animation. Prerequisite: VIS 202, 213 and 360.

MUM 310 Sound and Video I (6-0-3). An introduction to the development and production of video and sound projects. This class is a "hands-on" experience with production planning, pre-visualization, storyboarding, and the use of video camera and audio recording equipment during location production. Prerequisite or concurrent: MUM 301 or VIS 301. (Formerly MUM 210).

MUM 312 Sound and Video II (6-0-3). A continuation of MUM 310 which emphasizes digital and analog audio recording, location production of audio and video, and non-linear/computer-based post-production processes and techniques. Prerequisite or concurrent: MUM 301 or VIS 301. (Formerly MUM 211).

MUM 320 Web Design (6-0-3). This course provides an introduction to Web site design. Students will learn to use a variety of graphic design and Web page authoring tools, and Internet technologies and other relevant issues will be discussed. Students are expected to learn and use software packages for developing real life Web pages. Prerequisite or concurrent: MUM 301 or VIS 301

MUM 321 Photo-Journalism (6-0-3). (Cross-listed as VIS 321). This course explores the history and practice of photo-journalism. Students are expected to have sound black and white technical skills as the course focuses on developing personal awareness and vision within the medium of photography. Through a series of slides, lectures and small photographic assignments, the course will investigate subject matter through the development of the photographic essay. A lab fee of Dhs 150 is applied. Prerequisite or concurrent: MUM 301 or VIS 301.

MUM 330 Interactive Design (6-0-3). This course focuses on special techniques for authoring and producing interactive and stand-alone applications. Students learn creative strategies employed to produce interactive media for entertainment, education, advertising and information industry. Prerequisite or concurrent: MUM 301 or VIS 301.

MUM 331 Modeling and Animation (6-0-3). This course provides an introduction to 2-D and 3-D modeling, animation and various modeling and animation tools. The course shall help students advance into the realm of computer modeling, animation, and video and motion picture production. Students will be able to use high-end software and hardware for developing a professional quality portfolio. Prerequisite or concurrent: MUM 301 or VIS 301.

MUM 394 Special Topics in Multimedia Design (6-0-3). The course and subject matter will be announced in the university course listings each semester. May be repeated for credit. Prerequisite or concurrent: MUM 301 or VIS 301.

MUM 397 Internship for Multimedia (3-0-3). Minimum of six weeks of on-the-job experience with an approved professional firm. Prerequisite: MUM 301.

MUM 401 Senior Multimedia Studio (6-0-4). Advised senior project. Development of an involved multimedia project in an area of student interest. Prerequisite: MUM 301.

MUM 402 Senior Multimedia Portfolio (6-0-4). Senior project continued. Portfolio production with an emphasis on entering the job market. Prerequisite: MUM 401.

MUM 410 Advanced Sound and Video (6-0-3). Advanced studies in video and audio program development, production and non-linear/computer-based post-production for third and fourth year students. Prerequisite: MUM 310 or 312. (formerly MUM 311).

MUM 493 Study Abroad (1 to 3 Credits). On-site visits offer the opportunity to experience first hand regional and international design practices; highlighting particular themes relevant to the specific location. Department permission is required for enrolment and credit. Prerequisite: VIS 202.

MUM 496 Independent Study (1 to 4 Credits). This course involves investigation under faculty supervision beyond what is offered in existing courses. May be repeated to a maximum of 6 credits of Independent Study. Prerequisite: junior or senior standing.

MUM 498 Studio Abroad (3 to 6 Credits). Studio activities conducted in regional and international sites promoting a global-oriented approach to design. Prerequisite: VIS 202.

VIS Visual Communication

VIS 201 Graphic Design Studio I (6-0-3). This course introduces the broad field of graphic design. It is design based and is an extension of DES 132. This course involves the application of design principles to graphic forms. Prerequisite: DES100, 112 &132; DES 121 or 122; MTH XXX; and COM 101 or 102.

VIS 202 Graphic Design Studio II (6-0-3). As a continuation of VIS 201, this course places an increasing emphasis on identifying the design process. The course material is focused entirely on the components of graphic design. Prerequisite: VIS 201, 221, and 230.

VIS 213 Illustration Drawing (6-0-3). This course, building on skills introduced in foundation drawing, encourages students to utilize a wide variety of illustration media and techniques. Class projects focus on drawing from life, photo reference gathering techniques and visualizing concepts and ideas within the genre of commercial illustration. Prerequisite: VIS 201, 221, and 230.

VIS 221 Photography Basics (6-0-3). Introduction to basic photo skills and to some of the issues associated with the practice and history of photography. The course covers camera operation, black and white film developing, contrast control, depth of field, focal length and print finishing. A lab fee of Dhs. 150 is applied. Prerequisite: DES100, 112 &132; DES 121 or 122; MTH XXX; and COM 101 or 102.

VIS 230 Digital Media in Visual Communication (6-0-3). This course is a continuation of DES 100 and will continue the development of the skills associated with digital design. Working with PostScript illustration, bitmapped images and desktop publishing students will use industry specific software to create vector based and bitmapped images. An introduction to layout and desktop publishing will be included and class discussion will encourage students to explore various design concepts. Emphasis will be given to the creation, preparation and printing of finished designs. Prerequisite: DES 100, 112 & 132; DES 121 or 122; MTH XXX; and COM 101or 102.

VIS 301 Graphic Design Studio III (6-0-3). A development of VIS 202, this course focuses on what graphic design could/might be. This level emphasizes exploration and experimentation. Prerequisite: VIS 202, 213 and 360.

VIS 311 Illustration Design (6-0-3). By focusing upon illustration as a means of conveying ideas and concepts, this course introduces the student to various techniques of idea generation. Students are encouraged to arrive at visual equivalents to written and/or oral texts. Prerequisite or concurrent: MUM 301 or VIS 301.

VIS 312 Illustration Genres (6-0-3). This course explores the potential of 19th and 20th century illustration genres as a means of visual communication. Set projects encourage the student to investigate the contemporary implications of various historical illustration styles. Prerequisite or concurrent: MUM 301 or VIS 301.

VIS 320 Multiples I (Printmaking) (6-0-3). Students are introduced to a variety of techniques in traditional and alternative printmaking methods. These may include, but are not limited to, intaglio, linocuts, monoprints, collographs, photoetching, stamping, relief and alternative methods. Traditional mechanical reproductive processes as well as a basic history and theory of the graphic arts are investigated. Issues surrounding the mechanical reproduction of images using digital media to create a global visual culture are also considered. A lab fee of Dhs. 150 is applied. Prerequisite or concurrent: MUM 301 or VIS 301. (Formerly VIS 222).

VIS 321 Photo-Journalism (6-0-3). (Cross-listed as MUM 321). This course explores the history and practice of photo-journalism. Students are expected to have sound black and white technical skills as the course focuses on developing personal awareness and vision within the medium of photography. Through a series of slides, lectures and small photographic assignments, the course will investigate subject matter through the development of the photographic essay. A lab fee of Dhs. 150 is applied. Prerequisite or concurrent: MUM 301 or VIS 301.

VIS 322 Multiples II (Printmaking) (6-0-3). Students conduct further and more in-depth investigation into the processes of mechanical reproduction with possible concentration(s) in a specific printing medium. This course is a confluence of media, technologies and ideologies that include the information technologies, digital and analog photography, and many other methods and media of mechanical reproduction. Attention is paid to the role of the reproduced image in the economy and material culture and the structure and manipulation of meaning through image production and reproduction. A lab fee of Dhs. 150 is applied. Prerequisite or concurrent: MUM 301 or VIS 301.

VIS 323 Photography for Communication (6-0-3). This course covers the theory and practice of image manipulation through the extension of the traditional boundaries of photography. A wide range of techniques and processes will be covered such as polarization, non-silver methods, toning and digital media. A lab fee of Dhs. 150 is applied. Prerequisite or concurrent: MUM 301 or VIS 301.

VIS 360 Fundamentals of Media Theory (3-0-3). A survey of the elements which make up film, video, audio, still images and an analysis of how these elements are used in the design of visual and textual message design and structure. Includes analysis of how information is crafted to create meaning as well as the history of the various media, to include the social, economic, cultural, political, ethical and theoretical bases of the media. Prerequisite: DES 112, DES 132.

VIS 361 The Media Industry (3-0-3). A survey of the contemporary practical application(s) across the media industries in local, regional and global contexts. This includes investigation into the workings of the media industry and issues relating to digital and analog technologies in the free and controlled flow of information. Special attention will be given to media industry issues germane to the GCC region and the Islamic viewing audience and consumer. Prerequisite: COM 101 or 102.

VIS 394 Special Topics in Visual Communication (6-0-3). The course and subject matter will be announced in the university course listings each semester. May be repeated for credit. Prerequisite or concurrent: MUM 301 or VIS 301.

VIS 397 Internship (3-0-3). Minimum of six weeks of on-the-job experience with an approved professional firm. Prerequisite: VIS 301.

VIS 401 Senior Graphic Design Studio (6-0-4). A senior level studio course in which the student will develop individual expertise in the approach to graphic design applications. In this course, students are required to make their first contact with various professional sources in order to obtain responses and commentary on their individual work. Prerequisite: VIS 301.

VIS 402 Senior Graphic Design Portfolio (6-0-4). This senior level portfolio course focuses on portfolio production and presentation within the field of graphic design. This course will stand as the culmination of four years of study in graphic design and the portfolio will embody that achievement. In this course, students are required to present their work

to professional firms. Prerequisite: VIS 401.

VIS 410 Senior VisCom Studio (6-0-3). In this senior level course, students are encouraged to develop work that reflects and identifies their own personal stylistic strengths. Emphasis on an individual approach to topics in Visual Communication is encouraged and students are expected to approach the local market for initial responses to their work. Prerequisite: Any four of the following: VIS 311, 312, 321, 323, 320, 322.

VIS 420 Senior VisCom Portfolio (6-0-3). In this senior level course, the student is encouraged to develop his/her own individual expertise and style toward the production of a professional body of work. As part of this course, students are required to prepare a portfolio and approach the commercial market for professional responses to their work. Prerequisite: VIS 410.

VIS 493 Study Abroad (1 to 3 Credits). On-site visits offer the opportunity to experience first hand regional and international design practices; highlighting particular themes relevant to the specific location. Department permission is required for enrolment and credit. Prerequisite: VIS 202.

VIS 496 Independent Study (1 to 4 Credits). This course involves investigation under faculty supervision beyond what is offered in existing courses. May be repeated to a maximum of 6 credits of Independent Study. Prerequisite: junior or senior standing.

VIS 498 Studio Abroad (3 to 6 Credits). Studio activities conducted in regional and international sites promoting a global-oriented approach to design. Prerequisite: VIS 202.

School of Business and Management

ACC Accounting

ACC 201 Fundamentals of Financial Accounting (3-0-3). Introduces the principles and concepts underlying financial statements. Course includes an introduction to the accounting profession, control, concepts, business entities and all elements of basic financial statements. Prerequisite: QAN201.

ACC 202 Fundamentals of Managerial Accounting (3-0-3). Introduces the principles and concepts underlying managerial accounting. Course includes an introduction to management accounting information and cost accounting. Prerequisite: ACC201, COM102.

ACC 301 Intermediate Financial Accounting I (3-0-3). Begins a two-course sequence providing an in-depth study of principles and elements associated with financial statements. This includes: financial statement analysis, income measurement, valuation of assets and equities and generally accepted accounting principles. Prerequisites: ACC202, FIN201.

ACC 302 Intermediate Financial Accounting II (3-0-3). Continuation of Intermediate Financial Accounting I; focus on accounting for long-term liabilities, stockholder's equity, cash flow analysis and international financial statements. Prerequisite: ACC301.

ACC 303 Cost Accounting (3-0-3). Uses of accounting data for planning control and decision-making. Topics include: budgets and cost concepts, techniques and behavior. Prerequisite: ACC 202, FIN201. Normally offered only in Fall semester.

ACC 304 Auditing (3-0-3). A study of auditing theory, generally accepted auditing standards, audit procedures, audit reports and the responsibilities and ethics of the auditing profession. Topics include: risk, evidence and audit tests, internal controls, sampling, audit testing, subsequent events, professional liability, reporting statutory provisions, compilation and review services, and reporting under government auditing standards. Prerequisite: ACC 302. Normally offered only in Spring semester.

ACC 305 Income Tax I. Introduces the U.S. federal income tax system as it applies to personal income taxes, and examines the legislative, judicial and regulatory bases of the Code, as well as exposure to the tax accounting concepts of income, examinations, exclusions, losses, expense, credits, property transactions and AMT as they apply to theory and practice. Prerequisite: ACC 302. Normally offered only in Fall semester.

ACC 306 Income Tax II. Introduces the U.S. federal income tax system as it applies to corporations, partnerships, estates and trusts. Course includes a comparison and contrast of personal and corporate taxation, as well as an examination of corporate organization and capital structure, distributions and reorganizations, accumulated earnings rules. Prerequisite: ACC 305. Normally offered only in Spring semester.

ACC 394 Special Topics in Accounting (3-0-3).

ACC 396 Independent Study in Accounting (3-0-3).

ACC 401 Advanced Financial Accounting (3-0-3). Theory and practices of accounting for partnerships, business combinations and consolidated financial statements. Advanced topics in financial accounting. Prerequisite: ACC 302. Normally offered only in Fall semester.

ACC 407 Accounting Theory (3-0-3). Examines models, hypotheses and concepts underlying financial accounting practice. Emphasizes understanding the basis of traditional accounting principles and analysis of the relevance of decision-usefulness, economic consequences and game theory models to accounting standard setting. Specific issues related to earnings management and executive compensation, as well the social, political and economic influences on accounting standard setting are also considered. Prerequisite: ACC 401. Normally offered only in Spring semester.

BIS Business Information Systems

BIS 001 Software Applications for Business (3-0-3). Introduces students to popular application software. Three types of applications are covered: HTML editing & Web development, Spreadsheets, and DBMS. This course will provide students with the essential computer literacy skills needed in higher-level courses.

BIS 201 Business Information Systems (3-0-3). This course is business-oriented and applies knowledge accumulated by students in BIS001 to solve basic business problems. Students will be working on major case assignments throughout the semester to develop spreadsheet and database applications for business. HTML editors are used to Web-enable various business applications. Students build a learning portfolio structure to keep track of the learning accumulated in SBM. Not counted for students in Computer Science major, Prerequisite: BIS001.

BLW Business Legal Issues

BLW 301 Business Law (3-0-3). Examines business legal issues such as: legal concepts, philosophy and functions of court systems. Survey of contracts, sales, agents, legal forms of business and the regulation of businesses. Prerequisite: ACC201 and ECO202.

BLW 302 Advanced Corporate Law (3-0-3). Proprietorships, partnerships, limited partnerships and corporations; advantages and disadvantages of each form; factors in selection of which form to use; partnership agreements; how to create corporations; closed corporations vs. publicly-traded corporations. American and UAE corporate law are compared. Prerequisite: BLW 301.

Other courses

BUS 392 Resume Writing & Interviewing Skills. Introduces students to the essential skills necessary to obtain employment. Topics covered include self-

evaluation techniques, interviewing skills, resume writing and job search strategies.

BUS 394 International Study Tour (3-0-3). Provides a firsthand opportunity to learn by experiencing the world of international business. Students will visit the headquarters locations of multi-national organizations and attend seminars given by the professionals of these corporations.

BUS 397 Business Internship (3-0-3). Students are placed, by the School of Business Internship office, in corporations for the purpose of utilizing the skills and knowledge acquired in the classroom. Prerequisite: junior or senior standing.

FIN Finance

FIN 201 Fundamentals of Financial Management (3-0-3). Introduction to business finance, including global aspects; acquisition and use of short-term funds and long-term capital; overview of money and capital markets; management of assets, liabilities and capital accounts; financial analysis and time value of money; cash operation, and long-range budgeting; leasing; corporate securities; dividend policy; and cost of capital. Prerequisites: ACC201, COM102, QAN202. Co-requisite: MTH102.

FIN 301 Financial Statement Analysis (3-0-3). Integrates and synthesizes the core business courses such as accounting, finance, marketing, management and statistics. Students use the case method to study and analyze corporations, and utilize computer based business information systems, such as EDGAR, to download and analyze financial statements. Prerequisites: ACC 202, FIN 201.

FIN 302 Financial Markets and Institutions (3-0-3). The history, purpose, function and organization of the short-term money market and long-term capital market. An integrated view of the participating institutions and the markets in which they operate, their investment constraints and their resulting portfolios. Prerequisite: ACC202, FIN 201. Normally offered only in Fall semester.

FIN 303 Investment Analysis (3-0-3). Investment objectives. Methods of appraising corporate equity, debt and other securities. Portfolio theory and management, technical analysis, random walk theory and the role of institutional investors. Prerequisites: FIN 201, ACC202.

FIN 304 Real Estate Finance (3-0-3). Terminology, legislation, principles and analytical techniques pertaining to financing of real estate. Perspective of lender, residential borrower and income property borrowers. Prerequisites: FIN 201, ACC202. Normally offered only in Fall semester.

FIN 306 Insurance and Financial Planning (3-0-3). An introduction to insurance, risk management and personal financial planning. Includes theory of insurance and risk management with specific applications to property, disability, health and life insurance. The course also discusses mutual funds, retirement planning, estate and tax planning, offshore banking and investments. Prerequisites: FIN201, ACC202. Normally offered only in Spring semester.

FIN 394 Special Topics in Finance (3-0-3). Current topics in one of the following areas: Finance, Insurance or Real Estate. Topics varied and announced in Schedule of Classes. May be repeated once with change in topic area. Prerequisite: Consent of instructor, ACC202, FIN201.

FIN 396 Independent Study in Finance (3-0-3). Prerequisite: Consent of instructor, ACC202, FIN201.

FIN 401 International Finance (3-0-3). Covers financing international trade and investment, foreign exchange markets and exchange rate, balance of payments and current developments in international finance co-operations. Prerequisite: FIN 303. Normally offered only in Spring semester.

FIN 402 Futures and Options (3-0-3). Conceptual and practical aspects of the functioning of speculative markets in futures, options, and hard assets; stock option strategies, financial engineering, financial futures, stock index options and contemporary issues in futures and options. Prerequisite: FIN 303. Normally offered in Spring semester.

FIN 403 Commercial Banking (3-0-3). Covers the structure and internal organization of commercial banks and emphasizes the dynamic nature of assets, liability and equity management. It also covers the application of decision-making procedures to financial management situations, including evaluation of bank performance, capital acquisition, liquidity and loans. Prerequisite: FIN 302. Normally offered only in Fall semester.

FIN 404 Portfolio Management (3-0-3). Provides the theoretical and operative framework for portfolio and advanced investment management. Students apply portfolio models and concepts to live market data to perform analytical skills and evaluate equities, fixed income securities and other investments. Asset pricing, diversification and other financial models are covered in detail. Prerequisite: FIN 303. Normally offered only in Fall semester.

FIN405 Advanced Financial Management (3-0-3). Covers investments, financing and dividend policy decisions of the financial manager. Prerequisite: FIN 303. Normally offered only in Spring semester.

Information Systems *(See Management Information Systems)*

INB International Business

INB 201 Fundamentals of International Business (3-0-3). An introductory course that studies the nature and scope of international trade and investment, international institutions, the international monetary system and exchange markets and some of the major issues involved in the functional aspects of international business. Prerequisite: ECO 201 and ECO 202.

MGT Management

MGT201 Fundamentals of Management (3-0-3). This course surveys the basic concepts and issues of management and the various functions and activities of the manager. Topics may include plans, goals, decision making, change, motivation, human resources, ethics and social responsibility, groups and teams, organization design, leadership, and control. Prerequisite: COM 102 (Formerly MGT 101).

MGT301 Organizational Behavior (3-0-3). Takes an in-depth look at human behavior in organizations. Incorporating current management theory and research, the course looks into the factors that

influence individual and group performance. Topics may include perception, personality, attitudes, values, motivation, decision making, leadership, power and politics, conflict and negotiation, groups and culture. Prerequisite: MGT 201, FIN201, ACC202.

MGT302 Managing Human Resources (3-0-3). Examines the foundations, functions and activities involved in the managing of human resources, striking a balance between current theory and practice. Topics may include manpower planning, recruitment and selection, policy and procedures, performance appraisal, compensation and benefits, training, safety and industrial relations. Prerequisite: MGT 201, FIN201, ACC202.

MGT 303 Management and Leadership Development (3-0-3). Focuses on the necessary skills and abilities of the successful leader and manager. Students are not only introduced to these success factors, but are challenged to both assess and develop their own managerial and leadership skills throughout the course. (Normally offered only in Fall semester) Prerequisite: MGT 301.

MGT 360 Business Ethics and Social Responsibility (3-0-3). Introduces the student to the ethical dimensions of business as they relate to the various stakeholders inside and outside the organization. Topics may include business ethical theory, ethical decision-making, typical dilemmas and corporate social responsibility. Cases and projects are used to examine these issues, with special attention to local applications. Prerequisites: MGT201, FIN201, ACC202.

MGT 380 Project Management (3-0-3). Examines the concepts and techniques of managing projects in service and manufacturing settings. Topics may include project selection and evaluation, dynamics, motivation and evaluation of team members, scheduling, budgeting and closure. Prerequisite: MGT 301 or MIS303, MIS 201.

MGT 394 Special Topics in Management (3-0-3).

MGT 396/496 Independent Study in Management (1-3 credits). By permission of department.

MGT 403 Entrepreneurship (3-0-3). Focuses on the creation of new ventures: the people, the process and the dynamics. Topics include identifying and evaluating opportunities, success and failure factors, attitudes and characteristics of entrepreneurs, stand-alone and internal corporate ventures, and local and global issues in entrepreneurship. Students can expect to develop a viable business plan in the course. (Normally offered only in Spring semester) Prerequisite: University senior standing, or by permission of department.

MGT 406 Business Policy and Strategy (3-0-3). Applies the functional knowledge acquired in previous coursework to the analysis of strategic-level business problems and decisions. Business cases are used extensively in this course to highlight the diversity and complexity of organizational environments and systems. Topics include: missions and objectives, environmental analysis, formulating, implementing and assessing strategies and policies, international, social and ethical issues. Prerequisite: Business senior standing, MGT201, MKT201, MIS201, FIN201, or by permission of department.

MIS Management Information Systems

MIS 200 Business Process Logic (3-0-3). The course will introduce students to the logic of business processing independently of any programming language. Students will be able to learn to extract program specifications from business narratives or business process descriptions. Flowcharts, decision tables, decisions trees, use cases and structured English will be used to document program specifications, which can be easily translated into any programming language. Prerequisite: MTH101, BIS201.

MIS 201 Fundamentals of Management Information Systems (3-0-3). Covers information as an organizational resource. It focuses primarily on the organizational foundation of management information systems by establishing a link between business processes and information technology. Topics include: decision making frameworks, transaction processing systems, decision support systems, inter-organizational information systems, office automation, strategic information systems, enterprise systems, systems development, networks and IT infrastructure, social impacts of IT, etc. A technology update is provided in hardware and software basics, database management and telecommunications. Prerequisite: BIS 201, ACC201, QAN202.

MIS 300 Business Data Communications (3-0-3). Deals with the fundamental concepts of data communications. The design and management of computer-based networks for business applications, hardware, software and security in business environments are discussed. The topics covered include business data requirements, transmission media, transmission techniques, multiplexing and data compression, WANs, LANs, data encoding and flow control, network protocols, electronic commerce and network security. Prerequisite: MIS 201, FIN201, ACC202. Normally offered only in Fall semester.

MIS 301 Fundamentals of Database Management (3-0-3). Addresses the beginning technical, business and application development issues associated with managing and using an organization's data resources. Employing ORACLE-SQL as the database language, the course coverage includes organizational data management, data analysis & modeling with the entity relationship model, database design with SQL, normalization and the relational model. Prerequisite: MIS200, MIS201, FIN201, ACC202.

MIS 302 Advanced Database Management (3-0-3). Addresses advanced technical, business and application development issues associated with managing and using an organization's data resources. Employing ORACLE DEVELOPER as an application development environment, the course coverage includes the database development process, physical database design, database implementation with client/server and middleware technology, database access, data administration, and an introduction to object -oriented database management systems. Prerequisite: MIS 301. Normally offered in Spring semester.

MIS 303 Introduction to Systems Analysis (3-0-3). Traditional analysis, logical design through a data flow analysis and the system development life cycle approach. Methods for structured analysis and design are covered. Data structures, definitions and normalization are also

addressed. Emphasis is on gaining an ability to use the various tools associated with systems analysis. Prerequisite: MIS200, MIS 201, FIN201, ACC202.

MIS 304 Applied Systems Design (3-0-3). Builds on previous courses and allows students to apply the tools studied in MIS303. It follows the life cycle process to produce specifications for a current system, develop the physical design for the system and implement the system using ORACLE tools. The use of project teamwork is emphasized. Prerequisite: MIS 303.

MIS 394 Special Topics in Management Information Systems (3-0-3).

MIS 396 Independent Study in Management Information Systems (3-0-3).

MIS 402 Knowledge Management (3-0-3). Explores the theoretical foundation of knowledge and its value to the organization. The nature of intellectual capital and valuation of an organization's knowledge assets will also be examined. Prerequisite: MIS 303. Normally offered in Fall semester.

MIS 404 Internet Business Applications (3-0-3). An overview course that examines how the Internet and the World Wide Web are used for marketing and business purposes. Students will study well established US and UAE companies that have established a marketing presence on the Internet. Projects include building a web site to market a specific product and establishing a simulated business on the Internet. Prerequisite: MIS 303. Normally offered in Fall semester.

MIS 405 Information Systems Strategy (3-0-3). This is the capstone course in MIS. Discusses strategic IS issues including planning IT infrastructures and architectures, business process reengineering, supply chain management, enterprise computing and systems integration. Emerging issues like e-Government and cyber ethics are also taught within this course. Prerequisite: Senior Standing, MIS304. Normally offered in Spring semester.

MKT Marketing

MKT 201 Fundamentals of Marketing (3-0-3). Introduces the concept of making marketing decisions in business and in non-profit organizations. Particular attention is devoted to analyzing customer needs; segmenting markets; and developing product, promotion, pricing and distribution strategies. Relationships between consumers, business and governments are explored. Prerequisite: ECO 201 and ECO 202, ACC201.

MKT 301 Consumer Behavior (3-0-3). Study of marketing, psychology, sociology and cultural anthropology to determine motivations for product purchases. A multimedia approach is used to illustrate the use of behavioral science theory to create new products and promotional campaigns. Prerequisite: MKT 201, FIN201, ACC202.

MKT 302 Marketing Research (3-0-3). Examines research tools students can use to aid them in making marketing decisions. Students learn to define research problems, to select projects and to analyze data. The execution of a consumer survey is a major component of the course. Students use computer statistical packages to analyze research data. Prerequisite: MKT 201, FIN201, ACC202.

MKT 303 E-Commerce (3-0-3). An overview course that examines how the Internet and the World Wide Web are used for marketing and business purposes. Students will study well-established US and UAE companies that have established a marketing presence on the Internet. Projects include building a web site to market a specific product and establishing a simulated business on the Internet. Prerequisite: MKT 201, MIS201, FIN201, ACC202.

MKT 304 Sales Management (3-0-3). An introduction to professional sales force management. This course is designed to develop student skills in planning a sales program, organizing the selling effort and in recruiting, training and motivating the sales force. (Normally offered only in Spring semester) Prerequisite: MKT 201, FIN201, ACC202.

MKT 305 Retail Management (3-0-3). Explores the management of large and small retail institutions. Topics include buying, merchandising, pricing, promotion, inventory management, customer service, control, and location selection. (Normally offered only in Fall semester) Prerequisite: MKT201, FIN201, ACC202.

MKT 309 International Marketing (3-0-3). Provides a comprehensive understanding of the issues and challenges inherent in the formulation and implementation of international marketing strategies. This course examines and analyzes environmental forces affecting international marketing decisions; selection of international target markets, and the design and development of international marketing plans. Prerequisite: MKT 201, FIN201, ACC202.

MKT 394 Special Topics in Marketing (3-0-3).

MKT 396 Independent Study in Marketing (1-3 credits). By permission of department.

MKT 401 Marketing Strategy (3-0-3). An analysis of current marketing management issues. Students develop a marketing plan for an outside organization, analyze case studies and participate in computer simulation exercises. Prerequisite: MKT 301, MKT 302.

Other courses

BUS 392 Resume Writing & Interviewing Skills. Introduces students to the essential skills necessary to obtain employment. Topics covered include self-evaluation techniques, interviewing skills, resume writing and job search strategies.

BUS 394 International Study Tour (3-0-3). Provides a firsthand opportunity to learn by experiencing the world of international business. Students will visit the headquarters locations of multi-national organizations and attend seminars given by the professionals of these corporations.

BUS 397 Business Internship (3-0-3). Students are placed, by the School of Business Internship office, in corporations for the purpose of utilizing the skills and knowledge acquired in the classroom. Prerequisite: junior or senior standing.

INB International Business

INB 201 Fundamentals of International Business (3-0-3). An introductory course that studies the nature and scope of international trade and investment, international institutions, the international monetary system and exchange markets and some of the major issues involved in the functional aspects of international business. Prerequisite: ECO 201 and ECO 202.

QAN Quantitative Methods

QAN 201 Introduction to Statistics (3-0-3). Descriptive statistics, probability distributions and estimation to include the use of statistical software. An applications oriented course that will prepare the student for more advanced study.

QAN 202 Quantitative Analysis for Decision Making (3-0-3). An applications-oriented course in a wide range of fields including: accounting, advertising, finance and real estate, general management, macroeconomics, microeconomics, marketing, human resources, production and operations management, public administration and quality control. Topics include but are not limited to: classical techniques of and hypothesis testing, non-parametric analysis, regression and correlation, decision theory and time series and forecasting. Prerequisite: QAN 201.

MBA Master of Business Administration

MBA 601 Managerial Economics (3-0-3). Application of economic theory to management problems, using basic economic tools and techniques of economic analysis to analyze decision-making problems faced in private businesses, government agencies and non-profit organizations.

MBA 602 Managing People and Organizations (3-0-3). Incorporating current management theory and research, the course looks into the factors that influence individual and group performance. Topics discussed range from individual attitudes and motivation to leadership, change, culture and organizational structure.

MBA 603 Accounting Concepts and Applications (3-0-3). Addresses the use of accounting as a management tool, including the strengths and limitations of accounting as an information system. Financial and managerial aspects of accounting with focuses on the underlying concepts of accounting, the role of accounting in management planning and control and the usefulness of accounting data for evaluating the results of operations and decision making.

MBA 604 Applied Managerial Statistics (3-0-3). The decision-aiding tools that can be applied by managers to gain insight into decision problems range from simple graphic displays of data to sophisticated statistical tests. Students use real-world data sets and PC- based software to describe sets of measurements, construct probability distributions, estimate numerical descriptive measures and build multiple regression models. Prerequisite: a college-level finite mathematics course is highly recommended.

MBA 605 Financial Management (3-0-3). Financial theory and techniques of analysis, including valuation theory, theories of risk measurement, managing a firm's investment decisions and capital structure, sources of financing for a firm, and financial planning and analysis. Prerequisite: MBA 601, MBA 603, and MBA 604.

MBA 606 Management Information Systems (3-0-3). Provides the theoretical, technological, practical and managerial foundations of management information systems. Includes: information technologies, systems development, the impact of information systems on business organizations, information technology as a competitive tool, and the management of information systems within domestic and multinational corporations. Introduces students to current systems and software.

MBA 607 Business Communication (3-0-3). This course focuses on the written and oral communication aspects of the participants. Emphasis is placed on the use of technology in business communication. Topics include effective business writing, presentation, listening, and negotiation skills. Stressed will be the study and practice of advanced techniques of argumentative writing.

MBA 610 Business Research Applications (3-0-3). Introduces the student to the basic tools of business research by explaining various research methodologies and techniques. Numerous illustrations, portraying actual research in management, marketing, finance, accounting and other areas of business, show how to perform the research function. Prerequisite: MBA 604.

MBA 611 Advanced Financial Management (3-0-3). This course examines, at an intermediate level, the problems of managing short-term assets including cash, marketable securities, accounts receivable and inventory, managing the acquisition and disposal of long-term assets, and financing decisions including leverage, leasing, mergers and international issues. Students become familiar with both the basic theories in each of these areas and various strategies for integrating the theory with practice. Prerequisite: MBA 605.

MBA 612 Leadership and Change (3-0-3). The role of leadership is investigated in the context of global change. Particular attention is given to leadership issues as they pertain to organizational development, culture and the dynamics of change. Prerequisite: MBA 602.

MBA 613 Accounting for Management (3-0-3). Explains the role of accounting information in facilitating the functions of management. Topics covered are decision-making, planning, performance evaluation, budgeting, cost control and international transfer prices. Prerequisite MBA 603.

MBA 614 Marketing Management (3-0-3). An introduction to current marketing management techniques and the tools necessary for effective marketing decision-making. Provides global perspectives on marketing management and international marketing issues. Interactive learning techniques include the case method and active class participation. Issues including ethics, minorities and the ecological environment are incorporated. Course content requires familiarity with microeconomics theory, basic concepts of accounting and Quattro-Pro (or a similar spreadsheet program). Prerequisite: MBA 601.

MBA 615 Innovation and Entrepreneurship (3-0-3). The practices and techniques used to stimulate and sustain innovation and the entrepreneurial spirit are considered. The process of new venture formation and the issues involved are examined in both the contexts of existing firms and free-standing new ventures. Prerequisite: MBA 602, MBA 605 and MBA 614.

MBA 616 International Electronic Commerce (3-0-3). International Electronic commerce is the conduct of intra-organizational transactions, messages and inquiries through purely electronic means, as opposed to paper and/or voice.

This course presents a survey of consumer and business-to-business electronic commerce models, systems and technical solutions. Includes hands-on projects and assignments. Prerequisite MBA 606.

MBA 617 Ethics and Legal Issues (3-0-3). An intensive introduction to the legal and ethical issues confronting the global business manager. This course addresses the legal system, legal processes and several areas of substantive commercial law relevant to the business manager. In addition, it discusses the developing recognition of legal and ethical issues, and their managerial implications. Examines product liability, the administrative legal process of regulation, antitrust and the contract as the fundamental legal instrument of global commercial relations.

MBA 618 Strategic Management in a Global Environment (3-0-3). Focuses on developing and applying strategic management to successfully position organizations in a competitive global environment. Course is integrated with previous course experiences to hone decision-making, analysis, and oral and written communication skills. Students work in small teams to analyze a real company's external environment, perform an internal corporate audit and build detailed action plans including implementation issues and financial forecasting. Prerequisite: MBA 610, MBA 611, MBA 612, and MBA 615.

FIN Finance

FIN 632 Securities Analysis (3-0-3). The purpose and operations of security markets; investment instruments and their characteristics; introduction to portfolio and capital market theory; theory of valuation, bonds and the term structure of interest rates; options, commodity and financial futures, investment companies; and international investments. Prerequisites: MBA 605.

FIN 633 Financial Futures and Derivatives (3-0-3). A comprehensive study of equity and debt-based futures and other derivative instruments. The functioning of options and futures markets and the role the market participants will be discussed. Derivative instruments will be analyzed with a focus on pricing, hedging techniques, and arbitrage applications. Prerequisites: FIN 632.

MGT 670 Entrepreneurship and New

Venture Management (3-0-3). Identifies entrepreneurship characteristics, and success and failure factors. Explores entrepreneurship and new venture-management elements essential to the development of a new venture plan and the initial launching of new ventures. Students develop a new venture idea/opportunity and complete a written business plan that could be presented to a venture capitalist, banker, or other party for funding consideration. Successful strategies for managing and harvesting the new venture are developed. Prerequisites: MBA 602 and MBA 605.

MGT 672 Managing a Family Business (3-0-3). This course addresses issues facing family enterprise, a unique subset of entrepreneurial, small, and growing businesses. Family business issues, family business systems, family members as employees, boundaries, and succession issues are dealt with. Cases and empirical studies engage students in family business experiences. Prerequisites: MBA 602 and MBA 605.

MKT 650 Internet Marketing Management (3-0-3). Gives students insight on using the Internet as an implementation tool for business and marketing strategy. Provides a cursory overview of Web and commerce technologies, but the focus of the course is on marketing applications of the Internet, including distribution, commerce, advertising, public relations, and other "stakeholder" relations. A technical background is not required, but students develop an understanding of technical aspects of the Internet relating to marketing strategy. Prerequisites: MBA 601 and MBA 616.

MKT 655 Internet Marketing Project (3-0-3). Student teams analyze Internet marketing opportunities facing a client firm and develop a strategic marketing plan. Issues assessed include the firm's Internet and technological capabilities, stage of Internet development Internet marketing objectives, stakeholder concerns, creation and maintenance of the Web site, nature of the marketing offer, and communication, pricing, and service objectives. Prerequisites: MBA 601 and MBA 616.

EMBA Executive Master of Business Administration

EMB70l Economic Analysis in an Interdependent Environment (3-0-3). Presents basic tools used for market analysis and managerial decision making, including the behavior of firms and consumers, and the analysis of pricing policies. Emphasis is placed on economic applications in the financial, industrial, and service sectors. The course also examines the underlying forces that contribute to the present economic climate in the domestic and global arenas.

EMB702 Theories of Management and Organizational Behavior (3-0-3). This course focuses on current organizational issues that have a direct impact on management in various industries. The emphasis is on human development issues and the development of effective work elements, as well as the personnel concerns that must be resolved for successful leadership. Topics cover organizational structure and design, leadership, motivation, organizational development, ethics, and social responsibility of business.

EMB703 Financial Management 1 (Accounting) (3-0-3). Covers financial and managerial accounting concepts and models. The course focuses on the use of accounting to support human resource management, financing policy and management, financial disclosure, valuation of resource allocation, planning, capital management, production, costing, marketing, control, and performance evaluation decisions.

EMB704 Information Systems Strategy (3-0-3). The objective of this course is to give the student knowledge about the way organizations use information systems to improve their own operations, to improve decision making, knowledge utilization and communication, and/or to add value to their products and services. The issues that will be addressed are: Identifying opportunities where IT can make a difference for a firm; the role of information systems in a firm's corporate strategy; information technology architecture; measuring the benefits/value of investments in information systems; electronic commerce; how information systems impact organizations and individuals; how organizations can use information technology to add value to their

products and services; the ethical, social and organizational issues raised by information systems.

EMB705 Marketing Management (3-0-3). This course centers on the marketing concepts and its impact on strategic decision- making processes. A study of the functions and basic concepts of marketing goods and services is presented. Product, pricing, promotion, and distribution decisions are major topics. Emphasis is on the application of the strategic marketing process in the turbulent global business environment. Other topics include demand measurement, market segmentation, buyer behavior, and global marketing strategies.

EMB706 Financial Management 2 (Finance) (3-0-3). A study of the theoretical and practical approaches to effective financial management. Planning, analyzing and controlling investment, and short and long term financing are examined for decision-making purposes. Emphasis is placed on the application of these methods in the aviation-related industries. Topics include, but are not limited to, capital budgeting, risk and diversification, asset liability management, airport financing, aircraft financing, and international finance. (prerequisites: Financial Management 1).

EMB710 Analytical Methods (3-0-3). This course utilizes descriptive and inferential analytical techniques for business applications. Topics include estimation of quantitative and qualitative population parameters, hypothesis testing, Analysis of Variance, Chi-Square, simple and multiple linear correlation and regression analysis and linear programming.

EMB711 Corporate Finance (3-0-3). This course covers the theory and practice of financial management of firms. Techniques of capital budgeting under certainty and uncertainty are presented. Valuation of projects is emphasized Other topics include theory of capital structure; cost of capital; mergers and acquisitions, etc.

EMB7l2 Management in the International Environment (3-0-3). This covers topics in international management including cross-cultural issues that are evaluated from the perspective of interpersonal relationship in a diverse domestic and foreign environment, and in the context of evolving global trends. Managing workforce diversity is examined from culture-based and comparative perspectives. A critical review of the trends and issues. challenging the corporate manager in a global environment will be undertaken.

EMB713 Investment Analysis (3-0-3). The courses examines the role and functioning of securities market, security valuation techniques, and the theory and practice of portfolio management. The management of an actual portfolio of investments is one of the main features of this course.

EMB714 Advanced Systems Strategy and Implementation (3-0-3). This is an integrative study of the functions and responsibilities of top management and the strategies that affect the character and success of companies, especially those operating in a developing economy. The course, conducted by case study and assigned readings related to various industries, is problem oriented to develop the viewpoint of top management charged with responsibility for the enterprise as a whole.

EMB715 Entrepreneurship (3-0-3). Participants study how to identify and evaluate entrepreneurial and entrepreneurial opportunities in the inner and outer environments and in a global context. Applications cover the creation and management of stand-alone ventures and those developed within corporations. Various simulation and case study techniques are employed to provide the student with an entrepreneurial environment.

EMB716 E-Commerce (3-0-3). An overview course that examines how the internet and the world wide web (WWW) are used for marketing and business purposes. Students will study well established US and UAE companies that have established a marketing presence on the internet. Projects include building a web site to market a specific product and establishing a simulated business on the Internet.

EMB717 Corporate Communication Strategy (3-0-3). This course focuses on written and oral communication aspects of the participants. Emphasis is placed on the use of technology in business communication. Topics include effective business writing, presentation, listening, and negotiating skills. Stressed will be the study and practice of advanced techniques of argumentative writing.

EMB718 Strategic Management (3-0-3). Integration of knowledge in functional areas of business and in the simulation of management experiences. Various methods of simulating a management environment are employed, including live case studies from a number of industries and computerized management problems. Topics covered are SWOT analysis, goal-setting, planning systems, and organizational control.

EMB719 Capstone: A Diagnostic Practicum (3-0-3). A capstone activity course that develops diagnostic skills and the ability to apply management concepts and theories to concrete, real life situations. Participants, working with a faculty advisor, define, research, examine, and analyze a business problem in their own unit, and present a written and oral report of the project.

School of Engineering

CHE Chemical Engineering

CHE 203 Principles of Chemical Engineering (4-0-4). Introduction to the analysis of chemical process systems using mass conservation equations, stoichiometry, and steady state calculations. Process flow sheets. Ideal and real gas relationships. Steady state energy balances with and without chemical reactions. Heat of solution and mixing. Humidity charts. Simultaneous material and energy balances. Prerequisite: CHM 101.

CHE 204 Chemical Engineering Thermodynamics I (2-2-3). Terms and definitions. First and second law of thermodynamics and their application in chemical engineering. Ideal cycles and processes. Definitions and use of internal energy, enthalpy, entropy and free energy. Maxwell relations. Residual Properties. Prerequisite: PHY 101, CHM 102, Prerequisite concurrent: CHE 203.

CHE 215 Fluid Flow (2-2-3). Introductory concept of fluid mechanics and fluid statics. Fluid properties. Basic equations of fluid flow. Flow of compressible and incompressible fluids in pipes and other shapes. Velocity distribution. Laminar and turbulent flow. Flow past immersed bodies. Dimensional analysis. Prerequisite: MTH 104, Prerequisite concurrent: CHE 203.

CHE 230/MCE 230 Materials Science (2-3-3). Introduction to material science, relationships between structure and properties of materials. Atomic bonding, crystalline structures, crystal defects and imperfections. Phase diagrams and equilibrium microstructural development. Mechanical properties of materials, alloys, polymers and composites. Electrical and magnetic properties of materials, semi-conductors and ceramics. Prerequisite: CHM 101.

CHE 304 Chemical Engineering Thermodynamics II (3-0-3). Thermodynamic properties of mixtures. Standard and excess free energies. Excess mixture properties. Phase equilibria. Chemical reaction equilibria for gases and liquids. Prerequisite: CHE 204, CHE 203.

CHE 307 Heat Transfer (3-0-3). Mechanism of heat transfer. Heat transfer by conduction, convection, and radiation. Analysis of heat transfer equipment used in chemical engineering. Prerequisite: CHE 204, CHE 215.

CHE 321 Chemical Reaction Engineering (2-2-3). Chemical reaction kinetics. Interpretation of experimental rate data. Design of batch and continuous reactors. Effect of temperature and pressure. Heterogeneous catalysis. Prerequisite: CHM 331, Prerequisite concurrent: CHE 307.

CHE 329 Mass Transfer I (3-0-3). Mechanisms of mass transfer. Laws of diffusion. Mass transfer coefficients. Theories of mass transfer. Mass transfer and chemical reactions. Prerequisite: CHE 215, Prerequisite concurrent: CHE 304.

CHE 330 Simulation Techniques in Chemical Engineering (2-2-3). Introduction to dynamic modeling of various chemical engineering problems in fluid, heat and mass transfer by using a variety of mathematical tools including analytical and numerical approaches. Laplace Transform. Computer simulations in chemical process design. Prerequisite: CHE 304, MTH 205.

CHE 332 Engineering Economy (2-0-2). Interest rates, present values, future worth and asset depreciation, economic service life, financing business ventures, financial statement analysis. Replacement of capital assets. Alternative investment analysis. Development of spread sheet programs for project evaluation.

CHE 390 Mass Transfer II (3-0-3). Application of mass transfer principles to the design of multi-stage systems and countercurrent differential contacting operations. Prerequisite: CHE 329.

CHE 421 Chemical Process Dynamics and Control (2-2-3). Principles of process dynamics and control in chemical engineering applications. Transfer functions, blocks diagrams, input disturbance. Frequency response and stability criteria. Single and multi-loops. P, PI, PID controllers. Advanced control. Prerequisite: CHE 330.

CHE 432 Chemical Systems Design and Integration (3-0-3). Application of chemical engineering principles to the design and integration of chemical equipment and processes. Process safety. Pollution prevention and waste minimization. Layout and cost estimation. Prerequisite: CHE 330, CHE 329.

CHE 451 Chemical Engineering Laboratory I (0-4-1.5). Hands on chemical engineering experiments illustrating the application of chemical engineering principles and calculations. Fluid flow, heat exchangers, drying, absorption, kinetics of chemical reactors, process control experiment and chemical pumps. Prerequisite: CHE 390, CHE 321.

CHE 452 Chemical Engineering Laboratory II (0-4-1.5). An extension of CHE 451. Preparation of detailed experiment reports and oral presentations. Experiments include; distillation, extraction, membrane separation, filtration, diffusion, process control, evaporation, and environmental applications. Prerequisite: CHE 451.

CHE 460 Wastewater Treatment (2-2-3). Characteristics of wastewater, BOD, COD, THOD. Treatment by physical, chemical and biological processes. Activated sludge and effluent disposal. Local and State regulations. Industrial applications. Prerequisite: CHM 101, CHE 203.

CHE 461 Air Pollution (2-2-3) Environmental pollution, acid gas removal, Sulfur Oxides, Nitrogen Oxides and Carbon gases removal. Removal of volatile organic compounds. Design of main process equipment and control devices. Aerosols. Prerequisite: CHM 101, CHE 203.

CHE 465 Desalination (2-2-3). Principles of desalination. Evaporation, vapor compression desalination, membrane technology and ion exchange. Seawater chemistry. Scale formation in separation equipment. Dual-purpose power desalination co-generation plants. Prerequisite: CHE 329.

CHE 466 Polymer Technology (3-0-3). Polymerization and polymers, process of homogeneous and heterogeneous polymerization. Methods of production of plastics, synthetic fibers, and synthetic rubber. Physical and chemical properties of polymers. Prerequisite: CHE 321, CHE 304.

CHE 467 Corrosion (3-0-3). Electrochemical principles, galvanic cell, Nernst equation, electromotive force. Corrosion mechanisms and techniques, corrosion due to dissimilar metal, differential aeration, strain and temperature. Corrosion types, cavitation, fatigue, microorganisms. Corrosion prevention, inhibitors, electrical protection. Corrosion case studies in petroleum industry. Prerequisite: CHM 331.

CHE 470 Waste Management and Control in Chemical Engineering (3-0-3). Management and control of gaseous, liquid and solid wastes. Regulation and management procedures. Waste minimization and resource recovery. Separations and reaction engineering approaches. Prerequisite: CHE 390.

CHE 472 Unit Operations and Processes in Environmental Engineering (2-2-3). Design and selection of unit operations utilized in water and wastewater treatment. Advanced wastewater treatment technologies. Physical and chemical treatment. Biological treatment. Industrial wastewater minimization. Prerequisite: CHE 329.

CHE 474 Environmental Transport (2-3-3). Environmental chemodynamics, interphase equilibrium, reactions boundary layers, transport mechanism and models for movement of substances/contaminants across natural resources, air-water-solid. Prerequisite: CHM 101, CHE 215.

CHE 476 Environmental Risk Assessment (3-0-3). Risk assessment concepts and their application to environmental analyses such as hazardous waste site evaluation and remediation. Principles of human health and ecological toxicology; exposure assessment; estimation of individual and aggregate risk. Risk assessment in regulatory decision making and standard sitting. Prerequisite: CHM 101.

CHE 490 Senior Design Project I (0-3-1). A supervised design project of defined chemical engineering significance. Work includes data collection, analysis, calculation, design and presentation of the work in a detailed technical report. Student must present and defend her/his work in an oral presentation. Each student is required to complete a comprehensive assessment exam of engineering fundamentals. Prerequisite: CHE 390, Prerequisite concurrent: CHE 432.

CHE 491 Senior Design Project II (0-6-2). Continuation of CHE 490. Prerequisite: CHE 490.

CHE 494 Selected Topics in Chemical Engineering (3-0-3) Selected topics of current interests and recent trends in the field of chemical engineering. Prerequisite: Topic specific.

CHE 496 Independent Study (1 to 3 credit hours). Student may select a problem of particular interest in some areas of theoretical or practical chemical engineering. Students are encouraged to do creative work on their own under supervision of a faculty member. Prerequisite: Approval of instructor.

COE Computer Engineering

COE 210 Introduction to Computing I (2-3-3). Overview of computer architecture and programming languages. Elements of a C program. Statements and expressions. Formatting and data types. Top-down design approach. Modular programming. Relational and logical operators. Selection structures. Repetition and loop statements. Declaration and initializations of arrays and strings. Recursion. Pointers and function arguments. Structures. Introduction to UNIX. UNIX C compiler. Prerequisite: MTH 103.

COE 211 Introduction to Computing II (3-1-3). Builds programming skills with an emphasis on disciplined program and coding. Introduction to object-based programming concepts including class design and implementation. Programming in C++. Basic data structures such as linked lists, stacks and queues. Prerequisite: COE 210.

COE 212 Program Development and Design in Java (3-1-3). Structured programming in Java. Object-oriented programming, inheritance, overloading, polymorphism. Exception handling. Graphical user interface. Files and streams. Multithreading. Multimedia and animation. Java Applets. Emphasis is placed on engineering applications, including client-server, web-based monitoring and control. Prerequisite: COE 210.

COE 221 Digital Systems (3-3-4). Number systems. Representation of information. Introduction to Boolean algebra. Combinational circuits analysis and design. Sequential circuits analysis and design. Prerequisite concurrent: ELE 211. (Equivalent to CMP 210).

COE 311 Data Structures and Algorithms (3-0-3). Complexity analysis. Data structures such as priority queues, hash tables, trees, search trees, and graphs. General techniques in algorithm design, such as divide and conquer, greedy, dynamic programming, backtracking, and branch and bound approaches. Prerequisite: COE 211.

COE 331 Microprocessors (3-3-4). Hardware and software models of microprocessor. Microprocessor programming using assembly language. Microprocessor memory and input/output interfaces. Memory and input/output peripheral devices. Introduction to interrupts. Prerequisite: COE 221 or CMP 210

COE 332 Embedded Systems (2-3-3). Micro-controllers hardware architectures and software models, instruction sets and programming. EPROM, EEPROM, inputs/outputs, ADC/DAC interface and programming, timer systems and interrupts, embedded systems building blocks, design and testing. Introduction to DSP hardware architecture, software model and instruction set. Class projects. Prerequisite: COE 331 and ELE 241.

COE 370 Communications Networks (3-0-3). TCP, OSI, network topologies, transmission media, data encoding, data link protocols, LAN systems, WAN technology. The internet. Prerequisite concurrent: COE 331 or CMP 240.

COE 371 Computer Networks I (3-3-4). Network classifications, architecture and topologies. Layered reference models. Functional description of layers. Switching and routing. Network protocols. Network control, traffic management and congestion. Network programming. Network security.

Examples of high-speed networks. Prerequisite: COE 370.

COE 381 Operating Systems (3-1-3). Introduction to operating systems. Process management, process scheduling; inter-process communication. Memory management techniques. Virtual memory; I/O management; deadlock avoidance; file system design. Security issues. Examples from commonly-used operating systems (e.g., Windows and UNIX). Prerequisite: COE 311 or CMP232. (Equivalent to CMP 310).

COE 411 Computer Architecture and Organization (3-0-3). Introduction and historical overview. The five classic components of a computer. Performance measures for computers. CPU description at the instruction level. CPU organization, types, and design. Register transfer language, hardwired and micro-program control. CISC and RISC processors. Instruction and hardware study of a commercial microprocessor. Prerequisite: COE 331.

COE 420 Software Engineering I (3-1-3). An introduction to the basic principles and practices of software engineering. Emphasis will be placed on programming language support for software engineering principles, especially techniques for data abstraction, code reusability and 'programming in the large'. Software life cycle models: general design, implementation, and testing issues. Specification and design methodologies. Model-based approaches to software design. Prerequisite: COE 311 or CMP 232. (Equivalent to CMP 350).

COE 421 Software Engineering II (3-0-3). Focus on the application of principles, tools and methods taught in COE 420. Students work in teams to develop a software system, following a process similar to an industry experience. Prerequisite: COE 420 or CMP 350.

COE 422 Database Systems (3-1-3). An introduction to the basic principles of database management systems. Data models: hierarchical, network and relational. Query languages, physical representation of data in secondary storage. Prerequisite: COE 311 or CMP 232. (Equivalent to CMP 320).

COE 423 Computer Networks II (3-0-3). Latest developments in computer networking and communications. Prerequisite: COE 371 or CMP 415.

COE 424 Design of Digital Computers (3-0-3). Design of arithmetic units, hardwired and micro-programmed control units, and semiconductor memories. Direct memory access circuits. Design of a small computer. Prerequisite: COE 331.

COE 425 Modern Computer Organizations (3-0-3). Memory organization: memory hierarchy, cache memory, virtual memory and memory management. Pipelining and pipeline hazards. Multiple functional units. Superscalar and vector processors. Parallel processing: SIMD Computer, MIMD computers, MIMD classification. Interconnection networks, interprocessor arbitration, interprocessor communication. Software for multiprocessors. Commercial computer design examples. Design project. Prerequisite: COE 411.

COE 427 Internet Computing (3-0-3). Introduction to the underlying infrastructure of the Internet and the WWW. Topics include: Internet protocols, routing and Internet and Web-based non-trivial applications. Prerequisite: COE 212.

COE 428 VLSI Design (3-0-3). Digital VLSI design and simulation tools with simple examples. Use of commercial state-of–the-art industrial CAD/CAE tools. Prerequisites: COE 221 and ELE 241.

COE 429 Computer Graphics (3-0-3). Hardware and software aspects of graphics generation. Programming assignments provide practical experience in implementing and using standard graphic primitives and user interfaces. Prerequisites: COE 211/ CMP 220 and MTH 221. (Equivalent to CMP 430).

COE 431 Computer Applications in Industry (3-0-3). Microprocessor-based data acquisition units and their industrial applications. Programmable logic controllers and industrial applications. Web based monitoring and control of industrial plants. Class Project. Prerequisite: COE 332.

COE 433 Distributed Systems Design (3-0-3). Principles of distributed systems, their communication and synchronization structures. Special issues related to distributed control such as election and mutual exclusion, clock synchronization, Byzantine agreement, distributed routing and termination. Prerequisite: COE 381 or CMP 310. (Equivalent to CMP 412).

COE 434 Mobile Computing (3-0-3). Introduction to mobile computing. Topics include: location management, routing in ad hoc wireless networks, file systems issues and caching strategies. Prerequisites: COE 411 and COE 371.

COE 490 Design Project I (0-3-1). Introduces design methodology in computer engineering through lectures and an open-ended, in-depth design project of significance in computer engineering. The project includes the design of a system process or component to achieve the functional objectives representative of problems encountered by practicing computer engineers. Students work in teams to define, complete, validate and document their design project under close supervision of one or more faculty members. The course includes engineering ethics and communication skills. Each student is required to complete a comprehensive assessment exam of engineering fundamentals. Prerequisite: Senior standing.

COE 491 Design Project II (0-6-2). Continuation of COE 490. Prerequisite: COE 490.

COE 494 Selected Topics in Computer Engineering (3-0-3). Selected topics in the field of computer software and hardware engineering that deal with new trends and practical issues. Prerequisite: Topic specific.

COE 496 Independent Study (1 to 3 credit hours). Study of topics relating to the special needs and interests of an individual student. Prerequisite: Approval of instructor.

CVE Civil Engineering

CVE 220/MCE 220 Statics (2-2-3). Fundamental concepts and principles of mechanics, vectors and force systems. Concepts of free-body-diagram. Principle of equilibrium of particles and rigid bodies in two and three dimensions. Analysis of structures: trusses, frames and machines. Shear and bending moment in beams, center of gravity, centroids and area moment of inertia. Friction. Prerequisite: PHY 101.

CVE 221 Construction Materials and

Quality Control (3-1-3). Physical and mechanical properties of construction materials; aggregate, Portland cement, concrete, bituminous materials and paving mixtures used in construction and maintenance of roads and pavements. Proportioning of concrete mixtures including admixtures. Concrete trial mixes on construction site. Concrete curing methods. Concrete durability. Design of paving mixtures. Production, specifications, tests and quality control of local construction materials. Corrosion of reinforced concrete structures. Wood, ferrous and non-ferrous metals, glass, plastics and masonry units. Fiber reinforced concrete. Prerequisite: CVE 220. Co-requisite: CVE 302.

CVE 223/MCE 223 Mechanics of Materials (2-2-3). Stress and strains. Mechanical properties of materials. Axial load, torsion, bending and transverse shear. Combined loading. Stress transformation. Deflection of beams and shafts. Buckling of columns. Prerequisite: CVE 220.

CVE 231 Engineering/Environmental Geology (3-1-3). Basic principles of physical geology pertinent to environmental and civil engineering. Identification of minerals. Origin and types of rocks and sediments. Weathering. Land forms. Geologic structure. Air photos and geologic maps. Effects of geologic features and processes on constructed facilities planning and design. Earth structure and materials. Hazardous geologic processes. Waste disposal, contaminants in the geologic environment,. Physical and engineering properties of rocks. Laboratory work on basic geologic identifications, mapping techniques, classification and engineering tests on intact and weathered rock. Prerequisite: NGN 110.

CVE 240/MCE 240 Fluid Mechanics (2-2-3). Fundamental concepts. Properties of fluids: Specific gravity, viscosity and surface tension. Fluid statics: pressure and its measurement, hydrostatics forces on submerged surfaces, stability of floating bodies. Basic equations of motion: continuity, momentum and energy equations, Bernouli's equation. Measurement of static and stagnation pressure, velocity and flow rate in closed conduits (internal flow), laminar and turbulent flow. Flow over immersed bodies (external flow). Lift and drag. Dimensional analysis and dynamic similitude. Prerequisite: MTH 104, CVE 220.

CVE 241 Elementary Surveying (3-1-3). Introduction to geodetic positions, coordinate systems, datum, basic measurement procedures, and use of surveying instruments. Principles and practice in measuring distance, elevation, and angels. Leveling, traverse, and earth work computations. Introduction to GPS and GIS. Prerequisite: MTH 104. Co-requisite: CVE 242

CVE 242 Field Plane Surveying (0-3-1). Fundamental principles of surveying, basic measuring procedures and use of surveying instruments, basic data analysis and evaluation. Co-requisite : CVE 241.

CVE 272/ARC 242 Statics and Mechanics of Materials for Architecture (3-1-3). Newton's laws. Forces, free body diagrams and equilibrium equations. Analysis of beams and trusses. Load path and load tracing in structural systems. Normal stress and strain. Mechanical properties of common building materials. Geometric properties- centroid and moment of inertia. Bending moment and shear force diagrams in beams. Bending stress and shearing stress. Elastic buckling of columns. Prerequisite: PHY 104 (Not open to CVE majors).

CVE 301 Theory of Structures (3-1-3). Stability and determinacy of structures. Calculation of reactions for statically determinate beams, frames, trusses and composite structures. Force calculation in trusses. Shear and moment diagrams for beams and frames. Approximate analysis of indeterminate frames. Deflection calculations. Influence lines for determinate structures. Analysis of statically indeterminate structures using the following: consistent displacement, virtual work and energy, slope deflection and moment distribution methods. Use of commercial software for structural analysis. Prerequisite: CVE 223.

CVE 302 Construction Materials Lab (0-3-1). Application of basic measurement techniques and instrumentation to the experimental investigation of construction materials: aggregate, bitumen, pavement materials, asphalt mixes, cement, concrete materials, concrete mixes, Mild and high tensile steel testing, Non-destructive testing. Timber and other metals tests. Written reports covering the planning, execution, results and conclusions of the investigation. Emphasis on teamwork. Co-requisite: CVE 221.

CVE 303 Geotechnical Engineering Lab (0-3-1). Experiments in soil mechanics. Laboratory experiments to geotechnical test equipment and techniques. Applications of testing principles to the measurement of fundamental aspects of soil behavior from classification to engineering properties. Emphasis on rigorous techniques to measure mechanical behavior under various boundary conditions. Exposure to error estimation. Laboratory studies utilizing standard test methods and equipment to assess physical, mechanical, chemical and hydraulic properties of soils for application in civil engineering design. Co-requisite: CVE 331.

CVE 310 Fundamentals of Structural Dynamics (3-1-3). Fundamental concepts of kinematics and kinetics of rigid body motion. Sources and types of dynamic forces in structures. Introduction to the basic concepts of structural dynamics. Equations of motion of single degree of freedom systems, free and forced vibration. Response to earthquake loading. Generalized single degree of freedom systems. Introduction to multi-degree of freedom systems. Applications to civil engineering disciplines. Use of the relevant computer modeling and dynamic analysis programs. Prerequisite: CVE 301 and MTH 205.

CVE 313 Reinforced Concrete Design (3-1-3). Loads on structures. Design criteria and factors of safety. Analysis and design of reinforced concrete beams, short columns, one-way slabs, and footings using ultimate strength method. Bond development of reinforcement. Design project and use of computer software. Prerequisite: CVE 301.

CVE 312 Structural Steel Design (3-1-3). Loads on structures. Design criteria and philosophies. Analysis and design of structural steel elements found in buildings and bridges including tension members, compression members, beams, columns, beam columns and connections. Design project and use of computer software. Prerequisite: CVE 301.

CVE 321 Computational Methods (3-1-3). Basic concepts of computational

methods. Errors, accuracy and precision. Numerical solution of non-linear equations. Matrix algebra. Direct and iterative methods for solving systems of linear algebraic equations. Numerical differentiation and integration. Interpolation, approximation and curve fitting. Numerical solutions of ODE's and PDE's. Applications of computational methods in solving engineering problems using computers. Case studies. Prerequisite: MTH 205.

CVE 322 Civil Engineering Cost Analysis (2-0-2). Analysis of civil engineering proposals, utilizing time-value and related factors. Feasibility and optimum life comparisons. Utility rate derivation, utility/cost method. Prerequisite: NGN 111.

CVE 331 Geotechnical Engineering Principles (3-1-3). Physical properties of soils, classification systems, soil structure and soil water systems, effective stress principle, stresses in soil due to applied loads. Compressibility, consolidation and swell. Permeability and seepage analysis. Soil compaction. Stress-strain-shear strength relationships of soils, failure criteria and direct and triaxial shear testing. Soils used in construction. Use of computer software for geotechnical analysis. Prerequisite: CVE 223 and CVE 231. Co-requisite : CVE 303.

CVE 333 Geotechnical Engineering Design (3-1-3). Subsurface exploration and site investigation and evaluation. Bearing capacity of shallow foundations in different types of soils, settlement analysis: consolidation and immediate. Design of shallow foundations including: footings and raftings and pile caps. End bearing and friction of deep (piles and caissons) foundations under axial loading. Settlement of piles. Bearing capacity and settlement of pile groups. Piles subjected to lateral loading and moments. Design of pile foundations. Dewatering and ground water control. Extensive use of computer aided design in team-projects. Prerequisite: CVE 331.

CVE 341 Hydraulic Engineering (3-1-3). Introduction to surface hydrology. Review of basic conservation principles of continuity, energy and momentum. Incompressible flow in pipes. Steady and unsteady flow in pipelines and pipe networks, open channel and pipe network hydraulics, water supply canals and bridge and culvert hydraulics. Collection and distribution of water; pumps and pumping stations. Design of water supply distribution network. Darcy equation. Introduction to ground water hydraulics and wells hydraulics. Introduction to laboratory techniques, calibration principles, determination of fluid properties; visualization of types of flow; hydrologic cycle tests, groundwater flow tests, experiments of water flow in closed conduit, friction losses in pipes and pipe networks, turbomachinery tests, open channel flow, hydraulic jump, water hammer and tests on hydraulic structures (e.g. gates, wiers, siphons). Team projects. Analysis and design using computer software. Prerequisite: CVE 240 .

CVE 351 Water and Wastewater Treatment (3-1-3). Quantity and quality of water and sewage; chemical, physical and biological processes that affect materials in engineered and natural systems; water quality modeling; water and wastewater treatment; sewerage systems; flow in sewers; sewage disposal. Design of sanitary and storm sewers; theory of wastewater treatment processes; design of unit operations; on-site wastewater treatment; waste stabilization ponds, water re-use; industrial wastewater. Design of intake works. Solid and hazardous waste disposal, air quality. Theory of water treatment processes, design of water treatment units. Treatment of sea and brackish water. Prerequisite: CHM 101. Co-requisite: CVE 401. Prerequisite concurrent: CVE 341.

CVE 360 Urban Transportation Planning (3-1-3). Urban transportation systems planning techniques: data collection, trip generation, trip distribution, factors underlying the choice of mode, traffic assignment, modeling and evaluation techniques. Use of planning software packages, development of alternatives, and evaluation of civil engineering projects. Prerequisite: NGN 111.

CVE 363 Highway Design (3-1-3). Driver and vehicle characteristics, stopping and passing sight distances, cross section elements, vertical and horizontal alignment, intersections and interchanges, surface drainage, types of pavements, and principles, theoretical concepts, and design of flexible and rigid pavements. Prerequisite: CVE 241 and CVE 360.

CVE 371/ARC 343 Structural Analysis for Architecture (3-1-3). Introduction to structural analysis. Classification of structures and sources of loads. Analysis of simple beams, trusses, arches, cables, and frames. Internal forces: axial, shear and moment diagrams. Approximate analysis of statically indeterminate structures. Computer analysis of structures. Prerequisite: CVE 272/ARC 242 (Not open to CVE majors).

CVE 372/ARC 344 Structural Design for Architecture (3-1-3). Structural systems and load path in common buildings. Gravity and lateral forces in buildings. The structural design process, codes and specifications. Design of simple steel structures, including tension members, compression members, beams and connections. Design of simple concrete structures, including beams, columns, one-way slabs and isolated footings. Introduction to the design of wood and masonry structures. Prerequisite: CVE 371/ARC 343 (Not open to CVE majors).

CVE 401 Environmental Engineering Lab (0-3-1). Experiments in environmental engineering and surface and ground water hydrology. Laboratory work: sampling, physical, chemical and bacteriological analysis of water and wastewater. Laboratory sessions utilizing standard test methods and equipment for measurement of important environment parameters. Sampling methods and data presentation. Experiments in water surface run off and subsurface infiltration and flow, experiments in closed conduit, open channel tests. Co-requisite: CVE 351.

CVE 410 Computer Methods in Structural Analysis (3-1-3). Introduction to linear algebra, virtual work method, stiffness and flexibility methods. Matrix formulation of the stiffness and flexibility methods. Direct stiffness method. Wind and earthquake loading in tall buildings. Introduction to finite element method. Computer analysis of 2-d and 3-d framed structures and high rise buildings. Emphasis on team-based learning through specific design projects. Prerequisite: CVE 301.

CVE 411 Structural Concrete Design (3-1-3). Wind and earthquake loading on buildings. Introduction to flooring and structural systems. Design of reinforced concrete members including: two-way floor systems, beams for torsion, slender columns, combined footings and shear

walls. Introduction to prestressed concrete, prestress materials and losses and design of prestressed beams. Computer analysis and design of structures. Emphasis on team-based learning through specific design projects. Prerequisite: CVE 311.

CVE 412 Finite Element Method (3-1-3). Matrix representation of stress, strain, and material relations. Basic theory of the finite element method with emphasis on civil engineering applications. Applications to a wide class of physical problems, including trusses, frames, and continuums. Finite element modeling. Energy methods; discrete models of continuous systems; and construction of basic finite element algorithms. Use of a general purpose finite element analysis computer program. Application to civil engineering problems. Prerequisite: CVE 301.

CVE 413 Design of Bridges (3-1-3). Design of highway bridges. History, classification, and aesthetics of bridge structures. Design philosophy; loading, girder distribution factors, and load combinations. Design of concrete deck slab and reinforced concrete box girders. Design of noncomposite steel beams and composite steel girder, fatigue considerations. Design of prestressed concrete girders. Design of piers, bearings and abutments. Prerequisite: CVE 311 and CVE 312.

CVE 437 Advanced Concrete Technology (3-1-3). Design of special concrete mixes, curing methods, admixtures, fiber-reinforced concrete, polymer concrete. Hot and cold weather concrete. Concrete construction in hot weather with special reference to the Middle East. Properties of high performance concrete. Design of high performance concrete materials and their use in innovative design solutions. Concrete deterioration and durability aspects. Maintenance and repair materials and methods. Ready mixed concrete. Pre-cast concrete. Concrete production and quality control. Prerequisite: CVE 221 and CVE 302.

CVE 441 Advanced Soil Mechanics (3-1-3). Stress-strain and strength properties of dry and saturated cohesionless and clayey soils. Basic shear strength principles. Loading induced pore pressure and its influence on strength and compressibility. Stress path concept. Drained and undrained loading. Classes of stability problems. Effective and total stress analysis procedures. Factors affecting shear strength parameters. Lateral earth pressure theories and methods of slope stability analysis. Secondary consolidation. Undrained settlement. Engineering properties of compacted soils. Analysis of earth retaining structures and slope stability under drained and undrained conditions. Prerequisite: CVE 303 and CVE 331.

CVE 442 Advanced Foundation Engineering (3-1-3). Site investigation with emphasis on in-situ testing. Computer-aided profile data reduction and recording. Interpretation of field and laboratory data. Design of retaining structures, earth structures, braced cut excavations, sheet-pile walls, reinforced earth structures and deep foundations including: drilled piers, drive piles, caissons and shafts. Pile load test. Piles subjected to lateral loading. Offshoring. Design of staged construction embankments. Emphasis on design of locally used geotechnical structures. Problematic soil and ground improvement. Extensive use of computer aided design in team-projects. Prerequisite: CVE 333.

CVE 445 Environmental Geotechnology (3-1-3). Pollution processes and soil-pollution interaction, particle-energy-field theory and its application, nature of soil and environment, chemical composition of natural soil and clay, identification, characterization and classification of contaminated soils, microscopic debris, dust in the water, soil technology, clay mineralogy, particle bond, energies, clay structures, clay-water system, soil-water-air interaction in the environment, hydraulic conductivity and mass transport phenomena, thermal properties of soils, electrical properties of soils, radiation effects on water, soil, and rock, nuclear waste disposal, utilizations of wastes, anti-desertification measures, remediation technologies, applications, case studies. Prerequisite: CHM 101. Prerequisite concurrent: CVE 331.

CVE 446 Geotechnical Dam Engineering (3-1-3). Regional geoscience and seismotectonic investigations. Related subsurface exploration programs. In-situ permeability testing. Seepage in composite sections, anisotropic and multi-layered materials. Flow through earth dams. Methods of stability analysis of soils and rocks slopes. Design of dam foundations. Foundation treatment. Grouting in the ground. Introduction to earthquake analysis and design of earth and rockfill dams. Special considerations: liquefaction problems, sinkholes, land subsidence, foundation defects and dispersive soils. Compaction methods. Monitoring and staged construction. Case studies. Computer aided design projects. Pre requisite concurrent: CVE 331.

CVE 447 Irrigation and Drainage Engineering (3-1-3). Soil/plant/water relationships. Crop water requirements. Methods of irrigation (surface, sprinkle, drip, subsurface). Irrigation scheduling; water logging and salinity control, drainage criteria. Artificial drainage systems. Operation and maintenance of irrigation systems. Prerequisite: CVE 341.

CVE 448 Port and Harbor Engineering (3-1-3). Principles of port and harbor planning and design. Geotechnical engineering aspects of port and harbor engineering. Design loads. Construction materials. Wave characteristics and transformation, wave forces and concepts and theories of wave structure interaction. Water level fluctuations (tides). Planning and layout of port facilities. Coastal and ocean structures. Underwater systems. Design of seawalls, breakwaters, shore protection systems, fixed offshore installations, and sheet piling systems. Dredging. Design of selected coastal structures. Hydraulic considerations. Introduction to selected coastal engineering problems. Team projects, case studies and site visits and computer aided analysis and design commercial software. Prerequisite: CVE 223, prerequisite concurrent: CVE 341.

CVE 450 Environmental Pollution Engineering and Control (3-1-3). Pollution of water bodies and control. Self purification process. Measurement of water quality, water quality for various beneficial uses. Effect of consumption and growth. Measurement of air quality; air pollution control, guidelines and standards. Environmental impact assessment. Global atmospheric change and its effects. Ozone depletion. Hazardous substances and risks. Prerequisite: CVE 351 and CVE 401.

CVE 455 Environmental Impact Assessment, Protection and Public Health (3-1-3). Humanity and environment. Communicable and non-communicable diseases. Technology-environment interactions. Environmental

concerns. Environmental risk assessment. Comprehensive environmental planning and management of impact studies. Assessment of impacts of engineering projects on environment. Small water and wastewater systems. Solid waste and hazardous spills management. Environmental monitoring. Prerequisite: CVE 351 and CVE 401.

CVE 456 Traffic Engineering (3-1-3). Characteristics of road users, characteristics of traffic stream: speed-flow-density, traffic volume, traffic accidents, travel time and delay, parking, capacity and level of service of freeways, signalized intersections, at-grade intersection design. Transportation models. Prerequisite: CVE 360.

CVE 457 Airport Planning and Design (3-1-3). Airport master planning, forecasting air travel demand, design of airports, including lighting, terminal facilities, noise-level control, aircraft control, airspace utilization, and automobile parking. Prerequisite: CVE 360.

CVE 461 Advanced Surveying (3-1-3). Photogrammetry and modern surveying and mapping techniques. Global Positioning Systems (GPS) and Geographic Information Systems (GIS) applications in civil engineering. Prerequisite: CVE 241.

CVE 463 Construction Management (3-1-3). Management in construction industry. Development and organization of projects. Management organizations. Preconstruction planning, scheduling, estimating and design. Bidding and award. Selection of a professional construction manager. Project control. Work breakdown structure. Linear scheduling. Critical path method (CPM). Precedence diagram methods. Resource leveling. Least-cost scheduling. Scheduling software. Project cost control. Prerequisite: CVE322.

CVE 464 Building Construction (3-1-3). Masonry construction. Steel frame construction. Cast-in-place concrete framing systems. Precast concrete framing systems. Roofing. Glass and glazing. Cladding. Interior finishes. Interior walls and partitions. Finish for ceilings and floors. Preconstruction site investigation. Earthwork methods. Construction equipment. Drilling and blasting of rocks. Soil compaction methods and equipment. Material handling and transportation. Formwork. Cranes. Construction methods of: shallow and deep foundations, bracing and excavation support, retaining and earth structures. Contract documents. Specifications and bill of quantities. Different types of contract and construction related drawings. Method statement for construction. Work inspection and quality control. Prerequisite: CVE 221, CVE 301. Prerequisite concurrent: CVE 333 .

CVE 466 Engineering Hydrology (3-1-3). Qualitative approach to the hydrologic cycle. Quantitative hydrology, analysis of precipitation data, estimation of evaporation. Evapo-transpiration and infiltration. Rainfall-runoff relationships. Stream flow hydrographs. Reservoir and stream routing. Surface-groundwater interactions. Well design. Steady and transient pumping tests, modeling of aquifer system. Introduction to design of dams, reservoirs, spillways, urban storm-water drainage and flood damage mitigation seawater intrusion in coastal aquifers. Water engineering design projects. Prerequisite: CVE 341.

CVE 467 Project Estimating, Planning and Control (3-1-3). Cost estimating for construction. Economic analysis and evaluation of engineering projects. Systems analysis, synthesis and optimizations. Applications to civil engineering projects. Introduction to investments, interest, financial mathematics and financing methods. Profit determinations. Factors influencing planning, design, execution and maintenance of engineering projects. Project estimating, planning and controls. Introduction to contracting, bidding and awarding. Labor and equipment costing and productivity. Job costs, project cost control. Materials procurement. Introduction to project management. Prerequisite: CVE322.

CVE 468 Systems Construction Management, Scheduling and Control (3-1-3). Basic elements of management of civil engineering projects. Roles of all participants in the process. Coordination with various authorities. Emphasis on contractual aspects, contract documents. Construction planning and scheduling. Supervision management, management organization, delegated duties and authorities. Project administration, work breakdown structure. Procurement schedule. Resources: labor, equipment, material, and plants; manpower-equipment schedule. Program of execution. Quality control systems. Quality assurance program, inspection formats and operations. Materials submittals. Measuring and testing, safety and security, variations, claims, progress reports and bill of quantities. Settlement of disputes. Prerequisite: CVE322.

CVE 490 Civil Engineering Design Project I (0-3-1). An open-ended, in-depth design project of civil engineering significance that includes the design of a civil engineering system meeting desired objectives within one of the civil engineering practice areas. Students work under close supervision of one or more faculty members, preferably in a team environment. Students apply civil engineering principles to the design and preparation of the plans and specifications of a civil engineering project. This includes implementation throughout project work of analysis and design addressing: functions, loads, layouts of force systems, analysis, specifications, cost comparisons and maintenance. The project outcomes must demonstrate that students have attained the level of competency needed for entry into the civil engineering profession. Each student is required to complete a comprehensive assessment exam of engineering fundamentals. Prerequisite: senior standing.

CVE 491 Civil Engineering Design Project II (1-6-3). Continuation to CVE 490. Prerequisite: CVE 490

CVE 494 Selected Topics in Civil Engineering (3-1-3). Selected topics in the field of civil, environmental and urban systems engineering. Prerequisite: Topic specific.

CVE 496 Independent Study (1 to 3 credit hours). Involves investigation under faculty supervision beyond what is offered in existing courses. Prerequisite: Approval of instructor.

CVE/ARC 561 Construction Management (3-1-3). In-depth study of the interrelationships among the various professional disciplines in the building and construction industry as they pertain to issues of the management and planning of complex construction projects. Includes review of standard practices of tendering, contracting, quantity surveying, cost estimation, supervision, quality control and economy. Prerequisite: ARC 397 and ARC 461. (Taught in Civil Engineering.)

ELE Electrical and Electronic Engineering

ELE 211 Electric Circuits I (2-3-3). Physical concepts and mathematical analysis of electric circuits. DC, transient, and sinusoidal steady state analysis of circuits. Laboratory experiments and use of Pspice and MATLAB. Prerequisite: PHY 102.

ELE 212 Electric Circuits II (2-3-3). Magnetically coupled inductors and ideal transformer. Introduction to three phase circuits. Laplace transform, application of Laplace transform in circuit analysis. Frequency response analysis. Two port networks. Prerequisite: ELE 211.

ELE 225 Electric Circuits and Devices (2-3-3). Electrical quantities and variables. Circuit principles. Signal processing circuits. DC and AC circuit analysis. Diodes, transistors, operational amplifiers and digital devices. Microprocessors. Prerequisite: PHY 102. (Not open to electrical or computer engineering majors.)

ELE 241 Electronics I (3-0-3). Review of semiconductor physics. PN junction. Diode circuits. Special diodes. Bipolar junction transistor (BJT). Biasing, small signal analysis and design of BJT amplifiers. Biasing, small signal analysis and design of MOSFET amplifiers. Optoelectronic devices. Digital electronics. Prerequisite: ELE 211.

ELE 241L Electronics I Lab (0-3-1). Laboratory to accompany ELE 241. Co-requisite: ELE 241.

ELE 251 Electrical Energy Conversion (3-0-3). Magnetic circuits. Single phase transformer and equivalent circuit. Three-phase transformers. Basic concepts of electromechanical energy conversion. DC and AC machines. Prerequisite concurrent: ELE 212. (Prerequisite: ELE 225 for non-electrical engineering students only).

ELE 311 Electromagnetics (3-0-3). Vector algebra. Vector calculus. Electrostatic boundary conditions, magnetostatic fields. Magnetic materials. Maxwell's equations. Transmission lines. Prerequisite: MTH 205 and PHY 102.

ELE 321 Signals and Systems (3-0-3). Signals and systems, Classification and manuipulation of continuous- and discrete-time signals. Linear time invariant systems modeling. Convolution of discrete-time and continuous signals. Fourier representation of signals: Fourier series and Fourier transform. The discrete-time Fourier transform. Applications of Fourier representations. The Z-transform and analysis of discrete-time systems. Prerequisite: ELE 212 and MTH 221.

ELE 332L Measurements and Instrumentation Lab (0-3-1). Basic measurement concepts. Error and statistical analysis. Electrical measuring instruments. Field measurements such as displacement, temperature, pressure, flow level. Transducer interfacing. Digital instrumentation. Data acquisition and control. Noise reduction techniques. Prerequisite: ELE 341.

ELE 341 Electronics II (3-0-3). Operational Amplifiers. Power amplifiers. Frequency response characteristics of amplifiers. Feedback and stability. Oscillators. Active filters. Timing circuits. Digital to analog conversion (D/A). Analog to digital conversion (A/D). Prerequisite: ELE 241.

ELE 341L Electronics II Lab (0-3-1). Laboratory to accompany ELE 341 Prerequisite concurrent: ELE 341.

ELE 353 Control Systems I. (3-0-3). Mathematical models of systems. Feedback control system characteristics. Transient response analysis. Performance and stability of feedback control systems. Root locus analysis. Frequency response analysis. Design of feedback control systems. Prerequisite: MTH 205 and ELE 212.

ELE 353L Control Systems I Lab (0-3-1). Laboratory to accompany ELE 353. Prerequisite: ELE 353.

ELE 361 Communications I (3-0-3). Review of Fourier series, Fourier transform, and communication systems. Random variable and stochastic processes. Continuous wave modulation: amplitude modulation and angle modulation. Pulse modulation and sampling theory. Multiplexing techniques. Performance of various modulation schemes in the presence of noise. Introduction to digital communications. Prerequisite: ELE 321.

ELE 361L Communications I Lab (0-3-1). Laboratory to accompany ELE 361. Prerequisite: ELE 361.

ELE 371 Power Systems Analysis (3-0-3). Power system concepts and per unit quantities. Transmission line, transformer and rotating machine modeling. Steady-state analysis and power flow. Theory of symmetrical components and application to analysis of power systems during fault conditions. Power system stability. Prerequisite: ELE 251.

ELE 371L Electric Machines and Power Systems Lab (0-3-1). Test and analysis of electric power and machines devices and the design of systems using these devices. Prerequisite concurrent: ELE 371.

ELE 424 Digital Signal Processing (3-0-3). Treatment of sampling/reconstruction. Quantization. Discrete-time signals and systems. Digital filtering. Z-transforms. Transfer functions. Digital filter realizations. Discrete Fourier transform (DFT) and fast Fourier transform (FFT). Finite impulse response (FIR) and infinite impulse response (IIR) filter design. Digital signal processing (DSP) applications. Prerequisite: ELE 321.

ELE 426 Imaging Systems (3-0-3). Imaging techniques including: ultrasound imaging, convention X-Ray imaging, computerized tomography, magnetic resonance imaging, microwave imaging, thermal imaging, nuclear imaging, and other imaging techniques. For each of the addressed imaging techniques, the following is covered: radiation propagation and interaction with materials, generation and detection, image construction and reconstruction. Radiation protection. Prerequisite: ELE 311.

ELE 432 Medical Instrumentation I (3-0-3). Principles of medical instrumentation. Biomedical sensors and transducers. Temperature, displacement, acoustical, chemical and radiation measurements. Bio-potential amplifiers and signal processing. Origin of bio-potentials. Bio-potential electrodes. Measurement of bio-potentials such as ECG, EEG and EMG. Blood pressure measurements. Electrical safety. Prerequisite: ELE 341.

ELE 433 Medical Instrumentation II (3-0-3). Blood flow measurements. Respiratory system measurements. Chemical biosensors. Clinical laboratory instrumentation. Therapeutic devices. Prerequisite: ELE 432.

ELE 439L Medical Electronics Systems Lab (0-3-1). Data acquisition tools.

Medical signal processing. Biopotentials Amplifiers. Biopotentoals. Bioimpedance measurements. Blood pressure measurements. Respiratory measurements. Ultrasonic measurements. Electrical safety. Prerequisite concurrent: ELE 432.

ELE 444 Control Systems II (3-0-3). State-space modeling and analysis. Controllability and observability. State feedback design and pole placement. Dynamic observers and output feedback design. Stability analysis. Prerequisite: ELE 353.

ELE 451 Wireless Communications (3-0-3). Overview of wireless networks, design considerations of cellular systems, frequency reuse, multiple access interference, wireless channel characterization: Rayleigh fading, shadowing, modulation techniques for mobile radio, diversity schemes, multiple access techniques, wireless systems and standards such as GSM, IMT-2000. Prerequisite: ELE 361.

ELE 452 Digital Communications (3-0-3). Model of digital communication systems. Base-band transmission and line coding techniques. Geometric interpretation of signals. Band-pass transmission and digital modulation techniques. Optimum detection of known signals in AWGN channels. Error correcting codes. Modulation and coding trade-off. Inter-symbol interference. Synchronization. Prerequisite: ELE 361.

ELE 453 Microwave Engineering (3-0-3). Electromagnetic plane waves. Microwave transmission lines. Smith charts and stubs. Microwave waveguides and components. Microwave measurements and applications. Microwave generators. Prerequisite: ELE 311.

ELE 454 Antennas and Wave Propagation (3-0-3). Radiation pattern. Directivity and gain. Half-power beamwidth and beam efficiency. Antenna bandwidth, polarization, input impedance and radiation efficiency. Wire antennas, loop antennas, array antennas, aperture antennas, reflector antennas. Prerequisite: ELE 311.

ELE 455 Digital Image Processing (3-0-3). Basics of digital images. Image transforms. Image enhancement. Image point processing and filters. Image restoration. Image compression. Image segmentation. Edge detection and thresholding. Prerequisite: ELE 424.

ELE 457 Satellite Communications (3-0-3). Technical and economical aspects of satellite communication. Design considerations of low, medium and high power transponders. Antenna types, and ground station design. Prerequisite: ELE 361 and ELE 311.

ELE 458L Communications Systems Lab (0-3-1). Practical aspects of digital communications, antennas and microwave engineering. Pulse code modulation (PCM), modulation schemes, pulse shaping, noise effects, optical fiber link, time division multiplexing, antenna parameters measurements, microwave reflection and transmission parameter measurements. Satellite receiver operation and troubleshooting. Prerequisite: ELE 311 and ELE 361.

ELE 459 Introduction to Radar Systems (3-0-3). Nature of radars. Radar antennas. The radar equation. Range prediction. Minimum detectable signal and receiver noise. Radar cross section of targets. CW and FM-CW radars. Moving target indicator and pulse doppler radars. Tracking radars. Remote sensing. SLARs and SARs. Prerequisite: ELE 311.

ELE 471 Digital Control Systems (3-0-3). Discrete-time systems and the Z-transform. Sampling and reconstruction. Open-loop and closed discrete-time systems. System time-response characteristics. Stability analysis techniques. Digital controller design. Prerequisite: ELE 353.

ELE 472 Nonlinear Control (3-0-3). Analysis of nonlinear systems. Phase plane analysis, limit cycle, describing function and its applications. Stability analysis of nonlinear systems using Liapunov, input/output and asymptotic methods. Design methods of nonlinear controllers: linearization, absolute stability theory, sliding modes and feedback linearization. Prerequisite: ELE 353.

ELE 473 Industrial Instrumentation and Control (3-0-3). Review of measurements systems. Field instrumentation. Input/output instruments characteristics. Instruments grounding and cabling techniques. Signal processing and transmission. Smart sensors. Data acquisition and display. General purpose control devices. Programmable logic controllers and industrial controllers. Closed control systems analysis and design. Introduction to distributed control systems. Prerequisites: ELE 332L and ELE 353.

ELE 476L Instrumentations and Control Systems Lab (0-3-1). Review of measurement systems. Field instrumentation. Input/output instrument characteristics. Instrument grounding and cabling techniques. Signal processing and transmission. Smart sensors. Data acquisition and display. General purpose control devices. Programmable logic controllers and industrial controllers. Closed control systems analysis and design. Introduction to distributed control systems. Prerequisites: ELE 353L and ELE 332L.

ELE 481 Power System Protection (3-0-3). Fuses. Voltage and current transducers. Fundamental relay operating principles and characteristics. Over current protection. Comparators and static relay circuits. Differential protection and its application to generators, transformers and bus bars. Motor protection. Pilot wire protection of feeders. Standard protective schemes for system coordination of relays. Prerequisite: ELE 371.

ELE 482 Electric Power Distribution Systems (3-0-3). Concepts and techniques associated with the design and operation of electrical distribution systems. Load characteristics. Distribution substations. Choice of voltage levels. Loss minimization and voltage control. Calculation of impedances of unbalanced three-phase systems. Analysis techniques of radial systems. Prerequisite: ELE 371.

ELE 483 Power System Operation (3-0-3). Introduction to economic operation of power systems. Techniques for stability analysis. Introduction to methods used in the real time operation and control of power systems. Prerequisite: ELE 371.

ELE 484 Control of AC Machines (3-0-3). Dynamic models of three-phase AC machines. PWM inverters. Scalar control of induction machines. Principle of field orientation. Flux estimators and observers. Vector control of induction and permanent magnet synchronous machines. Prerequisite: ELE 251 and ELE 353.

ELE 485 Power Electronics (3-0-3). Electric power conditioning and control. Characteristics of solid state power switches. Analysis and applications of AC power controllers, controlled rectifiers, DC

choppers and DC-AC converters. Prerequisites: ELE 251, ELE 241 and MTH 205.

ELE 486 Electric Drives (3-0-3). Application of semiconductor switching power converters to adjustable speed DC and AC motor drives. Steady state theory and analysis of electric motion control in industrial, robotic and traction systems. Prerequisites: ELE 251, ELE 241, and MTH 205.

ELE 487 Power Quality and Harmonics (3-0-3). Causes, analysis and solutions of poor power quality problems. Analysis of voltage sag and voltage surge. Surge protection. Harmonic effects and control. Harmonic filter design. Typical wiring and grounding problems. Monitoring of power quality. Application of standards. Prerequisite: ELE 371

ELE 488L Power Engineering Lab (0-3-1). Various power systems and power electronics applications including issues related to power transmission and distribution and adjustable speed motor drives. Prerequisite: ELE 371 and ELE 371L.

ELE 490 Electrical and Electronic Engineering Design Project I (0-6-2). Introduces design methodology in electrical engineering through lectures and an open-ended, in-depth design project of significance in electrical or electronic engineering. The project includes the design of a system process or component to achieve the functional objectives representative of problems encountered by practicing electrical engineers. Students work in teams to define, complete, validate and document their design project. They will work in close accord with one or more faculty members. The course emphasizes engineering ethics and communication skills. Each student is required to complete a comprehensive assessment exam of engineering fundamentals. Prerequisite: Senior standing.

ELE 491 Electrical and Electronic Engineering Design Project II (0-6-2). Continuation of ELE 490. Prerequisite: ELE 490.

ELE 494 Selected Topics in Electrical Engineering (3-0-3). Selected topics of current interest in electrical and electronic engineering. Prerequisite: Topic specific.

ELE 496 Independent Study (1-3 Credit hours). Study of topics relating to the special needs and interests of an individual student. Prerequisite: Approval of instructor.

MCE Mechanical Engineering

MCE 215 Engineering Drawing and Workshop (1-6-3). Orthographic projections of machine elements, auxiliary views, section views, dimensioning, fits and tolerances, detailed and assembly drawings, computer aided drafting using commercial computer-aided design software. Introduction to using basic machines and developing hand skills in the workshop, safety in the workshop; basic hand tools, basic machining operations, welding, casting, woodwork, sheet metal work, measuring instruments.

MCE 220/CVE 220 Statics (2-2-3). Fundamental concepts and principles of mechanics, vectors and force systems. Concepts of free-body-diagram. Principles of equilibrium of particles and rigid bodies in two and three dimensions. Analysis of structures: trusses, frames and machines. Shear and bending moment in beams, center of gravity, centroids and area moment of inertia. Friction. Prerequisite: PHY 101.

MCE 222 Dynamics (2-2-3). Fundamental concepts of kinematics and kinetics with application to motion of particles and plane motion of rigid bodies. Rectilinear and curvilinear motion of particles. Newton's second law, impulse and momentum methods. Impact, dynamics of systems of particles. Kinematics of rigid bodies. Plane motion of rigid bodies. Forces and accelerations. Energy and momentum methods. Prerequisite: MCE 220.

MCE 223/CVE 223 Mechanics of Materials (2-2-3). Stress and strain. Mechanical properties of materials. Axial load, torsion, bending and transverse shear. Combined loading. Stress transformation. Deflection of beams and shafts. Buckling of columns. Prerequisite: MCE 220.

MCE 224 Engineering Mechanics – Statics and Dynamics (2-2-3). Particle statics and dynamics. Vector mechanics. Free body diagrams. Two- and three-dimensional force equilibrium systems, rectilinear and curvilinear motion, Coriolis effects. Considerations of work and energy. Periodic motion. Prerequisites: MTH 104, PHY 101. (Not open to mechanical engineering or civil engineering majors.)

MCE 230/CHE 230 Materials Science (2-3-3). Introduction to material science, relationships between structure and properties of materials. Atomic bonding, crystalline structures, crystal defects and imperfections. Phase diagrams and equilibrium microstructural development. Mechanical properties of materials, alloys, polymers and composites. Electrical and magnetic properties of materials, semi-conductors and ceramics. Prerequisite: CHM 101.

MCE 231 Manufacturing Processes (2-3-3). Introduction to manufacturing methods of metals and plastics: metal casting, forming, machining, welding and plastic processing. Includes laboratory experiments and demonstrations. Prerequisites: MCE 215 and MCE 230

MCE 240/CVE 240 Fluid Mechanics (2-2-3). Fundamental concepts and properties of fluids: specific gravity, viscosity and surface tension. Fluid statics: pressure and its measurement, hydrostatic forces on submerged surfaces, stability of floating bodies. Basic equations of motion: continuity, momentum and energy equations, Bernoulli's equation. Measurement of static and stagnation pressure, velocity and flow rate in closed conduits and open channels. Flow in closed conduits (internal flow), laminar and turbulent flow. Flow over immersed bodies (external flow). Lift and drag. Dimensional analysis and dynamic similitude. Prerequisites: MTH 104 and MCE 220.

MCE 241 Thermodynamics I (2-2-3). Properties of matter, processes in fluids, energy and first law of thermodynamics, second law of thermodynamics, entropy and availability analyses, basics of vapor power and gas power cycles. Prerequisite: PHY 101.

MCE 311 Engineering Measurements (2-3-3). Basic concepts of measuring methods, static and dynamic characteristics of signals, types of errors, assessing and presenting experimental data, uncertainty analysis, measurement system behavior, sampling, digital devices and data acquisition, selection and use of temperature, pressure, fluid flow, force,

stress, strain, torque and power instrumentation. Lab experiments and demonstrations. Prerequisites: ELE 225 and MCE 240.

MCE 316 Kinematics and Dynamics of Machinery (2-2-3). Analysis and synthesis of linkages (displacement, velocity, acceleration and force analysis), cam-follower, gear train systems. Introduction to machine dynamics. Prerequisite: MCE 222.

MCE 321 Mechanical Design I (2-2-3). Stresses and deflection of engineering members. Statistical considerations in design. Steady and variable loading. Design of screws, fasteners and connections. Welded joints. Mechanical springs. Prerequisite: MCE 215 and MCE 223.

MCE 322 Mechanical Design II (2-2-3). Design of clutches, brakes and couplings. Power transmission equipment: shafts, axles and spindles. Flexible mechanical elements: flat and V-belts, wire ropes and chains. Rolling and journal bearings. Spur, helical, bevel and worm gears. Utilization of commercial computer aided design software. Design project. Prerequisite: MCE 321.

MCE 335 Computational Techniques (2-2-3). Use of computational techniques for solving engineering problems with the aid of a digital computer: error types and analysis, roots of nonlinear equations, solution of linear simultaneous equations, least square regression, interpolation, numerical integration and differentiation, numerical integration of ordinary and partial differential equations. Prerequisite: MTH 205.

MCE 341 Thermodynamics II (2-2-3). Energy system analysis including modified power cycles, refrigeration cycles, and air conditioning processes. Thermodynamic relations and development of thermodynamic properties. Thermodynamics of non-reacting and reacting mixtures, chemical reaction. Prerequisite: MCE 241.

MCE 344 Heat Transfer I (2-2-3). Mechanisms of heat transfer, steady-state conduction in various geometries, transient conduction, forced and natural convection, radiation, analysis of heat exchangers. Prerequisites: MCE 240 and MCE 241.

MCE 410 Control Systems (3-0-3). Mathematical models of systems, state variable models, feedback control system characteristics, performance and stability of feedback control systems. Root-locus method. Stability in the frequency domain. Design of feedback control systems. Introduction to control system design in the state space domain. Lab experiments and demonstrations. Prerequisites: MCE 222, MCE 311 and MTH 205.

MCE 418 Modeling and Simulation of Dynamic Systems (2-2-3). Introduction to multi-domain systems. Mechanical, thermal, fluid, electrical, electronic, electromechanical system dynamics, emphasis on modeling and simulation of hybrid systems using modern computer-aided tools. Prerequisites: MCE 222 and MCE 311.

MCE 423 Mechanical Vibrations (2-2-3). Systems with single and multiple degrees of freedom. Damped and undamped free vibrations, forced vibrations. Eigen values and eigen vectors of multiple degrees of freedom system. Prerequisites: MTH 205 and MCE 222.

MCE 430 Fundamentals of Computer-Aided Design and Manufacturing (2-2-3). Application of modern computer-aided graphics techniques and the use of state-of-the-art, computer-aided design/drafting packages. Topics include principles of computer-aided design/drafting and interactions with computer-aided manufacturing, creation of a drawing environment; database and file management, editing, modification, displaying, dimensioning, plotting and printing; special editing techniques; 3-d modeling, solid modeling, shading, and rendering; and file transfer. Utilization of commercial computer aided design software. Prerequisite: MCE 231 and MCE 322

MCE 435 Advanced Mechanics of Materials (2-2-3). Basic material properties and their use in design. Stress-strain-temperature relations, inelastic material behavior, energy methods, torsion of non-circular bars, non-symmetric bending of straight beams. Curved beam theory. Thick-walled cylinders. Prerequisite: MCE 321.

MCE 439 Computer Integrated Manufacturing (2-2-3). Introduction to the development of control systems. Developments in manufacturing systems. Programming principles of NC and CNC systems. Manufacturing cells. Flexible manufacturing systems. Control of flexible manufacturing systems. Prerequisite: MCE 231.

MCE 440 Advanced Manufacturing Processes (2-2-3). Analysis of the machining process, economics of machining, modeling of material deformation in metal forming operations, non-traditional manufacturing processes, plastic processing, powder metallurgy. Utilization of commercial computer aided design software. Prerequisite: MCE 231.

MCE 443 Introduction to Engineering Fracture Mechanics (2-2-3). Griffith criterion. Mechanisms of fracture and crack growth. Elastic crack-tip stress field. Plane stress and plane strain. R-curve and J-integral. Determination of stress intensity factors. Applications. Prerequisite: MCE 230 and MCE 321.

MCE 445 Energy Systems (2-2-3). Types of power plants and energy conversion systems, thermodynamics of power plants, combined power plants, system components, design parameters, plant evaluation, efficiency calculation methods, modifications to improve system performance, cogeneration plants, thermodynamics of cogeneration plants, system equipment, some practical schemes, power plants economics, design concepts, power plants control, and environmental impact of power plants. Prerequisite: MCE 341 and MCE 344.

MCE 446 Refrigeration and Air Conditioning (2-2-3). Introduction and classification of air conditioning systems, applied psychrometrics. Design of conventional and non-conventional environmental systems: air conditioning, refrigeration, control systems, and thermal energy storage. Prerequisite: MCE341 and MCE 344.

MCE 447 Internal Combustion Engines (2-3-3). Fundamental principles of engine operation and applications, including: cycle analysis, design, performance of combustion engines, operating characteristics of spark-ignition and diesel engines. Introduction to air-breathing engines, fuels, oxidants, and propellants; and combustion, dissociation, ionization, and engine emissions. Prerequisite: MCE 341.

MCE 448 Advanced Heat Transfer (2-2-3). Advanced conduction: basic equation

and boundary conditions, analytical and numerical solutions of transient 1-D conduction and steady 2-D conduction. Convection: basic relations of convection, analytical solutions of some simple flows (forced and natural convection). Heat transfer in condensing and boiling processes. Energy exchange by radiation. Advanced topics in radiation. Finite difference analysis of heat transfer problems. Prerequisite: MCE 344.

MCE 449 Renewable Energy Systems (2-2-3). Solar radiation. Collectors and concentrators. Solar heating for domestic and industrial uses. Passive heating and cooling of buildings. Solar refrigeration and desalination, solar pumping, solar electricity (PV-central receiver systems), solar ponds. Wind energy, statistical description of wind. Weibul distribution. Maximum power obtainable from the wind. Horizontal and vertical-axis wind turbines. Ocean tides. Ocean waves OTEC. Biomass and biogas. Geothermal energy. Economic evaluation of renewable energy systems and comparison with conventional and/or alternative power generating systems. Prerequisite: MCE 344.

MCE 450 Energy Conservation and Management (2-2-3). Analysis of Energy systems, including fossil fuels, steam, cogeneration, waste heat recovery, refrigeration and air conditioning systems, conservation in electrical load, lighting, building envelop, and insulation; economic energy analysis, energy auditing, monitoring and targeting, Technical approaches and analyses, control, and energy management systems. Prerequisite: MCE 341.

MCE 454 Electronic Heat Transfer (2-2-3). Mechanisms of heat transfer, conduction and convection in electronic components, thermal characteristics of chips, heat transfer in multi-chip module, flow field in packaging configuration, single fins and fin array heat transfer, and heat sinks. Prerequisite: MCE 344.

MCE 464 Introduction to Robotics (2-2-3). Overview of robotics. Robot coordinate systems. Direct and inverse kinematics. Introduction to manipulator dynamics. Robot sensors and control strategies. Introduction to force control and compliance. Requirement of digital control of robots. Prerequisite: MCE 311 and MCE 316.

MCE 466 Introduction to Mechatronics (2-3-3). Modeling and control of actuators and electro-mechanical systems. Mechanical engineering applications of microprocessors and analog electronics to modern mechatronic systems. Prerequisite: MCE 222 and MCE 311.

MCE 473 Applied Finite Element Analysis (2-2-3). Introduction to Finite Element Method (FEM) and its application in different mechanical engineering problems. Ttheoretical and computational basics of finite element method, element formulation and assembly of global matrices. Applications include: static loading of beams and beam structures, free vibration of beam and beam structures, 2-D plane stress and plane strain elasticity, and 2-D steady state heat conduction. Using a commercial FE software in solving various engineering problems. Prerequisite: MCE 321, Prerequisite concurrent: MCE 344.

MCE 477 Composite Materials (2-2-3). Advanced composite materials and applications. Stress-strain relationship for an orthotropic lamina. Laminate analysis. Static strength of laminates. Micro-mechanical analysis of laminae. Analysis of laminated beams. Design applications. Computer program applications. Prerequisite: MCE 223 and MCE 230.

MCE 480 Plastics and Plastic Processing (2-2-3). Properties and engineering applications of thermoplastic and thermosetting polymers, plastic manufacturing processes, equipment and mold design. Prerequisite: MCE 231.

MCE 482 Intermediate Fluid Mechanics (2-2-3). Compressible flow: fundamental concepts, isentropic compressible flow with area change, normal shock waves, performance of nozzles, frictional flow in constant-area ducts (Fanno flow), flow in constant-area ducts with heat transfer (Rayleigh Flow). Potential flow: stream function, velocity potential and solution of simple flows. Viscous flow: differential formulations, solution of simple flows. Introduction to numerical solution of 2-D viscous flows. Use of commercial CFD software. Prerequisite: MCE 240, MCE 241 and MTH 205.

MCE 487 Turbomachines (2-2-3). Classification of turbomachines, dimensional analysis, specific speed, model testing, basic laws. Incompressible flow turbomachines: centrifugal and axial flow pumps, Euler's theory, characteristics and laboratory testing, cavitation in pumps. Compressible flow turbomachines: centrifugal compressors and fans, surge and choking in a compressor stage, axial flow compressors and gas turbines. Prerequisite: MCE 240 and MCE 241.

MCE 488 Introduction to Computational Fluid Dynamics (CFD) (2-2-3). Discretization techniques and solution algorithms finite difference solutions to classical model equations pertinent to wave phenomena, diffusion phenomena, or equilibrium, boundary and initial conditions and stability considerations, application to equations of fluid mechanics and heat transfer, using software packages in solving CFD problems. Prerequisite: MCE 240 and MCE 335.

MCE 489 Fluid Power (2-2-3). Components of a fluid power system. Properties of hydraulic fluids. Hydraulic pumps. Fluid power actuators: hydraulic cylinders and hydraulic motors. Control valves. Applications of hydraulic circuits. Introduction to pneumatics. Prerequisite: MCE 240 or CHE 215.

MCE 490 Design Project I (1-3-2). An open-ended, in-depth design project of mechanical engineering significance that includes the design, manufacturing and testing of a complete system of current interest to mechanical engineering. Students work under close supervision of one or more faculty members in a team environment. Students are required to present their findings at the end of the project in the form of a seminar and in a formal written report. The project outcomes must demonstrate that students have attained the level of competency needed for entry in the mechanical engineering profession. Each student is required to complete a comprehensive assessment exam of engineering fundamentals. Prerequisite: Senior standing.

MCE 491 Design Project II (0-6-2). Continuation of MCE 490. Prerequisite: MCE 490.

MCE 494 Selected Topics in Mechanical Engineering (3-0-3). Selected topics that meet student interests and reflect recent trends in the field of mechanical engineering. Prerequisite: Topic specific.

MCE 496 Independent Study (1 to 3

Credits). Investigation under faculty supervision beyond what is offered in existing courses. Prerequisite: Approval of instructor.

NGN Engineering

NGN 110 Introduction to Engineering (1-2-2). Common concepts in each of the engineering disciplines at AUS. Selected engineering systems, subsystems, processes and devices used in each discipline. Introduction to engineering problem solving. Principles of engineering design processes. Introduction to engineering sketching. Role and responsibilities of engineers. Basics of time management. Selected laboratory exercises of different disciplines. Introduction to engineering ethics. Prerequisite: Admission to the School of Engineering.

NGN 111 Engineering Statistics (2-0-2) Summarizing data and descriptive statistics, designing experiments, sampling distributions, introduction to statistical inference (estimation and hypothesis testing), simple regression and correlation. Use of statistical software. Probability. Examples from the five engineering disciplines are presented. Prerequisite: NGN 110.

NGN 397 Professional Training (0) Minimum of six weeks of approved professional experience. Work undertaken must be documented in a formal report to the department by the beginning of the following term. Prerequisite: Approval of training coordinator for the major.

NGN 461 Management for Engineers (3-0-3). Engineers as managers. Nature of organizations. Functions of organizations. The tools of engineering management. Engineering organizational models including cluster and matrix organization. Leadership, team-work and creativity, personnel management, finance, communication skills. Ethical and professional standards. Introduction to total quality management. Case studies.

NGN 462 Engineering Project Management (3-0-3). Projects in engineering organizations. Project initiation. Effective project management. Project life cycle, planning and scheduling. Resourcing. Cost estimating. Project monitoring and control. Introduction to computer packages. Case study.

NGN 463 Quantitative Engineering Management (2-3-3). Models in operational management. Linear programming: formulation of linear programming models, and standard forms. Principles of the simplex method. Dual simplex method. Nonlinear programming problems. Use of linear and nonlinear problem solvers with applications in various engineering fields including network analysis, resource allocation, transportation problems, product mix applications. Term project.

NGN 464 Engineering Economics (3-0-3). Economics concepts and theories of planning. Bases and methods of economic analysis of engineering projects. Application of these principles in understanding economic activity of private and public engineering companies at various micro and macroeconomic levels.

NGN 465 Quality Control for Production Systems (3-0-3). Control charts and diagrams (types, construction, application and implementation). Control charts for variables, control charts for attributes. Acceptance sampling: lot by lot acceptance sampling by attributes, acceptance sampling plans and standards. Quality costs: product liability, quality improvement, implementation of quality control system. Quality engineering. Value engineering principles and applications.

NGN 494 Selected Topics in Engineering (3-0-3) Selected topics in interdisciplinary or disciplinary engineering fields. Prerequisite: Topic specific.