American
University
of Sharjah

AUS

Catalog
2004-2005

His Highness Sheikh Dr. Sultan Bin Mohammed Al Qassimi
Supreme Council Member, Ruler of Sharjah
Founder and President of the American University of Sharjah

Academic Calendar 2004 - 2005

Fall Semester		2004	
July	31	Saturday	Fall admission application deadline
August	26	Thursday	Residential halls open
	27	Friday	Parents' orientation (new students)
	28-31	Saturday-Tuesday	TOEFL and placement tests (new students)
	28-1	Saturday-Wednesday	Registration for all returning students
	29	Sunday	New students' academic and school orientation
September	4-5	Saturday-Sunday	Registration for all new students
	6	Monday	First day of class
	12	Sunday	Al Israa Wal Miraj' holiday*
November	10	Wednesday	Classes end for Eid Al Fitr holiday 10 p.m.*
	20	Saturday	Classes resume at 8 a.m.
	20	Saturday	Transfer students' application deadline for Spring 2005
	22	Monday	Last day to withdraw from a class without penalty
	30	Tuesday	Classes end for National Day holiday 10 p.m.
December	4	Saturday	Classes resume at 8 a.m.
	4-15	Saturday-Wednesday	Advising and registration for Spring 2005 classes
	25	Saturday	Christmas holiday
	29	Wednesday	Fall semester classes end 10 p.m.
January	2-9	Sunday-Sunday	Study and examination period
	5	Wednesday	Spring admission application deadline

Spring Semester		2005	
January	27	Thursday	Residential halls open
	28	Friday	Parents' orientation (new students)
	29-31	Saturday-Monday	TOEFL and placement tests (new students)
	29-31	Saturday-Monday	Registration for all returning students
	30	Sunday	New students' academic and school orientation
February	2	Wednesday	Registration for all new students
	5	Saturday	First day of class
	9	Wednesday	Al-Hijra' holiday (Islamic New Year)*
April	14	Thursday	Make-up classes for Saturday, May 21
	16	Saturday	Last day to withdraw from a class without penalty
	19	Tuesday	Classes end for spring break 10 p.m.
	23	Saturday	Classes resume at 8 a.m.
	28	Thursday	Make-up classes for Monday, May 23
May	15	Sunday	Transfer students' application deadline for Fall 2005
	18	Wednesday	Spring semester classes end 10 p.m.
	21-28	Saturday-Saturday	Study and examination period
June	9	Thursday	Commencement Day*

Summer Session		2005	
June	13	Monday	Summer and Fall 2005 registration
	14	Tuesday	First day of class
July	11	Monday	Last day to withdraw from a class without penalty
	25	Monday	Last day of class
	26	Tuesday	Study day
	27-28	Wednesday-Thursday	Final Exams

Islamic holidays are determined after sighting the moon. Thus, actual dates may not coincide with the dates in this calendar. In the event of loss of teaching days due to unscheduled closings, the semester(s) will be extended.

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Chancellor's Message

Welcome to AUS!

Your university experience can be the key that opens the door to a lifetime of opportunities for growth and service.

This catalog is designed to provide you with a straightforward description of the courses of study offered by the American University of Sharjah. AUS presents you with the chance to experience American education in the Gulf. That statement has four meanings that should be important to you. First, the curriculum is organized according to the American pattern of semesters and courses. Second, the method of classroom instruction is American in its emphasis on individual initiative, active learning and the application of knowledge. Third, the standard of instruction is comparable to that in good universities in America. Fourth, student life on the campus is rich with clubs, sports and cultural events. AUS feels like an American university.

You will find a special sense of excitement on our campus as we grow and mature. Faculty, staff and students are working together to create a great university. We are glad that you are a part of this effort to establish a new standard of academic excellence for the region.

We are proud to have earned full US accreditation as an independent institution. Our academic standards are challenging, but we are dedicated to helping you to meet those standards. We will judge our success as an institution by how well you do in realizing your potential as a student and in your professional life.

I invite you to explore our magnificent campus, utilize our state-of-the-art facilities, talk with students, interact with members of the faculty and staff, and discover for yourself why so many bright young men and women have made AUS their first choice.

Winfred Thompson, Chancellor

University Terminology

Academic Year	The part of the year defined by the fall and spring semesters, approximately the beginning of September through the end of May.
Academic Status	Determined by regulations governing good standing, probation and dismissal.
Add and Drop	A period of time beginning the first day of classes when students can adjust schedules by dropping or adding courses or changing sections of a course.
Admission	Formal application and acceptance as a regular student in a degree program.
Advisor	Faculty member assigned by the university to assist each student in planning the proper academic program. The student is called the advisor's "advisee."
Alumni	One who has attended and graduated from the American University of Sharjah.
Audit, Course	Permission to attend and participate in a course without benefit of a grade or credit.
Audit, Degree	Methodical examination and reviewing of students' compliance with their degree requirements.
Bachelor Degree	The traditional undergraduate degree.
Calendar, University	Annual listing of all official dates and deadlines for the academic year.
Catalog Year	Refers to the regulations published in that year's catalog. A student's catalog year denotes which specific set of regulations will apply to that student. Unless altered, a student's catalog year is the year when the student first matriculated to study at AUS.
Course	A unit of study that may utilize lecture, discussion, laboratory, recitation, seminar, workshop, studio, independent study, internship or other similar teaching formats to facilitate learning for a student.
Course Load	Total credits for which a student is registered in a given period.
Common Examinations	Examinations for courses with multiple sections scheduled at a common time at the request of the college/school.
Concentration	Sub-specialization within a major that allows a student to focus on a particular aspect of the major field of study.
Co-requisite	A course required to be taken simultaneously with another course.
Credit	Described in semester credit hours, a credit is commonly defined as the equivalent to a one-hour lecture or three hours of laboratory or recitation work per week for one regular semester.
Curriculum	A structured set of learning objectives contained in a specified set of courses.
Department	An academic unit of a college or school.
Dismissal	The involuntary separation of a student from the university for unacceptable conduct or unsatisfactory academic achievement.
Education Records	Records directly related to a student and maintained by the Office of the Registrar.
Elective Course	A course selected at a student's discretion with the approval of the advisor.
Extracurricular	Enrichment and leadership development activities that are part of student life but are not part of the academic program, such as student activities, athletics and music.
Fee	Charges for courses and services.
Full-Time Student	A student that is registered for 12 or more credit hours in a given semester.
General Education Requirement	University-wide requirement of the basic studies that form the foundation of all undergraduate degree programs.
Good Standing, Academic	Requires a cumulative GPA of 2.0 or higher.
GPA	Grade point average of the grades of AUS courses taken for university credit.

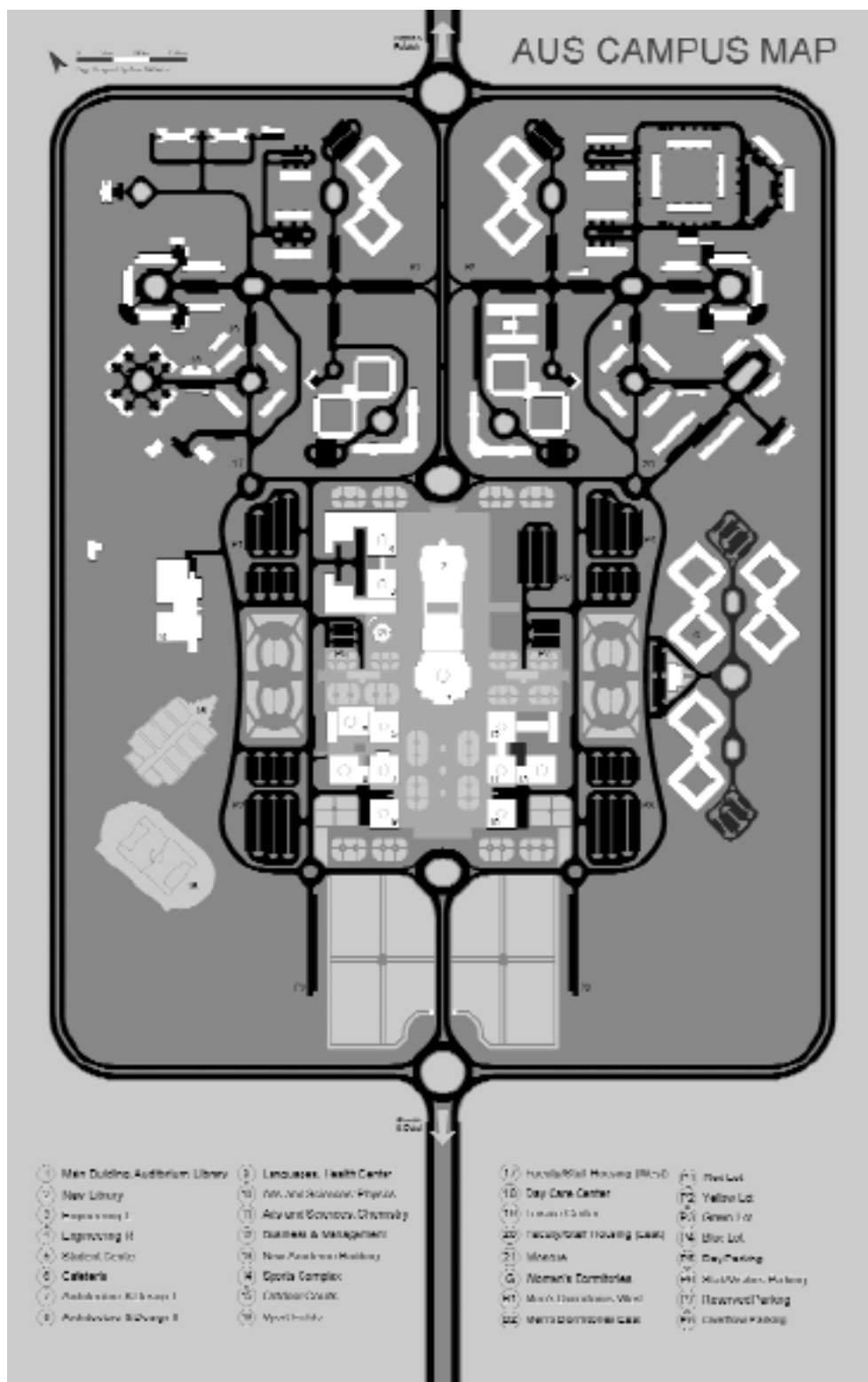|	
Grade Points	Numerical value associated with each grade.
Graduate Student	One that has completed an undergraduate degree and is pursuing postgraduate studies.
I.D. Card	University student identification card, showing name, photo and student identification number.
Independent Study	Voluntary individual research proposed by a student under the supervision of a designated faculty member.
Major	A student's principal field of study.
Matriculation	Enrollment as an admitted, degree-seeking student.
Minor	A secondary field of study requiring at least 18 credit hours.
Non-degree Student	Designation used for students who are enrolled in credit courses but are not currently pursuing a degree program.
Petition	A written request seeking a waiver of or an exception to a university regulation, policy or deadline.
Placement Test	A proficiency examination given to determine a student's ability in a subject where competence is an important consideration. Passing the placement test waives a student from the preparatory course.
Preparatory Courses	Those courses designated as 00X. Students are waived out of these courses by passing the placement test. Preparatory courses do not count in the credits earned toward a degree, but they do count in the grade point average.
Prerequisite	A course required to be completed before a certain course may be taken.
Prerequisite/Concurrent	A course and its prerequisite may be taken simultaneously.
Probation	A warning status resulting from the student's unsatisfactory academic achievement or conduct.
Probation, Academic	Status of any undergraduate who has less than a 2.0 GPA or any graduate student who has less than a 3.0 GPA.
Registration	The process of enrolling in classes.
Regular Student	A degree-seeking student who is officially admitted to the university.
Required Courses	Courses prescribed by the school or college necessary for the completion of a particular degree program.
Residence	A student's tenure within the university and/or specific college/school.
Semester or Term	Designated periods during which classes and exams are scheduled.
Schedule, Class	List of courses offered during a semester, including the names of the instructors and the days, hours and locations of classes.
Schedule, Student	A listing of the courses that the student takes each semester.
Transcript	A certified copy of the student's permanent academic record on file in the Office of the Registrar listing courses taken and final grade received.
Transfer Credit	Coursework completed at another institution that is accepted at AUS and which may be applicable toward a specific AUS degree.
Undergraduate	A student who is working toward completion of a bachelor's degree.
Visiting Student	A student of another accredited institution who receives permission to register (for up to two semesters) as a non-degree seeking student to earn credit to transfer back to his or her home institution.
Withdrawal	The act of officially leaving the university for reasons other than graduation. Students may withdraw from individual courses without withdrawing from the university.

Telephone Directory

P.O. Box 26666 Sharjah, UAE

UAE Code 971, Sharjah Code 6

www.ausharjah.edu

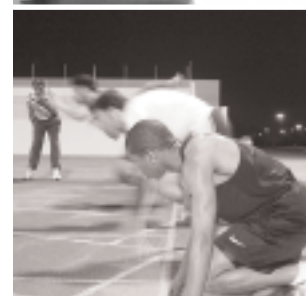| Department	Telephone	Fax	E-mail
Admissions	515 1000	558 5018	admission@ausharjah.edu
Career Advising and Placement Services	515 2036	515 2065	caps@ausharjah.edu
College of Arts and Sciences	515 2412	558 5067	deanofcas@ausharjah.edu
Continuing Education Center	515 2020	515 2050	cec@ausharjah.edu
Emergency	515 2222		
Finance	515 2185	515 2190	finance@ausharjah.edu
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School of Business and Management	515 2310	558 5065	deanofsbm@ausharjah.edu
School of Engineering	515 2948	515 2979	dosoe@ausharjah.edu
Student Accounts	515 2233/82	515 2190	studentaccounts@ausharjah.edu
University Health Center	515 2699	515 2690	clinic@ausharjah.edu

AUS CAMPUS MAP

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The University

Historical Preamble

The American University of Sharjah (AUS) was founded in 1997 by His Highness Sheikh Dr. Sultan Bin Mohammed Al Qassimi, Member of the Supreme Council of the United Arab Emirates and Ruler of Sharjah. Sheikh Sultan articulated his vision of a distinctive institution against the backdrop of Islamic history and in the context of the aspirations and needs of contemporary society in the UAE and the Gulf region.

AUS was mandated to:

- Reinforce the efforts of the leaders of the UAE "to ensure that science and education regain their rightful place in the building and advancement of our society and shaping the lives of our children"

- Join other institutions of higher education in seeking "to reshape fundamentally the minds of our youth to enable them to address the challenges of life using the scientific method"

- Become a "center of research for educational development and the solution of social problems"

- Become "organically linked" to the economic, cultural, scientific and industrial sectors of society in "productive cooperation"

- Exercise the "independence and objectivity in teaching and research" necessary for the achievement of these goals.

Mission Statement

The American University of Sharjah (AUS) is a not-for-profit, independent, coeducational institution of higher education formed on the American model:

- AUS will offer academic programs that are the equivalent in content and quality to those offered by leading institutions of higher education in the United States.

- AUS will admit students solely on the basis of their academic qualifications regardless of race, color, gender, religion, disabilities, age or national origin. The creation of a multicultural, coeducational, international academic community is both a means and an end

in the mission of the university.

- AUS will provide students with a rich and varied campus life that fosters their personal growth and supports their transition to responsible adulthood in a rapidly changing world.

- AUS will integrate liberal studies and professional education to give its graduates both breadth and specialization.

- AUS will give its students access to the resources of art, literature and religion accumulated by earlier generations in various civilizations as well as mastery of the latest technical skills required for success in modern life.

- AUS will give its graduates an education that enables them to comprehend the dynamism and complexity of contemporary global processes and empowers them to guide those processes in constructive directions.

- AUS will adapt the model of the great American universities of the 20th century to the cultural setting of the Gulf in preparation for serving the educational needs of a new century.

Overview

Introduction

American University of Sharjah (AUS) was founded in 1997 by His Highness Sheikh Dr. Sultan Bin Mohammed Al Qassimi, Member of the Supreme Council of the United Arab Emirates and Ruler of Sharjah, who envisioned AUS as a leading educational institution in the Gulf region. American University of Sharjah is an independent, not-for-profit, coeducational institution. Although consciously based upon American institutions of higher education, AUS is expected also to be thoroughly grounded in Arab culture and to be part of a larger process of the revitalization of intellectual life in the Middle East.

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 is emerging as a leading comprehensive coeducational university in the Gulf, serving students from the Gulf region and around the world. AUS students are introduced to a culture of high aspiration and achievement to aid them in leading productive and meaningful lives. Its aim is to meet the educational needs of its diverse student population. 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.

In keeping with its mission, AUS offers students 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 future leaders with a firm understanding of how society has reached its present state.

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 facilities have been designed to accommodate 4,000 students. There are 21 bachelor's degrees, 21 minors, six master's degrees and six graduate certificates offered by the faculty of the College of Arts and Sciences and three schools: Architecture and Design, Business and Management, and Engineering.

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 conducted in English.

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.

AUS was established as an "American" university not only in its formal academic and organizational

characteristics but also in the recognition that the total culture and philosophy of the educational community is as significant as the formal program of studies. Students learn the lessons of the classroom and the lessons of life in a coeducational, multicultural and multinational environment. From its inception, AUS was envisioned as a place that would "feel" like an American campus.

Accreditation and Licensure

American University of Sharjah is licensed in the United States by the Department of Education of the State of Delaware. It is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools (3624 Market Street, Philadelphia, PA. 19104, 215-662 5606). AUS is also licensed by the Ministry of Higher Education and Scientific Research of the UAE, and all programs are recognized by the ministry and have been awarded either accreditation or accreditation-eligible status.

The Campus Complex

American University of Sharjah is situated in University City located 16 kilometers (10 miles) from the center of Sharjah. The distinctive architecture of the domes and arches of the academic and administrative buildings is accentuated with graceful Arab motifs.

The center of the AUS campus comprises 10 academic buildings. The academic buildings house classrooms and lecture halls of various sizes; science, language, computer and engineering laboratories; workshops, digital studios and dark rooms; and offices for faculty, academic administrators and support staff. Currently, the library is housed on the top floor and mezzanine of the main building; construction has begun on a new state-of-the-art library building.

The campus includes 10 student residential halls, seven for men and

three for women, as well as a large Sports Complex and a Student Center. Approximately 50 percent of the student body lives in campus housing. Unlike most American campuses, faculty members and their families are required to live on campus. Thus, there is a large and continuous faculty presence at the heart of the campus, providing students with a learning and living environment and with opportunities for on-going interaction with faculty and their families.

The City of Sharjah

The location of the university enhances 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 shores 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 1998 UNESCO designation 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 23 museums with splendid collections of artifacts and art objects as well as exhibits on 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 expositions, including the annual book fair and the Sharjah Art Biennial. These resources permit AUS to broaden students' formal education in a way not possible elsewhere in the region.

On-Campus Services

Athletics and Recreation

The Sports Complex meets the needs of nearly all athletic interests. The indoor facilities include an Olympic-size swimming pool, fitness centers and courts for basketball, volleyball, tennis and squash. A soccer field, a cricket practice ground, and basketball, volleyball and tennis courts are located outside. The Student Center features a billiard room and an eight-lane bowling alley which is currently under construction.

The university's intramural sports program complements students' academic, social and cultural education. Involvement in intramural sports activities is a wonderful opportunity for students to develop new friendships and enjoy the benefits of exercise.

Banking Services

Located in the Main Building, the National Bank of Sharjah offers banking services such as checking and saving accounts, ATM transactions and transfer of funds.

Bookstore

Located on the ground floor of the Main Building, the bookstore sells all required textbooks, other books, art supplies, stationery, notebooks, gifts and many items essential for students.

Copy Center

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

Dining Services

Various hot meals and franchise foods, including Albert Abela, Burger King, KFC and Pizza Hut, are located on the ground floor of the Student Center. Most of these outlets offer campus delivery service. Additional food outlets featuring a variety of cuisines are being

constructed on the first floor.

Starbucks coffee shop and a bowling alley with an adjacent snack bar (under construction) are located in the lower level of the Student Center. The Internet Café, Dunkin Donuts and Baskin Robbins are located in the student lounge.

Most residential halls are equipped with kitchenettes, which include refrigerators and hot plates, in addition to vending machines containing snacks and beverages.

International Student Service & Alumni Office (ISSA)

The ISSA Office provides essential support to international students before and after their arrival. Among its many tasks is to help international students comply with immigration rules and regulations during their time at the university. This division aids all international students with visa processing, including new students, transfer students and SIEP students. The ISSA also provides passport custody and medical test assistance. The ISSA also helps alumni stay connected to AUS through alumni association chapters and publications.

Lost and Found

The lost and found desk is located within the Student Activities Office in the Student Center. Items found are tagged and kept safely for those who have lost items on campus. Lost property may be collected between 10

a.m. and 10 p.m., Saturday to Friday. Proof of identity and, if necessary, ownership of the item will be requested. Those claiming items will also be asked to sign a form acknowledging receipt of the property.

Point of Sale (POS) System

Students can use their ID cards (Solo cards) for purchases at various AUS outlets through the Point of Sale (POS) System at no additional charge. To participate, a student must deposit an initial sum with the university cashier, who will credit that amount to his/her POS account. The POS system is very secure, and students may check their balances online.

Students can use their ID cards at the following AUS outlets:

- Bookstore
- Food outlets
- Starbucks
- Dunkin' Donuts
- Internet Café
- Leopard Mini-Mart
- Pharmacy
- Laundry service
- Bowling alley

Media and Printing Department

The Media and Printing Department is the AUS communications team. It promotes the university's visibility by cultivating relationships with the news media, creating publications, and developing and implementing

advertising campaigns. This department generates media coverage through press conferences, interviews and press releases. Additionally, the department writes, designs and produces the following publications: *Campus Report*, which is published monthly for the campus community; and *AUS News*, a quarterly publication distributed on and off campus. Updates to the university's website are coordinated between the Media and Information Technology departments.

Mini-Mart

The Leopard Mini-Mart provides a large variety of grocery items, fresh fruits and vegetables, and other household items. It is located on the lower level of the Student Center.

Parking and Transportation

Parking lots are provided on university grounds for faculty, staff and students free of charge. Vehicles must be registered with the Public Relations Department, and faculty, staff and students must 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 residential halls and other areas of campus. Students who wish to commute off campus may contact the Transportation Unit, which can provide transportation to the cities of Sharjah, Dubai, Abu Dhabi and Al-Ain. For more information on all routes and schedules, contact the Transportation Unit at 515 2171. The Transportation Unit also provides information on local taxi and rental car services.

Personal Services

A hairdresser is located in the women's lounge, and a barbershop is located on the lower level of the Student Center. Regular and dry-clean laundry services are available in both faculty housing areas.

Post Office and Mail Service

AUS provides a full-service post office on campus. 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. 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

Public Relations Department

The Public Relations Department ensures a good working relationship between the university and the local public and private sectors. It handles all official government documents and transactions for students, faculty and staff, including the processing of visas and residence permits, driving licenses, car registration, traffic violations and accidents. It also provides official letters that might be required by various government and/or private organizations. This department also issues AUS Identity Cards (IDs) and car stickers.

Security

The Security division is the recognized law enforcement agent on campus. It monitors security on the entire campus, including residential halls and all university-owned buildings, and works to ensure that UAE laws and AUS regulations are implemented. If a violation occurs, the security officers have the right to withdraw any ID.

This division oversees the campus traffic and parking system and is authorized to enforce all related regulations. It also provides security personnel 24 hours a day on university premises, including the residential areas, and for campus events when requested.

Student Accounts

All student financial transactions with the university are processed through the Student Accounts Office located on the mezzanine floor of the Main Building. Questions concerning student accounts should be directed to the Student Accounts Office by calling 515-2233 or sending email to studentaccounts@ausharjah.edu.

Travel Office

Located on the ground floor of the Main Building, the Travel Office offers efficient and cost-effective services designed to assist all AUS students, faculty and staff. The office handles all travel arrangements, negotiates the most favorable rates and provides information on special offers.

University Health Center

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. Depending on the severity of the illness, patients are referred to government or private hospitals for further treatment. An ambulance service is available for emergencies on campus. Great emphasis is placed on making the campus a healthy and safe place to study, work and live.

Health Services

- Primary healthcare to students, administrative staff, faculty and dependents (including 24-hour emergency care to residential halls and other campus residents). Consultations by internists, general practitioners, a dentist, a dietitian and a clinical therapist include basic examinations and basic medications.
- Basic investigations: blood sugar, blood grouping, sugar/protein in urine, ECG, pulmonary function test and 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 staff
- Group medical check-ups for UAE residency purposes in cooperation with the Ministry of Health

- Blood tests and vision acuity tests for driving licenses
- Assistance in 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 safety in the university labs and buildings
- Overseeing cleanliness and hygiene in the food outlets on campus
- Dental services as per the AUS plan for faculty, staff and dependents
- Health education: self-care, first aid and disease/accident prevention
- Fitness tests and certification for sports
- Medical laboratory
- Pharmacy

Health Insurance Plan for Students

As part of the registration procedures, every student must enroll in one of the 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 UAE Dirhams 50,000 for hospitalization and UAE Dirhams 7,000 for outpatient expenses
- Coverage throughout the UAE, not only on campus
- 20 percent co-pay on medicines
- UAE Dirhams 25 for consultation by 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 an internist, general practitioners, a dietitian and a dentist includes examination and basic medication
- Free basic investigation: blood sugar, blood grouping, sugar/protein in urine, ECG, pulmonary function test and sonography
- Free emergency dental services
- Dental services as per AUS Plan, Schedule C
- Laboratory services
- Emergency care and first aid (available 24 hours daily to residential halls and campus residents)
- Free ambulance services (available 24 hours daily to residential halls and campus residents)
- 20 percent co-pay on medicines
- 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 Facilities

The clinic is staffed with a highly qualified medical team, which includes an internist, two general practitioners (with pediatric and gynaecology/obstetrics experience), a dentist, an assistant dentist, a dental hygienist, a psychologist, a nutritionist, a clinical coordinator 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 the latest equipment: digital x-ray, intra-oral camera, etc.
- Fully equipped laboratory
- Fully equipped ambulance with an 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. UHC programs include lectures and awareness campaigns on health-related issues such as:

- First-aid training and CPR courses
- Substance abuse
- Mental health

University Resources

Academic Achievement Program

This program provides support to students through their transition to AUS. Academic achievement advisors within certain college/schools advise students individually and in groups on academic matters including study skills, time management, test-taking techniques and strategies regarding course selection. The program also works with academic advisors in developing a retention plan for students and in following the progress of students on probation.

Architecture and Design Facilities

The School of Architecture and Design uses a Macintosh platform in its digital classrooms and studios. Starting with the sophomore year, students benefit from personally assigned workstations in digital studios. Architecture and Interior Design students have dedicated individual work stations composed of drawing tables and desktop computer workstations with network connections. All students have 1:1 access to the 100 Mbs Ethernet. Dedicated ancillary spaces, which are shared by all programs, include digital classrooms and closed networked studios, a high-end Mac lab, a PC lab, input/output labs, a printmaking shop, lighting and photography labs, a woodshop, the Visual Resource Center, the Technical Equipment Center, a wet lab for 3-D making, the Material Resource Room, an exhibitions gallery and dedicated critique rooms. Multimedia, video and sound equipment are featured in the Advanced Digital Laboratory, which includes sound editing booths.

Career Advising and Placement Services (CAPS)

Located on the mezzanine floor of the Main Building, the Career Advising and Placement Service (CAPS) offers students and graduates comprehensive career services to enable them to make good decisions about their future.

CAPS works closely with industry in Sharjah and the other emirates in order to promote interaction between potential employers and AUS students and graduates. CAPS organizes corporate briefings, employer receptions and an annual Career Fair. It also provides information on full-time and part-time job opportunities, internships and summer employment. CAPS staff members help students prepare 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 abroad is also available. CAPS has a career resource library and is constantly updating its database of employers in the UAE and Middle East.

Centers for Learning Enhancement

AUS offers special help centers where students can seek assistance with their studies. In these centers, students gain the skills and insight they need to meet educational challenges and achieve success in their learning.

The centers are all program specific and students should contact the departments for information about how they may participate in the following programs:

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

The Writing Center provides individualized instruction for students

at all stages of the writing process and provides both computer-assisted and one-to-one instruction on grammar, organization and content. The center also teaches students how to proofread their own work.

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 (IT) Department is at the center of the university's computer needs and acts as its gateway to the Internet for academic purposes. The university's computer network uses fiber-optic cables that interconnect the entire campus, including the residential halls and faculty housing. IT serves the computer-related administrative, instructional, technical and research needs of students, faculty and staff.

Engineering Laboratories

The School of Engineering has approximately 30 undergraduate laboratories furnished with state-of-the-art equipment. All equipment and instruments are accessible to and extensively used by the students. The centralized computer laboratories have more than 100 computers. Some of the laboratories and key equipment are listed below.

Chemical Engineering has unit operation, software, environmental, petroleum, water, materials, fluid flow and heat transfer laboratories. Included are an automated thin film evaporator, ultraviolet reactors, bioreactors, distillation columns, absorbers, heat exchangers, dryers with proper data acquisition, desalination units and control units.

The Civil Engineering laboratories are designed for conducting standard construction materials, soil, rocks, water and environmental tests. The equipment includes Instron universal testing machines, a 2000-KN compression machine, a dynamic triaxial test MTS machine and earthquake motion recorders.

Computer Engineering has the following laboratories: two general purpose programming, digital systems, microprocessor, embedded systems, high-performance computer cluster, Java programming, computer network, software engineering, operating systems, senior projects, and database. Included are high-performance computers, embedded systems, programmable logic controllers, electronics accessories, and a wide variety of software packages.

The Electrical Engineering laboratories feature electronics, electric power, control, measurements, machines, communications, nondestructive testing and medical electronics equipment. Included are analog, digital and optical communications, DSP and telephony kits, oscilloscopes, power supplies, a transmission system, power analyzers, servo trainer, PLCs, an industrial robot, a spectrum analyzer, bio-potentials amplifiers, data acquisition systems, a safety analyzer, an antenna system and a satellite station.

Mechanical Engineering has laboratories for measurements and control, engine testing, advanced manufacturing, fluid mechanics, materials testing, mechatronics, vibrations, computer-aided engineering, refrigeration and air-conditioning, thermodynamics and solar energy. These laboratories include computer-controlled equipment such as a scanning-electron-microscope, a

universal testing machine and a CNC machining center.

Library

The AUS library occupies the third floor of the Main Building. The library's collection is growing by approximately 8,000 items per year and supports 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 features 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 or off campus. Using the library website, students and faculty can access a number of online periodical indexes, full-text journals and magazines. Students are taught how to use library resources in a computerized classroom. The library works in conjunction with all parts of the university in order to provide academic resources for all classes taught at AUS. A new 11,000-square-meter state-of-the-art library building is currently under construction. Further information regarding the library is available from http://library.ausharjah.edu.

Science Laboratories

The science programs benefit from up-to-date laboratories and equipment. Chemistry laboratories are equipped with standard chemical instrumentation, including balances, centrifuges, pH-meters, spectro-photometers, rapid

kinetic apparatus, and electrochemical and chromatographic equipment. Special labs for polymer chemistry are also available. The environmental sciences laboratory is equipped with the latest sampling and analytical devices, including atomic absorption and GC-MS and HPLC equipment. The physics laboratories are supplied with the most modern standard equipment, including computer interfaces, linear air tracks, photogates, smart timers, digitimers, signal/function generators, magnetic field sensors, a hall effect apparatus, lasers, spectral lamps, a photoelectric effect apparatus, Geiger-Muller tubes, radiation counters, interferometers, an h/e apparatus, a Frank Hertz apparatus, spectrometers, X-ray machines and a Millikan oil drop apparatus. The biology laboratories are equipped with the latest stereo and compound microscopes, a microtome, an autoclave, a laminar flow sterile hood, PAGE and agarose electrophoresis, cryostat and microtome units, and a work station with a computer connected to digital microscope cameras.

Translation Laboratory

The Department of English and Translation has a purpose-built interpreting facility with all the necessary equipment. Included are simultaneous interpreting booths, a consecutive interpreting table, Internet access and equipment for simulated video teleconferencing. This interpreting facility is also equipped with the latest technology and machine translation software, TRADOS and other Internet-based software.

Undergraduate Studies

Admissions

The American University of Sharjah places particular emphasis on quality education. Applicants are considered on the basis of their qualifications regardless of race, color, gender, religion, disabilities, age or national origin. The most qualified candidates are selected to fill the places available in any college or school.

The medium of instruction is English and a good command of the language, both oral and written, is essential for students to be successful at AUS.

For admission consideration, secondary school grades and university grade point averages (if applicable) must meet the minimum established standards as set by the university.

Furthermore, applicants with previous university/college experiences applying to AUS as first-year students will be considered only if they were in good academic standing in their previous university/college.

The university requires regular attendance at all classes, lectures, studios, laboratory sessions and seminars. Students are not permitted to pursue AUS degrees through correspondence or by merely passing university examinations. AUS does not offer any degrees by distance education.

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

> American University of Sharjah
> Office of Admissions
> P. O. Box 26666
> Sharjah, United Arab Emirates
> E-mail: admission@ausharjah.edu

General Requirements for Admission to AUS

Every applicant is required to submit the following documents:

1. An application for admission. Every item on the application must be completed.

2. An official secondary school certificate certified by the appropriate authorities

3. Official grade reports from the last three secondary school years certified by the appropriate authorities

4. An official high school transcript or university transcripts (for transferring students only)

5. Four recent photographs

6. A photocopy of the applicant's passport

7. A non-refundable application fee of UAE Dirhams 150

8. Test of English as a Foreign Language (TOEFL) score, if available at the time of applying

Applicants must score at least 173 on the International TOEFL in order to be admitted to an AUS college/school. Scores are only valid for two calendar years. Students who do not attain the minimum score but who otherwise meet AUS admission standards will be admitted to the Intensive English Program (IEP) at AUS. They must study for at least one semester in IEP and score the required 173 on TOEFL to be eligible to matriculate into their chosen field of study.

Note: The AUS TOEFL code is 0526.

Procedure for Applying

There are three types of admission procedures: early, regular and transfer. Regardless of the type of admission, all applicants must submit all documents needed to meet the general admission requirements.

Early Admission

A student in his or her final year of secondary school may apply for early provisional admission by submitting official transcripts from at least the two years previous to the final year of secondary school. Admission offered to students who apply early is not considered final until students submit a recognized and official secondary school certificate, or equivalent, showing the successful completion of a secondary education and all items as requested in the applicant's letter of admission. Students are not allowed to register for classes until the admissions process has been completed.

Regular Admission

A student who has completed his/her secondary school education and has a secondary school certificate may apply using the regular admission procedure. To do so, a student must submit the following documents:

1. A recognized and official secondary school certificate, or equivalent, and the grades of the last three years of secondary schooling showing grade averages and class rank, if available

2. Students who sat for national secondary school exit (final) exams must provide certified documentation of their results.

Deadlines for Regular Admission

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

Fall Semester	July 31, 2004
Spring Semester	January 5, 2005

Admission Deposit

All admitted students are required to pay a seat reservation deposit of UAE Dirhams 5,000 and a dorm room reservation deposit (if applicable) of UAE Dirhams 500. Both deposits are non-refundable and non-transferable to others and must be paid before an established deadline. If the student defers admission, both will be applied to the following semester's invoice.

Admission as a Transfer Student

Candidates transferring from institutions of higher education are eligible for consideration for admission subject to the following conditions:

1. They are in good academic standing (i.e., not on probation or dismissed from the institution from which they are transferring).

2. They are transferring from a recognized and accredited institution of higher education offering learning experiences equivalent to those offered at AUS and have successfully completed one or more semesters in that institution.

3. Prior to their admission to the institution from which they are transferring, they met the AUS requirements for admission.

4. They meet the English language proficiency requirements at AUS.

5. They submit official transcripts of their high school and college/university records along with the syllabi and descriptions of courses for which they seek to transfer.

6. They achieved at their institutions a minimum cumulative grade point average (CGPA) as required by AUS for that type of institution.

The complete transfer policy is available from the Office of Admissions.

In addition to the official transcript and the syllabi and descriptions for courses students seek to transfer, some programs may require students to submit samples of their work, assignments and/or examinations. Students who seek transfer credits for studio courses are advised to provide a portfolio of completed coursework in photographic, digital or original format. No engineering or computer science courses will be transferred from academic programs not recognized by ABET (Accreditation Board for Engineering and Technology).

Depending on the university/college from which the student is transferring, transfer applicants may be given transfer credit for courses required for their majors if they obtained no less than a B (3.0) grade in those courses. For courses that are not required for majors, transfer credits may be given for those courses in which the applicant received a C (2.0) grade or higher (from four-year colleges only) and on condition that those courses are approved for a degree at AUS. Courses identified as equivalent in content and level to AUS courses will be transferred as the equivalent AUS course. Other appropriate university-level courses may be transferred as free electives or as unassigned courses in the relevant area of the general university requirements. The decision regarding credits awarded is made solely by the appropriate academic division dean/chairperson at AUS. Transcripts will be evaluated once only. Transfer students must complete their transfer file and be awarded transfer credits during their first semester at AUS.

Courses taken more than five years prior to matriculation as an undergraduate student at AUS are not transferable. Furthermore, at the time of graduation, no course can be more than eight years old if it is to be counted toward the awarding of a degree. Of the total credits required for a degree, a maximum of 50 percent of the credits required at AUS for graduation may be transferred.

Deadlines for Transfer Applicants

All transfer applications along with materials for evaluation of transferable courses must be on file in the Office of Admissions by the following dates:

Fall Semester   June 23, 2004

Spring Semester   December 8, 2004

Courses will not be evaluated for transfer until the official transcript, syllabi and requested work samples are submitted to the Office of the Registrar. The deadline for admitted students to submit these documents to the Office of the Registrar is:

Fall Semester 2004   July 17, 2004

Spring Semester 2005 December 22, 2004

Summer Session 2005   May 15, 2005

Fall Semester 2005   July 20, 2005

Non-Degree Admission

Non-degree status is the designation used for students who are enrolled in credit courses at AUS but who are not currently pursuing a degree program. Some students begin their studies in non-degree status while others do not wish to pursue a degree program. To be considered for admission, an applicant must meet the same minimum admission criteria established for regular admission and must submit a regular student application with all the required documents to the Office of Admissions on the dates assigned for regular full-time students. American University of Sharjah students who have not completed their degree programs and students who have been dismissed from the university are not allowed to register with non-degree status.

Visiting Student Admission

A visiting student is one who is not formally admitted to the American University of Sharjah but is allowed to take courses at AUS for transfer back to their home institution. Applicants seeking visiting student status must submit a visiting student application (available from the Office of the Registrar), an official university transcript and a letter of good standing to the Office of the Registrar. Applicants studying at community colleges in the United States or universities outside the USA must also submit their International TOEFL results. TOEFL may be waived if appropriate communication courses have been successfully completed. If the application is approved, registration is completed through the Office of the Registrar pending available seats. Normally, a student is not allowed to register as a visiting student for more than one academic year. Visiting students should check with their home institutions about the transferability of AUS credits to their programs.

Applicants with Disabilities

Depending on available facilities, the university provides special services to applicants with certain disabilities. Those who need special services are requested to contact the Dean of Student Affairs. This information will be treated confidentially.

Important Notes
- *Students who need visas should apply at least one month before the established deadlines.*
- *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.*

Recognized Secondary School Certificates

Secondary school certificates are awarded either by ministries of education or by private schools and institutions. AUS recognizes certificates awarded by ministries of education and certificates awarded by private secondary schools that are recognized

by their host country. The university also accepts certificates awarded by recognized qualification authorities, international boards and national boards. Some countries award two levels of secondary school certificates. In this case, the university recognizes the higher certificate.

Examples of Secondary School Certificates

AUS' minimum admission requirements depend on the applicant's type of secondary education program and certificate. In all cases, for non-vocational certificates, only subjects classified as academic are accepted for admission consideration and the calculation of averages. The minimum required average is the equivalent to 70 percent or more in the best two of the last three years or 70 percent or more in the final year (national exams only) of secondary education. The following is a list of common certificates and the corresponding minimum levels of performance required for consideration for admission to AUS. These certificates and levels of achievement serve as guidelines for admission to AUS and may differ from other institutions or the standards that are generally accepted in an applicant's native country. The university may consider other types of secondary school certificates.

1. National General Secondary School Certificates:

   Arts or Science Track: Must have a minimum average equivalent to 70 percent or more in the best two of the last three years or 70 percent or more on the final year national exam

2. American-style High School Diploma: Minimum 2.0 CGPA (or equivalent) on a 4.0 scale (only subjects classified as academic are considered in the calculation of the CGPA)

3. International Baccalaureate (IB):

   Must complete any six subjects, with at least three at the higher level. The School of Engineering requires mathematics or physics at the higher level

4. Lebanese Baccalaureate: Completion of Part II required

5. French Baccalaureate or equivalent: Completion of Part II required.

6. Pakistani Board(s) Certificates: Higher Secondary School Certificate (Part II)

7. Indian Board(s) Certificates: Senior Secondary School Certificate (12th Standard)

8. Iranian Certificate: Completion of pre-university year

9. German Abitur: Minimum average of four required

10. IGCSE, GCSE, GCE:

   a. Minimum of 11 years of schooling (School Leaving Certificate must be provided.)

   b. Minimum of eight different subjects with at least a grade of C for each subject

   c. Students who complete advanced supplementary (AS-level) and advanced level (A-level) are given preference in admissions considerations.

   d. Only subjects classified as academic, including arts and creativity group subjects, will be accepted for admission consideration. Subjects submitted must include at least four different groups such as languages, science, mathematics, arts and design, humanities, social studies, etc. Some

majors require subjects in specific groups for admission consideration.

For admission consideration, secondary school grades must meet the minimum established standards as set by the university. Admission to the university is competitive, and the actual minimum score for admission will depend on the number of qualified applicants and the number of available places. Other program-specific requirements or restrictions may apply.

Advanced Standing

Students who achieve a minimum grade equivalent to B in the IB Higher Level, GCE A-Level, the Lebanese Baccalaureate, the French Baccalaureate, the German Abitur or the American Advanced Placement tests may be awarded course credits for some courses.

Program Admission Requirements

Certain types of secondary school certificates are accepted only for specific programs at AUS.

Literary Certificates

Admit to only the following:

1. College of Arts and Sciences, except for the Environmental Sciences major
2. School of Architecture and Design, except for the Architecture and Interior Design majors
3. Any major offered by the School of Business and Management

Scientific Certificates

Admit to any of the three schools or the College of Arts and Sciences.

Technical and Vocational Secondary School Certificates

Highly motivated and academically qualified students may be admitted to a major that corresponds to the nature of the technical or vocational secondary school program.

Placement Tests

All freshman applicants who attain the minimum score or higher on the TOEFL are required to sit for placement tests appropriate for their intended majors as shown in the chart below. No student is allowed to sit for the placement test more than once.

Preparatory Courses

Students who score low on a particular placement test are placed in an appropriate preparatory course (i.e., XXX 001, XXX 002, XXX 003). The course's final grade counts toward the cumulative grade point average, but the course's credits do not count toward degree credits. A failing grade in a preparatory course cannot be changed in the student record by passing the placement test at a later date.

Registration

Orientation Program

Prior to registration, an academic orientation is scheduled for all new students to inform them of the university's general academic regulations, policies and services. Also, each college/school has an orientation to present students with its specific regulations and assist them with their registration process at AUS. During orientation, the Office of Student Affairs provides an introduction to university life through campus tours and visits, meetings, lectures, demonstrations and other activities. Attendance at these programs is mandatory for all new students.

Registration Procedures

The Office of the Registrar publishes a registration guide that is available to every student before the registration period begins. The guide provides pertinent information and indicates the registration steps along with the place, date and time for each step. A continually updated list of courses offered is posted on the AUS website. Students should carefully read the registration guide as they prepare for registration.

Registration involves three main steps:

1. Advisement and consultation
2. Selection and registration of courses
3. Payment of fees

Registration by way of proxy is not permitted. New students must make sure that all documents required for finalizing their admission, particularly those indicated in the letter of admission, are submitted to the Office of Admissions before registration begins.

AUS accepts the following fee payment methods:

- Cash in UAE Dirhams only
- Checks drawn on local banks in UAE Dirhams
- Banker's drafts
- Credit cards
- Direct transfers to the National Bank of Sharjah (Account No. 0029-200170-001). The student's name and ID number must be noted on the transfer.

Students are not allowed to defer fee payments until after the registration period except with special permission. Exceptions are made only if the following conditions are met:

- A letter is submitted to the Office of Student Accounts by the student's sponsor explaining the reasons for the inability to pay the full fees at registration. This letter must be received before or during the registration period.
- At least 50 percent of the full amount due is paid before or during the specific registration period.
- Approval for deferment and terms of payment are stated in writing and signed by the authorized university official.

A charge of UAE Dirhams 500 is added to the amount due if a check is returned due to insufficient funds.

Transfer Student Registration

Transfer students cannot register for subsequent courses if their transferred courses do not meet the prerequisite requirements. Transfer students must

Major	English	Arch. Math	Science/ Eng'g Math	Bus. Math	Physics	Computer
Environmental Sciences	Yes	No	Yes	No	Yes	No
Arts and Sciences (all other majors)	Yes	No	No	Yes	No	No
Architecture/Interior Design	Yes	Yes	No	No	No	No
Multimedia/Visual Communication/Design Management	Yes	No	No	Yes	No	No
Economics/Public Administration	Yes	No	No	Yes	No	No
Business (all other majors)	Yes	No	No	Yes	No	Yes
Computer Science	Yes	No	Yes	No	Yes	Yes
Engineering (all majors)	Yes	No	Yes	No	Yes	No
Undeclared Major	Yes	No	*	*	*	*
The appropriate placement test must be taken before a student can enroll in the first-year course.						

complete their transfer file and be awarded transfer credits during their first semester at AUS.

Non-degree and Visiting Student Registration

Applicants given non-degree and visiting student admission status may enroll in any university course for which they have the necessary academic background and qualifications. These students must register for courses through the Office of the Registrar and must pay the same fees and charges as regular students. In courses with enrollment limits, priority is given to students pursuing degree programs.

Academic Standards and Regulations for Non-degree Study

Non-degree students are held to the same academic standards as degree students and must maintain a 2.0 GPA to continue to take classes at AUS.

Audit Registration

A person who has been admitted to the university and who wishes to attend a class but does not wish to participate, take examinations, receive a final grade or receive credit for the course may register to audit the class with the permission of the instructor. Registration is managed through the Office of the Registrar. A student is not required to take or to pass examinations in a course that he/she audits. The instructor may establish standards of class participation and attendance that must be met if a student is to remain in audit status.

Changes to or from audit status must be made before the last day of add/drop period. Tuition and fees for audit students are the same as those for students registering for credit. In courses with enrollment limits, priority is given to students pursuing degree programs.

Change of College or Major

Students seeking to change their major within their college/school or to change their college/school must complete the appropriate form available from the Office of the Registrar. Requests for a change of major or change of

college/school should be submitted to the Office of the Registrar at least two weeks before the registration time and not later than the last day of the add/drop period of the affected semester. Requests submitted after the deadline will be effective the next semester the student is registered. To be eligible for a change of major, a student must meet the requirements for admission to the new major, and the request must be approved by the dean of the new major.

Students transferring to Management Information Systems (MIS) must pay a minimum of four semesters of MIS tuition before graduation. Students transferring to Computer Science (CMP) and Computer Engineering (COE) must pay a minimum of six semesters of COE or CMP tuition. Those who declare or change their majors to MIS, COE or CMP near graduation time will be required to pay the difference in tuition retroactively. The graduation requirements for any individual student are determined by the catalog that is effective when the student joins the new major or the catalog of graduation. Refer to the college/school for transfer requirements.

Transferring from Non-degree to Degree Status

Students wishing to transfer from non-degree status to degree status may request to have their non-degree credits applied toward a degree program. To apply to a degree program, students must have completed 15 credits with a cumulative GPA of 2.0 and submit the appropriate application forms and supporting documents to the Office of Admissions. The university rules and regulations governing transfer courses and credits

will apply. The graduation requirements will be determined by the catalog that is effective when the student joins a major or the catalog effective the semester of the student's graduation.

Add and Drop

Students are allowed to add and/or drop courses during the first week of fall and spring classes. Such changes in courses are not recorded in the students' transcripts. Students interested in dropping or adding courses should first consult with their respective advisors.

Withdrawal from Courses

Students are permitted to withdraw from courses without penalty after submitting the appropriate withdrawal form. Students are expected to maintain a minimum of 12 credits, but, under special circumstances, may be allowed to drop below 12 credits. Withdrawal from courses must occur no later than the end of the 10th week of classes. A grade of W will be recorded on the transcript for the course from which the student has withdrawn but will not impact the student's GPA.

As of the 11th week of classes and up to the last day of classes, a grade of WF will be recorded for those who withdraw from a course. The student will receive 0.00 grade points for the WF, and this will be used in calculating the student's GPA.

Withdrawal from the University

In the event a student formally withdraws from the university, the following refund schedule will apply:

Withdrawal from the University*	
	Refund
One week before the first day of classes	100% excluding the place reservation deposit of new students
Before the end of the first week of classes	100% excluding non-refundable deposits
During the second week of classes	50%
During the third week of classes	25%
After the third week of classes	0%
Refunds for Summer Session withdrawals are prorated.	

University Divisions and Undergraduate Degree Programs

Bachelor's degree programs are offered by the four divisions of the university. Graduate degree offerings are listed in the Graduate Studies and Research section of this catalog. The undergraduate programs offered lead to the degrees listed below. Detailed information about concentrations within the majors is given in the catalog section of the college/school offering the major.

College of Arts and Sciences

- Bachelor of Arts in English Language and Literature
- Bachelor of Arts in International Studies
- Bachelor of Arts in Mass Communication
- Bachelor of Science in Environmental Sciences

School of Architecture and Design

- 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

School of Business and Management

- Bachelor of Arts in Economics
- Bachelor of Arts in Public Administration
- Bachelor of Science in Business Administration with possible concentrations in accounting, finance, management, marketing and management information systems
- Bachelor of Science in Finance
- Bachelor of Science in Management Information Systems

School of Engineering

- Bachelor of Science in Chemical Engineering
- Bachelor of Science in Civil Engineering
- Bachelor of Science in Computer Engineering
- Bachelor of Science in Computer Science
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Mechanical Engineering

University Degree Requirements

Students are governed by the following minimum requirements for the bachelor's degree. Each specific degree program has further major and major-related requirements that are detailed in the respective discipline sections of this catalog.

Caution*: The course offerings and requirements of the American University of Sharjah are under continual examination and revision for improvement. This catalog is not a contract; it merely presents the offerings and requirements in effect at the time of publication and in no way guarantees that the offerings and requirements will not change. The university specifically reserves the right to change requirements for any major during any particular year. The student assumes full responsibility for compliance with all academic requirements.*

The graduation requirements for any individual student are determined either by the catalog that was effective when the student matriculated in the major or the catalog effective for the academic year when the student graduates. If a required course within a program changes its number of credits, then the number of credits required by the program for graduation may, at the discretion of the college/school, change by the same amount provided the total number of credits for graduation remains at 120 or more. In case of major changes in course offerings, equivalent graduation requirements are determined by the dean.

Major Requirements

Each student in a degree program must complete at least 36 credits in the degree major and in related courses. A grade of C- or better is required for each major, major-related, university requirement or minor course. Course grades lower than C- in the major will have to be repeated. Some major requirements may count toward fulfilling general education

requirements. A minimum GPA of 2.0 in major required courses is required for graduation.

Specific grade requirements are listed under individual degree programs.

Declaration of Major

Normally, students declare their academic major by applying to a particular college/school and to a major program within that college/school for admission. If a student is admitted with an undeclared major, he/she must formally choose and declare a major by the end of his/her second year (sophomore year) in order to continue as an AUS student.

Interdisciplinary Majors

In addition to the established major programs, students may choose to construct their own major program leading to a bachelor's degree in Interdisciplinary Studies. To design and complete an interdisciplinary major, a student must have the approval of three faculty members who represent the various disciplines involved and the dean of the college/school.

Interdisciplinary major programs must include at least 42 credits, including 36 credits carefully selected to form an academically sound, unified and well-defined program and six credits in independent study for a senior thesis. At least 27 of the 36 credits must be upper level as defined by the teaching units that offer them.

A student must apply to the dean of the college/school in which he/she is enrolled for permission to undertake an interdisciplinary major. A maximum of 18 credits of work completed prior to the semester in which the application is made may be included in the program. The independent study for the senior thesis must be supervised by the major advisor and must be focused on the program's central concept.

Double Majors

To complete a double major, students must satisfy all the degree requirements of the two majors requested. Some courses may be counted toward the fulfillment of both degrees' requirements. At least 21 credits at the 300 and 400 levels must not be double counted. The student's diploma and transcript will indicate all majors completed at the time of graduation.

To declare a double major, a student must complete a form and submit it to the Office of the Registrar identifying the two majors. The catalog in effect for the student's primary major will be followed for the degree audit of the second major. One of the two majors must be designated as the primary major, but the student's rights and responsibilities are the same in both majors. If applicable, the higher of the two major tuition fees applies for the minimum number of semesters specified by AUS. The advisor of the primary major will serve as the student's registration advisor. Degree programs and audits are confirmed for each major by the appropriate department or college/school and the Office of the Registrar. One of the two majors may subsequently be cancelled using the same form. Those who declare a second major with higher tuition fees than the primary major will be required to pay the difference in tuition retroactively.

Minors

For those programs offering a minor, the specific course requirements constituting a minor are listed under the departmental programs in this catalog. In general, all minor programs consist of a minimum of 18 credits including at least nine credits in courses at or above the 300 level in the discipline of the minor. Students must meet the prerequisite requirements for courses required for the minor. Free electives may be taken toward the minor. At least nine credits of the minor must not have counted toward any other degree requirement except free electives. At least nine credits of the minor must be taken in residence at AUS.

To declare a minor, students must be in good standing.

To declare a minor, a student should complete the minor declaration form, available from the Office of the Registrar, in consultation with the department offering the minor. The catalog in effect for the student's major will be followed for the audit of the minor. If the minor is not listed in the student's designated catalog, then the last catalog in which the minor is listed will be applied.

Minors are noted on the student's permanent record (transcript) at the time of graduation. It does not appear on the degree certificate. Major and minor requirements must be completed at the same time. A student cannot have a major and a minor in the same program. A student may drop the minor prior to graduation by submitting the appropriate form to the Office of the Registrar. A grade of C- or better is required for each course used to satisfy the requirements of the minor. The minimum GPA for minor courses is 2.0.

Of the total credits required for a minor, a maximum of 50 percent of credits, may be completed in residence at another institution.

Double Minors

To complete a double minor, students must satisfy all the requirements of the two minors requested. The catalog in effect for the student's major will be followed for the audit of the minors or the one in which the minor first appears. Certain courses may be counted toward the fulfillment of both minors. At least nine credits of each minor at the 300 and 400 levels must not be double counted with each minor. The student's transcript will designate all minors completed at the time of graduation.

To declare a double minor, a student must complete a form and submit it prior to graduation to the Office of the Registrar. Degree programs and audits must be approved for each minor by the appropriate department or college/school and the Office of the Registrar.

Minor Offerings

Many programs offer the opportunity to

pursue a minor in a selected field. Detailed information about the various minors is given in the catalog section of the department offering the major.

College of Arts and Sciences

- Minor in Applied and Computational Mathematics
- Minor in Environmental Sciences
- Minor in ESL/TEFL
- Minor in English Language
- Minor in English Literature
- Minor in International Studies
- Minor in Mass Communication
- Minor in Translation and Interpreting

School of Architecture and Design

- Minor in Architectural Studies
- Minor in Design Management
- Minor in Interior Design
- Minor in Urban Design

School of Business and Management

- Minor in Accounting
- Minor in Economics
- Minor in Finance
- Minor in Management
- Minor in Management Information Systems
- Minor in Marketing
- Minor in Public Administration

School of Engineering

- Minor in Computer Science
- Minor in Electrical Engineering
- Minor in Mechanical Engineering

Concentrations

Some majors allow students one or more concentration areas of study. This option allows students a more in-depth knowledge of a subject area. Please refer to the appropriate major in the College of Arts and Sciences and School of Business and Management for relevant concentration requirements.

General Education Requirements

The university general education requirements are derived from the AUS mission statement. Liberal studies and professional education are integrated to give graduates both breadth and specialization in their academic programs. The general education program is designed to inspire and invigorate the intellectual and creative potential of students and to encourage them to conceptualize, reflect and act.

Every student must successfully complete the following requirements to graduate with a minimum of 42 credits:

- Arabic heritage
- English language competency
- Mathematics and/or statistics
- Computer and information literacy
- Science
- Humanities and social sciences

Some general education courses may count toward fulfilling major requirements. In this case, the particular course cannot be counted as double credit for the fulfillment of the total credits required toward completing the degree requirements. A general education course cannot be counted twice in fulfilling the general education requirements.

Arabic Heritage Requirement

All students must satisfy the Arabic heritage requirement by passing with a grade of C- or better any one of the

following courses:

- ARA 101 Readings in Arabic Heritage I
- THM 301 or THM 302 Arabs and the West: The Andalusian Symbiosis I and II
- Any other Arabic literature course with the approval of the dean of the College of Arts and Sciences.

Students who transfer to the American University of Sharjah may also satisfy the Arabic heritage requirement by transferring three hours of acceptable Arabic heritage credits.

English Language Competency Requirement

All students must be able to write with a level of mastery equal to the demands of university coursework. In addition, students need to acquire the critical reading and comprehension skills necessary for all their courses.

All matriculating students must take the English Placement Test to determine into which COM (communication) course they will be placed (COM 001, COM 101 or COM 102). To graduate, all students must satisfy the English language competency requirement by completing, with a C- grade or better, 12 credits of level 100 or above in English/Communication courses.

COM 101 (Academic Writing) and COM 102 (Writing and Reading Across the Curriculum) should be completed in the first year (freshman) or before completion of 30 credits. Students should complete their 12 credits in COM/ENG courses, including COM 203 or COM 204, by the end of their second year (sophomore) or before the completion of 60 credits. Student must choose either COM 203 or COM 204. Students taking both courses will only get credit for one.

Students who transfer to the American University of Sharjah may satisfy the English language requirement by transferring up to 12 credits of acceptable English/communication credits.

A student who receives an exemption from one or two of the required communication courses, based on their

results in the English Placement Test, will be able to take other communication (COM) or English (ENG) courses (XXX 200 and higher) to accumulate the credits required for completing the degree requirements.

Mathematics and/or Statistics Requirement

All students must have mastery of quantitative reasoning and university-level mathematical skills. Students must satisfy this requirement by the end of the second year.

All students must satisfy the mathematics and/or statistics requirement by passing with a grade of C- or better two courses (at least six credits) in mathematics (MTH) and/or statistics (STA); at least one course must be in mathematics. These courses should be chosen from the list approved by the college/school of the student's major in consultation with the student's academic advisor.

Students who transfer to the American University of Sharjah may satisfy the mathematics and statistics requirement by transferring at least six credits of acceptable mathematics and statistics. At least three of these credits must be in mathematics.

Computer and Information Literacy Requirement

All AUS students must be computer literate and know how to access information through digital technology. Computer skills are taught within the context of many courses, and information literacy instruction is incorporated within COM 102, COM 203, COM 204 and several other courses. In addition, students may be required to take additional specific computer courses depending on the requirements of their college/school. Courses satisfying the computer literacy requirement include BIS 101, CHE 330, COE 210, CVE 325/MCE 325, DES 100, MTH 103, MTH 104, MTH 111, MTH 203, MTH 341, STA 101, STA 201 and STA 202.

Science Requirement

All AUS students must have university-level knowledge of scientific reasoning and the experimental sciences. Students may satisfy the science requirement by passing any two of the following courses with a grade of C- or better:

- BIO 101 General Biology I
- BIO 102 General Biology II
- BIO 103 Introduction to Life Sciences
- CHM 101 General Chemistry I
- CHM 102 General Chemistry II
- CHM 103 Chemistry and Everyday Life
- CHM 105 Chemistry and the Environment
- ENV 100 Environmental Issues and Problems
- ENV 101 Introduction to Environmental Sciences
- PHY 100 Conceptual Physics
- PHY 101 General Physics I
- PHY 102 General Physics II
- PHY 103 Astronomy
- PHY 104 Physics for Architecture

Students who transfer to the American University of Sharjah may also satisfy the science requirement by transferring at least six credits of acceptable science courses.

Humanities and Social Sciences Requirement

Students must satisfy the humanities and social sciences requirement by completing at least 15 credits or five courses in the humanities and social sciences curricula with a grade of C- or better. The 15 credits must be selected from the following subject areas:

- Arabic literature (H)
- Cultural studies (H)
- Economics (SS)
- English language (H)
- English literature (H)
- Geography (SS)
- History (H)
- International studies (SS)
- Philosophy (H)
- Political science (SS)
- Psychology (SS)
- Sociology (SS)
- Theme courses (H or SS)

In addition, the following specific courses may be counted as humanities: COM 220/MCM 220, DES 121, DES 122, HRM 201, HRM 202 and MCM 102. MCM 225 may be counted as a social science course. MCM 155 and MCM 156 may be counted as humanities or social science courses.

Students who transfer to the American University of Sharjah may also satisfy the humanities and social sciences requirement by transferring up to 15 credits of acceptable general education courses.

Free Electives

To satisfy the free electives requirement, a minimum of six credits of free electives must be completed. A grade of D or higher is required to obtain credit for a course that has been taken to satisfy the free electives requirement. Some schools may restrict the choice of free electives. Preparatory courses (I.E., OOX courses) cannot be used to fulfill free electives requirement.

Internships

Internship offerings and requirements are listed under the various program requirements. All internships have varying registration fees.

Undergraduate Fees

Tuition

Tuition for full-time undergraduate students is given in the table below. For undergraduate students with uninterrupted registration since Spring 2004, the full-time course load is 12 to 18 credits. For undergraduate students admitted or matriculating from IEP after Spring 2004 or returning to the university after Spring 2004 after not attending AUS for at least one semester, the full-time course load is 12 to 16 credits. For undergraduate students registering for more than 18 or 16 credits (as applicable) there is a supplementary fee of UAE Dhs.1,630 /credit over 18 or 16 (as applicable). Part-time students registering for less than 12 hours are charged UAE Dhs. 1,900 /credit regardless of their major. Additional undergraduate fees and housing charges are given in the tables that follow.

Undergraduate Tuition Applicable During the Academic Year 2004-2005
Full-time undergraduate students

College/School	Major	Fees per Semester		Fees For Summer
		Students admitted prior to Fall 2002 (Rate A)	Students admitted in or after Fall 2002 (Rate B & C)	
College of Arts & Sciences	Environmental Science	Dhs. 20,000	Dhs. 22,800	Dhs. 1,900/credit
	Undeclared Majors	Dhs. 22,800	Dhs. 22,800	
	All Other Majors	Dhs. 20,000	Dhs. 20,000	
Intensive English Program		Dhs. 17,500	Dhs. 17,500	Dhs. 5,750
School of Architecture & Design	All Majors	Dhs. 22,800	Dhs. 24,400	Dhs. 1,900/credit
School of Business & Management	Management Information Systems	Dhs. 22,800	Dhs. 24,400	Dhs. 1,900/credit
	Economics	Dhs. 20,000	Dhs. 20,000	
	Public Administration	Dhs. 20,000	Dhs. 20,000	
	All Other Majors *	Dhs. 22,800	Dhs. 22,800	
School of Engineering	Computer Engineering	Dhs. 22,800	Dhs. 24,400	Dhs. 1,900/credit
	Computer Science	Dhs. 22,800	Dhs. 24,400	
	All Other Majors **	Dhs. 22,800	Dhs. 22,800	

*Includes MIS-Intended (first two years of MIS); **Includes Computer Engineering-Intended (first-year of Computer Engineering).

The above rates apply for full-time undergraduate students with the following range of credit hours registered during a semester:
Rate A&B: 12 to 18 credits: For continuing undergraduate students with uninterrupted registration since Spring 2004.
Rate C: 12 to 16 credits: For students admitted or matriculating from IEP after Spring 2004 and for students returning after Spring 2004 after not attending AUS for least one semester.

Rate B&C: This refers to students who are admitted or matriculating from IEP to the above majors in or after Fall 2002.
This also refers to those students who are returning in or after Fall 2002 after not attending AUS for al least one semester.

Part-time undergraduate (less than 12 credit hours): Dhs. 1,900 per credit hour
Undergraduate registration exceeding maximum credit hours: additional charge of Dhs. 1,630 per credit hour over full-time maximum credit hours

Undergraduate Fees During the Academic Year 2004-2005

Fee Type	Compulsory	Optional	Per Semester	For Summer Session
Student Activities	All students	N/A	Dhs. 100	Dhs. 50
Reinstatement Fee	If applicable		Dhs. 1,000	Dhs. 1,000
Late Registration	If applicable		Dhs. 400	Dhs. 200
Health Insurance				
Plan I	AUS-sponsored students	For others	Dhs. 450	Dhs. 150
Plan II	Non-AUS-sponsored students	N/A	Dhs. 200	Dhs. 50
Other Expenses	Costs of textbooks and supplies are the responsibility of students. Third-year students in the School of Architecture & Design are required to provide their own laptop computer. All students in the bachelor of science business programs are required to have their own laptop with standard minimum configuration or independent computer access outside of AUS computer labs.			

Student Housing

AUS has 10 residential halls (seven for men and three 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 residential hall room reservation deposit: Dhs. 500 *Refundable residential hall damage deposit: Dhs. 1,000*			
Private	Single occupancy with private bath and kitchenette	Dhs. 7,875	Dhs. 3,150
Semi-Private	Single occupancy with a shared bath and kitchenette	Dhs. 6,300	Dhs. 2,520
Sharing	Double occupancy with a shared bath and kitchenette	Dhs. 3,940	Dhs. 1,580
Single	Single occupancy with a common bath and no kitchenette - for men only	Dhs. 3,675	-
Double	Double occupancy with a common bath and no kitchenette - for men only	Dhs. 2,370	-
	Residential hall room 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 in UAE Dirhams (Dhs.) only
- Checks drawn on local banks in UAE Dirhams (If one or more checks return due to insufficient funds, checks will no longer be accepted.)
- 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 check is returned for insufficient funds.

Late Fees and Fines

Faculty, staff and students must adhere to university deadlines, rules and regulations. Late fees and fines may apply for late book returns, parking violations, breakage/replacement charges, late tuition payment etc.

Financial Aid and Scholarships

Located in the Office of the Registrar, the Financial Aid and Scholarship Office provides a range of aid packages that help undergraduate students finance their education.

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.

Applications for financial aid and scholarships may be collected directly from the Financial Aid and Scholarship Office. For more information, please call 515 2005 or 515 2060.

Tuition Remission

First-time students with limited financial resources who demonstrate academic excellence by achieving a minimum cumulative average grade score of 85 percent or the equivalent in the last three years of secondary education may apply for a tuition remission ranging generally from 25 percent to 55 percent of the tuition fees. Financial aid applications must be submitted to the Financial Aid Office by July 30 for the fall semester and December 29 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 from 25 percent to 55 percent of the tuition fees. Financial aid applications must be submitted to the Financial Aid Office by May 15 for the fall semester and December 4 for the spring semester.

University Merit Scholarship

First-time students who demonstrate academic excellence by achieving a minimum cumulative average grade score of 95 percent or the equivalent in the final year of their secondary education may apply for a Merit Scholarship. The scholarship granted in this category is 10 percent of the tuition fees. Scholarship applications must be submitted by July 30 for the fall semester and December 29 for the spring semester.

Chancellor's Scholarship

First-time students with limited financial resources who demonstrate academic excellence by achieving a minimum average grade score of 95 percent or the equivalent in the last three years of secondary education, have outstanding personal qualities and show leadership abilities in school and the community may apply for a Chancellor's Scholarship. The scholarships granted in this category generally range from 75 percent to 100 percent of the student's tuition fees. Scholarship applications must be submitted by July 30 for the fall semester and are highly competitive.

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 percent is given to the second child, 50 percent to the third child and 75 percent to the fourth child.

If any child drops below 12 credits or is dismissed from the university, the family grant will be discontinued.

Rules for Maintaining Financial Aid

Students who are placed on conduct probation, dismissed/suspended from the university or drop below 12 credits (15 for Chancellor's Scholars) at any time during the semester will not be eligible for aid/grants in the following semester.

For Enrolled Students
- Minimum semester GPA of 2.5
- Minimum cumulative GPA of 3.0
- Full-time student status (minimum of 12 credits)

For Chancellor's Scholars
- Minimum semester GPA of 3.0
- Minimum cumulative GPA of 3.3
- Full-time student status (minimum of 15 credits)

For Merit Scholarship
- Minimum semester GPA of 2.5
- Minimum cumulative GPA of 3.0
- Full-time student status (minimum of 12 credits)

External Sponsorship

Some students are sponsored by government organizations, public institutions or private individuals. These sponsors are sent schedules twice a semester and academic transcripts at the end of each semester for students under their sponsorship. Students under such sponsorship and sponsors may contact Student Accounts at 515 2233 for more details if required.

Academic Rules and Regulations

Academic Regulations

Academic advising is an essential element of the educational process. The American University of Sharjah requires advisor-student conferences at least once per semester. Students are assigned academic advisors who help them in selecting their courses of study and in planning their schedules. Their advisors also approve their schedules each 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.

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.

All official university communications are distributed through the AUS-issued email address. These are considered official notifications. Students are responsible for checking their AUS email accounts and for responding to or acting upon messages accordingly.

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 coursework.

Courses and Class Schedules

Each discipline or field of study offered by the university is summarized by a three-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 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 who successfully completes 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, prerequisites/concurrent and/or other criteria that are noted immediately following the course description listed in this catalog.

Course Value

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

Class Periods

Except for laboratory, workshop and specialized design and studio courses, classes ordinarily meet three days per week in 50-minute sessions or two days per 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 college/school, department or faculty members concerned.

Course Descriptions and Syllabi

Descriptions of courses currently in the university curriculum are listed by course subject and code by 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 the individual course instructor, department or program offices. They include course goals and objectives, content and topics, instructional material and resources, the method of evaluation, the meeting time and place, credit hours and prerequisites.

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 should consult the chair of the appropriate department for more information. Students are responsible for having the required competence when entering a class.

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. Courses in which a grade below C- was received do not satisfy prerequisite requirements. Specific details for different degree programs are listed.

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 GPA of 3.25 or higher may secure the permission of his/her dean to register for up to 21 credits in any one semester. All credits exceeding 16 credits will require 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. A student can register for up to seven credits (two courses) in the summer session.

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, which is a five-year program. However, some students may require additional time.

Freshman Academic Load

Freshmen students enrolled in two or more preparatory courses (e.g., MTH 001, COM 001, etc.) are encouraged to register for a maximum of 13 credits. Others are encouraged to register for a maximum of 16 credits.

Official Class Standing

Hours	Standing
0-29 credits	Freshman
30-59 credits	Sophomore
60-89 credits	Junior
90-119 credits	Senior I
120 and above credits	Senior II

Cumulative Grade Point Average

In order to be considered in good standing, a student must maintain a cumulative grade point average (CGPA) of at least 2.0 out of 4.0. A student must be in good standing to be eligible for graduation.

Residence Requirements

Candidates for the bachelor's degree are expected to complete their last year in residence at the university. Transfer students must complete at least 50 percent of the required credits for a degree in residence at AUS. A minimum of 36 credits of 300- and/or 400-level coursework must be successfully completed in residence at AUS to obtain a bachelor's degree. A minimum of 12 of these 36 credits must be in the major.

Categories of Students

Full-Time Students

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

Under special circumstances, students may be allowed 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 enrolled as auditing, non-degree or visiting students

Time Limit on Duration of Study

Regardless of the catalog by which the student's academic career is governed, all degree requirements must be completed within eight years of admission to AUS as an undergraduate student, inclusive of any leave. A student in good academic standing is allowed no more than two consecutive

semesters of leave. A student who is out for more than two consecutive semesters must submit a new application for admission to the Office of Admissions.

Grading System

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

Excellent	
A	equals 4.00 grade points
A-	equals 3.70 grade points

Good	
B+	equals 3.30 grade points
B	equals 3.00 grade points
B-	equals 2.70 grade points

Satisfactory	
C+	equals 2.30 grade points
C	equals 2.00 grade points
C-	equals 1.70 grade points

Poor	
D	equals 1.00 grade points

Fail	
F	equals 0 grade points

Administrative Withdrawal Fail	
WF	equals 0 grade points

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	Non-Academic Administrative Withdrawal

The quality points earned in a course are calculated by multiplying the grade point value of the letter grade by the number of credits the course is worth. The grade point average 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.

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 individual instructor.
- In the event a student misses 15 percent 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.

Examinations

Final and common examination schedules are published by the Office of the Registrar in advance of examination week. If a student is scheduled for more than two examinations in one day, or has a time conflict with common examinations, then the student must report to the Office of the Registrar by the end of week 11 to make the necessary adjustments.

Incomplete Grades and Make-Up Examinations

The work for a course must be completed by the end of the final exam day for that course. 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 writing 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 before the end of the second full week 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 period.

Placement on Academic Probation

All 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.

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 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 the subsequent semester, they will be removed from academic probation. Failure to do so will result in dismissal from the program.

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.

Reinstatement

Students who left AUS not in good standing and have been out of the university for no more than two semesters may submit a written request for reinstatement to the Office of the

Registrar. The request should outline activities since leaving AUS that contribute to the student's academic development. Courses taken at another institution during this interim period are not transferable. Students who have been out of the university for more than two semesters must submit a new application for admission to the Office of Admissions. Dismissed students may also be considered for reinstatement.

Repeating Courses

A student may repeat any course up to two times without the approval of the student's academic dean. The last grade of the repeated course is counted in the calculation of the cumulative GPA.

Study Abroad

AUS offers students the opportunity to study abroad at American University, Washington, D.C., and gain full AUS course credit. For information please contact the Office of the Registrar.

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 AUS must obtain prior approval from his or her dean. Failure to do so will 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 the academic achievements of each student who registers at the university is maintained in the Office of the Registrars students can review their records online.

Students' Privacy Rights

Students have the right to:

- inspect and review information contained in their educational records. The university is not required to provide (or allow the making of) copies of these documents.

- request changes or updates to their personal data

- consent to disclosure, within the extent of UAE federal and local laws, personally identifiable information from education records

Student Records

All transcripts and other documents submitted from other institutions are the property of the American University of Sharjah, and, as such are under the control of the Office of the Registrar. The university is not required to provide (or allow the making of) copies of these documents. Transcripts submitted to AUS for admission or credit transfer become the property of AUS and cannot be returned to the student or forwarded to other institutions.

Transcripts

Students may obtain transcripts of their academic records from the Office of the Registrar. 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 need not reapply for graduation. Their previous application will be automatically forwarded to the following semester.

Participation in the Commencement Exercises

Only students who have successfully completed degree requirements and have no holds by the end of the term for which they have applied to graduate are certified for conferral of a degree. Students registered at the 11th week for courses necessary to complete their degrees may participate in commencement at the end of that semester. Degrees are conferred at the end of the semester in which requirements have been met. Conferral of the degree is noted on the permanent record of the graduate with date of graduation.

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 3.5 semester GPA

- Be in good academic standing

- Rank in the top ten percent of students in his/her college/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 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 Petitions and Appeals

Petitions

Students may petition the Office of the Vice Chancellor for Academic Affairs for exceptions to academic policies of the university. Petitions are received by the Vice Chancellor's office through the Office of the Registrar.

Students who think they want to petition the Vice Chancellor are advised to consult first with the Registrar to determine whether a petition is actually required in their case or whether the matter can be handled through those offices.

The petition requires the registrar's signature in order for it to be transmitted to the Vice Chancellor for Academic Affairs. It should be noted, however, that the Registrar's signature does not necessarily mean that the Registrar recommends approval by the Vice Chancellor but merely that the Registrar has been consulted in the petitioning process. The Registrar is free to comment more fully on the matter, either on the petition form or in a separate letter, and may wish to add attachments. Other signatures (e.g., the university physician, a member of the counseling services staff, a course instructor, etc.) may be appropriate in certain types of petitions.

Appeal of a Grade

Students are entitled to objective, professional evaluation of their academic work and to fair, equitable treatment in the course of their academic relationships with members of the faculty. These criteria are observed by the members of the AUS faculty as a part of their professional responsibilities. Misunderstandings have traditionally been resolved informally in discussion between students and faculty members, and this manner of resolving problems is deemed appropriate in this academic community.

Should students believe they have a legitimate grievance that has not been reconciled by such private conversation, they may pursue the matter by consulting with the department chair, and associate dean and/or dean of the college/school in which the course is offered. Each college/school may have its own internal method of dealing with these matters.

After having exhausted all these means to resolve the matter informally and having found the grievance still unreconciled and still believing the grievance to be legitimate, the student may file a petition with the Assistant Vice Chancellor of Academic Affairs, setting forth a full, fair account of the incident or circumstances giving rise to the grievance.

Alternately, if, in the judgement of the dean of the college/school and the Assistant Vice Chancellor for Academic Affairs, the grievance is of such gravity or its resolution would have such impact on the welfare of students generally or on the conduct of professional responsibilities in the university as to require even more formal safeguards for the aggrieved student and faculty member involved, the Vice Chancellor for Academic Affairs shall refer the matter to the Academic Appeals Committee or prescribe an appropriate procedure consonant with the university's mission.
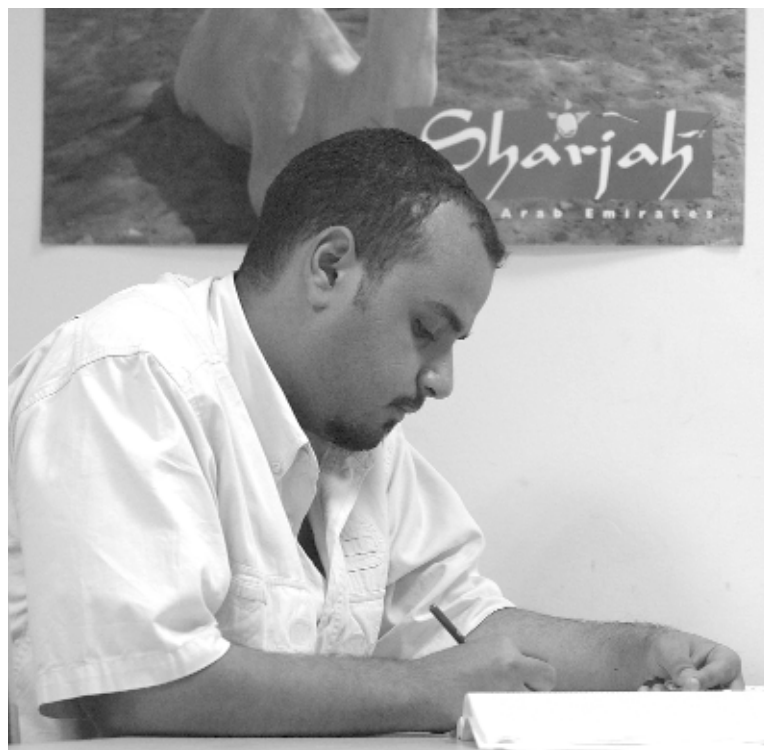
Appeal of Other Academic-Related Issues

In the event that a student wishes to discuss an issue pertaining to a course, instructor or other academic-related issues, the student may direct his/her concern to the chair of the department and/or dean of the college/school. If the issue continues to exist, the student may choose to file a petition with the Office of the Vice Chancellor for Academic Affairs. Petition forms are available from the Office of the Registrar.

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/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.

Inappropriate Proxy
Students must attend their own classes and be present for all examinations. Those impersonated and impersonators will be suspended or dismissed from the university.

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, and the 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 coursework or other academic activity.

Interference with Other Students' Work
Students may not intentionally interfere with the work of others, such as sabotaging laboratory experiments,

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 college/school 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.

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 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/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.

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/school in which the offense has occurred. That dean will then notify the student's dean, if the student is enrolled in another college/school, 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 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 college/school) 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 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/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/school 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 enrolled in another college/school.

2. In cases concerning notation to the permanent record [penalties (d)-(f) in item 3 above], students will be notified in writing of their right of appeal. Appeals must be made in writing within 30 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 term 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/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 that must elapse before an application for readmission may be considered is interpreted as beginning on the final day of the term 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 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
Moza Al Shehhi

Mission Statement

The mission of the Office of Student Affairs (OSA) is to provide state-of-the-art services and a congenial atmosphere to a multicultural AUS student body in order to bring about all around personality development and fulfill students' educational and personal goals.

Creating a healthy learning environment and enriching learning experiences for students has always been at the heart of Student Affairs' work. OSA facilitates 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 in order to develop coherent values and ethical standards. By providing support, counseling and accessibility, OSA fosters learning and personal development. Student Affairs makes a positive difference in the lives of students, providing ample opportunities for them to exhibit talents leading to personal growth regardless of their backgrounds, stage of life or abilities. OSA advises students on issues related to diversity, adjusting to the AUS environment and developing their leadership skills. It also guides students at every step to enhance their personal growth, providing a variety of quality student services and encouraging them to participate in co-curricular activities that channel their energy 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 students and 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 AUS students.

The Office of Student Affairs has two main divisions:

- Student Services comprises Judicial Affairs, Residential Life and the Learning and Counseling Center.
- Student Activities comprises Sports and Athletics, Student Activities, Student Employment and Community Services.

Division of Student Services

This division helps students adjust to university life and smooth the way toward the successful completion of their educational programs.

Judicial Affairs

Judicial Affairs is responsible for educating students about their rights and responsibilities and the university rules they must follow. Allegations of misconduct under the Student Code of Conduct are resolved in a manner consistent with the core values of fairness, honesty and integrity. Judicial Affairs is located on the first floor of the Student Center in offices A242-246.

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 tenets 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, provocative or exposes the waist or stomach.

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 machine 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 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 residential halls, the residential 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. Keeping, using, possessing, selling or distributing any firearms, fireworks, explosives or weapons on university premises or at university-sponsored functions or of any other materials or substances that 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 Student Affairs or the Office of Public Affairs.

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

s. Unauthorized soliciting or canvassing by any individual, group or organization on university premises or in university residential 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 their guests during university functions or activities, and on university premises or in university residential 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, 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 on-campus reckless driving and parking in unauthorized spaces.

z. Violations of Sharjah or UAE law. This includes failure to comply with the proper and lawful directions of the University City security officials or failure to present identification upon the request of the security officials.

Regulations for student conduct in the residential halls are based on the AUS Code of Conduct and are incorporated into the *Student Handbook*.

Residential Life

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

The AUS residential halls offer a unique multicultural environment in which students from different parts of the world have the chance to learn from one another. Living on campus complements the overall learning experience by fostering independence and tolerance of others in students.

A variety of rooms is offered at different rates to give students choices for their residential hall experience. All residential hall rooms have Internet and direct telephone connections. In addition, the residential halls offer students many resources, including study rooms, computer labs, dining areas, recreational areas, TV rooms, 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. Living on campus gives students convenient access to the many activities that take place during the day and in the evening. Additionally, the university offers a convenient bus service between the residential halls and other areas on

campus. The residential halls for male and female students are completely separate, and both maintain curfew hours that all residents are expected to follow. All hall residents 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, the residential halls are protected by security patrols. At all times, each hall is staffed by a supervisor who is responsible for the safety and comfort of all residents.

The Learning and Counseling Center (LCC)

For most students, their time at the American University of Sharjah represents a significant period of transition. Although change can be exciting, it also requires adjustment, which can sometimes be difficult. The Learning and Counseling Center offers support services to enhance the success of students. The staff members of the LCC are dedicated to assisting students in their pursuit of academic and personal growth, to helping students gain a better understanding and appreciation of themselves and to supporting students as they make important decisions about their lives. The services help students achieve their educational goals, learn the processes of problem solving and decision making, enhance their capacity for satisfying interpersonal relationships, define their career goals and maximize the ability for continued emotional growth beyond their educational experience.

The Learning and Counseling Center offers a variety of services to students. Students may choose to include any member of their family or other significant persons in the process. The following services are offered through the center:

Individual Counseling

Counselors allow students to explore any academic or personal problems or concerns they may be experiencing. Examples of common issues that bring students to the LCC include adjusting to

university life, study skills or time management issues, confusion about life or career goals, identity concerns, relationship conflicts, depression, anxiety, grief and loss. The counselors are prepared to deal with a multitude of issues or concerns. Students who have been counseled at home or off-campus may also wish to continue with counseling at the university. Students are encouraged to identify personal goals, to develop coping skills and to generate solutions to current difficulties.

Self-Help Resources

The LCC has extensive self-help resources in the form of handouts, books and videos on many subjects. Topics include coping with stress, depression, sleep disturbance, loneliness, anxiety, eating disorders, grief and loss, substance abuse, relationship building, assertiveness, career and course choices, study skills, concentration and memory, motivation, time management, test-taking strategies and more. These resources can help students understand issues they are facing and are often used alongside individual counseling.

Student Workshops

Throughout the academic year, workshops on topics such as time management, study skills, communication skills, anxiety and stress management, anger management, alcohol and drugs, eating and body image concerns, and more are presented for AUS students. Workshop topics and dates are advertised around campus, or students can call to learn about future workshops. Students are encouraged to contact the LCC with ideas for future workshops.

Consultation Service

Private consultation is available for faculty, staff and students who would like advice about how to help a student through a difficult time. The LCC counselor will give advice on how to help the individual or will refer an appropriate service.

LCC staff members recognize and respect the diverse backgrounds, experiences, values, beliefs and abilities of each and every student with whom

they interact. Counseling through the Learning and Counseling Center is strictly confidential. The information shared with a counselor will not be disclosed to another individual or organization without the written consent of the student. Services are free, voluntary and available to all undergraduate and graduate students currently enrolled at AUS. Appointments may be arranged by calling 515 2790 or 515 2792, or by visiting the LCC on the first floor of the Student Center (offices A248, A249 and A250).

Division of Student Activities

This division is responsible for providing various opportunities to students through its state-of-the-art facilities and resources and for the all-around development of students.

Sports and Athletics

The AUS athletic facilities benefit the entire university community. The AUS Sports Complex fosters the continuing development of collegiate sports in the UAE through organizing and hosting athletic championships, symposia and training courses. The Sports Complex allows students, staff and faculty members to participate in football, basketball, handball, volleyball, table tennis, tennis, squash, track and field games, self-defense sports and other athletic pursuits.

The university believes that students should have opportunities to develop their talents through a wide variety of sports. To achieve this goal, the staff helps students develop team play, sportsmanship and healthy lifestyles. More than 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
- Chess
- Cricket
- Horse Riding
- Karate
- Running
- Scuba Diving
- Self Defense
- Snooker
- Soccer
- Squash
- Swimming
- Table Tennis
- Taekwondo
- Tennis
- Track and Field
- Volleyball

AUS Sports Complex

The Sports Complex facilities include:

Indoor sports courts and multipurpose halls: two indoor basketball, two tennis and two volleyball courts for use in both organized sports and free recreation.

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

Sauna: a relaxing way to burn fat.

Fitness center: features both free weights and a wide range of exercise machines.

Exercise hall: includes aerobics equipment and is used for self-defense events.

Squash courts: two courts.

Outdoor courts: six tennis courts, two volleyball courts, two basketball courts, a soccer field, a cricket practice net and ground plus changing rooms.

Gymnastics hall: gymnastic equipment, mats, bars and all fitness-related equipment.

Student Activities

AUS students are active 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 that allow them to gain leadership experience and develop their intellectual curiosity. The Student Activities Office supports the student population through various programs and 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 houses the Student Activities Office and offices of the various campus clubs and organizations. It is also a comfortable and inviting place where students relax and discuss academics and campus activities. The Student Center contains several meeting rooms, student lounges, a women's lounge, activity rooms, a TV room, multipurpose rooms, an arcade, a student courtyard, a table-tennis room, the Leopard Mini Mart and food outlets (see On-Campus Services for details).

Orientation to Student Life
Prior to registration at the beginning of each semester, 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 adjust 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.

Student Organizations
Student-sponsored organizations are an integral part of the learning process at most institutions of higher education. The academic experience is enriched by participation in activities that allow students to pursue their personal interests outside the classroom.

The Student Activities Office is the central support for the numerous student organizations on campus. Its role includes supervising and providing assistance with program planning and implementation. The organizations at

AUS span a wide range of interests, including sports, music, literature, recreation, culture and social issues. There are also many ethnic/national organizations that reflect the varied backgrounds of AUS students. These organizations offer students opportunities for leadership development and for involvement in university life. Student organizations have easy access to all facilities they may need to plan, organize and implement their activities. Each organization has access to an office that is equipped with all necessary tools to conduct their business. Conference rooms, meetings rooms and a multipurpose room are also available for student organizations' use.

The following interest-oriented clubs are registered with the Office of Student Affairs:

- **Accounting Club**   acctng@ausharjah.edu
- **Architecture & Design Club** design@ausharjah.edu
- **Astronomy Club**   astronomy@ausharjah.edu
- **Business Club**   business_club@ausharjah.edu
- **Chess Club**   chess@ausharjah.edu
- **Cinematixs**   cinema@ausharjah.edu
- **Computer Club**   cmp@ausharjah.edu
- **Cultural Club**   culture@ausharjah.edu
- **Drama Club**   drama@ausharjah.edu
- **Economics Club**
- **Eight Ball Club**
- **Engineering Club**   engineers@ausharjah.edu
- **Environmental Club** environment@ausharjah.edu
- **IEEE Club**
- **IEP Club**   iep_club@ausharjah.edu
- **International Students Club**
- **Islamic Club**   islam_club@ausharjah.edu
- **Horseback Riding Club**   hbr@ausharjah.edu
- **Debate Club**   debate@ausharjah.edu
- *Leopard* **Club**   leopards@ausharjah.edu
- **MIS Club**   mis@ausharjah.edu
- **Martial Arts Club**   m_arts@ausharjah.edu
- **Movie Club**
- **Music Club**   music@ausharjah.edu
- **Photography Club**   photo@ausharjah.edu
- **Power Hit Radio**   radio@ausharjah.edu
- **Rangers Club**   rangers@ausharjah.edu
- *Realms*   realms@ausharjah.edu
- **Scuba Diving Club**   diving@ausharjah.edu
- **Ushers Club**   ushers@ausharjah.edu

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 multicultural environment on campus.

The following ethnic/national clubs are registered with the Office of Student Affairs:

- **Afghani Cultural Club**
- **African Unity Club**   africa@ausharjah.edu
- **American Cultural Club**   america@ausharjah.edu
- **Bahraini Cultural Club**   bahrain@ausharjah.edu
- **Chechnyan Cultural Club**
                      chechnya_club@ausharjah.edu
- **Egyptian Cultural Club**   egypt@ausharjah.edu
- **Emarati Cultural Club**   emirate@ausharjah.edu
- **Indian Cultural Club**   india@ausharjah.edu
- **Iranian Cultural Club**   iran@ausharjah.edu
- **Iraqi Cultural Club**   iraq@ausharjah.edu
- **Jordanian Cultural Club**   jordan@ausharjah.edu
- **Kuwaiti Cultural Club**   kuwait@ausharjah.edu
- **Lebanese Cultural Club** lebanon@ausharjah.edu
- **Libya Cultural Club**   libya@ausharjah.edu
- **Oman Cultural Club**   oman@ausharjah.edu
- **Pakistani Cultural Club**   pakistan@ausharjah.edu
- **Palestinian Cultural Club** palestine@ausharjah.edu
- **Qatari Cultural Club**   qatar@ausharjah.edu
- **Russian Cultural Club**   russia@ausharjah.edu
- **Saudi Cultural Club**   saudi@ausharjah.edu
- **Sudanese Cultural Club**   sudan@ausharjah.edu
- **Syrian Cultural Club**   syria@ausharjah.edu
- **Turkish Cultural Club**   turkey@ausharjah.edu
- **Yemeni Cultural Club**   yemen@ausharjah.edu

Participation in these and other groups is strongly encouraged. Students are also encouraged to form organizations/clubs that promote their interests and hobbies.

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 should contact the Mass Communication or English departments 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 AUS mascot and was chosen because the UAE preserves and protects the Arabian leopard, which 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 their creative work. *Realms* aims to foster an interest in creative writing and 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 Council

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. The AUS Student Council is an elected body that articulates student views and interests in the university. The Student Council 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. The Dean of Student Affairs is responsible for advising the Student Council.

Student Employment

Opportunities for on-campus employment are available to all AUS students. Working on campus enhances students' awareness of their surroundings and helps them 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 schools/college, departments, outlets and facilities located on campus, students can work off-campus during exhibitions and important events in UAE. This kind of part-time job helps students put theory into practice and get to know the outside world.

The maximum number of hours a student may work is 10 hours per week. Hourly rates vary depending on what kind of job the student is doing (i.e., clerical or computer-related) and on seniority. Senior students earn more than freshmen due to their experience and qualifications. Students are paid monthly. Further information on all campus employment opportunities is available through the Student Employment Office.

Community Services

AUS Community Services is a link between students and the various needs found in society. Community Services

allows students to experience first-hand the value of serving others. It involves them personally in community events that 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 help the elderly overcome psychological and physical disabilities. The program is conducted in collaboration with several specialized organizations.

Awareness Campaigns: Volunteers work to raise public awareness on different issues such as smoking, drug abuse and environmental friendliness. These campaigns may be on-campus or outreach programs.

Autistic Children's Aid: Volunteers are trained to deal with autistic children before they actually get involved in teaching and assisting them. The training and its implementation take place in specialized centers for autism.

Healthcare: Community Services is active in tackling issues related to public health. The annual on-campus blood donation campaigns are among events organized within this theme.

Orphan's Aid: Student volunteers visit orphans and organize entertainment and educational activities for them. The volunteers create a caring atmosphere for the orphans, developing a communal sense of belonging.

Red Olive: Volunteers raise funds and collect donations (mainly clothing) for the Palestinian people. Different types of functions are organized to support this program.

Serving the Disabled: Volunteers are trained to help physically and mentally disabled individuals. Community Services has partnerships with several specialized organizations that deal with disabilities.

Relief Campaigns: Community Services initiates and conducts relief campaigns for devastated communities in different parts of the world. Remarkable relief campaigns have collected funds, food and clothing for the Afghani, Palestinian, Turkish, Iraqi

and Iranian people. Besides these major relief efforts, several campaigns were organized to raise funds and donations for community causes such as establishing a public library, building specialized hospitals and more.

Recycling: The AUS community has implemented a comprehensive recycling program to make the campus environment friendly. Community Services has been playing a central role in developing campus recycling since its establishment.

Charity Marathon: This annual event is organized by Community Services volunteers and held in University City. Participants are mainly students from Sharjah and Dubai schools who raise funds to participate in the marathon. Funds raised are donated for a community cause. Donations raised through the first Charity Marathon in 2001 supported the relief work of Médecins Sans Frontières. The 2002 Charity Marathon supported the schooling of the Palestinian orphans.

Students who are interested in learning more about any of these programs should visit the Community Services

Office located in room A255 of the Student Center, call 515 2783 or send e-mail to communityservices@ausharjah.edu.

Community Services currently has the following volunteer student committees:

Autistic Children's Aid	autism@ausharjah.edu
Charity Marathon	charitymarathon@ausharjah.edu
Disabled Aid	disabledaid@ausharjah.edu
Old People's Aid	oldpplsaid@ausharjah.edu
Orphan's Aid	orphansaid@ausharjah.edu
Recycling	recycling@ausharjah.edu
Red Olive	redolive@ausharjah.edu

Services for Students with Disabilities

The Community Services Office is the primary agent for providing access for AUS students who have physical disabilities. The office works with those who have temporary or permanent disabilities in order to promote their full participation in academic programs and on-campus activities. AUS promotes a barrier-free environment.

Students who need further information should contact the Community Services Office in room A255 of the Student Center, call 515 2783 or send e-mail to disabilityservices@ausharjah.edu.

College of Arts and Sciences

Dean
Robert D. Cook

Associate Dean
Ibrahim El 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's graduation requirements, including the general education program that is provided by the college, students learn to examine the 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 will 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 toward 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, multicultural academic practitioners. They provide the training and preparation our students need to meet the challenges of living and working in the global community.

Professor
Yusuf Abu-Muhanna (Mathematics)
Muhsin Al-Musawi (Arabic) (on leave 2004-2005)
Fatima Badry-Zalamy (English)
Robert D. Cook (Chemistry)
Ibrahim El Sadek (Mathematics)
John Fox (Anthropology)
William Haney II (English)
Mahboub Hashem (Mass Communication)
Basil Hatim (Translation)
Fawwaz Jumean (Chemistry)
Yousef Salamin (Physics)
Hassan Tayim (Environmental Sciences)
Winfred L. Thompson (History)
Peter Walker (Mathematics)
Lawrence Woods (International Relations)

Associate Professor
Kamal Abdel-Malek (Arabic)
Zayid Abdul Hadi (Mathematics)
Taher Abualrub (Mathematics)
Marwan Abukhaled (Mathematics)
Imad Abu-Yousef (Chemistry)
Ayman Badawi (Mathematics)
Judith Caesar (English)
Donald Cruickshank (English)
Said Faiq (Translation)
Nidhal Guessoum (Physics)
Nasser Hamdan (Physics)
Asad Hasan Jaidi (Physics)
Beverly Jensen (Mass Communication)
Suheil Khoury (Mathematics)
David Lea (Philosophy)
Nada Mourtada Sabbah (Political Science)
Dennis Russell (Biology)
Ali Saifi (Mathematics)
Rodney Tyson (English)
Mohamed Zayani (English)

Assistant Professor
Saiyad Ahmad (Arabic)
Ghada Alobaidi (Mathematics)
Ahmad Al-Issa (English)
Mohammad Al-Sayah (Chemistry)
Mahmoud Anabtawi (Mathematics)
Pia Anderson (International Studies)
Maher Bahloul (English)
Aaron Bartholomew (Biology)
Kim Bigelow (Mass Communication)
Marina Dodigovic (English)
Cyntia Espada (Environmental Sciences)
Joseph Gibbs (Mass Communication)
Nawar Golley (English)
Cindy Gunn (English)
Ann Hamilton (Mass Communication)
Karim Jallad (Chemistry)
Sofian Kanan (Chemistry)

Jeremy Keymer (International Studies)
Ismail Kucuk (Mathematics)
Guillaume Leduc (Mathematics)
Tareq Mjeed (Physics)
James Onley (History)
Rana Raddawi (Translation)
Said Sakhi (Physics)
Bassel Salloukh (Political Science)
John Shannon (English)
Hana Sulieman (Statistics)
Samuel K. Tesunbi (Mass Communication)
Thomas Wunderli (Mathematics)
Daniel Zachary (Physics)

Instructor
Jennifah Abu-Hassan (IEP)
Aftab Ahmed (IEP)
Mark Algren (IEP)
Raja Bahloul (IEP)
Lesley Barbara Blake (English)
Edward Carlstedt (IEP)
David Colbert (IEP)
John Connell (IEP)
Richard Crain (English)
Jerald Cumbus (English)
Tina Joyce Driscoll (IEP)
Leslie Giesen (IEP)
Milton Gilbertson (IEP)
Sharon Gilbertson (IEP)
David Gugin (English)
Christopher Horger (English)
Dennis Lewis (English)
Ann McCallum (English)
Gregory McElwain (English)
Richard McClane (IEP)
Imed Nsiri (Arabic)
Anne Marie Papadakis (IEP)
Jane Pringle (IEP)
Sylvie Raymond (IEP)
Tina Richardson (English)
Olivia Riordan (IEP)
Scott Rousseu (IEP)
Thomas Schmitt (IEP)
Pelly Shaw (IEP)
Ann Shine (English)
Brian Skelton (IEP)
Mark Stevens (IEP)
Angela Waigand (IEP)
Amanda Ward (IEP)
Jason Ward (English)
Krystie Wills (IEP)
Deborah Wilson (IEP)

Visiting Faculty
Ronald Sheen (English)

General Education Requirements

- English language competency requirement (four courses):
  - For all majors: COM 101, COM 102, and COM 203 or COM 204, and COM 2XX; students who have advanced placement in the COM sequence must replace the exempted course(s) by a course(s) in COM or ENG.
- Arabic heritage requirement (one course):
  - For all majors: ARA 101 or THM 301 or THM 302 or another approved course in Arabic literature.
- Mathematics and/or statistics requirement (two courses):
  - For B.S. degree: MTH 103 and STA 201.
  - For B.A. degree: MTH 100 or MTH 101 and STA 202.
- Science requirement (two courses):
  - For B.S. degree: from CHM 101, CHM 102, PHY 101, PHY 102, BIO 101, BIO 102.
  - For B.A. degree: from BIO 103, CHM 103, CHM 105, ENV 100, PHY 100, PHY 103.
- Humanities and social sciences requirement (five courses):
  - For all majors: Fifteen credits to be selected from the courses listed in the humanities and social sciences requirements.
- Computer literacy requirement:
  - For all majors: Satisfied through one of the courses listed in the computer literacy requirement.

Department of Arab and International Studies

Nada Mourtada Sabbah, Chair

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 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 (B.A.I.S.)

Degree Requirements

A total of 120 credits, including:

- 42 credits of general education requirements
- 15 credits of free electives
- 63 credits of major requirements
- A minimum CGPA of 2.0

Major Requirements

Students majoring in International Studies must complete 63 credits of major requirements with a grade C- or better in each course. Students may choose concentrations in international relations, international economics, arab studies in a global context and western studies. These major requirements are divided as follows:

Core Requirements (27 credits)

- CSC 205 World Cultures or SOC 201 Introduction to Sociology
- ECO 201 Principles of Microeconomics
- ECO 202 Principles of Macroeconomics
- GEO 201 World Cultural Geography
- HIS 205 World History I or HIS 206 World History II
- PHI 201 Introduction to Philosophy or HIS 221 History of Science and Technology
- POL 201 Introduction to Political Studies
- POL 202 International Relations
- INS 322 Global Political Economy

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.

Major Electives (12 credits)

A student must take a minimum of 12 credits of major electives in consultation with his/her advisor. Electives may be:

1. Any course listed in the curriculum for the International Studies degree program that is not required in his/her chosen concentration to be selected from the following disciplines:
   - Cultural studies
   - Economics
   - Geography
   - Heritage management
   - History
   - International studies
   - Philosophy
   - Political science
   - Public administration
   - Sociology
   - Theme

2. Any of the courses on the following list:
   - Environmental science (ENV 100, ENV 101, ENV 261, ENV 411)
   - PSY 101 General Psychology
   - PSY 102 Social Psychology
   - ENG 219 Survey of American Literature
   - ENG 213 Survey of English Literature II
   - MCM 227 Principles of Public Relations
   - COM 220, COM 225
   - MCM 150, MCM 220, MCM 225, MCM 229, MCM 275, MCM 280, MCM 360, MCM 363, MCM 371, MCM 372, MCM 374, MCM 380, MCM 461, MCM 463, MCM 467

3. Other courses may be taken as major electives with the approval of the chair of the department, provided it can be demonstrated that these courses have significant international studies content or relevance.

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. This concentration provides 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.

Concentration Requirements
(18 credits)
• POL 301 Globalization
• POL 304 International Organizations
• POL 305 Public International Law
• POL 307 Wars, Conflicts and Diplomacy
• ECO 305 International Trade

• INS 495 Senior Seminar

Concentration Electives (6 credits)
• ECO 306 International Finance
• ECO 310 Development Economics
• POL 300 Comparative Politics
• INS 494 Special Topics
• INS 497 Internship in International Studies

Proposed Course Sequence of Study

Bachelor of Arts in International Studies (B.A.I.S.)

Concentration: International Relations

FIRST YEAR (30 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	ARA 101	Readings in Arabic Heritage	3		GER
	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	ECO 201	Principles of Microeconomics	3	COM 101 prerequisite/concurrent	CRR
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GER
	XXX	Science Elective	3		GER Science 1 of 2
		Total	**15**		
Spring	GEO 201	World Cultural Geography	3	COM 102 prerequisite/concurrent	CRR
	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GER
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	CRR
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or MTH 101 or MTH 111	GER
	XXX	Science Elective	3		GER Science 2 of 2
		Total	**15**		

SECOND YEAR (30 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	POL 201	Introduction to Political Studies	3	COM 102	CRR
	COM 203 or 204	Genre Analysis or Advanced Academic Writing	3	COM 102	GER
	HIS 206	World History II	3	COM 102	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 1of 5
	XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
		Total	**15**		
Spring	POL 202	International Relations	3	POL 201	CRR
	HIS 221	History of Science and Technology	3	COM 102 prerequisite/concurrent	CRR
	CSC 205	World Cultures	3	COM 102 prerequisite/concurrent	CRR
	COM XXX	Communication Requirement	3		GER
	XXX	Major Elective	3		MJE 1of 4
		Total	**15**		

THIRD YEAR (30 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	POL 304	International Organizations	3	POL 202	CNR
	POL 307	Wars, Conflicts and Diplomacy	3	POL 202	CNR
	ECO 305	International Trade	3	ECO 201 and ECO 202	CNR
	POL 301	Globalization	3	POL 202	CNR
	XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
		Total	**15**		
Spring	POL 305	Public International Law	3	POL 202	CNR
	INS 322	Global Political Economy	3	POL 202, ECO 201, ECO 202	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	XXX	Concentration Elective	3		CNE 1 of 2
		Total	**15**		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	INS 495	Senior Seminar	3	Senior standing	CNR
	XXX	Concentration Elective	3		CNE 2 of 2
	XXX	Major Elective	3		MJE 2 of 4
	XXX	Free Elective	3		FRE 1 of 5
	XXX	Free Elective	3		FRE 2 of 5
		Total	15		
Spring	XXX	Major Elective	3		MJE 3 of 4
	XXX	Major Elective	3		MJE 4 of 4
	XXX	Free Elective	3		FRE 3 of 5
	XXX	Free Elective	3		FRE 4 of 5
	XXX	Free Elective	3		FRE 5 of 5
		Total	15		

Abbreviations: GER: University Requirement; HSS: Humanities/Social Sciences Requirement; FRE: Free Elective; MJE: Major Elective; CRR: Core Requirement; CNR: Concentration Requirement; CNE: Concentration Elective; EPT: English Placement Test; MPT: Math Placement Test

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 two-fold. 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.

Concentration Requirements
(18 credits)
• ECO 301 Intermediate Microeconomics
• ECO 302 Intermediate Macroeconomics
• ECO 305 International Trade
• ECO 306 International Finance
• ECO 310 Development Economics
• INS 495 Senior Seminar

Concentration Electives (6 credits)
• 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
• INS 497 Internship in International Studies
• INS 413 Political Economy of the Arab World
• INS 494 Special Topics
• POL 301 Globalization
• POL 304 International Organizations
• POL 305 Public International Law

Proposed Course Sequence of Study
Bachelor of Arts in International Studies (B.A.I.S.)
Concentration: International Economics

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ARA 101	Readings in Arabic Heritage	3		GER
	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	ECO 201	Principles of Microeconomics	3	COM 101 prerequisite/concurrent	CRR
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GER
	XXX	Science Elective	3		GER Science 1 of 2
		Total	15		
Spring	ACC 201	Fundamentals of Financial Accounting (Major Elective)	3		MJE 1 of 4
	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GER
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	CRR
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or MTH 101 or MTH 111	GER
	XXX	Science Elective	3		GER Science 2 of 2
		Total	15		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	POL 201	Introduction to Political Studies	3	COM 102	CRR
	COM 203 or 204	Genre Analysis or Advanced Academic Writing	3	COM 102	GER
	HIS 206	World History II	3	COM 102	CRR
	CSC 205	World Cultures	3	COM 102 prerequisite/concurrent	CRR
	GEO 201	World Cultural Geography	3	COM 102 prerequisite/concurrent	CRR
		Total	**15**		
Spring	POL 202	International Relations	3	POL 201	CRR
	HIS 221	History of Science and Technology	3	COM 102 prerequisite/concurrent	CRR
	COM XXX	Communication Requirement	3		GER
	XXX	Major Elective	3		MJR 2 of 4
	XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
		Total	**15**		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ECO 302	Intermediate Macroeconomics	3	ECO 201, ECO 202, COM 102	CNR
	ECO 305	International Trade	3	ECO 201, 202, COM 102	CNR
	XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	XXX	Concentration Elective	3		CNR
		Total	**15**		
Spring	ECO 301	Intermediate Microeconomics	3	ECO 201, ECO 202, COM 102	CNR
	ECO 306	International Finance	3	ECO 201, ECO 202, COM 102	CNR
	ECO 310	Development Economics	3	ECO 201, ECO 202, COM 102	CNR
	INS 322	Global Political Economy	3	POL 202, ECO 201, ECO 202	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
		Total	**15**		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	INS 495	Senior Seminar	3	Senior standing	CNR
	XXX	Concentration Elective	3		CNR
	XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	XXX	Free Elective	3		FRE 1 of 5
	XXX	Free Elective	3		FRE 2 of 5
		Total	**15**		
Spring	XXX	Major Elective	3		MJE 3 of 4
	XXX	Major Elective	3		MJE 4 of 4
	XXX	Free Elective	3		FRE 3 of 5
	XXX	Free Elective	3		FRE 4 of 5
	XXX	Free Elective	3		FRE 5 of 5
		Total	**15**		

Abbreviations: GER: University Requirement; HSS: Humanities/Social Sciences Requirement; FRE: Free Elective; MJE: Major Elective; CRR: Core Requirement; CNR: Concentration Requirement; EPT: English Placement Test; MPT: Math Placement Test

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-Arab 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.

Concentration Requirements
(18 credits)
- ARA 213 Contemporary Arabic Literature
- ARA 302 Arab Identity and Thought
- ARA 303 Classical Arab/Islamic Culture
- HIS 204 Modern Arab History
- INS 413 Political Economy of the Arab World
- INS 495 Senior Seminar

Concentration Electives (6 credits)
- 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 Gulf
- INS 494 Special Topics
- INS 497 Internship in International Studies

Proposed Course Sequence of Study

Bachelor of Arts in International Studies (B.A.I.S.)

Concentration: Arab Studies in a Global Context

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ARA 101	Readings in Arabic Heritage	3		GER
	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	ECO 201	Principles of Microeconomics	3	COM 101 prerequisite/concurrent	CRR
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GER
	XXX	Science Elective	3		GER Science 1 of 2
		Total	**15**		
Spring	ARA 102	Readings in Arabic Heritage	3		MJE 1 of 4
	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GER
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	CRR
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or MTH 101 or MTH 111	GER
	XXX	Science Elective	3		GER Science 2 of 2
		Total	**15**		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	POL 201	Introduction to Political Studies	3	COM 102	CRR
	CSC 205	World Cultures	3	COM 102 prerequisite/concurrent	CRR
	COM 203 or 204	Genre Analysis or Advanced Academic Writing	3	COM 102	GER
	GEO 201	World Cultural Geography	3	COM 102 prerequisite/concurrent	CRR
	HIS 206	World History II	3	COM 102	CRR
		Total	**15**		
Spring	POL 202	International Relations	3	POL 201	CRR
	ARA 213	Contemporary Arab Literature	3		CNR
	HIS 204	Modern Arab History	3	COM 102	CNR
	HIS 221	History of Science and Technology	3	COM 102 prerequisite/concurrent	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
		Total	**15**		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ARA 302	Arab Identity and Thought	3		CNR
	INS 322	Global Political Economy	3	POL 202, ECO 201, ECO 202	CRR
	COM XXX	Communication Requirement	3	COM 102	GER
	XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
		Total	**15**		
Spring	ARA 303	Classical Arab/Islamic Culture	3		CNR
	INS 413	Political Economy of the Arab World	3	POL 202, ECO 201, ECO 202	CNR
	XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	XXX	Major Elective	3		MJE 2 of 4
		Total	**15**		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	INS 495	Senior Seminar	3	Senior standing	CNR
	XXX	Concentration Elective	3		CNE 1 of 2
	XXX	Concentration Elective	3		CNE 2 of 2
	XXX	Free Elective	3		FRE 1 of 5
	XXX	Free Elective	3		FRE 2 of 5
		Total	**15**		
Spring	XXX	Major Elective	3		MJE 3 of 4
	XXX	Major Elective	3		MJR 4 of 4
	XXX	Free Elective	3		FRE 3 of 5
	XXX	Free Elective	3		FRE 4 of 5
	XXX	Free Elective	3		FRE 5 of 5
		Total	**15**		

Abbreviations: GER: University Requirement; HSS: Humanities/Social Sciences Requirement; FRE: Free Elective; MJE: Major Elective; CRR: Core Requirement; CNR: Concentration Requirement; CNE: Concentration Elective; EPT: English Placement Test; MPT: Math Placement Test

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.

Concentration Requirements
(18 credits)
- CSC 201 Western Cultural Studies I
- CSC 204 Belief Systems and Ideology in the Western Tradition

- ECO 311 Capitalism
- HIS 220 The Modern History of Europe and North America
- INS 495 Senior Seminar
- POL 306 American Government and Politics

Concentration Electives (6 credits)
- CSC 202 Western Cultural Studies II
- ECO 305 International Trade
- ECO 306 International Finance
- ENG 315 East Meets West: Colonial and Post-Colonial Encounters
- INS 494 Special Topics
- INS 497 Internship in International Studies
- PBA 302 Comparative Public Administration Systems

- POL 304 International Organizations
- POL 305 Public International Law

Minor in International Studies

A minor in International Studies consists of 21 credits and contains courses listed below.

Minor Requirements (12 credits)
- CSC 205 World Cultures, or GEO 201 World Cultural Geography or SOC 201 Introduction to Sociology
- ECO 201 Principles of Microeconomics
- HIS 205 World History I, or HIS 206 World History II or PHI 201 Introduction to Philosophy.
- POL 201 Introduction to Political Studies

Minor Electives (9 credits)

Students must complete nine upper-division credits (with the course prefix of 3XX or 4XX) selected from the offerings in the Arab and International Studies curriculum as approved by the chair of the department.

Proposed Course Sequence of Study
Bachelor of Arts in International Studies (B.A.I.S.)

Concentration: Western Studies

Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
FIRST YEAR (30 credit hours)					
Fall	ARA 101	Readings in Arabic Heritage	3		GER
	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	ECO 201	Principles of Microeconomics	3	COM 101 prerequisite/concurrent	CRR
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GER
	XXX	Science Elective	3		GER Science 1 of 2
		Total	**15**		
Spring	GEO 201	World Cultural Geography	3	COM 102 prerequisite/concurrent	CRR
	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GER
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	CRR
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or MTH 101 or MTH 111	GER
	XXX	Science Elective	3		GER Science 2 of 2
		Total	**15**		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	POL 201	Introduction to Political Studies	3	COM 102	CRR
	COM 203 or 204	Genre Analysis or Advanced Academic Writing	3	COM 102	GER
	CSC 201	Western Cultural Studies I	3	COM 102	CNR
	HIS 206	World History II	3	COM 102	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
		Total	**15**		
Spring	POL 202	International Relations	3	POL 201	CRR
	CSC 204	Belief Systems and Ideology in the Western Tradition	3	COM 102	CNR
	HIS 221	History of Science and Technology	3	COM 102 prerequisite/concurrent	CRR
	HIS 220	The Modern History of Europe and North America	3	COM 102	CNR
	XXX	Major Elective	3		MJR 1 of 4
		Total	**15**		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ECO 311	Capitalism	3	ECO 201 and ECO 202	CNR
	COM 208	Public Speaking	3	COM 203 or COM 204 or COM 231 or MCM 231	GER
	CSC 205	World Cultures	3	COM 102 prerequisite/concurrent	CRR
	POL 306	American Government and Politics	3	POL 202 and Junior Standing	CNR
	XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
		Total	**15**		
Spring	INS 322	Global Political Economy	3	POL 202, ECO 201, ECO 202	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	XXX	Concentration Elective	3		CNE 1 of 2
		Total	**15**		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	INS 495	Senior Seminar	3	Senior Standing	CNR
	XXX	Concentration Elective	3		CNE 2 of 2
	XXX	Major Elective	3		MJE 2 of 4
	XXX	Free Elective	3		FRE 1 of 5
	XXX	Free Elective	3		FRE 2 of 5
		Total	**15**		
Spring	XXX	Major Elective	3		MJE 3 of 4
	XXX	Major Elective	3		MJE 4 of 4
	XXX	Free Elective	3		FRE 3 of 5
	XXX	Free Elective	3		FRE 4 of 5
	XXX	Free Elective	3		FRE 5 of 5
		Total	**15**		

Abbreviations: GER: University Requirement; HSS: Humanities/Social Sciences Requirement; FRE: Free Elective; MJE: Major Elective; CRR: Core Requirement; CNR: Concentration Requirement; CNE: Concentration Elective; EPT: English Placement Test; MPT: Math Placement Test

Department of Biology and Chemistry

Fawwaz Jumean, Chair

Department of Physics

Nasser Hamdan, Chair

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 sciences 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.

Environmental sciences majors may choose one of the following options:

- a concentration in biology and ecosystems
- a concentration in environmental chemistry and analysis
- a concentration in environmental physics
- a double concentration in any two of the above areas

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 gives 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 sciences.

Career Opportunities

Environmental scientists can work in four general areas:

- Environmental protection, which targets air, water and land quality and often has a human and environmental health and safety perspective
- Conservation and protection of natural resources, which 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, which is relevant to both public and private sectors
- Environmental research, which includes developing analytical methods for detecting environmental pollutants and improving prediction of environmental and geophysical changes. Job opportunities are 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 areas 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 through the creation of realistic alternatives to environmentally hazardous practices.

Bachelor of Science in Environmental Sciences (B.S.E.S.)

Degree Requirements

A total of 128 credits divided as follows:

- 44 credits in general education requirements
- 15 credits of additional basic science and mathematics requirements
- 21 credits in core requirements
- 24 credits in concentration requirements
- 9 credits in concentration electives
- 15 credits in free electives
- 6-8 weeks of full-time, satisfactory internship in environmental sciences with a business or governmental organization
- A minimum CGPA of 2.0

Major Requirements (29 credits)

- 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 or PHY 105 Physics for Environmental Sciences
- STA 201 Introduction to Statistics for Engineering and Natural Sciences

Core Requirements (21 credits)

- CHM 445 Instrumental Analysis
- ENV 101 Introduction to Environmental Science
- ENV 252 Environmental Chemistry
- ENV 311 Environmental Modeling
- ENV 351 Environmental Monitoring and Analysis Techniques
- ENV 411 Environmental Assessment and Management
- ENV 491 Senior Project I

Concentration in Environmental Biology and Ecosystems (33 credits)

Concentration Requirements (24 credits)

- BIO 102 General Biology II
- BIO 230 Ecosystems Management
- BIO 260 Genetics
- CHM 215 Organic Chemistry I
- CHM 215L Organic Chemistry Lab I
- ENV 251 Environmental Ecology
- ENV 335 Environmental Microbiology
- ENV 361 Evolution and Biodiversity

Concentration Electives (9 credits)

- CHM 241 Quantitative Analysis
- ENV 231 Transition Metals and their Compounds in the Environment
- ENV 261 Physical Geography
- ENV 352 Environmental Toxicology
  ENV 400 Environmental Physiology Systems
- ENV 421 Aquatic Environments
- ENV 430 Environmental Systems in the Arabian Peninsula
- ENV 451 Waste Treatment
- ENV 492 Senior Project II
- PHI 204 Ethics for Professionals
- PHY 301 Energy Sources

Proposed Course Sequence of Study

Bachelor of Science in Environmental Sciences (B.S.E.S.)

Concentration: Environmental Biology and Ecosystems

Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
FIRST YEAR (35 credit hours)					
Fall	MTH 103	Calculus I	3	MPT or MTH 001	GER
	BIO 101	General Biology I	4		MJR
	COM XXX	Communication I	3		GER
	PHY 101	General Physics I	4	PPT or PHY 001 and MTH 103	GER
	CHM 101	General Chemistry I	4		GER
		Total	18		
Spring	MTH 104	Calculus II	3	MTH 103	MJR
	ENV 101	Introduction to Environmental Science	3	CHM 101	CRR
	PHY 102/PHY 105	General Physics II/Physics for Environmental Sciences	4	PHY 101	MJR
	COM XXX	Communication II	3		GER
	CHM 102	General Chemistry II	4	CHM 101	MJR
		Total	17		

SECOND YEAR (32 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	BIO 102	General Biology II	4	BIO 101	CNR
	CHM 215	Organic Chemistry I	3	CHM 102 prerequisite/concurrent	CNR
	ENV 252	Environmental Chemistry	3	CHM 102	CRR
	ARA 101	Readings in Arabic Heritage	3		GER
	COM XXX	Communication III	3		GER
		Total	**16**		
Spring	ENV 251	Environmental Ecology	3	BIO 102	CNR
	XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	CHM 215L	Organic Chemistry Lab I	1	CHM 215	CNR
	BIO 230	Ecosystems Management	3	BIO 102	CNR
	COM XXX	Communication IV	3		GER
	XXX	Concentration Elective	3		CNE 1 of 3
		Total	**16**		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	STA 201	Intro. to Statistics for Engineering and Natural Sciences	3	MTH 103	GER
	XXX	Concentration Elective	3		CNE 2 of 3
	XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	BIO 260	Genetics	3	BIO 102	CNR
	ENV 311	Environmental Modeling	3	MTH 104 and ENV 252	CRR
		Total	**15**		
Spring	ENV 361	Evolution and Biodiversity	3	BIO 260	CNR
	ENV 351	Environmental Monitoring and Analysis Techniques	3	STA 201 and ENV 252	CRR
	XXX	Free Elective	3		FRE 1 of 5
	CHM 445	Instrumental Analysis	3	CHM 102	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
		Total	**15**		

FOURTH YEAR (31 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENV 491	Senior Project I	3	Senior Standing	CRR
	ENV 335	Environmental Microbiology	4	BIO 101	CNR
	XXX	Free Elective	3		FRE 2 of 5
	XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	XXX	Free Elective	3		FRE 3 of 5
		Total	**16**		
Spring	XXX	Concentration Elective	3		CNE 3 of 3
	ENV 411	Environmental Assessment and Management	3	ENV 252	CRR
	XXX	Free elective	3		FRE 4 of 5
	XXX	Free elective	3		FRE 5 of 5
	XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
		Total	**15**		

Abbreviations: GER: University Requirement; HSS: Humanities/Social Sciences Requirement; FRE: Free Elective; MJE: Major Elective; CRR: Core Requirement; CNR: Concentration Requirement; CNE: Concentration Elective; EPT: English Placement Test; MPT: Math Placement Test; PPT: Physics Placement Test; MJR: Major Requirement

Concentration in Environmental Chemistry and Analysis
(at least 33 credits)

Concentration Requirements
(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

- CHM 241 Quantitative Analysis
- CHM 331 Physical Chemistry II
- ENV 231 Transition Metals and their Compounds in the Environment
- ENV 451 Waste Treatment

Concentration Electives
(at least 9 credits)
- CHE 442 Corrosion
- CHM 335 Physical Chemistry Lab
- ENV 261 Physical Geography

- ENV 335 Environmental Microbiology
- ENV 352 Environmental Toxicology
- ENV 421 Aquatic Environments
- ENV 452 Soil and Water Chemistry
- ENV 492 Senior Project II
- PHI 204 Ethics for Professionals
- PHY 251 Meteorology
- PHY 303 Atmospheric Physics

Proposed Course Sequence of Study
Bachelor of Science in Environmental Sciences (B.S.E.S.)
Concentration: Environmental Chemistry and Analysis

Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
FIRST YEAR (35 credit hours)					
Fall	MTH 103	Calculus I	3	MPT or MTH 001	GER
	BIO 101	General Biology I	4		MJR
	COM XXX	Communication I	3		GER
	PHY 101	General Physics I	4	PPT or PHY 001 and MTH 103	GER
	CHM 101	General Chemistry I	4		GER
		Total	**18**		
Spring	MTH 104	Calculus II	3	MTH 103	MJR
	ENV 101	Introduction to Environmental Science	3	CHM 101	CRR
	PHY 102/PHY 105	General Physics II/Physics for Environmental Sciences	4	PHY 101	MJR
	COM XXX	Communication II	3		GER
	CHM 102	General Chemistry II	4	CHM 101	MJR
		Total	**17**		

Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
SECOND YEAR (32 credit hours)					
Fall	XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	CHM 215	Organic Chemistry I	3	CHM 102 prerequisite/concurrent	CNR
	ENV 252	Environmental Chemistry	3	CHM 102	CRR
	ARA 101	Readings in Arabic Heritage	3		GER
	COM XXX	Communication III	3		GER
		Total	**15**		
Spring	CHM 241	Quantitative Analysis	4	CHM 102	CNR
	CHM 216	Organic Chemistry II	3	CHM 215	CNR
	CHM 215L	Organic Chemistry Lab I	1	CHM 215	CNR
	CHM 231	Physical Chemistry I	3	CHM 102 and MTH 104	CNR
	COM XXX	Communication IV	3		GER
	XXX	Concentration Elective	3		CNE 1 of 3
		Total	**17**		

THIRD YEAR (31 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	STA 201	Intro. to Statistics for Engineering and Natural Sciences	3	MTH 103	GER
	ENV 231	Transition Metals and their compounds in the Env.	3	CHM 102	CNR
	XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	XXX	Free Elective	3		FRE 1 of 5
	CHM 216L	Organic Chemistry Lab II	1	CHM 215L and CHM 216	CNR
	ENV 311	Environmental Modeling	3	MTH 104 and ENV 252	CRR
		Total	16		
Spring	ENV 351	Environmental Monitoring and Analysis Techniques	3	STA 201 and ENV 252	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	CHM 445	Instrumental Analysis	3	CHM 102	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	XXX	Free Elective	3		FRE 2 of 5
		Total	15		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENV 491	Senior Project I	3	Senior Standing	CRR
	ENV 451	Waste Treatment	3	ENV 252	CNR
	CHM 331	Physical Chemistry II	3	CHM 231 or CHE 204	CNR
	XXX	Concentration Elective	3		CNE 2 of 3
	XXX	Free Elective	3		FRE 3 of 5
		Total	15		
Spring	XXX	Concentration Elective	3		CNE 3 of 3
	ENV 411	Environmental Assessment and Management	3	ENV 252	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	XXX	Free elective	3		FRE 4 of 5
	XXX	Free elective	3		FRE 5 of 5
		Total	15		

Abbreviations: GER: University Requirement; HSS: Humanities/Social Sciences Requirement; FRE: Free Elective; MJE: Major Elective; CRR: Core Requirement; CNR: Concentration Requirement; CNE: Concentration Elective; EPT: English Placement Test; MPT: Math Placement Test; PPT: Physics Placement Test; MJR: Major Requirement

Concentration in Environmental Physics (at least 33 credits)

Concentration Requirements (23 credits)
- CHM 231 Physical Chemistry I
- MTH 203 Calculus III
- PHY 201 Modern Physics
- PHY 251 Meteorology
- PHY 301 Energy Sources
- PHY 304 Issues in Environmental Physics
- PHY 351 Analytical Techniques

Concentration Electives (9 credits)
- CHM 331 Physical Chemistry II
- CVE 231 Environmental Geology
- ECO 403 Economics of Natural Energy Resources
- ECO 404 Economics of Environmental and Natural Resources
- ENV 261 Physical Geography
- ENV 451 Waste Treatment
- ENV 492 Senior Project II
- PHI 204 Ethics for Professionals
- PHY 303 Atmospheric Physics

Proposed Course Sequence of Study

Bachelor of Science in Environmental Sciences (B.S.E.S.)

Concentration: Environmental Physics

FIRST YEAR (35 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	MTH 103	Calculus I	3	MPT or MTH 001	GER
	BIO 101	General Biology I	4		MJR
	COM XXX	Communication I	3		GER
	PHY 101	General Physics I	4	PPT or PHY 001 and MTH 103 prerequisite/concurrent	GER
	CHM 101	General Chemistry I	4		GER
		Total	**18**		
Spring	MTH 104	Calculus II	3	MTH 103	MJR
	ENV 101	Introduction to Environmental Science	3	CHM 101	CRR
	PHY 102/PHY 105	General Physics II/Physics for Environmental Sciences	4	PHY 101	MJR
	COM XXX	Communication II	3		GER
	CHM 102	General Chemistry II	4	CHM 101	MJR
		Total	**17**		

SECOND YEAR (32 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COM XXX	Communication III	3		GER
	PHY 201	Modern Physics	4	PHY 102 or PHY 105	CNR
	ENV 252	Environmental Chemistry	3	CHM 102	CRR
	ARA 101	Readings in Arabic Heritage	3		GER
	XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
		Total	**16**		
Spring	CHM 231	Physical Chemistry I	3	CHM 102 and MTH 104	CNR
	PHY 251	Meteorology	3	PHY 101	CNR
	COM XXX	Communication IV	3		GER
	MTH 203	Calculus III	3	MTH 104	CNR
	XXX	Concentration Elective	3		CNE 1 of 3
		Total	**16**		

THIRD YEAR (31 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	STA 201	Intro. to Statistics for Engineering and Natural Sciences	3	MTH 103	GER
	XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	PHY 301	Energy Sources	3	PHY 102 or PHY 105	CNR
	ENV 311	Environmental Modeling	3	MTH 104 and ENV 252	CRR
	PHY 304	Issues in Environmental Physics	3	PHY 102 or 105	CNR
		Total	**15**		
Spring	PHY 351	Analytical Techniques	4	PHY 201	CNR
	XXX	Free Elective	3		FRE 1 of 5
	CHM 445	Instrumental Analysis	3	CHM 102	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	ENV 351	Environmental Monitoring and Analysis Techniques	3	STA 201 and ENV 252	CRR
		Total	**16**		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	XXX	Free Elective	3		FRE 2 of 5
	ENV 491	Senior Project I	3	Senior Standing	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	XXX	Concentration Elective	3		CNE 2 of 3
	XXX	Free Elective	3		FRE 3 of 5
		Total	15		
Spring	XXX	Concentration Elective	3		CNE 3 of 3
	ENV 411	Environmental Assessment and Management	3	ENV 252	CRR
	XXX	Free Elective	3		FRE 4 of 5
	XXX	Free Elective	3		FRE 5 of 5
	XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
		Total	15		

Abbreviations: GER: University Requirement; HSS: Humanities/Social Sciences Requirement; FRE: Free Elective; MJE: Major Elective; CRR: Core Requirement; CNR: Concentration Requirement; CNE: Concentration Elective; EPT: English Placement Test; MPT: Math Placement Test; PPT: Physics Placement Test; MJR: Major Requirement

Double Concentration in Biology/Ecosystems and Environmental Chemistry/Analysis

Students fulfill the requirements of both concentrations, as detailed in the sections above.

Minor in Environmental Sciences

Students who minor in Environmental Sciences must take a minimum of 18 credits from among the courses in the two groups below. The minimum credits required from each group are indicated.

9-12 credits from the following:
- ENV 252 Environmental Chemistry
- ENV 311 Environmental Modeling
- ENV 351 Environmental Monitoring and Analysis
- ENV 411 Environmental Assessment and Management

6-9 credits from the following:
- BIO 230 Ecosystems Management
- BIO 251 Environmental Ecology
- BIO 335 Environmental Microbiology
- CHE 460 Wastewater Treatment
- CHE 461 Air Pollution
- CHE 467 Corrosion
- CHE 474 Environmental Transport

- CHM 445 Instrumental Analysis
- ENV 231 Transition Metals and their Compounds in the Environment
- ENV 451 Waste Treatment
- ENV 452 Soil and Water Chemistry
- ENV 491 Senior Research Project I

At least nine credits must be in courses at the 300 level and above. Credit can not be given to both ENV 451 and CHE 460.

Department of English and Translation Studies

Said Faiq, Chair

The mission of the Department of English and Translation is to cultivate student mastery in English language/literature 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 a leading program preparing students to become active members of the English-speaking global society.

Bachelor of Arts in English Language and Literature (B.A.E.L.L.)

Program Description

The 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 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 courses and 18 credits in either literature or language courses.

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 that 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. 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 of the concentrations graduates for further studies in linguistics and for careers in communication, a fast growing sector in today's societies. In addition, 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 English language skills, research skills, and critical and analytical abilities. Moreover, it prepares students for positions 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 in a related disciplinary area.

Admission to the Program

Students transferring into the program must have a cumulative GPA of 2.0 or higher.

Degree Requirements

A total of at least 120 credits, including

- 42 credits of general education requirements
- 63 credits of major requirements
- 15 credits of free electives
- A minimum CGPA of 2.0

Major Requirements (63 credits)

Both concentrations within the English language and literature major require students to take 63 credits of coursework. All students in this major must complete:

- 30 credits of core courses
- 18 credits of concentration courses in language or literature
- 15 credits of major electives

Core Requirements (30 credits)

- COM 220 Intercultural Communication
- ENG 201 Creative Writting or ENG 300 Introduction to Literary Theory
- ENG 202 English Poetry and Prose I: Beginnings to 1800
- ENG 210 Introduction to Genre
- ENG 214 Survey of American Literature
- ENG 215 Contemporary World Literature
- ENG 223 Introduction to Language Study
- ENG 224 Structure and Function of English
- ENG 226 Development of the English Language
- ENG 234 Language in Society

Major Electives (15 credits)

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

- Any MCM, ENG or TRA courses

English Language Concentration Requirements (18 credits)

- ENG 331 Phonetics, Phonology and Morphology
- ENG 332 Psycholinguistics or ENG 407 Second Language Acquisition
- ENG 334 Semantics and Pragmatics
- ENG 401 Advanced English Grammar or ENG 395 Survey of Topics in Linguistics and Communication
- ENG 405 Discourse Analysis
- ENG 495 Seminar in English Language

English Literature Concentration Requirements (18 credits)

- ENG 213 English Poetry and Prose II: 1800 to Present or ENG 216 Modern Drama and Beyond
- ENG 303 Shakespeare and His Contemporaries
- ENG 309 The American Novel or ENG 311 Early English Novel or ENG 313 Modern British Novel
- ENG 315 East Meets West: Colonial and Post Colonial Encounters
- ENG 411 Seminar in English Literature or ENG 413 Seminar in American Literature or ENG 415 Seminar in Post Colonial Literature
- ENG 490 Senior Research Project

Proposed Course Sequence of Study
Bachelor of Arts in English Language and Literature (B.A.E.L.L.)

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 101	Academic Writing	3	EPT 4/COM 001	GER
	MTH 100	Fundamentals of Logic and Geometry	3		GER
	XXX	Humanities/Social Sciences	3		GER 1 of 5
	XXX	Science Elective	3		GER Science 1 of 2
	ARA 101	Readings in Arabic Heritage	3		GER
		Total	15		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT 5/COM 101	GER
	XXX	Humanities/Social Science	3		GER 2 of 5
	XXX	Free Elective	3		FRE 1 of 5
	XXX	Science Elective	3		GER Science 2 of 2
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or MTH 101 or MTH 111	GER
		Total	15		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 203/204	Advanced Academic Writing/Writing about Literature	3	COM 102	GER
	ENG 223	Introduction to Language Study	3	COM 102	CRR
	XXX	Major Elective	3		MJE HSS 1 of 5
	XXX	Free Elective	3		FRE 2 of 5
	ENG 224	English Grammar	3	COM 102	CRR
		Total	15		
Spring	XXX	Major Elective	3		MJE HSS 2 of 5
	ENG 210	Introduction to Literature	3	COM 203 or COM 204	CRR
	COM 220	Intercultural Communication	3	COM 102	CRR
	ENG 226	Development of the English Language	3	ENG 223	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
		Total	15		

Language Concentration

THIRD YEAR (30 credit hours) - Language Concentration					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENG 201/ ENG 300	Creative Writing/Introduction to Literary Theory	3	COM 203 or COM 204/ Any 200-level Literature course	CRR
	ENG 234	Language in Society	3		CRR
	ENG 202	English Poetry and Prose I: Beginnings to 1800	3	COM 203/204	CRR
	ENG 215	Contemporary World Literature	3	COM 203 or COM 204	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
		Total	15		
Spring	ENG 331	Phonetics, Phonology and Morphology	3	ENG 224	CNR
	ENG 214	Survey of American Literature	3	COM 203 or COM 204	CRR
	ENG 332 or ENG 407	Psycholinguistics/Second Language Acquisition	3	ENG 223/ENG 332	CNR
	XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	ENG 334	Semantics and Pragmatics	3	ENG 224	CNR
		Total	15		

FOURTH YEAR (30 credit hours) - Language Concentration					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	ENG 405	Discourse Analysis	3	ENG 334	CNR
	COM 208	Public Speaking	3	COM 203 or COM 204	
				or COM 231 or MCM 231	GRE
	ENG 401 or	Advanced English Grammar			
	ENG 395	Survey of Topics in Linguistics and Communication	3	ENG 223	CNR
	XXX	Major Elective	3		MJE 3 of 5
	XXX	Free Elective	3		FRE 3 of 5
		Total	**15**		
Spring	XXX	Major Elective	3		MJE 4 of 5
	ENG 495	Seminar in English Language	3	Any 400-level English Language course	CNR
	XXX	Major Elective	3		MJE 5 of 5
	XXX	Free Elective	3		FRE 4 of 5
	XXX	Free Elective	3		FRE 5 of 5
		Total	**15**		

Literature Concentration

THIRD YEAR (30 credit hours) - Literature Concentration					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	ENG 201 or	Creative Writing/Introduction to Literary Theory	3	COM 203 or COM 204/	
	ENG 300			Any 200-level Literature course	CRR
	COM 208	Public Speaking	3	COM 203 or COM 204	
				or COM 231 or MCM 231	GRE
	ENG 202	English Poetry and Prose I: Beginnings to 1800	3	COM 203/204	CRR
	ENG 215	Contemporary World Literature	3	COM 203 or COM 204	CRR
	XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
		Total	**15**		
Spring	ENG 234	Language in Society	3	COM 102	CRR
	ENG 214	Survey of American Literature I	3	COM 203/204	CRR
	ENG 213 or	English Poetry and Prose II:			
	ENG 216	1800 to Present/Modern Drama and Beyond	3	COM 203/204	CNR
	XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	XXX	Major Elective	3		MJE 3 of 5
		Total	**15**		

FOURTH YEAR (30 credit hours) - Literature Concentration					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	ENG 303	English Renaissance Drama	3	ENG 202 or 213	CNR
	ENG 309 or	The American Novel/Early English Novel/		ENG 214/ ENG 213/ENG 202	
	ENG 311 or ENG 313	Modern British Novel	3	or 213	CNR
	ENG 315	East Meets West: Colonial and Post Colonial Literature	3	ENG 202 or 300	CNR
	XXX	Major Elective	3		MJE 4 of 5
	XXX	Free Elective	3		FRE 3 of 5
		Total	**15**		
Spring	ENG 411 or ENG 413	Seminar in English Literature/Seminar in American			
	or ENG 415	Literature/Seminar in Post-Colonial Literature	3	Any 300-level Literature course	CNR
	ENG 490	Senior Research Project	3	ENG 411 or ENG 413 or ENG 415	CNR
	XXX	Major Elective	3		MJE 5 of 5
	XXX	Free Elective	3		FRE 4 of 5
	XXX	Free Elective	3		FRE 5 of 5
		Total	**15**		

Abbreviations: GER: University Requirement; HSS: Humanities/Social Sciences Requirement; FRE: Free Elective; MJE: Major Elective; CRR: Core Requirement; CNR: Concentration Requirement; CNE: Concentration Elective; EPT: English Placement Test; MPT: Math Placement Test; PPT: Physics Placement Test

Minor in English Language (21 credits)

- ENG 223 Introduction to Language Study
- ENG 224 English Grammar
- ENG 226 Development of the English Language
- ENG 331 Phonetics, Phonology and Morphology or ENG 405 Discourse Analysis
- ENG 332 Psycholinguistics
- ENG 334 Semantics and Pragmatics
- ENG 409 Applied Linguistics

Minor in English Literature (21 credits)

- ENG 202 English Poetry and Prose I: Beginnings to 1800
- ENG 213 English Poetry and Prose II: 1800 to Presentor or ENG 216 Modern Drama and Beyond
- ENG 214 Survey of American Literature
- ENG 215 Contemporary World Literature or ENG 210 Introduction to Genres
- ENG 303 English Renaissance Drama
- ENG 309 The American Novel or or ENG 311 Early English Novel or ENG 313 Modern British Novel
- ENG 315 East Meets West: Colonial and Post-Colonial Encounters

Minor in ESL/TEFL (21 credits)

- ENG 223 Introduction to Language Study or ENG 224 English Grammar
- ENG 234 Language in Society or ENG 405 Discourse Analysis
- ENG 401 Advanced English Grammar or 419 Reading and Writing in ESL/TEFL
- ENG 407 Second Language Acquisition or ENG 395 Survey of Topics in Linguistics and Communication
- ENG 425 Language Teaching Methodology
- ENG 429 Curriculum Development

Minor in English/Arabic Translation and Interpreting

Program Description

To qualify for a minor in English/Arabic

Translation and Interpreting, students must demonstrate fluency in English and Arabic. In tandem with a solid grounding in communicative skills and linguistic analysis, the minor in translation and interpreting focuses on written translation skills in a variety of settings and across disciplines. The interpreting further enhances the grounding gained in translation but focuses particularly on the community. Throughout the program, students are provided with relevant theoretical input that establishes a framework for the study of translation and interpreting and offers the tools to identify, analyze and resolve translation and interpreting problems. Interpreting is another track pursued in the degree program.

This program of study will enable AUS students from any discipline to further enhance their employability chances and, more importantly, to be able to mediate in English between the world of their education and their community.

Major Requirements (18 Credits)

To satisfy the requirements for the minor in English/Arabic Translation and Interpreting, students must complete the following:

- TRA 101 Introduction to Translation
- TRA 201 Theoretical and Practical Issues in Translation
- TRA 203 Modern Media Translation and Interpreting
- TRA 303 Interpreting I: Focus on the Community
- TRA 401 Translation Evaluation and History
- TRA 494 Special Topics in Translation

Intensive English Program

Mark Algren, Director

Mission Statement

Since 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 coursework.

Admission and Placement

Students who score below 173 on the Test of English as a Foreign Language (computer-based 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 one credit. These credits are in addition to the student's other degree requirements. Only the grades of the last two semesters of IEP count toward students' cumulative grade point averages once they begin their studies in their majors. IEP credits are not transferable.

Organization of the Program

The IEP consists of six levels that are sequenced 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 below.

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	25 hours	0 hours	25 hours	0

Note: No IEP student is eligible to take any AUS courses outside of his/her IEP studies. Also, students who are placed into Level 5 of the IEP must take University Seminar, a five-

hour course that is part of their 25 hours of IEP coursework each week. This course focuses on the academic skills needed to succeed in undergraduate studies at AUS.

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, coursework begins to simulate full academic, 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 hours of classroom instruction a week. In addition, all students except those in level five, who meet 25 hours a week, 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. Individual attention is given to students as much 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 freshman status or to a higher level in the program is determined by examination and instructor assessment.

Academic Probation Policy

A passing grade for all IEP courses is a C. IEP students will be placed on academic probation at the end of any semester in which their final IEP grade is below a C. Students on probation will have one semester in which to achieve a grade of C 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 percent of all IEP courses. If students miss 15 percent 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 class.

Lateness

Classes begin on time and students are expected to be in class on time. Students who arrive late disrupt whatever activity is being performed. Three occasions of tardiness count as one absence.

Department of Mass Communication

Mahboub Hashem, Chair

The Mass Communication Department emphasizes a generalist approach with optional concentration in three professional areas: advertising, journalism and public relations. This allows students to have the greatest flexibility in tailoring their Mass Communication degree to best serve their career goals. It builds upon acquisition of technical, oral and written communication competencies. Graduates receive a Bachelor of Arts degree in Mass Communication.

Bachelor of Arts in Mass Communication (B.A.M.C.)

A degree in Mass Communication prepares students for professions requiring the highest levels of English language skills, research skills, and critical and analytical abilities. These research and analytical skills are themselves in high demand by the fastest growing segments of major media organizations. By receiving a solid grounding in the practical use of qualitative and quantitative methodology, and skills, such as news

writing, copy writing, media production, public relations planning and advertising design, graduates will also be prepared to enter professional fields such as publishing, editing, research and teaching. They may also find jobs in any communication capacity in areas as varied as diplomacy, business, government, non-profit agencies, professional associations, healthcare companies and international organizations. Moreover, a Mass Communication degree prepares students for any position requiring interaction with educated native speakers of English.

Optional Concentration Areas

With the permission of the department, and the consent of their advisor, students in good standing who have completed 90 credits (at least 36 of them in MCM classes) may tailor their final year's studies in one of the three concentration areas. Those who tailor their studies in a concentration area receive the same degree with the addendum: "concentration in …" the corresponding track.

Advertising

The Advertising concentration curriculum is designed to additionally prepare students for careers in ad creation, sales, management or production with advertising agencies or corporate advertising departments. In effect, it is a training ground for ad account executives, media planners, creative specialists, interactive media advertising specialists and marketing communication researchers.

Journalism

The Journalism concentration curriculum additionally prepares students for careers in newspapers, magazines, broadcasting, wire services, special interest publications and online publications. This curriculum can give students additional preparation to find careers as print and broadcast reporters, editors, producers, copywriters, scriptwriters, news/project managers, copy editors, correspondents, columnists or editorial writers.

Public Relations

Students in the Public Relations concentration curriculum receive

additional exposure 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.

Admission to the Program

Students transferring into the program must have a cumulative GPA of at least 2.0.

Degree Requirements

To graduate, a student must complete at least 120 credit hours as follows:

- 42 credit hours of general education requirements (GER) including:
  - COM 208 requirement (MCM students may substitute MCM/COM 209)
- 63 credit hours of MCM major requirements (MJR)
- 15 credit hours of free electives (FRE)
- A minimum CGPA of 2.0

Major Requirements (63 credits)

All students must complete a total of 63 credit hours of major requirements divided as follows:

Core Requirements (36 credits)

- MCM 100 Introduction to Digital Media Design or DES 100 Digital Media in Design
- MCM 150 Introduction to Mass Media Studies
- MCM 225 Theories of Mass Communication
- MCM/COM 231 Writing for the Media
- MCM 280 Mass Communication Research Methods
- MCM 497 Mass Communication Internship (By instructor arrangement only. Students may substitute this course's requirement by submitting a major research practicum/project as an independent study [MCM 496]).
- PHI 204 Ethics for Professionals

With the help of their advisor, students should fulfill the rest of their major requirements by taking any five MCM courses at any level. Suggested concentration tracks are described below; substitutions may be approved by the advisor and MCM department.

Major Electives (15 credits)

Major electives include all 200-level or above COM, DES, ENG, MCM, MGT, MKT, MUM, TRA and VIS courses.

Students pursuing the general Mass Communication degree must take 12 MCM credit hours above major requirements; nine of these credits must be at the 300-level or above.

Concentration in Advertising
(12 credits)

Concentration Requirements
(9 credits)
• MCM 351 Advertising Copy and Layout
• MCM 453 Advertising Media Planning
• MCM 455 Advertising Campaigns

Concentration Electives (3 credits)
• MCM 451 Advertising Research
• MCM 454 Case Studies in Advertising

Note: Students in this concentration must take at least one marketing course. ECO 201 or 202 is the prerequisite for MCM students taking MKT 211 Fundamentals of Marketing. ECO courses may count as humanities/social sciences requirement.

Concentration in Journalism
(12 credits)

Concentration Requirements
(9 credits)
• MCM 281 Principles of Media and Performance

• MCM 371 News Writing for Print and Broadcast
• MCM 372 Advanced News Writing

Concentration Electives (3 credits)
• MCM 321 Mass Media Law and Policy
• MCM 373 Scriptwriting
• MCM 374 Feature Writing
• MCM 375 Editing for the Print Media
• MCM 377 Photojournalism
• MCM 410 Media Producing and Project Management
• MCM 470 Writing and Reporting for Broadcast News
• MCM 472 Editorial and Critical Writing
• MCM 477 Print Media Project

Concentration in Public Relations
(12 credits)

Concentration Requirements
(9 credits)
• MCM 269 Public Relations Writing
• MCM 360 Public Relations Crisis Management
• MCM 465 Public Relations Campaigns

Concentration Electives (3 credits)
• MCM 361 Case Studies in Public Relations
• MCM 467 Public Relations for Non-Profit Organizations

Double Concentration

MCM students may pursue a second concentration. Such students must fulfill the course requirements in both concentration areas. Students may opt to do their second concentration using free electives; however, double-concentration students may have to take more than 120 hours to meet graduation requirements.

Minor in Mass Communication

Non MCM majors in good standing are eligible to pursue a minor in Mass Communication. To complete a minor, a student must complete a minimum of 18 MCM credit hours. Nine credits should involve 100-level or above of MCM classes; the other nine credit hours must be at the 300-level or above. Admission requirements into a minor are the same as those specified for MCM majors. Priority in all MCM courses will be given to MCM majors.

Proposed Course Sequence of Study
Bachelor of Arts in Mass Communication (B.A.M.C.)

FIRST YEAR (30 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	MATH 100	Fundamentals of Logic and Geometry	3		GER
	ARA 101	Readings in Arabic Heritage	3		GER
	XXX	Science Elective	3		GER Science 1 of 2
	XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
		Total	**15**		
Spring	COM 102	Writing and Reading	3	EPT 5 or COM 101	GER
	MCM 100/ DES 100	Intro to Digital Media Design/Digital Media in Design	3		CRR
	XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	XXX	Science Elective	3		GER Science 2 of 2
	STA 202	Introduction to Statistics for Social Sciences.	3	MTH 100 or 101 or 111	GER
		Total	**15**		

SECOND YEAR (30 credit hours)				
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COM 203 or 204	Writing about Literature/Advanced Academic Writing	3	COM 102	GER
	XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	MCM 150	Introduction to Mass Communication Studies	3	COM 102	CRR
	PHI 204	Ethics for Professionals	3	COM 102	CRR
	COM 208 or	Public Speaking/		COM 203 or COM 204	
	MCM/COM 209	Dramatic Expression	3	or COM 231 or MCM 231	CRR
		Total	**15**		
Spring	MCM 225	Theories of Mass Communication	3	COM 102	CRR
	MCM XXX	Major Requirement	3		MJR 1 of 5
	2XX+ in COM/DES/ ENG MCM/ MGT/MKT/ MUM/TRA/VIS	Major Elective	3		MJE 1 of 5
	MCM / COM 231	Writing for Visual Media	3	COM 102 and Sophomore Standing	CRR
	XXX	Free Elective	3		FRE 1 of 5
		Total	**15**		

THIRD YEAR (30 credit hours)				
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	MCM XXX	Major Requirement	3		MJR 2 of 5
	MCM XXX	Major Requirement	3		MJR 3 of 5
	2XX+ in COM/DES/ ENG MCM/ MGT/MKT/ MUM/TRA/VIS	Major Elective	3		MJE 2 of 5
	MCM XXX	Major Requirement	3		MJR 4 of 5
		Total	**15**		
Spring	XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	MCM 280	Mass Communication Research Methods	3	MCM 150/STA 202 or QAN 201	CRR
	MCM XXX	Major Requirement	3		MJR 5 of 5
	MCM 3XX/4XX	Concentration Requirement	3		CNR 1 of 4
	XXX	Free Elective	3		FRE 2 of 5
		Total	**15**		

FOURTH YEAR (30 credit hours)				
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	MCM 3XX/4XX	Concentration Requirement	3		CNR 2 of 4
	MCM 3XX/4XX	Concentration Requirement	3		CNR 3 of 4
	2XX+ in COM/DES/ ENG MCM/ MGT/MKT/ MUM/TRA/VIS	Major Elective	3		MJE 3 of 5
	2XX+ in COM/DES/ ENG/MCM/ MGT/MKT/ MUM/TRA/VIS	Major Elective	3		MJE 4 of 5
	XXX	Free Elective	3		FRE 3 of 5
		Total	**15**		
Spring	MCM 3XX/4XX	Major Requirement	3		CNR 4 of 4
	2XX+ in COM/DES/ ENG MCM/ MGT/MKT MUM/TRA/VIS	Major Elective	3		MJE 5 of 5
	XXX	Free Elective	3		FRE 4 of 5
	XXX	Free Elective	3		FRE 5 of 5
	MCM 497	Mass Communication Internship	3		CRR
		Total	**15**		

Abbreviations: GER: General Education Requirement; HSS; Humanities/Social Sciences Requirement; FRE: Free Elective; MJE: Major Elective; MJR: Major Requirement; CNR: MCM Concentration Requirement; EPT: English Placement Test; CRR; Core Requirement

Department of Mathematics and Statistics

Yusuf Abu-Muhanna, Chair

Minor in Applied and Computational Mathematics

The Department of Mathematics and Statistics offers a minor in Applied and Computational Mathematics.

In order to minor in Applied and Computational Mathematics students must complete 18 credit hours. Students must take the following courses:

Minor Requirements (12 credits)
- MTH 205 Differential Equations
- MTH 221 Linear Algebra
- MTH 341 Computational Methods
- MTH 351 Methods of Applied Mathematics I

Minor Electives (6 credits)
In addition to the above requirements, students must choose two additional courses at the 300-level or above in mathematics and/or statistics.

School of Architecture and Design

Dean

Associate Dean
Amer Moustafa

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

All programs have received accreditation from the UAE Ministry of Higher Education and Scientific Research.

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 degree programs that feature 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 approach 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 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 the foundations year is shared by professors from the various majors.

Professors
Martin Giesen

Associate Professors
Tarek Al Ghoussein (Design)
Nadia Alhasani (Architecture)
Brian Dougan (Foundations)
Bruce Lonnman (Architecture)
Ahmed Mokhtar (Architecture)
Amer Moustafa (Architecture)
Samia Rab (Architecture)
Jay Randle (Architecture)
Mehdi Sabet (Architecture)
Phil Sheil (Design)
Dirk Van Wyk (Design)
Gregor Weiss (Architecture)

Assistant Professors
Shoaib Nabi Ahmad (Design)
Amir Berbic (Design)
Claude Bérubé (Architecture)
John Botthoff (Design)
Daniela Marx (Design)
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)
Kevin Mitchell (Architecture)
Mark Pilkington (Design)
Rula Sadik (Urban Planning)
Ali Shakarchi (Architecture)
John Swanstrom (Design)
Florian Techel (Architecture)

Instructors
Paul Bantey (Design)
Masood Khan (Design)

Visiting Faculty
Kenneth Vineberg (Foundations)

Career Opportunities

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

- Architecture, environmental design, interior design, urban design
- Graphic design, advertising, packaging design, illustration, digital media, animation, computer simulations, video, photography, printmaking
- Communications and public relations, fine arts and cultural arts administration, gallery management, advertising campaign planning

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 and architectural studies, interior design, multimedia design and visual communication is limited to the following:

- Architecture and architectural studies 32
- Interior design 16
- Multimedia design/ Visual communication 48

The number of available places in second-year design management is not limited. The School of Architecture and Design accepts new and transfer students *only* in the fall semester.

Selection for Promotion

Selection for enrollment in second-year studios is competitive. Criteria for promotion 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

In addition, selection for promotion may also include:

- 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 SA&D 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 coursework.

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 for archiving, publicity and exhibition.

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, late return or loss.

Programs Offered

The School of Architecture and Design offers the following undergraduate 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

Kevin Mitchell, Chair

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 the major-required courses in 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:

- Competence in the fundamental skills and concepts of design analysis, representation and presentation through studio-based exercises and projects.
- Familiarity with the historical implications and chronology of design conventions through in-class lectures and written assignments.
- 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 year, encourage one-on-one student/professor interaction and allow the student to develop an independent design process.

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 studio programs. Successful completion of these courses is required to be considered for advancement to the second year of the chosen studio major:

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

Design Management students are required to complete all foundations courses listed above, except DES 112 and DES 132, which may be taken as major electives.

Although some faculty members 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

Bruce Lonnman, Chair

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 multiple 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 investigates 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 172 credits comprise the degree program, including a minimum of 121 credits of required coursework in architecture and closely associated fields. These courses represent the irreducible core of the discipline of architecture.

Each student is required to extend the core curriculum with 18 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. Some major required courses count toward general education requirements. In such cases, both requirements are considered as being met but the credits only count once toward total degree hours.

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 second 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 I (MTH 103)
- At least one course in English/Communication at the 100-level or above
- A minimum of 27 semester hours of university credit (including the above courses)
- An cumulative 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 Office of the Registrar 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, and a waiting list will be established. In the event of a tie, students with the highest GPA in all four foundations studio courses will advance to second year. In the event of a second tie, students with the highest GPA in History of Material Culture and Mathematics for Architects will advance to the second year. 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. Students who need to repeat a second-year studio course will also be competing for the limited number of seats in the major.

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 GPA of C+ (2.3) in all university courses
- Have attained a minimum major studio average of 2.5 in each year of the architectural design studio sequence (ARC 201 and 202, ARC 301 and 302, ARC 401 and 402)
- Have attained a minimum grade of 2.3 in ARC 505 for enrolment in ARC 506 or ARC 592

Notes:
- 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 semester grade of D (1.00) in the fall studio may not continue into the spring semester of the studio sequence.
- A student who does not attain the required major studio average may repeat either studio.
- Any studio may be repeated only once for credit.
- A student who fails to achieve the minimum studio average necessary for promotion after repeating the studio is dismissed from the program.

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

Degree Requirements

A minimum of 172 credits, including the following:

- A minimum of 42 credits of general education requirements
- A minimum of 121 credits of architecture and architecture-related courses in the major including 18 credits of approved architecture electives
- Nine credits of free electives
- Fourteen weeks of approved professional training (internship)

In order to graduate with a Bachelor of Architecture degree, a student must maintain a minimum cumulative grade point average (CGPA) of 2.0 and must have attained a major studio average of 2.5 in the final studio sequence (ARC 505 and either ARC 506 or ARC 592).

General Education Requirements

- English language competency requirement (12 credits): 100-level or above of English/Communication courses
- Arabic heritage requirement (3 credits)
- Mathematics and/or statistics requirement (6 credits): MTH 103 or MTH 111 and one other course that satisfies the university math requirements
- Science requirement (6 credits): PHY 104 and one other science course
- Humanities and social sciences requirement (15 credits): DES 121 and DES 122 plus nine credits designated humanities or social sciences
- Computer literacy requirement: Satisfied through extensive use of computer resources throughout the architecture curriculum.

For information about designated requirements, please refer to University Degree Requirements.

Major Requirements (88 credits)

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 Statics and Mechanics for Architecture
- ARC 301 Architectural Design Studio III
- ARC 302 Architectural Design Studio IV
- ARC 325 Ideas in Architecture
- ARC 333 Rough Construction Processes
- ARC 344/CVE 372 Structural Design for Architects
- ARC 354 Environmental Energies and Building Form
- ARC 364 Introduction to Computer-Aided Drawing
- 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 462 Design Management
- ARC 471 Site Planning

- ARC 497 Internship II (8 weeks)
- ARC 505 Architectural Design Studio VII
- ARC 563/CVE 561 Construction Management
- ARC 506 Architectural Design Studio VIII or ARC 592 Final Project Design

Internship

To qualify for the Bachelor of Architecture degree, students must fulfill the internship requirements prior to graduation. Architecture students are highly encouraged to complete the internship program during the summer following their third and fourth years respectively. Completing the internship requirement is a prerequisite for registering in some studio courses. The purpose of the internship is to expose students to the profession and give them an opportunity to apply their academic knowledge in a practical experience. The internship consists of a minimum of 240 work hours for third-year students and 320 work hours for fourth-year students with an approved employer. The student's work will be monitored by the student him/herself through weekly journal reports and a final internship report, by an internship coordinator designated by the university, and by the internship employer. At the conclusion of the internship period, the internship employer completes and submits to the internship coordinator special forms concerning the student's performance. The student also submits to the internship coordinator a final internship report that documents the undertaken work. Students' internships are ultimately evaluated by the internship coordinator with a pass/fail grade.

Major Electives (18 credits)

All ARC and IDE courses not listed above as major requirements count as major electives (MJEs).

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

Free Electives (9 credits)

Nine credits from any courses offered at AUS at or above the 100-level.

Proposed Course Sequence of Study

Bachelor of Architecture (B.Arch.)

Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
FIRST YEAR (30/31 credit hours)					
Fall	COM 101	Academic Writing	3	EPT 4	GER Communication 1 of 4
	DES 111	Descriptive Drawing I	3		CRR/MJR
	DES 121	History of Material Culture I	3		CRR/MJR/GER HSS 1 of 5
	DES 131	Design Foundations I	3		CRR/MJR
	MTH 111 or	Mathematics for Architects or	4/3	MTH 003 or MPT	MJR/GER Math 1 of 2
	MTH 103	Calculus I		MTH 001 or MPT	
		Total	**15/16**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT score 5 or COM 101	GER Communication 2 of 4
	DES 100	Digital Media in Design	3		CRR/MJR
	DES 112	Descriptive Drawing II	3	DES 111	MJR
	DES 122	History of Material Culture II	3		CRR/MJR/GER HSS 2 of 5
	DES 132	Design Foundations II	3	DES 131	MJR
		Total	**15**		

Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
SECOND YEAR (36 credit hours)					
Fall	ARC 201	Architectural and Interior Design Studio I	6	DES 100, 111, 112, 121, 122, 131, 132, MTH 003 or 111 or 103	MJR
	ARC 213	Analysis and Methods in Architecture	3	DES 100, 111, 112, 121, 122, 131 and 132	MJR
	COM XXX	Communication/English Requirement	3		GER Communication 3 of 4
	PHY 104	Physics for Architects	3	MTH 101 or 103 or 111	MJR/GER Science 1of 2
	ARC XXX	Major Elective	3		MJE 1 of 6
		Total	**18**		
Spring	ARC 202	Architectural and Interior Design Studio II	6	ARC 201 or IDE 201 and COM 102	MJR
	ARC 224	Modern Foundations of Art and Architecture	3	ARC 201 or IDE 201	MJR
	ARC 232	Survey of Materials and Practices in Cons.	3	DES 100, 111, 112, 121, 122, 131, 132	MJR
	COM XXX	Communication/English Requirement	3		GER Communication 4 of 4
	ARC 242 /CVE 272	Statics and Mechanics for Architecture	3	PHY 104	MJR
		Total	**18**		

THIRD YEAR (37 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	ARC 301	Architectural Design Studio III	6	ARC 202 or IDE 202, PHY 104	MJR
	ARC 325	Ideas in Architecture	3	ARC 224	MJR
	ARC 333	Rough Construction Processes	3	ARC 232	MJR
	ARC XXX	Major Elective	3		MJE 2 of 6
	SCI XXX	General Education Requirement	3		GER Science 2 of 2
		Total	**18**		
Spring	ARC 302	Architectural Design Studio IV	6	ARC 301, 213	MJR
	ARC 344 /CVE 372	Structural Design for Architects	3	ARC 242/CVE 272	MJR
	ARC 354	Environmental Energies and Building Form	3	PHY 104	MJR
	ARC 364	Introduction to Computer-Aided Drawing	1	ARC 202 or IDE 202	MJR
	ARC XXX	Major Elective	3		MJE 3 of 6
	XXX	General Education Requirement	3		GER Arabic 1 of 1 (or HSS 3 of 5)
		Total	**19**		
Summer	ARC 397	Internship I	0	ARC 302	MJR

FOURTH YEAR (36 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	ARC 401	Architectural Design Studio V	6	ARC 224, 232, 242 or CVE 272, ARC 302	MJR
	ARC 455	Environmental Control Systems	3	ARC 354	MJR
	ARC 471	Site Planning	3	ARC 302	MJR
	ARC XXX	Major Elective	3		MJE 4 of 6
	MTH/STA XXX	Advised Requirement	3		GER Math 2 of 2
		Total	**18**		
Spring	ARC 402	Architectural Design Studio VI	6	ARC 401, 325, 333, 354, 397	MJR
	ARC 434	Finish Construction Processes	3	ARC 333	MJR
	ARC 462	Design Management	3	ARC 397 or IDE 397	MJR
	ARC XXX	Major Elective	3		MJE 5 of 6
	XXX	General Education Requirement	3		GER HSS 3 of 5 (or Arabic 1 of 1)
		Total	**18**		
Summer	ARC 497	Internship II	0	ARC 402	MJR

FIFTH YEAR (33 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	ARC 505	Architectural Design Studio VII	6	ARC 402, 344 or CVE 372	MJR
	ARC XXX	Major Elective	3		MJE 6 of 6
	ARC 561/CVE 561	Construction Management	3	ARC 397 or IDE 397	MJR
	XXX	Free Elective	3		FRE 1 of 3
	XXX	General Education Requirement	3		GER HSS 4 of 5
		Total	**18**		
Spring	ARC 506	Architectural Design Studio VIII	6	ARC 505, 497	MJR
	XXX	General Education Requirement	3		GER HSS 5 of 5
	XXX	Free Elective	3		FRE 2 of 3
	XXX	Free Elective	3		FRE 3 of 3
		Total	**15**		
		Total for the degree	**172/173**		

Abbreviations: CRR: Core Requirement; MJR: Major Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MJE: Major Elective; FRE: 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. Beginning in 2005-2006, students will no longer be admitted to the B.S.A.S. program. However, all students enrolled in that program at that time will be allowed to finish their degree.

Degree Requirements

A minimum of 145 credits, including the following:

- A minimum of 42 credits of general education requirements
- A minimum of 94 credits of architecture and architecture-related courses in the major including 12 credits of approved architecture electives
- Nine credits of free electives
- Six weeks of approved professional training (internship)
- A minimum CGPA of 2.0

General Education Requirements

- English language competency requirement (12 credits): 100-level or above of English/communication courses
- Arabic heritage requirement (3 credits)
- Mathematics and/or statistics requirement (6 credits): MTH 103 or MTH 111 and one other course that satisfies the university math requirement
- Science requirement (6 credits): PHY 104 and one other science
- Humanities and social sciences requirement (15 credits): DES 121 and DES 122 plus nine credits designated humanities or social sciences
- Computer literacy requirement: Satisfied through extensive use of computer resources throughout the architecture curriculum

For information about designated requirements, please refer to University Degree Requirements.

Major Requirements

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 Statics and Mechanics for Architecture
- 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 for Architecture
- ARC 354 Environmental Energies and Building Form
- ARC 364 Introduction to Computer-Aided Drawing
- ARC 397 Internship I (six weeks)
- ARC 401 Architectural Design Studio V
- ARC 402 Architectural Design Studio VI
- ARC 434 Finish Construction Processes
- ARC 455 Environmental Control Systems

Internship

To qualify for the Bachelor of Science in Architectural Studies degree, students are required to fulfill the internship requirements prior to graduation. Students are highly encouraged to complete the internship program during the summer following their third year. Completing the internship requirement is a prerequisite for registering in some studio courses. The purpose of the internship is to expose students to the profession and give them an opportunity to apply their academic knowledge in a practical experience. The internship consists of a minimum of 240 work hours with an approved employer. The student's work will be monitored by the student him/herself through weekly journal reports and a final internship report, by an internship coordinator designated by the university, and by the internship employer. At the conclusion of the internship period, the internship employer completes and submits to the internship coordinator special forms concerning the student's performance. The student also submits to the internship coordinator a final internship report that documents the undertaken work. A student's internship is ultimately evaluated by the internship coordinator with a pass/fail grade.

Major Electives

All ARC and IDE courses not listed above as major requirements count as major electives (MJEs).

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 nine 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 Modern Foudations of Art and Architecture

  and nine credits in ARC courses at the 300 level or above.

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

Minor in Urban Design

The minor in urban design is offered within the Department of Architecture. Students must be in good academic standing and have completed a minimum of 30 credits prior to enrolling in the minor.

Minor Requirements (12 credits)
• ARC 424 Evolution of Cities
• ARC 573 Principles of Urban Design
• ARC 505 Architectural Design Studio VII

Minor Electives (6 credits)
• ARC 322 Global Issues in Architecture
• ARC 374 Environmentally Sustainable Design
• ARC 471 Site Planning
• ENV 100 Environmental Issues and Problems
• PBA 101 Introduction to Public Administration
• PSY 102 Social Psychology
• STA 201 Introduction to Statistics for Engineering and Natural Sciences

At least nine of the 18 credits must not have counted toward 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 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT 4	GER Communication 1 of 4
	DES 111	Descriptive Drawing I	3		CRR/MJR
	DES 121	History of Material Culture I	3		CRR/MJR/GER HSS 1 of 5
	DES 131	Design Foundations I	3		CRR/MJR
	MTH 111 or MTH 103	Mathematics for Architects or Calculus	4/3	MTH 003 or MPT	MJR/GER Math 1 of 2
		Total	**15/16**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT score 5 or COM 101	GER Communication 2 of 4
	DES 100	Digital Media in Design	3		CRR/MJR
	DES 112	Descriptive Drawing II	3	DES 111	MJR
	DES 122	History of Material Culture II	3		CRR/MJR/GER HSS 2 of 5
	DES 132	Design Foundations II	3	DES 131	MJR
		Total	**15**		

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

THIRD YEAR (37 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	ARC 301	Architectural Design Studio III	6	ARC 202 or IDE 202, PHY 104	MJR
	ARC 325	Ideas in Architecture	3	ARC 224	MJR
	ARC 333	Rough Construction Processes	3	ARC 232	MJR
	ARC XXX	Major Elective	3		MJE 2 of 4
	SCI XXX	General Education Requirement	3		GER Science 2 of 2
		Total	**18**		
Spring	ARC 302	Architectural Design Studio IV	6	ARC 301, 213	MJR
	ARC 344 /CVE 372	Structural Design for Architects	3	ARC 242/CVE 272	MJR
	ARC 354	Environmental Energies and Building Form	3	PHY 104	MJR
	ARC 364	Introduction to Computer-Aided Drawing	1	ARC 202 or IDE 202	MJR
	ARC XXX	Major Elective	3		MJE 3 of 4
	XXX	General Education Requirement	3		GER Arabic 1 of 1 (or HSS 3 of 5)
		Total	**19**		
Summer	ARC 397	Internship I	0	ARC 302	MJR

FOURTH YEAR (42 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	ARC 401	Architectural Design Studio V	6	ARC 302, 224, 232, 242 or CVE 272	MJR
	ARC 455	Environmental Control Systems	3	ARC 354	MJR
	XXX	General Education Requirement	3		GER HSS 3 of 5 (or Arabic 1 of 1)
	ARC XXX	Major Elective	3		MJE 4 of 4
	XXX	General Education Requirement	3		GER HSS 4 of 5
		Total	**18**		
Spring	ARC 402	Architectural Design Studio VI	6	ARC 401, 325, 333, 354, 397	MJR
	ARC 434	Finish Construction Processes	3	ARC 333	MJR
	MTH/STA XXX	Advised Requirement	3		GER Math 2 of 2
	XXX	General Education Requirement	3		GER HSS 5 of 5
		Free Elective	3		FRE 1 of 3
		Total	**18**		
Summer		Free Elective	3		FRE 2 of 3
		Free Elective	3		FRE 3 of 3
		Total	**6**		
		Total for the degree	**144/145**		

Abbreviations: CRR: Core Requirement; MJR: Major Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MJE: Major Elective; FRE: Free Elective; EPT: English Placement Test; MPT: Math Placement Test

Design Management

Mark Pilkington, Chair

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 entrepreneurial and communication components. 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 essential elements of this profession are the ability to communicate design needs, track progress and outcomes, identify the requirements of design projects and coordinate with clients as well as with professional teams in the field of design.

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 design, including photography, illustration, video production, Web design, animation and interactive authoring, as well as to speak fluently the "language" of design. Additionally, coursework in the disciplines of business, management and communication prepares students to recruit clients, pitch projects, write copy for print, television and radio, as well as master systems and marketing skills.

Typical target professional positions in the fast growing field of design management include administrative and managerial careers in media and service industries as advertising agency principals, project managers and team leaders, advertising campaign planners, client services specialists, advertising buyers, account and sales representatives, communications specialists, public relations professionals, exhibition and event planners, material culture administrators, 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 42 hours of university and general education requirements, 24 credits of major requirements in the School of Architecture and Design, 21 credits of major requirements in the School of Business and Management, plus 18 credits of major electives and 15 credits of free electives. Some major required courses count toward general education requirements. In such cases, both requirements are considered as being met but the credits only count once toward total degree hours. In addition, professional training (internship) is required of all students; firm/company placement occurs in the summer after completion of the third year.

Graduation Requirements

A minimum of 120 credits including the following:

- 42 credits of general education requirements
- Major Requirements
  - 24 credits in the School of Architecture and Design
  - 21 credits in the School of Business and Management
- 18 credits of major electives
- 15 credits of free electives
- A minimum CGPA of 2.0

General Education Requirements

- English language competency requirement (12 credits): 100-level or above of English/communication courses, including COM 204 and COM 225
- Arabic heritage requirement (3 credits)
- Mathematics and/or statistics requirement (6 credits): MTH 101 and STA 202
- Science requirement (6 credits): two science courses
- Humanities and social sciences requirement (15 credits): DES 121, DES 122, ECO 201, ECO 202, plus three

credits designated humanities or social science

- Computer literacy requirement: Satisfied through extensive use of computer resources throughout the curriculum

For information about designated requirements, please refer to University Degree Requirements.

Major Requirements (51 credits)

The following courses constitute the major requirements for the Bachelor of Science in Design Management degree:

In the School of Architecture and Design (30 credits)

- DES 100 Digital Media in Design
- DES 111 Descriptive Drawing I
- DES 121 History of Material Culture I
- DES 122 History of Material Culture II
- DES 131 Design Foundations I
- DES 200 Communication Design
- DES 230 Digital Media in Communication Design
- DES 397 Internship
- DES 462 Design Management
- VIS 361 The Design Profession

In the School of Business and Management (21 credits)

- BIS 201 Business Information Systems
- MGT 201 Fundamentals of Management
- MKT 211 Fundamentals of Marketing
- MIS 201 Fundamentals of Management Information Systems
- MGT 311 Organizational Behavior
- MGT 315 International Business
- MGT 361 Business Ethics and Social Responsibility

Internship

All students are required to complete an internship course that is made up of three interlinked and interdependent stages.

1. Internship preparation (normally in the spring semester)
2. Internship placement (normally in the summer)
3. Internship course (DES 397; normally in the fall semester)

The outcome of the preparation stage is the student's written proposal for

internship placement at a department-approved firm/company. Both Career Advising and Placement Services (CAPS) and a designated department faculty member support this preparation stage. The proposal must be approved before the student is permitted to embark on the internship and register for the three-credit internship course. Internship placement is 240 hours of work experience at the approved firm/company. A department faculty member supports and monitors student progress during this stage. During the internship placement, the student is required to keep a journal and to collect information about the firm/company. This will form the research element of the required coursework. The internship course (DES 397) is the final stage. It is designed to discuss and evaluate the internship experience and to provide academic support for the required assignments. The course grade is calculated based on this work.

Major Electives (18 credits)

Students are required to take at least three of the six major electives at the 300 level or above, and are strongly advised to take the following:

• DES 132 Design Foundations II
• MCM 150 Introduction to Mass Media
• MCM 227 Principles of Public Relations
• VIS 360 Fundamentals of Media Theory
• DES 494 Special Topics in Design Management

In addition to the above courses, any of the following count as major electives:

• COM 231 Writing for Visual Media
• PSY 101 General Psychology
• PSY 102 Social Psychology
• Any course in SA&D
• Any course in SBM
• Any MCM course

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 2.0 or higher prior to enrolling in the minor. To declare a minor in Design Management, a student must complete:

• At least nine credits in SA&D courses (ARC/DES/IDE/MUM/VIS), including DES 100
• At least nine credits in SBM courses(ACC/BIS/BLW/BUS/ECO/FIN/ MGT/ MIS/MKT/PBA/QAN/QBA), including MGT 201
• Nine of the required 18 credits must be at 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 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT 4	GER Communication 1 of 4
	DES 111	Descriptive Drawing I	3		CRR/MJR
	DES 121	History of Material Culture I	3		CRR/MJR/GER HSS 1 of 5
	DES 131	Design Foundations I	3		CRR/MJR
	MTH 101	Mathematics for Business	3	MTH 002 or MPT	GER Math 1 of 2
		Total	**15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT score 5 or COM 101	GER Communication 2 of 4
	DES 100	Digital Media in Design	3		CRR/MJR
	DES 122	History of Material Culture II	3		CRR/MJR/GER HSS 2 of 5
	DES 132	Design Foundations II	3		MJE 1 of 6
	XXX	Science Requirement	3		GER Science 1 of 2
		Total	**15**		

SECOND YEAR (30 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COM 204	Advanced Academic English	3	COM 102	GER Communication 3 of 4
	STA 202	Introduction to Statistics for Social Sciences	3		GER Math 2 of 2
	BIS 201	Business Information Systems	3	CPT or BIS 001	MJR
	ECO 201	Principles of Microeconomics	3	COM 101 prerequisite/concurrent	GER HSS 3 of 5
	DES 200	Communication Design	3	DES 100	MJR
		Total	**15**		
Spring	COM 225	Global Business Communication	3	COM 204	GER Communication 4 of 4
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	GER HSS 4 of 5
	MGT 201	Fundamentals of Management	3	COM 102	MJR
	MCM 150	Introduction to Mass Media	3	COM 102	MJE 2 of 6
	DES 230	Digital Media in Communication Design	3	DES 100	MJR
		Total	**15**		

THIRD YEAR (28 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	MKT 211	Fundamentals of Marketing	3	ECO 201 or 202, and COM 102	MJR
	VIS 361	The Design Profession	3	COM 101 or 102	MJR
	MCM 227	Principles of Public Relations	3	MCM 150	MJE 3 of 6
	XXX	General Education Requirement	3		GER Arabic 1 of 1 (or HSS 5 of 5)
	MIS 201	Fundamentals of Management Inf. Systems	3	BIS 201	MJR
		Total	**15**		
Spring	VIS 360	Fundamentals of Media Theory	3	DES 121 or 122, and DES 132	MJE 4 of 6
	XXX	Science Requirement	3		GER Science 2 of 2
	XXX	General Education Requirement	3		GER HSS 5 of 5 (or Arabic 1 of 1)
	XXX	Free Elective	3		FRE 1 of 5
	XXX	Free Elective	3		FRE 2 of 5
		Total	**12**		
Summer		Internship Placement 6 weeks (240 hours) on the job			

FOURTH YEAR (30 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	MGT 305	International Business	3	MGT 201*	MJR
	MGT 360	Business Ethics and Social Responsibility	3	MGT 201*	MJR
	DES 397	Internship	3	VIS 361	MJR
	DES 462	Design Management	3	DES 397 prerequisite/concurrent	MJR
	XXX	Free Elective	3		FRE 3 of 5
		Total	**15**		
Spring	MGT 301	Organizational Behavior	3	MGT 201*	MJR
	DES XXX	Major Elective at 300 level or above	3		MJE 5 of 6
	DES 494	Special Topics in Design	3		MJE 6 of 6
	XXX	Free Elective	3		FRE 4 of 5
	XXX	Free Elective	3		FRE 5 of 5
		Total	**15**		

Abbreviations: CRR: Core Requirement; MJR: Major Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MJE: Major Elective; FRE: Free Elective; EPT: English Placement Test; MPT: Math Placement Test; CPT: Computer Placement Test

* Design Management majors are exempt from administrative prerequisites.

Interior Design

Bruce Lonnman, Chair

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 and programmer, adaptive reuse designer, facilities planner, project manager, design journalist, educator, researcher, sales representative, 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 comprises 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 school is committed to providing students in interior design with both traditional and 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 139 semester credits comprise the degree program, including a minimum of 88 credits of required coursework in interior design and closely associated fields. These courses represent the core of the interior design discipline.

Each student is required to extend the core curriculum with 12 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. Some major required courses count toward general education requirements. In such cases, both requirements are considered as being met but the credits only count once toward total degree hours.

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 second year of the Bachelor of Interior Design program a student must successfully complete the following requirements:

- All four foundations studio courses (DES 111, 112, 131, 132) with a minimum 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 I (MTH 103)
- At least one course in

English/communication at the 100 level or above

- A minimum of 27 semester hours of university credit (including the above courses)
- A minimum CGPA 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 Office of the Registrar 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, and a waiting list will be established. In the event of a tie, students with the highest GPA in all four foundations studio courses will advance to second year. In the event of a second tie, students with the highest GPA in History of Material Culture and Mathematics for Architects will advance to the second year. 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. Students who need to repeat a second-year studio course will also be competing for the limited number of seats in the major.

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

   Notes:

   - 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 semester grade of

D (1.00) in the fall studio may not continue into the spring semester of the studio sequence.

   - A student who does not attain the required major studio average may repeat either studio.

   - Any studio may be repeated only once.

   - A student who fails to achieve the minimum studio average necessary for promotion after repeating a studio is dismissed from the program.

- Have attained a minimum grade of 2.3 in IDE 405 for enrollment in IDE 406 or IDE 492.

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

Degree Requirements

A minimum of 139 credits, including the following:

- A minimum of 42 credits of general education requirements
- A minimum of 88 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 (intership)

In order to graduate with a Bachelor of Interior Design degree, a student must maintain a minimum cumulative grade point average (CGPA) of 2.0 and have attained a major studio average of 2.5 in the final studio sequence (IDE 405 and either IDE 406 or IDE 492).

General Education Requirements

- English language competency requirement (12 credits): 100 level or above of English/communication courses
- Arabic heritage requirement (3 credits)
- Mathematics and/or statistics requirement (6 credits): MTH 103 or MTH 111 and one other course that satisfies the university math requirements
- Science requirement (6 credits): PHY 104 and one other science
- Humanities and social sciences requirement (15 credits): DES 121 and DES 122, plus nine credits designated

humanities or social sciences

- Computer literacy requirement: Satisfied through extensive use of computer resources throughout the interior design curriculum

For information about designated requirements, please refer to University Degree Requirements.

Major Requirements

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 324 Modern Practices in Interior Design
- IDE 335 Furniture Design
- IDE 352 Environmental Control Systems in Interiors
- IDE 364 Introduction to Computer-Aided Drawing
- IDE 397 Internship (6 weeks)
- IDE 405 Interior Design Studio V
- IDE 461 Project Management
- IDE 462 Design Management
- IDE 406 Interior Design Studio VI or IDE 492 Final Project Design

Internship

To qualify for the Bachelor's Degree in Interior Design, students must fulfill the internship requirements prior to graduation. Interior Design students are highly encouraged to complete the internship program during the summer after completion of their third year of studies. Fulfilling the internship requirement is a prerequisite for registering in some studio courses. The purpose of the internship is to expose students to the profession and give them an opportunity to apply their gained academic knowledge in a practical experience. The internship consists of a

minimum of 240 work hours with an approved employer. The student's work will be monitored by the student him/herself through weekly journal reports and a final internship report, by an internship coordinator designated by the university, and by the internship employer. At the conclusion of the internship period, the internship employer completes and submits to the internship coordinator special forms concerning the student performance. The student also submits to the internship coordinator a final internship report that documents the undertaken work. Students' internships are ultimately evaluated by the intership coordinator with a pass/fail grade.

Major Electives

All other ARC and IDE courses not listed above count as major electives (MJEs).

Please see the 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. 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 in IDE courses at the 300 level or above.

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

Proposed Course Sequence of Study
Bachelor of Interior Design (B.I.D.)

Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
FIRST YEAR (35/36 credit hours)					
Fall	COM 101	Academic Writing	3	EPT 4	GER Communication 1 of 4
	DES 111	Descriptive Drawing I	3		CRR/MJR
	DES 121	History of Material Culture I	3		CRR/MJR/GER HSS 1 of 5
	DES 131	Design Foundations I	3		CRR/MJR
	MTH 111	Mathematics for Architects	4/3	MTH 003 or MPT	MJR/GER Math 1 of 2
	or MTH 103	or Calculus I		MTH 001 or MPT	
		Total	**15/16**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT score 5 or COM 101	GER Communication 2 of 4
	DES 100	Digital Media in Design	3		CRR/MJR
	DES 112	Descriptive Drawing II	3	DES 111	MJR
	DES 122	History of Material Culture II	3		CRR/MJR/GER HSS 2 of 5
	DES 132	Design Foundations II	3	DES 131	MJR
		Total	**15**		

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

THIRD YEAR (37 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	IDE 301	Interior Design Studio III	6	IDE 202, PHY 104	MJR
	IDE 335	Furniture Design	3	ARC/IDE 202, IDE 235 or ARC 232	MJR
	IDE 324	Modern Practices in Interior Design	3	DES 100, 111, 112, 121, 122, 131, 132	MJR
	XXX	General Education Requirement	3		GER Arabic 1 of 1 (or HSS 3 of 5)
	SCI XXX	Advised Requirement	3		GER Science 2 of 2
		Total	**18**		
Spring	IDE 302	Interior Design Studio IV	6	IDE 301, 223	MJR
	IDE 352	Environmental Control Systems in Interiors	3	PHY 104	MJR
	ARC 364	Introduction to Computer-Aided Drawing	1	ARC 202 or IDE 202	MJR
	IDE XXX	Major Elective	3		MJE 1 of 3
	XXX	General Education Requirement	3		GER HSS 3 of 5 (or Arabic 1 of 1)
	XXX	Free Elective	3		FRE 1 of 3
		Total	**19**		
Summer	IDE 397	Internship	0	IDE 302	MJR

FOURTH YEAR (36 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	IDE 405	Interior Design Studio V	6	IDE 302 or ARC 302	MJR
	IDE 462	Design Management	3	IDE 397 or ARC 397	MJR
	IDE XXX	Major Elective	3		MJE 2 of 3
	XXX	General Education Requirement	3		GER HSS 4 of 5
	XXX	Free Elective	3		FRE 2 of 3
		Total	**18**		
Spring	IDE 406	Interior Design Studio VI	6	IDE 405, 397	MJR
	IDE 461	Project Management	3	IDE 397 or ARC 397	MJR
	IDE XXX	Major Elective	3		MJE 3 of 3
	XXX	General Education Requirement	3		GER HSS 5 of 5
	XXX	Free Elective	3		FRE 3 of 3
		Total	**18**		
		Total for the degree	**139/140**		

Abbreviations: CRR: Core Requirement; MJR: Major Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MJE: Major Elective; FRE: Free Elective; EPT: English Placement Test; MPT: Math Placement Test

Multimedia Design

Mark Pilkington, Chair

Multimedia design studies span a number of disciplines associated with time-based and interactive media. This major engages students with broad-ranging interests in communications, motion graphics, audiovisual narrative construction and interactive applications. 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, 59 hours of which are required in multimedia-related studies, including sound, video, text, computer graphics, advertising and theory courses. The specialization is supported by 18 credits of major electives, 42 credits of general education requirements and nine credits of free electives. Some major required courses count toward general education requirements. In such cases, both requirements are considered as being met but the credits only count once towards total degree hours. In addition, professional training (internship) is required of all students; firm/company placement normally occurs in the summer after completion of the third year.

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

A minimum of 122 credits, including the following:

- 42 credits of general education requirements
- 71 credits of major requirements (including approved major electives)
- 9 credits of free electives
- A minimum CGPA of 2.0

General Education Requirements

- English language competency requirement (12 credits): 100-level or above English/communication courses, including COM 231 and one other at the 200 level or above
- Arabic heritage requirement (3 credits)
- Mathematics and/or statistics requirement (6 credits): two math courses
- Science requirement (6 credits): two science courses
- Humanities and social sciences requirement (15 credits): DES 121, DES 122, plus nine credits of designated humanities or social sciences courses
- Computer literacy requirement: Satisfied through extensive use of computer resources throughout the design curriculum

For information about designated requirements, please refer to University Degree Requirements.

Major Requirements

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

- VIS 201 Design Studio I
- VIS 202 Design Studio II
- VIS 213 Illustration Drawing
- VIS 221 Photography Basics
- VIS 230 Digital Media in Visual Communication
- MUM 301 Design Studio III
- MUM 330 Interactive Design
- VIS 360 Fundamentals of Media Theory
- VIS 361 The Design Profession
- MUM 397 Internship
- MUM 401 Design Studio IV
- MUM 402 Senior Multimedia Portfolio

Internship

All students are required to complete an internship course that is made up of three interlinked and interdependent stages.

1. Internship preparation (normally in the spring semester)
2. Internship placement (normally in the summer)
3. Internship course (MUM 397; normally in the fall semester)

The outcome of the preparation stage is the student's written proposal for internship placement at a department-approved firm/company. Both Career Advising and Placement Services (CAPS) and a designated department faculty member support this preparation stage. The proposal must be approved before the student is permitted to embark on the internship placement and register for the three-credit internship course. Internship placement is 240 hours of work experience at the approved firm/company. A department faculty member supports and monitors student progress during this stage. During the internship placement, the student is required to keep a journal and to collect information about the firm/company. This will form the research element of the required coursework. The internship course is the final stage. It is designed to discuss and evaluate the internship experience and provide academic support for the required assignments. The course grade is calculated based on this work.

Major Electives (18 credits)

Three of the following courses for a total of nine credits:

- MUM 310 Film Production I
- MUM 312 Film Production II
- MUM 320 Web Design
- MUM 321 Photojournalism
- MUM 331 Modeling and Animation

Three more courses from the following for a total of nine credits:

- ARC 225 Islamic Art and Architecture
- DES 141 Introduction to Painting

- DES 142 Painting II
- DES 151 Introduction to Printmaking
- DES 211 Intermediate Drawing Studio
- MUM 410 Film Production III (Advanced Technique)
- MUM 494 Special Topics in Multimedia Design
- MUM 496 Independent Study in Multimedia Design
- PSY 101 General Psychology
- PSY 102 Social Psychology
- VIS 311 Illustration Design
- VIS 312 Illustration Genres
- VIS 320 Multiples I
- VIS 322 Multiples II
- VIS 323 Photography for Communication
- VIS 325 Creative Studio Photography
- VIS 494 Special Topics in Visual Communication
- Any MCM course

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

Advancement in the Program

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 second 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)
- At least one course in English/ communication at the 100 level or above
- A minimum of 27 semester hours of university credit (including the above courses)
- A minimum CGPA 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 Office of the Registrar 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 overall academic achievement, and a waiting list will be established. In the event of a tie, students with the highest GPA in History of Material Culture and Mathematics will advance to the second year. 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. Students who need to repeat a second-year studio course will also be competing for the limited number of seats in the major.

Promotion Review in Multimedia Design

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 and to continue in the major, a combined GPA of C+ (2.3) must be attained in VIS 201 and VIS 202, with a minimum grade of C- (1.7) in each course.

Notes:

- A student with a semester grade of D (1.00) in the fall studio may not continue into the spring semester of the studio sequence.
- A student who does not attain the required major studio average may repeat either studio.
- Any studio may be repeated only once.
- A student who fails to achieve the minimum studio average necessary for promotion after repeating a studio is dismissed from the program.

If the review has a negative outcome, the department will assist a 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.)

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

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	VIS 201	Design Studio I	3	DES 100, 112 and 132; DES 121 or 122; MTH XXX; and COM 101 or 102	MJR
	VIS 221	Photography Basics	3	DES 100, 112 and 132; DES 121 or 122; MTH XXX; and COM 101 or 102	MJR
	VIS 230	Digital Media in VisCom	3	DES 100, 112 and 132; DES 121 or 122; MTH XXX; and COM 101 or 102	MJR
	MTH XXX	Mathematics Requirement	3		GER Math 2 of 2
	XXX	General Education Requirement	3		GER HSS 3 of 5
		Total	**15**		
Spring	VIS 202	Design Studio II	3	VIS 201, 221 and 230	MJR
	VIS 213	Illustration Drawing	3	VIS 201, 221 and 230	MJR
	VIS 360	Fundamentals of Media Theory	3	DES 121 or 122, and DES 132	MJR
	COM 231	Writing for Visual Media	3	COM 102	GER Communication 3 of 4
	XXX	General Education Requirement	3		GER HSS 4 of 5
		Total	**15**		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MUM 301	Design Studio III	3	VIS 202, 213 and 360	MJR
	MUM XXX	one of the following: MUM 310 Film Production I MUM 321 Photo Journalism	3	MUM 301 or VIS 301 prerequisite/concurrent	MJE 1 of 6
	MUM 330	Interactive Design	3	MUM 301 or VIS 301 prerequisite/concurrent	MJR
	VIS 361	The Design Profession	3	COM 101 or 102	MJR
	XXX	General Education Requirement	3		GER Arabic 1 of 1 (or HSS 5 of 5)
		Total	**15**		
Spring	MUM XXX	Two of the following: MUM 312 Film Production II MUM 331 Modeling & Animation MUM 320 Web Design	6	MUM 301 or VIS 301 prerequisite/concurrent	MJE 2 & 3 of 6
	SCI XXX	Science Requirement	3		GER Science 1 of 2
	XXX	General Education Requirement	3		GER HSS 5 of 5 (or Arabic 1 of 1)
	XXX	Free Elective	3		FRE 1 of 3
		Total	**15**		
Summer		Internship Placement 6 weeks (240 hours) on the job			

FOURTH YEAR (32 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MUM 401	Design Studio IV	4	MUM 301 or VIS 301	MJR
	MUM XXX	Major Elective	3	MUM 301 or VIS 301	MJE 4 of 6
	SCI XXX	Science Requirement	3		GER Science 2 of 2
	COM/MCM XXX	Communication Requirement	3		GER Communication 4 of 4
	MUM 397	Internship	3	VIS 361, MUM 301 or VIS 301	MJR
		Total	**16**		
Spring	MUM 402	Senior Design Portfolio	4	MUM 401	MJR
	MUM/VIS XXX	Major Elective	3	MUM 301 or VIS 301	MJE 5 of 6
	MUM/VIS XXX	Major Elective	3	MUM 301 or VIS 301	MJE 6 of 6
	XXX	Free Elective	3		FRE 2 of 3
	XXX	Free Elective	3		FRE 3 of 3
		Total	**16**		
		Total for the degree	**122**		

Abbreviations: CRR: Core Requirement; MJR: Major Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MJE: Major Elective; FRE: Free Elective; EPT: English Placement Test; MPT: Math Placement Test

Visual Communication

Mark Pilkington, Chair

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 four 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 design studio 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 general education requirements and nine credits of free electives. Some major required courses count toward general education requirements. In such cases, both requirements are considered as being met but the credits only count once toward total degree hours. In addition, professional training (internship) is required of all students; firm/company placement occurs in the summer after completion of the third year.

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

A minimum of 122 credits, including the following:

- 42 credits of general education requirements
- 71 credits of major requirements (including approved major electives)
- 9 credits of free electives
- A minimum CGPA of 2.0

General Education Requirements

- English language competency requirement (12 credits): 100-level or above of English/communication courses, including COM 231 and one other at the 200 level or above
- Arabic heritage requirement (3 credits)
- Mathematics and/or statistics requirement (6 credits): two math courses
- Science requirement (6 credits): two science courses
- Humanities and social sciences requirement (15 credits): DES 121, DES 122 plus 9 credits of designated humanities or social sciences courses
- Computer literacy requirement: Satisfied through extensive use of computer resources throughout the visual communication curriculum

For information about designated requirements, please refer to University Degree Requirements.

Major Requirements (71 credits)

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

- VIS 201 Design Studio I
- VIS 202 Design Studio II

- VIS 213 Illustration Drawing
- VIS 221 Photography Basics
- VIS 230 Digital Media in VisCom
- VIS 301 Design Studio III
- VIS 360 Fundamentals of Media Theory
- VIS 361 The Design Profession
- VIS 397 Internship
- VIS 401 Design Studio IV
- VIS 402 Senior Design Portfolio
- VIS 410 Senior VisCom Studio
- VIS 420 Senior VisCom Portfolio

Internship

All students are required to complete an internship course that is made up of three interlinked and interdependent stages.

1. Internship preparation (normally in the spring semester)
2. Internship placement (normally in the summer)
3. Internship course (VIS 397; normally in the fall semester)

The outcome of the preparation stage is the student's written proposal for internship placement at a department-approved firm/company. Both Career Advising and Placement Services (CAPS) and a designated department faculty member support this preparation stage. The proposal must be approved before the student is permitted to embark on the internship placement and register for the three-credit internship course. Internship placement is 240 hours of work experience at the approved firm/company. A department faculty member supports and monitors student progress during this stage. During the internship placement, the student is required to keep a journal and to collect information about the firm/company. This will form the research element of the required coursework. The internship course is the final stage. It is designed to discuss and evaluate the internship experience and provide academic support for the required assignments. The course grade is calculated based on this work.

Major Electives (15 credits)

Four of the following courses for a total of 12 credits:

- VIS 311 Illustration Design

- VIS 312 Illustration Genres
- VIS 320 Multiples I
- VIS 321 Photojournalism
- VIS 322 Multiples II
- VIS 323 Photography for Communication

One more course from the following for a total of three credits:

- ARC 225 Islamic Art and Architecture
- DES 141 Introduction to Painting
- DES 142 Painting II
- DES 151 Introduction to Printmaking
- DES 211 Intermediate Drawing Studio
- MUM 310 Film Production I
- MUM 312 Film Production II
- MUM 320 Web Design
- MUM 330 Interactive Design
- MUM 331 Modeling and Animation
- MUM 410 Film Production III (Advanced Technique)
- MUM 494 Special Topics in Multimedia Design
- PSY 101 General Psychology
- PSY 102 Social Psychology
- VIS 494 Special Topics in Visual Communication
- VIS 325 Creative Studio Photography
- VIS 496 Independent Study in Visual Communication
- Any MCM course

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

Advancement in the Program

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 second year of the Bachelor of Science in Visual Communication 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)
- At least one course in English/communication at the 100 level or above
- A minimum of 27 credits (including the above courses)
- A minimum CGPA 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 Office of the Registrar 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, and a waiting list will be established. In the event of a tie, students with the highest GPA in History of Material Culture and Mathematics will advance to the second year. 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. Students who need to repeat a second-year studio course will also be competing for the limited number of seats in the major.

Promotion Review in Visual Communication

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 and to continue in the major, a combined GPA of C+ (2.3) must be attained in VIS 201 and VIS 202, with a minimum grade of C- (1.7) in each course.

Notes:

- A student with a semester grade of D (1.00) in the fall studio may not continue into the spring semester of the studio sequence.
- A student who does not attain the required major studio average may repeat either studio.
- Any studio may be repeated only once.
- A student who fails to achieve the minimum studio average necessary for promotion after repeating a studio is dismissed from the program.

If the review has a negative outcome, the department will assist a 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 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 101	Academic Writing	3	EPT 4	GER Communication 1 of 4
	DES 111	Descriptive Drawing I	3		CRR/MJR
	DES 121	History of Material Culture	3		CRR/MJR/GER HSS 1 of 5
	DES 131	Design Foundations I	3		CRR/MJR
	DES 100	Digital Media in Design	3		CRR/MJR
		Total	**15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT score 5 or COM 101	GER Communication 2 of 4
	MTH XXX	Mathematics Requirement	3		GER Math 1 of 2
	DES 112	Descriptive Drawing II	3	DES 111	MJR
	DES 122	History of Material Culture II	3		CRR/MJR/GER HSS 2 of 5
	DES 132	Design Foundations II	3	DES 131	MJR
		Total	**15**		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	VIS 201	Design Studio I	3	DES 100, 112 and 132; DES 121 or 122; MTH XXX; and COM 101 or 102	MJR
	VIS 221	Photography Basics	3	DES 100, 112 and 132; DES 121 or 122; and COM 101 or 102	MJR
	VIS 230	Digital Media in VisCom	3	DES 100, 112 and 132; DES 121 or 122; and COM 101 or 102	MJR
	MTH XXX	Mathematics Requirement	3		GER Math 2 of 2
	XXX	General Education Requirement	3		GER HSS 3 of 5
		Total	**15**		
Spring	VIS 202	Design Studio II	3	VIS 201, 221 and 230	MJR
	VIS 213	Illustration Drawing	3	VIS 201, 221 and 230	MJR
	VIS 360	Fundamentals of Media Theory	3	DES 121 or 122, and DES 132	MJR
	COM 231	Writing for Visual Media	3	COM 102	GER Communication 3 of 4
	XXX	General Education Requirement	3		GER HSS 4 of 5
		Total	**15**		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	VIS 301	Design Studio I	3	VIS 202, 213 and 360	MJR
	VIS XXX	Two of the following: VIS 311 Illustration Design VIS 320 Multiples I VIS 321 Photo Journalism	6	MUM 301 or VIS 301 prerequisite/concurrent	MJE 1 & 2 of 5
	VIS 361	The Design Profession	3	COM 101 or 102	MJR
	XXX	General Education Requirement	3		GER Arabic 1 of 1 (or HSS 5 of 5)
		Total	**15**		
Spring	VIS XXX	Two of the following: VIS 312 Illustration Genres VIS 322 Multiples II VIS 323 Photography for Comm	6	MUM 301 or VIS 301 prerequisite/concurrent	MJE 3 & 4 of 5
	SCI XXX	Science Requirement	3		GER Science 1 of 2
	XXX	General Education Requirement	3		GER HSS 5 of 5 (or Arabic 1 of 1)
	XXX	Free Elective	3		FRE 1 of 3
		Total	**15**		
Summer		Internship Placement 6 weeks (240 hours) on the job			

		FOURTH YEAR (32 credit hours)			
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	VIS 401	Design Studio IV	4	VIS 301	MJR
	VIS 410	Senior VisCom Studio	3	Any 4 of VIS 311, 312, 320, 321, 322, 323	MJR
	VIS 397	Internship	3	VIS 361, VIS 301 or MUM 301	MJR
	SCI XXX	Science Requirement	3		GER Science 2 of 2
	COM/MCM XXX	Communication Requirement	3		GER Communication 4 of 4
		Total	16		
Spring	VIS 402	Senior Design Portfolio	4	VIS 401	MJR
	VIS 420	Senior VisCom Portfolio	3	VIS 410	MJR
	MUM/VIS XXX	Major Elective	3	MUM 301 or VIS 301	MJE 5 of 5
	XXX	Free Elective	3		FRE 2 of 3
	XXX	Free Elective	3		FRE 3 of 3
		Total	16		
		Total for the degree	122		

Abbreviations: CRR: Core Requirement; MJR: Major Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MJE: Major Elective; FRE: Free Elective; EPT: English Placement Test; MPT: Math Placement Test

School of Business and Management

Dean
Wadiah Atiyah

Associate Dean
Zeinab Karake-Shalhoub

The School of Business and Management at American University of Sharjah strives to provide high-quality, American-style business education. The school serves the needs of students throughout the region by offering programs that provide local and global perspectives, promote critical thinking and develop effective communication skills. As a part of this mission, the faculty members engage in applied, integrative and pedagogical scholarship.

Today's effective business professional must have competence in many disciplines, an understanding of a variety of relationships and the ability to analyze evolving business, economic and governmental trends. Regardless of the specialty area, School of Business and Management students must be effective leaders who can organize and motivate groups to serve the goals of their organizations. 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 and economic processes, theory and applications. Through its pedagogy, the School of Business and Management:

- Prepares individuals to identify, analyze and understand the interrelationships among business organizations and international, governmental and domestic institutions in the Emirates, the Gulf States and throughout the world
- Develops individuals who can ethically lead organizations toward economic success and social and environmental responsibility in the global marketplace of the 21st 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:

- Utilizing the latest American business methods, techniques and technologies to provide cutting-edge business education
- Integrating multidisciplinary approaches to teaching and learning, utilizing the latest business and economic theories coupled with real-world business data analysis and presentations
- Integrating multimedia and computer-based instruction throughout the foundation business curriculum to assist students in learning the latest techniques in business and management

Faculty

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

Professor
David Boyd (Accounting)
Ali Darrat (Finance)
James Grant (Marketing)
Zeinab Karake-Shalhoub (Information Systems)
George Kostopoulos (Information Systems)
Dennis Olson (Finance)
Taisier Zoubi (Accounting)

Associate Professor
Osamah Al Khazali (Finance)
Hamid Baghestani (Economics)
Sanitha Boyd (Accounting)
Gary Eldred (Finance)

Kermit Kuehn (Management)
J. Reagan McLaurin (Management)
Peter Mitias (Economics)
Louis Mottola (Quantitative Business Methods)
Rodney Redding (Accounting)
Sofiane Sahraoui (Information Systems)
Joseph Wallis (Economics/Public Administration)
Norman Wright (Management)

Assistant Professor
Bassam Abu Al-Foul (Economics)
Jörg Bley (Finance)
Tor Brodtkorb (Business Law)
Nejat Capar (Management)
Kim Heng Chen (Quantitative Business Methods)
John Chilton (Economics)
Abdelkader Daghfous (Information Systems)
Daron Djeredjian (Economics)
Christo El Morr (Information Systems)
Daniel George (Management)
Jainaba Kah (Public Administration)
Muhammadou Kah (Information Systems)
Samer Kherfi (Economics)
Minsoo Lee (Economics)
Brent McCallum (Accounting)
Donelda McKechnie (Marketing)
Ralph Palliam (Finance)
Anil Rupasingha (Economics)
Mohsen Saad (Finance)
Antonio Saravia (Economics)
Mohamed Soliman (Economics)
Hugo Toledo (Economics)
Paul Williams (Marketing)

Instructor
Peter Mason (Marketing & Management)
Zouheir El Jarkass (Accounting & Finance)
Anthony Farah (Information Systems)
Toufic Saifi (Information Systems)
Ronald Williams (Accounting)

Visiting Faculty
Marie Waxin (Management)

Degree Offerings

SBM offers three bachelor of science business programs: the Bachelor of Science in Business Administration (B.S.B.A.), the Bachelor of Science in Management Information Systems (B.S.MIS) and the Bachelor of Science in Finance (B.S.FIN.). It also offers a Bachelor of Arts in Economics (B.A.E.) and a Bachelor of Arts in Public Administration (B.A.P.A.).

Academic Loads

First-semester freshmen are permitted to take a maximum of five courses (up to 16 credits), including preparatory courses. Second-semester freshmen and sophomores 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
- Have taken no preparatory courses in the previous semester
- Have no grade below C in the previous semester
- Have successfully completed a minimum of 15 credits in the previous semester

Juniors may register for 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.

Bachelor of Science Business Programs

Admission and Requirements

Due to the quantitative emphasis of the bachelor of science business programs curriculum, students admitted into the Bachelor of Science in Business Administration (B.S.B.A.), Bachelor of Science in Management Information Systems (B.S.MIS) or Bachelor of Science in Finance (B.S.FIN.) programs are required to take the mathematics and computer literacy placement examinations. Initially, all bachelor of science business programs 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 B.S.MIS or the B.S.FIN.

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 who wish to transfer from other schools at AUS may be considered for admission to the bachelor of science business programs only if they meet the minimum academic standards for the SBM programs.

All B.S.B.A., B.S.MIS and B.S.FIN. transfer students are required to take MGT 406 Business Policy and Strategy and at least 30 upper-level credits toward their concentration requirements. Transfer credits for upper-division business courses are subject to approval by the appropriate SBM department. Transfer credit may be conditional upon the successful completion of a more advanced course at the American University of Sharjah.

Degree Requirements

A minimum of 123 credits as follows:

- 42 credits of general education requirements
- 3 additional credits of communication
- 6 additional credits of mathematics and quantitative business analysis requirements
- 30 credits of core business courses
- 30 credits of business concentration requirements
- 12 credits of free electives, at least three of which must be from an accounting, finance, management, management information systems or marketing course at the 300 level or above.
- A minimum cumulative grade point average of 2.0

Designated Requirements

All students in the bachelor of science business programs must take the courses listed below as part of their university general education or school requirements:

- COM 225 Global Business Communication: satisfies a university general education English language competency requirement
- COM 208 Public Speaking: satisfies the oral communication requirement for bachelor of science business programs
- ECO 201 Principles of Microeconomics: satisfies a general education social sciences requirement

- ECO 202 Principles of Macroeconomics: satisfies a general education social sciences requirement
- MTH 101 Math for Business I: satisfies a general education mathematics requirement
- MTH 102 Math for Business II: satisfies the bachelor of science business programs for math requirement
- QBA 201 Quantitative Business Analysis: satisfies a general education statistics requirement
- QBA 202 Operations Management: satisfies the bachelor of science business programs quantitative business analysis requirement

For the remaining general education requirements, students must refer to the Undergraduate Studies section of this catalog.

Free Electives (12 credits)

The 12 credits of free electives of students in the bachelor of science business programs shall not include PBA 101, MTH 100, TRA 101 or any preparatory course. At least three of the credits must be from an accounting (ACC), finance (FIN), management (MGT), management information systems (MIS) or marketing (MKT) course at the 300 level or above.

Internship

Students in the bachelor of science business programs must have an internship approved by SBM in their junior or senior year.

Computer Policy

All students taking courses in the bachelor of science business programs are required to have their own laptop with standard minimum configuration or independent access to a computer outside of the AUS computer labs.

Calculator Policy

Students taking any course in the bachelor of science business programs 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.

Supplementary Materials

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

Description of Bachelor of Science Business Programs

The bachelor of science business programs provide 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 management information systems or any combination of two areas of concentration. A concentration is a professional area of study in which a minimum of 15 credit hours must be earned in a related area of focus from the bachelor of science business programs. A concentration allows the student to obtain a breadth of knowledge in one of the five major fields in the bachelor of science business programs: accounting, marketing, management, finance and management information systems. Students may request permission to complete a single area of concentration in accounting in order to take more accounting courses to qualify for the CPA (Certified Public Accountant) exam.

For students outside the bachelor of science business programs, SBM also offers a minor in business administration.

Business Core

All students in bachelor of science business programs must complete the following 30 credits (10 courses) of business core courses with a grade of C- or better.

- ACC 201 Fundamentals of Financial Accounting
- ACC 202 Fundamentals of Managerial Accounting
- BIS 101 Business Information Systems
- BLW 301 Business Law
- FIN 201 Fundamentals of Financial Management

- MGT 201 Fundamentals of Management
- MGT 360 Business Ethics and Social Responsibility
- MGT 406 Business Policy and Strategy
- MIS 201 Fundamentals of Management Information Systems
- MKT 201 Fundamentals of Marketing

Bachelor of Science in Business Administration (B.S.B.A.)

Chairs are listed under each concentration.

Program Objectives

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 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 the two areas of business in which they are most interested (i.e., accounting, finance, management, marketing or management information systems)

General Education and School Requirements

- English language competency requirement: 15 credits of 100-level or above in English/communication courses including COM 225 and COM 208. A student who is placed out of or exempted from one or two of the required communication courses will be able to take any communication or English course to accumulate the credits needed for completing the degree

requirement.

- Arabic heritage requirement: one of the following courses – THM 301, THM 302, ARA 101 or any Arabic literature course approved by the CAS Dean's Office
- Mathematics and statistics requirement: MTH 101 and QBA 201
- Bachelor of science business programs mathematics and quantitative business analysis requirement: MTH 102 and QBA 202
- Science requirement: any two of the following courses – BIO 101, BIO 102, BIO 103, CHM 101, CHM 102, CHM 103, CHM 105, ENV 100, ENV 101, PHY 100, PHY 101, PHY 102, PHY 103, PHY 104
- Humanities/social sciences requirement: ECO 201, ECO 202 and three other courses (or nine credits) of social sciences or humanities courses (or four social sciences or humanities courses if THM 301 or THM 302 is used to satisfy the Arabic heritage requirement)
- Computer literacy requirement: Satisfied through extensive use of computer resources in courses throughout the business administration curriculum

Areas of Concentration

The School of Business and Management requires B.S.B.A. students to pursue a concentration in two out of five areas of business: accounting, finance, marketing, management and management information systems. Students may request permission to complete a single area of concentration in accounting in order to take more accounting courses to qualify for the CPA exam.

Concentration in Accounting

Osamah Al Khazali, Chair

This 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 in the United States.

Concentration Requirements
(12 credits)
- 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)

Concentration Electives (3 credits)
- ACC 305 Income Tax I
- ACC 306 Income Tax II

Concentration in Finance

Osamah Al Khazali, Chair

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.

Concentration Requirements
(12 credits)
- FIN 320 Banking
- FIN 330 Investments
- FIN 401 International Finance
- FIN 450 Case Studies in Corporate Finance

Concentration Electives (3 credits)
Any 300- or 400-level FIN course

Concentration in Management

Norman Wright, Chair

This 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 management's importance to society and organizations. They will learn how management can be a force for positive change in a rapidly changing business environment.

Concentration Requirements
(12 credits)
- MGT 301 Organizational Behavior
- MGT 302 Managing Human Resources
- MGT 380 Project Management (or approved management elective)
- MGT 403 Entrepreneurship (normally offered only in Spring Semester)

Concentration Electives (3 credits)
- MGT 303 Management and Leadership Development
- MGT 305 International Business
- MGT 394/494 Special Topics in Management
- MGT 496 Independent Study in Management

Concentration in Marketing

Norman Wright, Chair

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.

Concentration Requirements
(9 credits)
- MKT 301 Consumer Behavior
- MKT 302 Marketing Research
- MKT 401 Marketing Strategy

Concentration Electives (6 credits)
- MKT 303 E-Commerce
- MKT 304 Sales Management
- MKT 305 Retailing Management
- MKT 307 Business Marketing
- MKT 308 Marketing Channels
- MKT 309 International Marketing
- MKT 394/494 Special Topics in Marketing
- MKT 496 Independent Study in Marketing

Concentration in Management Information Systems

Muhammadou Kah, Chair

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 of 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.

Concentration Requirements
(12 credits)
- MIS 200 Business Process Logic
- MIS 301 Fundamentals of Database Management
- MIS 303 Introduction to Systems Analysis
- MIS 304 Applied Systems Design

Concentration Electives (3 credits)
- MIS 203 Software Development for Business Applications
- MIS 300 Fundamentals of Telecommunications and Internet Technologies
- MIS 302 Advanced Database Management
- MIS 394/494 Special Topics in MIS
- MIS 402 Technology and Knowledge Management
- MIS 404 Internet Business Applications
- MIS 410 Supply Chain Management
- MIS 496 Independent Study in MIS
- MGT 380 Project Management

Proposed Course Sequence of Study

Bachelor of Science in Business Administration (B.S.B.A.)

Concentration in Accounting & Finance

		FIRST YEAR (30 credit hours)			
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	ECO 201	Principles of Microeconomics	3	COM 101 prerequisite/concurrent	GER
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GER
	BIS 101	Business Information Systems	3	Placement Test or BIS 001 or DES 100	CRR
	QBA 201	Quantitative Business Analysis	3	MTH 101 prerequisite/concurrent	GER
		Total	**15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GER
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	GER
	MTH 102	Mathematics for Business II	3	MTH 101	GER
	ACC 201	Fundamentals of Financial Accounting	3	MTH 101, QBA 201 prerequisite/concurrent	CRR
	QBA 202	Operations Management	3	QBA 201	GER
		Total	**15**		

		SECOND YEAR (30 credit hours)			
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COM 204	Advanced Academic Writing	3	COM 102	GER
	ACC 202	Fundamentals of Managerial Accounting	3	MTH 101, ACC 201; QBA 201 prerequisite/concurrent	CRR
	XXX	Humanities/Social Sciences Requirement	3		GER
	FIN 201	Fundamentals of Financial Management	3	ACC 202, QBA 202 prerequisite/concurrent	CRR
	MGT 201	Fundamentals of Management	3	COM 102 prerequisite/concurrent	CRR
		Total	**15**		
Spring	COM 208	Public Speaking	3	COM 204	CRR
	MKT 201	Fundamentals of Marketing	3	ECO 201, ECO 202; COM102 prerequisite/concurrent	CRR
	XXX	Arabic Heritage Requirement	3		GER
	XXX	Free Elective	3		FRE
	MIS 201	Fundamentals of MIS	3	BIS 101	CRR
		Total	**15**		

		THIRD YEAR (33 credit hours)			
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COM 225	Writing for Business	3	COM 204, Junior Standing	GER
	XXX	Business Elective	3		CRE
	FIN 320	Banking	3	FIN 201, COM 102; MIS 201 prerequisite/concurrent	CNR
	ACC 301	Intermediate Financial Accounting I	3	COM 102, ACC 202; MGT 201 prerequisite/concurrent	CNR
	ACC 303	Cost Accounting	3	ACC 202, FIN 201; MIS 201, MKT 201 prerequisite/concurrent	CNR
		Total	**15**		
Spring	ACC 302	Intermediate Financial Accounting II	3	ACC 301, FIN 201; MIS 201 prerequisite/concurrent	CNR
	FIN 330	Investments	3	FIN 201, ACC 202 and COM 102; MKT 201, MGT 201 prerequisite/concurrent	CNR
	ACC 304	Auditing	3	ACC 302	CNR
	MGT 360	Business Ethics and Social Responsibility	3	MGT 201, ACC 201, QBA 201; COM 204 prerequisite/concurrent	CRR
	XXX	Science Elective	3		GER
	XXX	Humanities/Social Sciences Requirement	3		GER
		Total	**18**		

		FOURTH YEAR (30 credit hours)			
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	FIN 401	International Finance	3	FIN 330, QBA 202; FIN 320 prerequisite/concurrent	CNR
	FIN XXX	Finance Elective	3		CNE
	XXX	Humanities/Social Sciences Requirement	3		GER
	ACC XXX	Accounting Elective	3		CNE
	BLW301	Business Law	3	ACC 201, ECO 202; COM 204 or COM 208 prerequisite/concurrent	CRR
		Total	**15**		
Spring	MGT 406	Business Policy and Strategy	3	MGT 201, MKT 201, MIS 201, FIN 201, COM 204, Business Senior Standing or Permission	CRR
	FIN 450	Case Studies in Corporate Finance	3	FIN 330 and FIN 320	CNR
	XXX	Business Elective	3		CRE
	XXX	Free Elective	3		FRE
	XXX	Free Elective	3		FRE
		Total	**15**		

Abbreviations: GER: General Education Requirement; CRR: Core Requirement; CRE: Core Elective; CNR Concentration Requirement; CNE: Concentration Elective; FRE: Free Elective; EPT: English Placement Test; MPT: Math Placement Test

Note: Substitutions for upper level accounting and finance courses are done only in exceptional cases upon approval of department chair.

Proposed Course Sequence of Study

Bachelor of Science in Business Administration (B.S.B.A.)

Concentration in Accounting & MIS

		FIRST YEAR (30 credit hours)			
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	ECO 201	Principles of Microeconomics	3	COM 101 prerequisite/concurrent	GER
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GER
	BIS 101	Business Information Systems	3	Placement Test or BIS 001 or DES 100	CRR
	QBA 201	Quantitative Business Analysis	3	MTH 101 concurrent	GER
		Total	**15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GER
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	GER
	MIS 201	Fundamentals of MIS	3	BIS 101	CRR
	ACC 201	Fundamentals of Financial Accounting	3	MTH 101; QBA 201 prerequisite/concurrent	CRR
	QBA 202	Operations Management	3	QBA 201	GER
		Total	**15**		

		SECOND YEAR (30 credit hours)			
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 204	Advanced Academic Writing	3	COM 102	GER
	ACC 202	Fundamentals of Managerial Accounting	3	MTH 101, ACC 201; QBA 201 prerequisite/concurrent	CRR
	MIS 200	Business Process Logic	3	MTH 101, BIS 101	CNR
	FIN 201	Fundamentals of Financial Management	3	ACC 202; QBA 202 concurrent	CRR
	MTH 102	Mathematics for Business II	3	MTH 101	GER
		Total	**15**		
Spring	MGT 201	Fundamentals of Management	3	COM 102 prerequisite/concurrent	CRR
	XXX	Humanities/Social Sciences Requirement	3		GER
	MKT 201	Fundamentals of Marketing	3	ECO 201, ECO 202; COM 102 prerequisite/concurrent	CRR
	XXX	Arabic Heritage Requirement	3		GER
	COM 208	Public Speaking	3	COM 204	GER
		Total	**15**		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 225	Writing For Business	3	COM 204, Junior Standing	GER
	MIS 301	Fundamentals of Database Management	3	MIS 200, MIS 201, COM 102; FIN 201 prerequisite/concurrent	CNR
	MIS 303	Introduction to Systems Analysis	3	MIS 200, MIS 201, COM 102; FIN 201, MKT 201 and MGT 201 prerequisite/concurrent	CNR
	ACC 301	Intermediate Financial Accounting I	3	COM 102, ACC 202; MGT 201 prerequisite/concurrent	CNR
	ACC 303	Cost Accounting	3	ACC 202, FIN 201; MIS 201 and MKT 201 prerequisite/concurrent	CNR
		Total	**15**		
Spring	ACC302	Intermediate Financial Accounting II	3	ACC 301, FIN 201; MIS 201 prerequisite/concurrent	CNR
	MIS XXX	MIS Elective	3		CNE
	MIS 304	Applied Systems Design	3	MIS 301, MIS 303; QBA 202 prerequisite/concurrent	CNR
	XXX	Business Elective	3		CRE
	BLW 301	Business Law	3	ACC 201, ECO 202; COM 204 or COM 208 prerequisite/concurrent	CRR
	XXX	Humanities/Social Sciences Requirement	3		GER
		Total	**18**		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ACC XXX	Accounting Elective	3		CNE
	MGT 360	Business Ethics and Social Responsibility	3	MGT 201, ACC 201, QBA 201; COM 204 prerequisite/concurrent	CRR
	XXX	Humanities/Social Sciences Requirement	3		GER
	XXX	Science Elective	3		GER
	XXX	Free Elective	3		FRE
		Total	**15**		
Spring	MGT 406	Business Policy and Strategy	3	MGT 201, MKT 201, MIS 201, FIN 201, COM 204, Business Senior Standing	CRR
	ACC 304	Auditing	3	ACC 302	CNR
	XXX	Science Elective	3		GER
	XXX	Free Elective	3		FRE
	XXX	Free Elective	3		FRE
		Total	**15**		

Abbreviations: GER: General Education Requirement; CRR: Core Requirement; CRE: Core Elective; CNR Concentration Requirement; Concentration Elective; FRE: Free Elective; EPT: English Placement Test; MPT: Math Placement Test

Note: Substitutions for upper level accounting courses are done only in exceptional cases upon approval of department chair.

Proposed Course Sequence of Study

Bachelor of Science in Business Administration (B.S.B.A.)

Concentration in Marketing & Management

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	ECO 201	Principles of Microeconomics	3	COM 101 prerequisite/concurrent	GER
	MTH 101	Math for Business I	3	MPT or MTH 002	GER
	BIS 101	Business Information Systems	3	Placement Test or BIS 001 or DES 100	CRR
	QBA 201	Quantitative Business Analysis	3	MTH 101 concurrent	GER
		Total	**15**		
Spring	ACC 201	Fundamentals of Financial Accounting	3	MTH 101, QBA 201 prerequisite/concurrent	CRR
	QBA 202	Operations Management	3	QBA 201	GER
	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GER
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	GER
	MTH 102	Mathematics for Business II	3	MTH 101	GER
		Total	**15**		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 204	Advanced Academic Writing	3	COM 102	GER
	MGT 201	Fundamentals of Management	3	COM 102 prerequisite/concurrent	CRR
	ACC 202	Fundamentals of Managerial Accounting	3	ACC 201, MTH 101; QBA 201 prerequisite/concurrent	CRR
	MKT 201	Fundamentals of Marketing	3	ECO 201, ECO 202; COM 102 prerequisite/concurrent	CRR
	XXX	Humanities/Social Sciences Requirement	3		GER
		Total	**15**		
Spring	COM 208	Public Speaking	3	COM 204	GER
	XXX	Free Elective	3		FRE
	FIN 201	Fundamentals of Financial Management	3	ACC 202, QBA 202 prerequisite/concurrent	CRR
	MIS 201	Fundamentals of MIS	3	BIS 101	CRR
	XXX	Arabic Heritage Requirement	3		GER
		Total	**15**		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MKT 301	Consumer Behavior	3	MKT 201, ACC 201, QBA 201, COM 102	CNR
	MGT 301	Organizational Behavior	3	MGT 201, ACC 201, QBA 201; COM 204 prerequisite/concurrent	CNR
	BLW 301	Business Law	3	ACC 201, ECO 202; COM 204 or 208 prerequisite/concurrent	CRR
	COM 225	Writing for Business	3	COM 204, Junior Standing	GER
	XXX	Humanities/Social Sciences Requirement	3		GER
		Total	**15**		
Spring	MGT 302	Managing Human Resources	3	MGT 201, FIN 201, ACC 202, QBA 202, COM 204	CNR
	MKT 302	Marketing Research	3	MKT 201, ACC 201, QBA 202, COM 102; MIS 201 prerequisite/concurrent	CNR
	MGT 380	Project Management	3	MIS 201, FIN 201, ACC 202, COM 204; MGT 301 or MIS 303	CNR
	MGT 360	Business Ethics and Social Responsibility	3	MGT 201, ACC 201, QBA 201; COM 204 prerequisite/concurrent	CRR
	XXX	Humanities/Social Sciences Requirement	3		GER
	XXX	Science Elective	3		GER
		Total	**18**		

		FOURTH YEAR (30 credit hours)			
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MGT XXX	Management Elective	3	MGT 201, FIN 201, ACC 202, COM 204	CNE
	MKT 401	Marketing Strategy	3	MKT 301, MKT 302, FIN 201, ACC 202	CNR
	MKT XXX	Marketing Elective	3	MKT 201, ACC 202, FIN 201, COM 102	CNE
	XXX	Science Elective	3		GER
	XXX	Business Elective	3		CRE
		Total	15		
Spring	MGT 406	Business Policy & Strategy	3	MGT 201, MKT 201, MIS 201, FIN 201, COM 204, Senior Business Standing	CRR
	MGT 403	Entrepreneurship	3	COM 204, University Senior Standing or Permission	CNR
	MKT XXX	Marketing Elective	3	MKT 201, ACC 202, FIN 201, COM 102	CNE
	XXX	Free Elective	3		FRE
	XXX	Free Elective	3		FRE
		Total	15		

Abbreviations: GER: General Education Requirement; CRR: Core Requirement; CRE: Core Elective; CNR Concentration Requirement; CNE: Concentration Elective; FRE: Free Elective; EPT: English Placement Test; MPT: Math Placement Test

Note: Substitutions for upper level courses are done only in exceptional cases upon approval of department chair.

Proposed Course Sequence of Study

Bachelor of Science in Business Administration (B.S.B.A.)

Concentration in MIS & Marketing

		FIRST YEAR (30 credit hours)			
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	ECO 201	Principles of Microeconomics	3	COM 101 concurrent	GER
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GER
	BIS 101	Business Information Systems	3	Pass Placement Test or BIS 001 or DES 100	CRR
	QBA 201	Quantitative Business Analysis	3	MTH 101 concurrent	GER
		Total	15		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GER
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	GER
	MIS 201	Fundamentals of MIS	3	BIS 101	CRR
	ACC 201	Fundamentals of Financial Accounting	3	MTH 101, QBA 201 prerequisite/concurrent	CRR
	QBA 202	Operations Management	3	QBA 201	GER
		Total	15		

		SECOND YEAR (30 credit hours)			
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 204	Advanced Academic Writing	3	COM 102	GER
	ACC 202	Fundamentals of Managerial Accounting	3	MTH 101, ACC 201; QBA 201 prerequisite/concurrent	CRR
	MIS 200	Business Process Logic	3	MTH 101, BIS 101	CNR
	FIN 201	Fundamentals of Financial Management	3	ACC 202, QBA 202 prerequisite/concurrent	CRR
	MTH 102	Mathematics for Business II	3	MTH 101	GER
		Total	15		
Spring	MGT 201	Fundamentals of Management	3	COM 102 prerequisite/concurrent	CRR
	MKT 201	Fundamentals of Marketing	3	ECO 201, ECO 202; COM 102 prerequisite/concurrent	CRR
	XXX	Arabic Heritage Requirement	3		GER
	COM 208	Public Speaking	3	COM 204	GER
	XXX	Humanities/Social Sciences Requirement	3		GER
		Total	15		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MKT 302	Marketing Research	3	MKT 201, ACC 201, QBA 202, COM 102;	
				MIS 201 prerequisite/concurrent	CNR
	COM 225	Writing for Business	3	COM 102, Junior Standing	GER
	MIS 301	Fundamentals of Database Management	3	MIS 200, MIS 201, COM 102;	
				FIN 201 prerequisite/concurrent	CNR
	MIS 303	Introduction to Systems Analysis	3	MIS 200, MIS 201, COM 102; FIN 201	
				MKT 201, MGT 201 prerequisite/concurrent	CNR
	MKT 301	Consumer Behavior	3	MKT 201, ACC 201, QBA 201, COM 102	CNR
		Total	**15**		
Spring	MKT XXX	Marketing Elective	3	MKT 201, ACC 202, FIN 201, COM 102	CNE
	MIS XXX	MIS Elective	3		CNE
	MIS 304	Applied Systems Design	3	MIS 301, MIS 303; QBA 202 prerequisite/concurrent	CNR
	XXX	Business Elective	3		CRR
	BLW 301	Business Law	3	ACC 201, ECO 202;	
				COM 204 or 208 prerequisite/concurrent	CRR
	XXX	Humanities/Social Sciences Requirement	3		GER
		Total	**18**		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MKT XXX	Marketing Elective	3	MKT 201, ACC 202, FIN 201, COM 102	CNE
	MGT 360	Business Ethics and Social Responsibility	3	MGT 201, ACC 201, QBA 201;	
				COM 204 prerequisite/concurrent	CRR
	XXX	Humanities/Social Sciences Requirement	3		GER
	XXX	Science Elective	3		GER
	XXX	Free Elective	3		FRE
		Total	**15**		
Spring	MGT 406	Business Policy and Strategy	3	MGT 201, MKT 201, MIS 201, FIN 201,	
				COM 204, Senior Business Standing	CRR
	MKT 401	Marketing Strategy	3	MKT 301, MKT 302, FIN 201, ACC 202	CNR
	XXX	Science Elective	3		GER
	XXX	Free Elective	3		FRE
	XXX	Free Elective	3		FRE
		Total	**15**		

Abbreviations: GER: General Education Requirement; CRR: Core Requirement; CRE: Core Elective; CNR Concentration Requirement; CNE: Concentration Elective; FRE: Free Elective ; EPT: English Placement Test; MPT: Math Placement Test

Minor in Business Administration

Students from outside the bachelor of science business programs can enroll in a minor specialization in one of the five areas of concentration. They must have approval of the department to do so. Interested students should meet with the relevant department chair 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 (not including the prerequisites) are required as follows:

Prerequisite Courses

- ECO 201
- ECO 202
- COM 102
- QBA 201 or STA 201 or STA 202 or NGN 111
- BIS 101 (not required for 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 (9 credits)

- ACC 201
- One course in the area of minor specialization (i.e., MIS 201, FIN 201, MKT 201, MGT 201)
- One course in one of the remaining areas (i.e., MIS 201, FIN 201, MKT 201, MGT 201)
- Students minoring in accounting or finance must take ACC 201, ACC 202 and FIN 201 as foundation courses.
- Students seeking a minor in MIS must complete both MIS 200 and MIS 201, resulting in up to 21 credits for the minor. Computer Science and Computer Engineering students are exempted from taking MIS 200. In order for other students to waive MIS 200, a student must demonstrate the necessary background in programming courses.

Upper Division Courses (9 credits)

Students must take three 300-level or above courses that meet the prerequisite requirements.

Students planning to minor in business administration concentrations should take ECO 201 and ECO 202 early on as part of their social sciences requirement. Students who take only MTH 100 as a math requirement have to take another math course. Students can use their free elective courses to partially fulfill the requirements for the minor.

• The upper division courses in MIS are MIS 301, MIS 303 and any other 300-level or above MIS course. Instead of MIS 301, Computer Science and Computer Engineering students are required to take any other MIS course at or above the 300 level.

• Students minoring in management must take MGT 301 as one of their 300-level requirements. MGT 360 and MGT 406 cannot be used to fulfill these requirements.

• Students minoring in marketing must take MKT 301 and MKT 302 as part of the 300-level requirements.

Bachelor of Science in Finance (B.S.FIN.)

Osamah Al Khazali, Chair

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 are 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.

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 program 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.

Program Objectives

The objectives of the Finance 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 to understand the process of integration and the application of 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 provides students with a 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.

Program Outcomes

A successful graduate of the Finance program should be able to:

• Define and solve quantitative problems

• Make decisions

• Develop budgets

• Prepare financial reports and projections

• Assess risk

• Define problems and design solutions

• Interpret accounting and financial data

• Present reports and proposals to groups

• Utilize computer software for analysis and reports

Distinctive Features of the Finance Program

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 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.
- The School of Business and Management encourages scholarly work, applied research, and business consulting through its partnerships in the business world. Faculty members are expected to integrate the findings into the curriculum and bring new thought and developing practices to the classroom.

Admission and Requirements

Students can declare a major in finance at the end of their sophomore year after they complete the business foundation courses. Students must apply, in writing to the chair of the Finance department no later than the first week of May of their sophomore year. Students must have a grade point average of 2.5 or

better in the business foundation courses to be considered for this major.

Only two courses (six credits) of upper-division business courses may be transferred.

Transfer credits for upper-division business courses are subject to approval by the appropriate School of Business and Management department.

General Education and School Requirements

- English language competency requirement: 15 credits of level 100 or above in English/communication courses including COM 225 and COM 208. A student who is placed out of or exempted from one or two of the required communications courses will be able to take any communication or English course to accumulate the credits needed for completing the degree requirement.
- Arabic heritage requirement: THM 301, THM 302, ARA 101 or any Arabic literature course approved by the CAS Dean's Office
- Mathematics and/or statistics requirement: MTH 101 and QBA 201
- Bachelor of science business programs mathematics and quantitative business analysis requirement: MTH 102 and QBA 202
- Science requirement: any two of the following courses – BIO 101, BIO 102, BIO 103, CHM 101, CHM 102, CHM 103, CHM 105, ENV 100, ENV 101, PHY 100, PHY 101, PHY 102, PHY 103, PHY 104
- Humanities/social sciences requirement: ECO 201, ECO 202 and three courses (or nine credits) of social sciences or

humanities (or four social sciences or humanities courses if THM 301 or THM 302 is used to satisfy the Arabic heritage requirement)
- Computer literacy requirement: satisfied through extensive use of computer resources in courses throughout the Finance curriculum.

Major Requirements (21 credits)
- FIN 310 Analysis of Financial Statements
- FIN 320 Banking
- FIN 330 Investments
- FIN 401 International Finance
- FIN 402 Futures and Options
- FIN 440 Asset Valuation
- FIN 450 Case Studies in Corporate Finance

Major Electives (9 credits)
A maximum of two of the electives may be economics courses.
- FIN 304 Real Estate Finance
- FIN 306 Insurance and Financial Planning
- FIN 394/494 Special Topics in Finance
- FIN 430 Financial Forecasting
- FIN 496 Independent Study in Finance
- ECO 301 Intermediate Microeconomics
- ECO 302 Intermediate Macroeconomics
- ECO 305 International Trade
- ECO 315 Economics of the Middle East
- ECO 325 Public Economics
- ECO 330 Money and Banking
- ECO 333 Islamic Economics
- ECO 334 Islamic Economics II
- ECO 405 Introduction to Econometrics

Proposed Course Sequence of Study

Bachelor of Science in Finance (B.S.FIN.)

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	ECO 201	Principles of Microeconomics	3	COM 101 prerequisite/concurrent	GER
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GER
	BIS 101	Business Information Systems	3	Placement Test or BIS 001 or DES 100	CRR
	QBA 201	Quantitative Business Analysis	3	MTH 101 concurrent	GER
		Total	**15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GER
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	GER
	MTH 102	Mathematics for Business II	3	MTH 101	GER
	ACC 201	Fundamentals of Financial Accounting	3	MTH 101, QBA 201 prerequisite/concurrent	CRR
	QBA 202	Operations Management	3	QBA 201	GER
		Total	**15**		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 204	Advanced Academic Writing	3	COM 102	GER
	ACC 202	Fundamentals of Managerial Accounting	3	MTH 101, ACC 201;	
				QBA 201 prerequisite/concurrent	CRR
	XXX	Humanities/Social Sciences Requirement	3		GER
	FIN 201	Fundamentals of Financial Management	3	ACC 202, QBA 202 prerequisite/concurrent	CRR
	MGT 201	Fundamentals of Management	3	COM 102 prerequisite/concurrent	CRR
		Total	**15**		
Spring	COM 208	Public Speaking	3	COM 204	GER
	MKT 201	Fundamentals of Marketing	3	ECO 201, ECO 202;	
				COM 102 prerequisite/concurrent	CRR
	XXX	Arabic Heritage Requirement	3		GER
	FIN 310	Analysis of Financial Statements	3	FIN 201, COM 102, ACC 202	MJR
	MIS 201	Fundamentals of MIS	3	BIS 101	CRR
		Total	**15**		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	XXX	Science Elective	3		GER
	FIN 320	Banking	3	FIN 201, COM 102 ; MIS 201 prerequisite/concurrent	MJR
	FIN 330	Investments	3	FIN 201, ACC 202, COM 102;	
				MKT 201, MGT 201 prerequisite/concurrent	MJR
	COM 225	Writing for Business	3	COM 204, Junior Standing	GER
	BLW 301	Business Law	3	ACC 201, ECO 202;	
				COM 204 or 208 prerequisite/concurrent	CRR
		Total	**15**		
Spring	XXX	Business Elective	3		CRE
	FIN 402	Futures and Options	3	FIN 330, QBA 202; FIN 320 prerequisite/concurrent	MJR
	FIN 440	Asset Valuation	3	FIN 303, FIN 320 prerequisite/concurrent	MJR
	XXX	Science Elective	3		GER
	XXX	Free Elective	3		FRE
	XXX	Humanities/Social Sciences Requirement	3		GER
		Total	**18**		

		FOURTH YEAR (30 credit hours)				
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**		**Fulfills**
Fall	FIN 450	Case Studies in Corporate Finance	3	FIN330, FIN320		MJR
	FIN XXX	Finance Elective	3			MJE
	XXX	Humanities/Social Sciences Requirement	3			GER
	FIN 401	International Finance	3	FIN 330, QBA 202; FIN 320 prerequisite/concurrent		MJR
	MGT 360	Business Ethics and Social Responsibility	3	MGT 201, ACC 201, QBA 201;		
				COM 204 prerequisite/concurrent		CRE
		Total	**15**			
Spring	MGT 406	Business Policy and Strategy	3	MGT 201, MKT 201, MIS 201, FIN 201,		
				COM 204, Business Senior Standing		CRR
	FIN XXX	Finance Elective	3			MJE
	FINXXX	Finance Elective	3			MJE
	XXX	Free Elective	3			FRE
	XXX	Free Elective	3			FRE
		Total	**15**			

Abbreviations: GER: General Education Requirement; CRR: Core Requirement; CRE: Core Elective; MJR: Major Requirement; MJE: Major Elective; FRE: Free Elective; EPT: English Placement Test; MPT: Math Placement Test

Note: Substitutions for upper level finance courses are done only in exceptional cases upon approval of department chair

Bachelor of Science in Management Information Systems (B.S.MIS)

Muhammadou Kah, Chair

The Management Information Systems 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 that serve the information technology needs of society in general, and the Gulf region in particular.

MIS 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. A variety of rewarding professional opportunities is available to MIS graduates, including 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; planning and developing the corporate data and system architecture; and more.

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.

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 professional knowledge and a 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 that they develop. The B.S.MIS program endeavors 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

Program Objectives

The MIS program objectives are to:

- Provide MIS 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 MIS curriculum

Program Outcomes

A successful graduate of the MIS 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 creating users, installing software, establishing security constraints, configuring print services, and configuring 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

Distinctive Features of the MIS Program

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 MIS field, the content and skills learned in basic courses such as English, accounting, marketing and economics.
- A conceptual framework that cuts across functional areas. Courses in the MIS 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. MIS courses 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.

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 Chair of teh MIS department 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.

General Education and School Requirements

- English language competency requirement: 15 credits of level 100 or above in English/communication courses including COM 225 and COM 208. A student who is placed out of or exempted from one or two of the required communications courses will be able to take any communication (COM) or English (ENG) course to accumulate the credits required for completing the degree requirement.

- Arabic heritage requirement: THM 301, THM 302, ARA 101 or any Arabic literature course approved by the CAS Dean's Office

- Mathematics and/or statistics requirement: MTH 101 and QBA 201

- Bachelor of science business programs mathematics and quantitative business analysis requirement: MTH 102 and QBA 202

- Science requirement: any two of the following courses: BIO 101, BIO 102, BIO 103, CHM 101, CHM 102, CHM 103, CHM 105, ENV 100, ENV 101, PHY 100, PHY 101, PHY 102, PHY 103, PHY 104

- Humanities and social sciences requirement: ECO 201, ECO 202 and three other courses (or nine credits) of social sciences or humanities (or four social sciences or humanities courses if THM 301 or THM 302 is used to satisfy the Arabic heritage requirement)

- Computer literacy requirement: Satisfied through extensive use of computer resources in courses throughout the MIS curriculum

Major Requirements (24 credits)

In addition to university and bachelor of science business programs requirements, the following courses are required for B.S.MIS students:

- MIS 200 Business Process Logic

- MIS 300 Fundamentals of Telecommunications and Internet Technologies (normally offered only in Fall Semester)

- MIS 301 Fundamentals of Database Management

- MIS 303 Introduction to Systems Analysis

- MIS 304 Applied Systems Design

- MIS 402 Technology and 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)

Major Electives (6 credits)

- MIS 203 Software Development for Business Applications

- MIS 302 Advanced Database Management

- MIS 394/494 Special Topics in MIS

- MIS 410 Supply Chain Management

- MIS 496 Independent Study in MIS

- MGT 380 Project Management

Proposed Course Sequence of Study

Bachelor of Management Information Systems (B.S.MIS.)

Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
FIRST YEAR (30 credit hours)					
Fall	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	ECO 201	Principles of Microeconomics	3	COM 101 prerequisite/concurrent	GER
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GER
	BIS 101	Business Information Systems	3	Placement Test or BIS 001 or DES 100	CRR
	QBA 201	Quantitative Business Analysis	3	MTH 101 concurrent	GER
		Total	**15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GER
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	GER
	MIS 201	Fundamentals of MIS	3	BIS 101	CRR
	ACC 201	Fundamentals of Financial Accounting	3	MTH 101, QBA 201 prerequisite/concurrent	CRR
	QBA 202	Operations Management	3	QBA 201	GER
		Total	**15**		

		SECOND YEAR (30 credit hours)			
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COM 204	Advanced Academic Writing	3	COM 102	GER
	ACC 202	Fundamentals of Managerial Accounting	3	MTH 101, ACC 201; QBA 201 prerequisite/concurrent	CRR
	MIS 200	Business Process Logic	3	MTH 101, BIS 101	MJR
	MGT 201	Fundamentals of Management	3	COM 102 prerequisite/concurrent	CRR
	MKT 201	Fundamentals of Marketing	3	ECO 201, ECO 202; COM 102 prerequisite/concurrent	CRR
		Total	**15**		
Spring	MIS 300	Business Data Communications	3	MIS 201, COM 102	MJR
	COM 208	Public Speaking	3	COM 204	GER
	FIN 201	Fundamentals of Financial Management	3	ACC 202, QBA 202 prerequisite/concurrent	CRR
	MIS XXX	MIS Elective	3		MJE
	MTH 102	Mathematics for Business II	3	MTH 101	GER
		Total	**15**		

		THIRD YEAR (33 credit hours)			
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	XXX	Humanities/Social Sciences Requirement	3		GER
	BLW 301	Business Law	3	ACC 201, ECO 202; COM 204 or COM 208 prerequisite/concurrent	CRR
	MIS 301	Fundamentals of Database Management	3	MIS 200, MIS 201, COM 102; FIN 201 prerequisite/concurrent	MJR
	MIS 303	Introduction to Systems Analysis	3	MIS 200, MIS 201, COM 102; FIN 201 MKT 201, MGT 201 prerequisite/concurrent	MJR
	COM 225	Writing for Business	3	COM 204, Junior Standing	GER
		Total	**15**		
Spring	MGT 360	Business Ethics and Social Responsibility	3	MGT 201, ACC 201, QBA 201; COM 204 prerequisite/concurrent	CRR
	MIS XXX	MIS Elective	3		MJE
	MIS 304	Applied Systems Design	3	MIS 301, MIS 303; QBA 202 prerequisite/concurrent	MRE
	XXX	Business Elective	3		CRE
	XXX	Arabic Requirement	3		GER
	XXX	Humanities/Social Sciences Requirement	3		GER
		Total	**18**		

		FOURTH YEAR (30 credit hours)			
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	MIS 402	Knowledge Management	3	MIS 301, MIS 303, QBA 202, MGT 360	MJR
	MIS 404	Internet Business Applications	3	MIS 301, MIS 303; BLW 301, MGT 360 prerequisite/concurrent	MJR
	XXX	Humanities/Social Sciences Requirement	3		GER
	XXX	Science Elective	3		GER
	XXX	Free Elective	3		FRE
		Total	**15**		
Spring	MIS 405	Information Systems Strategy	3	Business Senior Standing, MIS 304	MJR
	MGT 406	Business Policy & Strategy	3	MGT 201, MKT 201, MIS 201, FIN 201, COM 204, Senior Business Standing	MJR
	XXX	Science Elective	3		GER
	XXX	Free Elective	3		FRE
	XXX	Free Elective	3		FRE
		Total	**15**		

Abbreviations: GER: General Education Requirement; CRR: Core Requirement; CRE: Core Elective; MJR: Major Requirement; MJE: Major Elective; FRE: Free Elective; EPT: English Placement Test; MPT: Math Placement Test

Bachelor of Arts in Economics (B.A.E.)

John Chilton, Chair

Economics encompasses a diverse range of fields including international trade, finance and insurance, development and growth, urban and regional economics, industrial organization, labor economics, banking and monetary economics, and natural resources and the environment. All, however, are approached with the same set of analytical tools that characterize the economic way of thinking.

The economics discipline is distinguished by a small set of powerful ideas that can be applied to a variety of problems from a wide range of topics. These fundamental ideas are rationality, equilibrium and efficiency. Economists model a real-world situation, use deductive reasoning to arrive at the model's implications, and use those refutable predictions to test the model empirically. Recommendations for policy and institutional reform flow from the efficiency analysis of the model. While economists do not attempt to establish society's goals, they do examine the consequences of trying to achieve them. Economic principles, when applied, can lead to outcomes that benefit all of society.

An economics degree provides students with skills that are valuable for a number of careers in which critical thinking and careful decision making are required, such as managerial careers in the private or public sector. The Economics program provides a firm foundation for a career in public policy analysis, banking, finance, market analysis and business management.

The purpose of the Bachelor of Arts in Economics degree program is to provide students with strong undergraduate training in the theory and application of economics built upon the foundation of education in the liberal arts and science. The program aims to prepare students for rewarding employment in business and government, nationally or internationally, and, if they choose, for

graduate study in business, law, economics and other advanced professional degrees in internationally recognized universities. The minor provides in-depth training in economics to complement the program of students in other majors such as Finance, Environmental Sciences, Mass Communication and Engineering.

These functions of the Economics program unite in a single mission: the delivery of an American-standard undergraduate economics course offering readily recognizable and understood internationally by employers and graduate programs. That standard includes relevance, which in our case means special attention to economic issues of significance in the Gulf. The commitment to an American standard is achieved by benchmarking the content of economics courses to peer institutions and remaining current as the discipline evolves. Success requires faculty members who have sound training in the major specializations in economics and who actively pursue research.

Program Objectives

Economics students learn to think creatively and deeply about some of the most important economic concerns facing the world today. Students learn to apply a variety of theoretical perspectives to issues of economic efficiency, economic growth, globalism, equity and social justice, wealth and poverty, individual freedom, discrimination, cultural values and environmental concerns.

The strategic objectives of the Economics program are to:

- Unite a high-quality curriculum with instruction in a learning-centered environment
- Maintain a curriculum that reflects the needs of a world where change is endemic
- Recruit, retain and develop a highly qualified faculty, which ranks student learning as its highest priority
- Nurture a supportive and creative faculty culture
- Provide effective instructional resources

- Promote value-added intellectual contributions
- Stress integrity, personal ethics and the responsibilities of leadership and good citizenship
- Present students with opportunities for global awareness within a dynamic world environment
- Foster motivation and opportunities for lifelong learning
- Develop in students a competence in critical thinking, communications, teamwork, information technology and adaptation to change
- Create an exciting student environment that reflects a diverse society

Program Outcomes

The Economics program is designed to improve the ability of students to think critically, organize and synthesize information, and write and speak convincingly regarding economic issues. Students earning the Bachelor of Arts in Economics will have a diverse set of skills and competencies. They can:

- Understand the fundamental principles and language of economics
- Explain the role of economic theory in the examination of public policy issues
- Explain the economic impact of actions taken by individuals, firms, governments and other groups and organizations
- Identify the role of supply and demand in a market economy and the necessary conditions for market economies to function well
- Discuss the efficiency advantages of a market system and the role of prices in achieving efficiency
- Understand of the economic role of government, fiscal and monetary policy, fractional reserve banking and market structure
- Identify policy options and assess the likelihood that they would improve economic growth and efficiency
- Evaluate the effects of monetary and fiscal policies
- Identify and explain the benefits and costs of international trade and global economy
- Interpret the significance of national and

international economic events

- Demonstrate the ability to apply economic theory to a range of economic problems and convincingly communicate their analysis

- Examine the effects of gender, race and class on economic opportunities

- See and understand economic issues in the wider cultural, political, global and historical context that a liberal education provides

- Demonstrate their ability to define and analyze economic problems using algebraic and statistical methods

- Show a basic understanding of research methodology, including surveying the literature, gathering and analyzing data, building models and deriving predictions and implications

- Use computer applications in making decisions

- Apply analytical techniques, such as developing methodologies, identifying and analyzing key issues, making sound inferences from data, and using effective problem-solving techniques.

Distinctive Features of the Economics Program

At AUS, economics majors learn about contemporary economics and its place within the wider social sphere. Students' understanding of economic principles helps them analyze economic trends and the government's responses to them. Students have the opportunity to develop good analytical and problem-solving skills. By exploring economic theories that help explain human behavior, AUS students learn to develop their own arguments and to assess their own values regarding the issues discussed in class.

Admission Requirements

Students admitted to AUS as freshmen can declare economics as their major. For continuing AUS students, admission to the major in economics requires a cumulative grade point average (GPA) of 2.3 or higher.

Transfer students from other universities can declare the economics major at the time of admission to AUS;

however, a grade of B or better must be achieved in economics courses for those courses to be considered as transfer credits toward the major requirements below.

Degree Requirements

A total of 120 credits as follows:

- 42 credits of general education requirements

- 24 credits of major requirements in economics with a minimum GPA of 2.0

- 18 credits of major electives in economics courses with a minimum GPA of 2.0

- 21 credits of major electives in related fields

- 15 credits of free electives

- A minimum cumulative GPA of 2.0

Waiver for minor. The major electives in related fields requirement is waived if the student takes a minor outside of economics.

Designated General Education Requirements

- STA 202 Introduction to Statistics for Social Sciences or QAN 202 Quantitative Analysis for Decision Making

- Either MTH 101 Mathematics for Business I or MTH 103 Calculus I or their equivalent, if approved by the Department of Economics

- For the remaining general education requirements, students must refer to the Undergraduate Studies section of this catalog.

Major 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

Elective Requirements (18 credits)

The student is free to choose these

courses from among any of the other economics courses at the 300 level or above not listed under the major requirements above.

Elective Requirements in Related Fields (21 credits)

Waived if the student takes a minor outside of economics. Students must obtain the approval of his or her advisor before selecting courses in the related fields:

- Accounting (any course)
- Computer science (any course)
- Finance (any course)
- History (any course at the 200 level or higher)
- International studies (any course)
- Management (any course)
- Management information systems (any course)
- Marketing (any course)
- Mathematics (any course other than MTH 100 or MTH 111)
- Political science (any course)
- Psychology (any course)
- Statistics (any course other than STA 201 or STA 202)
- Quantitative methods (if QAN 202 is completed, any course)
- Economics (any course at the 300 level or above)

Minor in Economics

Students who minor in economics take 21 credits of economics (seven courses) and must achieve a cumulative grade point average of 2.0 in the courses.

Minor Requirements (12 credits)

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

Minor Electives (9 credits)

The remaining nine credits for the minor in economics must be at the 300 level or above.

Proposed Course Sequence of Study
Bachelor of Arts in Economics (B.A.E.)

		FIRST YEAR (30 credit hours)			
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	XXX	Science Elective	3		GER
	ARA 101	Readings in Arabic Heritage	3		GER
	ECO 201	Principles of Microeconomics	3	COM 101 prerequisite/concurrent	MJR
	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GER
		Total	**15**		
Spring	XXX	Related Field Elective	3		MJE
	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GER
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	MJR
	XXX	Science Elective	3		GER
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or MTH 101 or MTH 111	GER
		Total	**15**		

		SECOND YEAR (30 credit hours)			
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	XXX	Humanities/Social Sciences	3		GER
	COM 204	Advanced Academic Writing	3	COM 102	GER
	XXX	Free Elective	3		FRE
	ECO 302	Intermediate Macroeconomics	3	ECO 201, ECO 202, COM 102	MJR
	ECO 310	Economic Development	3	ECO 201, ECO 202, COM 102	MJR
		Total	**15**		
Spring	XXX	Humanities/Social Sciences	3		GER
	XXX	Humanities/Social Sciences	3		GER
	ECO 301	Intermediate Microeconomics	3	ECO 201, ECO 202, COM 102	MJR
	ECO 330	Money and Banking	3	ECO 201, ECO 202, COM 102	MJR
	XXX	Related Field Elective	3		MJE
		Total	**15**		

		THIRD YEAR (30 credit hours)			
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	ECO 305	International Trade	3	ECO 201, ECO 202, COM 102	MJR
	ECO XXX	Economics Elective	3	ECO 201, ECO 202, COM 102	MJE
	COM 208	Public Speaking	3	COM 204	GER
	XXX	Humanities/Social Sciences	3		GER
	XXX	Related Field Elective	3		MJE
		Total	**15**		
Spring	XXX	Related Field Elective	3		MJE
	ECO XXX	Economics Elective	3	ECO 201, ECO 202, COM 102	MJE
	XXX	Humanities/Social Sciences	3		GER
	ECO XXX	Economics Elective	3	ECO 201, ECO 202, COM 102	MJE
	XXX	Free Elective	3		FRE
		Total	**15**		

FOURTH YEAR (30 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	XXX	Related Field Elective	3		MJE
	ECO 495	Senior Seminar in Economics	3	ECO 301, ECO 302	MJR
	ECO XXX	Economics Elective	3	ECO 201, ECO 202, COM 102	MJE
	XXX	Related Field Elective	3		MJE
	XXX	Free Elective	3		FRE
		Total	**15**		
Spring	ECO XXX	Economics Elective	3	ECO 201, ECO 202, COM 102	MJE
	ECO XXX	Economics Elective	3	ECO 201, ECO 202, COM 102	MJE
	XXX	Free Elective	3		FRE
	XXX	Free Elective	3		FRE
	XXX	Related Field Elective	3		MJE
		Total	**15**		

Abbreviations: GER: General Education Requirement; MJR: Economics Major Requirement; MJE: Major Elective (Economics Elective or Related Field Elective); FRE: Free Elective; EPT: English Placement Test; MPT: Math Placement Test

Bachelor of Arts in Public Administration (B.A.P.A.)

Norman Wright, Chair

A degree in public administration provides students with a strong foundation in public administration, interpersonal relations, public policy analysis, leadership skills, and public decision-making processes. The program emphasizes both administrative knowledge and managerial skills related to the formulation of policy, the acquisition of human and financial resources, application of sound methods of organization and management, and the development and execution of effective implementation strategies.

The Public Administration major provides students with skills that are valuable for a number of careers, including managerial careers in the public, nonprofit or private sectors. Students majoring in public administration are prepared for careers in local, state, federal, international and nonprofit agencies. Graduates work in areas such as public policy development and analysis, management, human resources, banking, finance, nonprofit agencies, and business management.

The mission of the Bachelor of Arts in Public Administration program at the American University of Sharjah is to provide students with a strong undergraduate training in public administration and management, built upon a liberal arts and science education. The Public Administration program prepares students to become professional public managers, public officials and citizens. It enables students to meet the challenges of public service in both government and non-profit sectors by providing them with professional training in the discipline of public administration.

The Public Administration program

aims to prepare students for rewarding employment in business and government, nationally or internationally, and, if they choose, for graduate study in public administration/policy, business, law and other advanced professional degrees in internationally recognized universities. The minor provides in-depth training in public administration and complements the program of other majors like Finance, Mass Communication, Economics and Engineering.

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 development and analysis, organization theories and decision making, human resources, evaluation, non-governmental organizations, public finance, administrative law, public administration, rules and regulations, political science, urban management and public sector ethics.

Program Objectives

Public Administration students learn to think creatively and deeply about some of the most important public administration/policy concerns facing the world today. The strategic objectives of the Public Administration program are to:

- Prepare graduates using a curriculum that equips them with the technical skills and conceptual knowledge necessary to succeed in a career in the public, private or non-profit sectors and in international and diplomatic services
- Stress integrity and personal ethics by reinforcing the responsibilities of leadership and good citizenship
- Recruit, retain and develop a highly qualified faculty, which ranks student learning as its highest priority
- Involve faculty in student placement through contacts with potential employers, serving as references for students and advising students on job-

search skills
- Present students with opportunities for global awareness within a dynamic world environment
- Develop in students a competence in critical thinking, communications, teamwork, information technology and adaptation to change
- Create an exciting student environment that reflects a diverse society

Program Outcomes

The Public Administration program is designed to improve the ability of students to think critically, organize and synthesize information, and write and speak more effectively regarding public administration issues. Listed below are examples of skill sets and competencies students earning the Bachelor of Arts in Public Administration will take with them in their careers:

- Public management processes, including public budgeting and human resources/personnel systems
- Organizational design processes and behavior
- Political, legal and ethical concepts and issues of public administration
- Quantitative and qualitative analysis techniques
- Policy analysis and program evaluation
- To see and understand public administration issues in a wider cultural, political, global and historical context due to the liberal arts foundation of the public administration program
- Use computer applications in making decisions
- Analytical techniques to develop methodologies, identify and analyze key issues, make sound inferences from data and effectively solve problems

Distinctive Features of the Public Administration Program

What is distinctive about the Public Administration program is its delivery of an American model of undergraduate public administration education relevant to the region. Four courses in economics principles, public economics

and collective decision making are required, and additional courses in economics count toward the major electives. The faculty is deeply committed to teaching students public administration by sharpening students' analytical skills and refining their writing, research and oral presentation skills using a curriculum that incorporates team projects based on interactions with public, private and non-governmental organizations.

The mission is achieved with the help of a dedicated, highly qualified faculty actively pursuing applied research and providing consulting services to governments, NGOs and international organizations, thereby remaining current in the field and bringing new initiatives and practices into the classroom.

The Public Administration major provides students with skills that are valuable for a number of careers, including managerial careers in the public, nonprofit or private sectors.

Admission Requirements

Students admitted to AUS as freshmen can declare public administration as their major. For continuing AUS students, admission to the major in public administration requires a cumulative grade point average of 2.0 or higher.

Transfer students from other universities can declare the public administration major at the time of admission to AUS; however, a grade of B or better must be achieved in public administration courses for those courses to be considered as transfer credits toward the major requirements below.

Degree Requirements

A total of 120 credits, including

- 42 credits of general education requirements
- 24 credits of major requirements
- 18 credits of major electives in public administration
- 21 credits of major electives in related fields
- 15 credits of free electives

- A minimum cumulative GPA of 2.0

Waiver for minor. The major electives in related fields requirement is waived if the student takes a minor outside of public administration.

Designated General Education Requirements

- STA 202 Introduction to Statistics for Social Sciences
- MTH 101 Mathematics for Business I or MTH 102 Mathematics for Business II
- For the remaining general education requirements, students must refer to the Undergraduate Studies section of this catalog.

Major Requirements (24 credits)

- PBA 101 Introduction to Public Administration
- PBA 306 Human Resources Management in Public Organizations
- ECO 201 Principles of Microeconomics
- ECO 202 Principles of Macroeconomics
- ECO 325 Public Economics
- ECO 345 Economics of Collective Decision Making
- PHI 204 Ethics for Professionals
- POL 201 Introduction to Political Studies

Major Electives (18 credits)

The student is free to choose:

- Any of the PBA courses not listed in the major requirements.
- ECO 312 Economics of Labor
- ECO 326 Economics and the Law
- ECO 327 Industrial Organization
- ECO 328 Government Regulation of Business
- PSY 205 Industrial Psychology

Major Electives in Related Fields (21 credits)

Waived if the student takes a minor outside of public administration. Students must obtain the approval of his or her advisor before selecting courses in these related fields:

- Economics
- Psychology

- International studies
- Political science
- History
- Geography
- Cultural studies
- Sociology
- Mathematics
- Statistics
- Mass communication
- Courses offered in the School of Business and Management at the 200 level or above

Minor in Public Administration

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

Minor Requirements (15 credits)

- PBA 101 Introduction to Public Administration
- PBA 201 Public Management
- ECO 201 Principles of Microeconomics
- ECO 202 Principles of Macroeconomics
- ECO 325 Public Economics

Minor Electives (6 credits)

The remaining six credits for the minor must be public administration courses at the 200 level or above.

Proposed Course Sequence of Study
Bachelor of Arts in Public Administration (B.A.P.A.)

FIRST YEAR (30 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	MTH 101	Mathematics for Business I	3	MPT or MTH 002	GER
	COM 101	Academic Writing	3	EPT 4 or COM 001	GER
	PBA 101	Introduction to Public Administration	3		MJR
	XXX	Science Elective	3		GER
	ECO 201	Principles of Microeconomics	3	COM 101 prerequisite/concurrent	MJR
		Total	**15**		
Spring	COM 102	Writing and Reading Across the Curriculum	3	EPT 5 or COM 101	GER
	ARA 101	Readings in Arabic Heritage	3		GER
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100, MTH 101 or MTH 111	GER
	XXX	Science Elective	3		GER
	ECO 202	Principles of Macroeconomics	3	COM 101 prerequisite/concurrent	MJR
		Total	**15**		

SECOND YEAR (30 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COM 204	Advanced Academic Writing	3	COM 102	GER
	XXX	Humanities/Social Sciences	3		GER
	PBA XXX	PBA Elective	3	PBA 101, COM 102	MJE
	PHI 204	Ethics for Professionals	3	COM 102	MJR
	PBA 306	Human Resources Management in Public Organizations	3	PBA 101, COM 102	MJR
		Total	**15**		
Spring	POL 201	Introduction to Political Studies	3	COM 102	MJR
	XXX	Humanities/Social Sciences	3		GER
	XXX	Related Field Elective	3	PBA 101, COM 102	MJE
	PBA XXX	PBA Elective	3	PBA 101, COM 102	MJE
	XXX	Free Elective	3		FRE
		Total	**15**		

THIRD YEAR (30 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	XXX	Humanities/Social Sciences	3		GER
	PBA XXX	PBA Elective	3	PBA 101, COM 102	MJE
	XXX	Related Field Elective	3		MJE
	ECO 325	Public Economics	3	ECO 201	MJR
	COM 208	Public Speaking	3	COM 204	GER
		Total	**15**		
Spring	PBA XXX	PBA Elective	3	PBA 101, COM 102	MJE
	PBA XXX	Related Field Elective	3	PBA 101, COM 102	MJE
	ECO 345	Economics of Collective Decision Making	3	ECO 201	MJR
	XXX	Humanities/Social Sciences	3		GER
	XXX	Free Elective	3		FRE
		Total	**15**		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	PBA XXX	PBA Elective	3	PBA 101, COM 102	MJE
	XXX	Humanities/Social Science	3		GER
	XXX	Related Field Elective	3		MJE
	XXX	Related Field Elective	3		MJE
	XXX	Free Elective	3		FRE
		Total	**15**		
Spring	PBA XXX	PBA Elective	3	PBA 101, COM 102	MJE
	XXX	Related Field Elective	3		MJE
	XXX	Related Field Elective	3		MJE
	XXX	Free Elective	3		MJE
	XXX	Free Elective	3		FRE
		Total	**15**		

Abbreviations: GER: General Education Requirement; MJR: Public Administration Degree Requirement; MJE: Major Elective (Economics Elective or Field Related Elective); FRE: Free Elective; FRE: Free Elective; EPT: English Placement Test; MPT: Math Placement Test
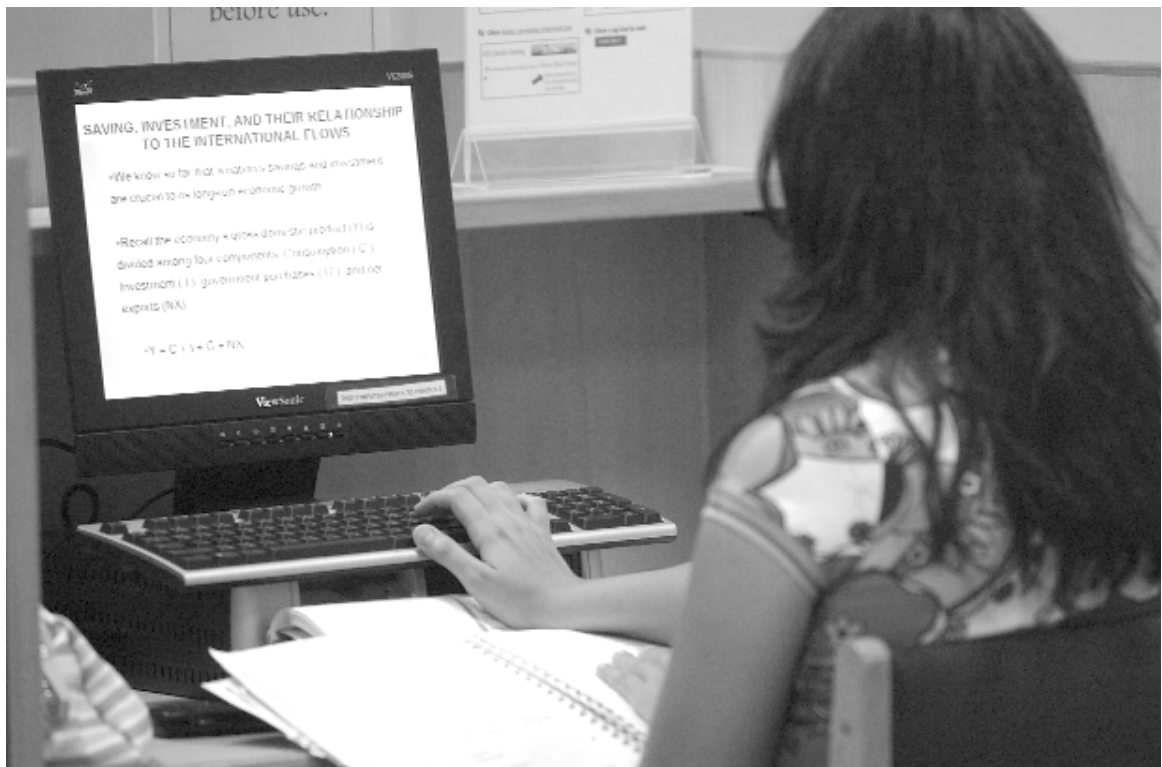
School of Engineering

Dean
Leland T. Blank

Associate Dean
Yousef Al-Assaf

The School of Engineering offers Bachelor of Science (B.S.) degrees in several engineering disciplines and in computer science. These are all comprehensive curricula that emphasize quality, communication skills, application to real-world situations, interdisciplinary learning and team building. 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 master's 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 contribute 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 and economic prosperity, as well as a national and international perspective on the world of professional work.

Mission Statement

The American University of Sharjah is a 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 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.

The school's 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 design and problem-solving processes, and excellent opportunities to experience real-world and research project involvement.

Curriculum

The School of Engineering offers programs in computer engineering, chemical engineering, civil engineering, mechanical engineering, electrical engineering and computer science. The AUS engineering faculty provides an educational experience that is equivalent to those offered by leading state and private universities in the United States and Europe.

Each curriculum has its own distinguishable features; however, common threads of design and problem solving have been woven into the fabric of the curricula to ensure that each student receives the very best education tailored to the needs of the Middle Eastern student and industry. The engineering programs are intended to prepare graduates for regional as well as worldwide practice. The programs are 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. Therefore, graduates must possess English fluency in both written and spoken forms. 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 degree 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. The freshman year for computer science is slightly different. 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 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 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 members teach in all of their

courses. Each student must complete a team-based extensive senior project focused on a real-world problem that requires specification, design, analysis and synthesis as the problem-solving process is utilized. Faculty members serve as close advisors and monitor 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.

Objectives and Outcomes

In order to help students be successful at AUS, the major educational objectives of the School of Engineering are:

- To assist students in achieving their potential through preparation for a successful and satisfying career in the engineering and computer science professions
- To prepare well-educated graduates able to serve in regional and international practice with consideration of multicultural environments
- To prepare a B.S.-level graduate to be successful in graduate studies in a related area
- 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 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

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

- Achieve a recognized level 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 professional endeavors

Assessment and Evaluation of Curriculum

The School of Engineering has developed and implemented the Course Assessment and Improvement Process (CAIP). It is a comprehensive approach to the collection of student and faculty assessments of course material, delivery and student perception of learning. The results are used to improve course and laboratory content, delivery methods, testing and practical applications at the course level, for technical and supporting areas, as well as at the degree levels. The result is an ongoing process whereby students can be assured of improvements on a continuing basis.

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 or computer science from leading US, Canadian and European universities. The faculty of the SOE 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

Saad Ahmed (Mechanical Engineering)
Yousef Al-Assaf (Electrical Engineering)
Azm Al Homoud (Civil Engineering)
Hasan Al-Nashash (Electrical Engineering)
Leland T. Blank (Engineering)
Mohammad Ameen Jarrah (Mechanical Engineering)
Kassem A Saleh (Computer Science)
Sallie Sheppard (Computer Science)

Associate Professors

Jamal A. Abdalla (Civil Engineering)
Rana Ahmed (Computer Engineering)
Abdul-Rahman K. Al-Ali (Computer Engineering)
Ibrahim Al Kattan (Engineering Systems Management)
Hussam A. Almohammad (Computer Science)
Mohammad Al-Rousan (Computer Engineering)
Gasser Auda (Computer Science)
Gerassimos Barlas (Computer Science)
Hazim El-Baz (Engineering Systems Management)
Hany El Kadi (Mechanical Engineering)
Rached Dhaouadi (Electrical Engineering)
Armin Eberlein (Computer Engineering)
Mohamed A. Gadalla (Mechanical Engineering)
Tarik Ozkul (Computer Engineering)
Ghassan Qadah (Computer Engineering)
Assim Sagahyroon (Computer Engineering)
Dana Stevenson-Abouelnasr (Chemical Engineering) (on leave 2004-2005)
Sami W. Tabsh (Civil Engineering)
Adil Tamimi (Civil Engineering)

Assistant Professors

Akmal S. Abdelfatah (Civil Engineering)
Fadi Aloul (Computer Engineering)
Khaled Assaleh (Electrical Engineering)
Ibrahim Deiab (Mechanical Engineering)
Khaled El Fakih (Computer Science)
Sameh M. El-Sayegh (Civil Engineering)
Mohamed El-Tarhuni (Electrical Engineering)
Ghaleb Husseini (Chemical Engineering)
Taleb Ibrahim (Chemical Engineering)
Jalal Y. Kawash (Computer Science)
Abdul Khaliq (Electrical Engineering)
Nasser N. Qaddoumi (Electrical Engineering)
Tamer J Shanableh (Computer Science)
Imran Zualkernan (Computer Engineering)

Visiting Professors

Nabil Abdel-Jabbar (Chemical Engineering)

Degree Programs Offered

The School of Engineering offers six B.S. degrees, three minors and two Master of Science degrees (Mechatronics and Engineering Systems Management). An overview of the graduate programs is provided in the Graduate Studies and Research section of the catalog. The description and requirements for an engineering degree are described below. The computer science degree is described in a section located after the engineering disciplines.

Undergraduate Programs

Admission and Degree Requirements

Formal admission to a major at the second-year level in all programs of the School of Engineering requires the completion of all required first-year courses and a cumulative grade point average (CGPA) of 2.0. In addition, a minimum average grade point of C (2.0) with a minimum of C- in each course must be earned in specific freshman-level mathematics and science courses. These courses are specified for each major as follows:

- Chemical Engineering: MTH 103 Calculus I and CHM 101 General Chemistry I
- Civil Engineering: MTH 103 Calculus I and PHY 101 General Physics I
- Computer Engineering: MTH 104 Calculus II and PHY 102 General Physics II
- Electrical Engineering: MTH 103 and 104 Calculus I and II, and PHY 101 and 102 General Physics I and II
- Mechanical Engineering: MTH 103 Calculus I and PHY 101 General Physics I
- Computer Science: MTH 103 Calculus I and one science course (PHY 101, CHM 101 or BIO 101), and either MTH 104 Calculus II or a second science course (PHY 102, CHM 102 or BIO 102).

A freshman student who has a cumulative GPA of C (2.0) or above and an average GPA of at least B (3.0) in these specified courses is assured admittance to the second-year level of their chosen major. 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 Engineering

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 and major electives that include courses in mathematics, sciences, engineering sciences and engineering design that ensure preparation for professional practice (90 credits)
- Summer internship or practicum normally for 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 (6 credits).

Bachelor of Science in Degrees

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 Engineering (B.S.E.E.)
- Mechanical Engineering (B.S.M.E.)
- Computer Science (B.S.C.S.)

Each engineering 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 or 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 (GER), major requirements (MJR), major elective (MJE) courses, which provide depth in a sub-specialty of a chosen field, and free electives (FRE). 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 subsequent years are listed under individual engineering majors.

Proposed First-Year Courses for All Engineering Students

COMMON ENGINEERING FRESHMAN YEAR (31 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CHM 101	General Chemistry I	4		MJR/GER
	COM 101	Academic Writing	3	EPT score 4 or COM 001	GER
	MTH 103	Calculus I	3	MTH 001 or placement test	MJR/GER
	NGN 110	Introduction to Engineering	2	Admission to SOE	MJR
	PHY 101	General Physics I	4	PHY 001 or placement test; prerequisite/concurrent MTH 103	MJR/GER
		Total	**16**		
Spring	XXX	Free Elective	3		FRE
	COM 102	Writing and Reading Across the Curriculum	3	EPT score 5 or COM 101	GER
	MTH 104	Calculus II	3	MTH 103	MJR/GER
	NGN 111	Introduction to Statistical Analysis	2	prerequisite/concurrent MTH 103	MJR
	PHY 102	General Physics II	4	PHY 101	MJR
		Total	**15**		

Abbreviations: EPT: English Placement Test; MJE: Major Elective; MJR: Major Requirement; GER: General Education Requirement; FRE: Free Elective

Bachelors of Science in Chemical Engineering (B.S.Ch.E.)

Taleb Ibrahim, Acting Chair

Program Mission and Description

The mission of the Chemical Engineering program at AUS is to prepare students to become engineers and leaders in chemical and related industries by cultivating an environment that is academically challenging.

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 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, pollution prevention and waste management.

Program Educational Objectives

Graduates of the Chemical Engineering program are expected to be able to:

- Succeed in the chemical engineering profession in a manner that contributes positively to society
- Design new chemical processes and improve upon existing ones
- Identify problems and develop solutions that incorporate ethical responsibilities, protect the environment, promote safety and are sensitive to social customs and concerns
- Lead and participate in teams with members of diverse backgrounds and skills
- Communicate effectively
- Excel in advanced studies in chemical engineering or other professional degree programs and maintain a life-long interest in learning

Program Outcomes

Upon graduation, an AUS student of Chemical Engineering should be able to demonstrate the following:

- Identify, formulate and solve engineering problems
- Apply principles of chemistry, physics and mathematics to chemical engineering problems
- Use fundamental principles of chemical engineering and apply economic analysis in the design, development and simulation of chemical systems and processes
- Integrate safety, health and environmental considerations into the design of engineering equipment and processes
- Design and conduct experiments, and analyze and interpret technical data using modern experimental and computation-based techniques and tools
- Use modern software and tools in process design, data gathering and analysis, and the solution of engineering problems
- Recognize the ethical and moral issues and codes related to the engineering profession
- Work effectively in teams to solve problems
- Use written and oral communication
- Pursue new concepts and understanding of current issues through self-directed study and life-long learning
- Recognize the importance of contemporary issues and understand the impact of engineering solutions in a global and societal context

Degree Requirements

The program requires 140 credits to graduate. After the third year, each student is required to devote normally 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 including organic chemistry, physical chemistry, materials science, unit operations, 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 101, COM 102, COM 204 and COM 207. Students who have advanced placement in the COM sequence must replace the exempted course(s) by a course(s) in COM or ENG.

- Arabic heritage requirement: ARA 101 or THM 301 or THM 302

- Mathematics and/or statistics requirement: MTH 103 and MTH 104

- Science requirement: CHM 101 and PHY 101

- Humanities and social sciences requirement: Students must satisfy this requirement by completing at least 15 credits or five courses in the humanities and social sciences curricula with a

grade of C- or better. If the three credits in courses on Arab heritage are satisfied by one of the theme courses (THM 301 or THM 302), three additional credits must be taken from the humanities or social sciences courses.

- Computer literacy requirement: satisfied through extensive use of computer resources in courses throughout the engineering curriculum

Major Requirements

- NGN 110 Introduction to Engineering
- NGN 111 Introduction to Statistical Analysis
- CHE 205 Principles of Chemical Engineering I
- CHE 206 Principles of Chemical Engineering II
- CHE 230 Materials Science
- CHE 300 Fluid Flow
- CHE 303 Chemical Engineering Thermodynamics I
- CHE 304 Chemical Engineering Thermodynamics II
- CHE 307 Heat Transfer
- CHE 321 Chemical Reaction Engineering
- CHE 329 Mass Transfer I
- CHE 350 Chemical Engineering Measurement Lab
- CHE 397 Professional Training in

Chemical Engineering
- CHE 412 Mass Transfer II
- CHE 421 Chemical Process Dynamics and Control
- CHE 430 Process Modeling Simulation and Optimization
- CHE 432 Process Design Safety and Economics
- CHE 451 Chemical Engineering Lab I
- CHE 452 Chemical Engineering Lab II
- CHE 490 Senior Design Project I
- CHE 491 Senior Design Project II
- CHE 495 Chemical Engineering Seminar
- ELE 225 Electric Circuits and Devices
- PHY 102 General Physics II
- CHM 102 General Chemistry II
- CHM 215 Organic Chemistry I
- CHM 215L Organic Chemistry I Lab
- CHM 216 Organic Chemistry II
- CHM 331 Physical Chemistry II
- CHM 335 Physical Chemistry Lab
- MTH 203 Calculus III
- MTH 205 Differential Equations
- MTH 221 Linear Algebra

Major Electives (9 credits)
Nine credits from any CHE courses not

Proposed Course Sequence of Study (Years 2 and Later)
Bachelor of Science in Chemical Engineering (B.S.Ch.E.)

Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
		SECOND YEAR (40 credit hours)			
Fall	CHE 205	Principles of Chemical Engineering I	2	CHM 101; MTH 104 prerequisite/concurrent	MJR
	CHM 102	General Chemistry II	4	CHM 101	MJR
	CHM 215	Organic Chemistry I	3	CHM 102 prerequisite/concurrent	MJR
	MTH 203	Calculus III	3	MTH 104	MJR
	MTH 205	Differential Equations	3	MTH 104	MJR
	ELE 225	Electric Circuits and Devices	3	PHY 102	MJR
		Total	**18**		
Spring	CHE 206	Principles of Chemical Engineering II	3	CHE 205; CHM 102 prerequisite/concurrent	MJR
	CHE 230	Materials Science	3	CHM 101	MJR
	CHM 216	Organic Chemistry II	3	CHM 215	MJR
	CHM 215L	Organic Chemistry Laboratory I	1	CHM 215	MJR
	COM 204	Advanced Academic Writing	3	COM 102	MJR/GER
	HUM/SS	Humanities/Social Sciences Elective	3		GER
		Total	**16**		
Summer	COM 207	English for Engineering	3	COM 203 or COM 204	MJR/GER
	HUM/SS	Humanities/Social Sciences Elective	3		GER
		Total	**6**		

THIRD YEAR (33 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	CHE 300	Fluid Flow	3	MTH 205, CHE 205; MTH 203 prerequisite/concurrent	MJR
	CHE 303	Chemical Engineering Thermodynamics I	3	CHE 206, PHY 101;	
				MTH 203, MTH 205 prerequisite/concurrent	MJR
	CHE 307	Heat Transfer	3	CHE 206; CHE 300 prerequisite/concurrent	MJR
	CHE 350	Chemical Engineering Measurement Lab	1	NGN 111; CHE 303, CHE 307 prerequisite/concurrent	MJR
	MTH 221	Linear Algebra	3	MTH 104	MJR
	HUM/SS	Humanities/Social Sciences Elective	3		GER
		Total	**16**		
Spring	CHE 304	Chemical Engineering Thermodynamics II	3	CHE 303	MJR
	CHE 321	Chemical Reaction Engineering	3	CHE 300; CHE 304,	
				CHE 307, CHM 331 prerequisite/concurrent	MJR
	CHE 329	Mass Transfer I	3	CHE 303 prerequisite/concurrent	MJR
	CHM 331	Physical Chemistry II	3	CHE 303	MJR
	CHM 335	Physical Chemistry Lab	2	CHM 331 prerequisite/concurrent	MJR
	HUM/SS	Humanities/Social Sciences Elective	3		GER
		Total	**17**		
Summer	CHE 397	Professional Training in Chemical Engineering	0	Approval of the training coordinator of the major	MJR

FOURTH YEAR (36 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	CHE 412	Mass Transfer II	3	CHE 329	MJR
	CHE 430	Process Modeling, Simulation and Optimization	3	CHE 304; CHE 412, CHE 321 prerequisite/concurrent	MJR
	CHE 432	Process Design, Safety and Economics	3	CHE 321; CHE 430 prerequisite/concurrent	MJR
	CHE 451	Chemical Engineering Lab I	1	CHE 350; CHE 412, CHE 321 prerequisite/concurrent	MJR
	CHE 490	Senior Design Project I	1	CHE 432 prerequisite/concurrent	MJR
	CHE 495	Chemical Engineering Seminar	1	Senior Standing	MJR
	CHE XXX	Major Elective	3		MJE
	HUM/SS	Humanities/Social Sciences Elective	3		GER
		Total	**18**		
Spring	CHE 421	Chemical Process Dynamics and Control	3	CHE 430	MJE
	CHE 452	Chemical Engineering Lab II	1	CHE 451	MJR
	CHE 491	Senior Design Project II	2	CHE 490; CHE 421 prerequisite/concurrent	MJR
	CHE XXX	Major Elective	3		MJE
	CHE XXX	Major Elective	3		MJE
	XXX	Free Elective	3		FRE
	HUM/SS	Humanities/Social Sciences Elective	3		GER
		Total	**18**		

Abbreviations: MJR: Major Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MJE: Major Elective; FRE: Free Elective.

listed above.

Free Electives (6 credits)

Six credits from any courses offered at AUS at or above the 100 level.

Bachelor of Science in Civil Engineering (B.S.C.E.)

Jamal Abdalla, Chair

Program Mission and Description

The mission of the Civil Engineering program at AUS is to provide students with the highest level of technical preparation, professional development and leadership skills for successful careers in civil engineering and excellence in higher education by providing high-quality education based on a well-balanced curriculum.

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 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.

Program Educational Objectives

Graduates of the Civil Engineering program are expected to be able to:

- Utilize mathematics, science and engineering fundamentals to address and solve multi-faceted problems

- Apply the analytical, experimental, design and management techniques with proficiency in the use of modern tools to solve civil engineering problems

- Understand the global, ethical and social implications of the profession and utilize them with regards to public safety and environmental protection

- Utilize oral and written communication skills and collaborate effectively as members of a multi-disciplinary team

- Pursue successful employment and life-long learning, as well as graduate studies

Program Outcomes

Upon graduation, an AUS student of Civil Engineering should be able to demonstrate the following:

- Apply the principles and methods of mathematics, science and engineering basics to formulate and solve problems effectively

- Use computer software and modern laboratory equipment to solve civil engineering and related problems

- Use the theory and practice required to analyze and design structural, geotechnical, transportation, water and environmental systems

- Apply the techniques of cost analysis and estimation, planning, scheduling and control in the management of civil engineering projects

- Employ civil engineering codes of practice, specifications and testing standards to evaluate and select suitable construction materials

- Communicate effectively in both oral and written forms with different types of audiences on various topics

- Function well in projects that involve team members who represent multi-disciplinary fields on wide range of subjects

- Carry out civil engineering tasks and make decisions ethically and professionally with consideration of social and global implications

- Conduct experiments, analyze data, interpret results and present them effectively

- Pursue, where appropriate, graduate studies in civil engineering or a related discipline

- Demonstrate proficiency in mathematics, science and engineering basics through passing a comprehensive assessment examination

- Participate actively in professional activities and appreciate the engagement in lifelong learning

Graduation Requirements

A total of 140 credits is required. After the third year, each student is required to devote normally 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 101, COM 102, COM 204 and COM 207. Students who have advanced placement in the COM sequence must replace the exempted course(s) by a course(s) in COM or ENG.

- Arabic heritage requirement: ARA 101 or THM 301 or THM 302

- Mathematics and/or statistics requirement: MTH 103 and MTH 104

- Science requirement: CHM 101 and PHY 101

- Humanities and social sciences requirement: Students must satisfy this requirement by completing at least 15 credits or five courses in the humanities and social sciences curricula with a grade of C- or better. If the three credits in courses on Arab heritage are satisfied by one of the theme courses (THM 301 or THM 302), three additional credits must be taken from the humanities or social sciences courses.
- Computer literacy requirement: satisfied through extensive use of computer resources in courses throughout the engineering curriculum

Major Requirements

- NGN 110 Introduction to Engineering
- NGN 111 Introduction to Statistical Analysis
- CVE 202 Construction Materials Lab
- CVE 211 Fundamentals of Graphics and Programming
- 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 263 Urban Transportation Planning
- CVE 267 Civil Engineering Cost Analysis
- CVE 301 Theory of Structures
- CVE 303 Geotechnical Engineering Lab
- CVE 304 Environmental Engineering Lab
- CVE 310 Fundamentals of Structural Dynamics
- CVE 312 Structural Steel Design
- CVE 313 Reinforced Concrete Design
- CVE 325 Computational Methods
- CVE 331 Geotechnical Engineering Principles
- CVE 333 Geotechnical Engineering Design
- CVE 341 Hydraulic Engineering
- CVE 351 Water and Wastewater Treatment
- CVE 363 Highway Design
- CVE 367 Project Estimating, Planning and Control
- CVE 490 Civil Engineering Design Project I
- CVE 491 Civil Engineering Design Project II
- CVE 397 Professional Training
- MTH 203 Calculus III

- MTH 205 Differential Equations
- MTH 221 Linear Algebra
- PHY 102 General Physics II

Major Electives (6 credits)

Student must complete two elective courses in civil engineering from the following:

- 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

Proposed Course Sequence of Study (Years 2 and Later)
Bachelor of Science in Civil Engineering (B.S.C.E.)

SECOND YEAR (37 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COM 204	Advanced Academic Writing	3	COM 102	MJR/GER
	CVE 211	Fund. of Graphics and Computer Programming	3	NGN 111	MJR
	CVE 220	Statics	3	PHY 101	MJR
	CVE 231	Engineering/Environmental Geology	3	NGN110	MJR
	CVE 241	Elementary Surveying	3	MTH 104; CVE 242 co-requisite	MJR
	CVE 242	Field Plane Surveying	1	CVE 241 co-requisite	MJR
	MTH 205	Differential Equations	3	MTH 104	MJR
		Total	**19**		
Spring	CVE 202	Construction Materials Lab	1	CVE 221 co-requisite	MJR
	CVE 221	Construction Materials and Quality Control	3	CVE 220 ; CVE 202 co-requisite	MJR
	CVE 223	Mechanics of Materials	3	CVE 220	MJR
	CVE 240	Fluid Mechanics	3	MTH 104, CVE 220	MJR
	CVE 263	Urban Transportation Planning	3	CVE 241, NGN 111	MJR
	CVE 267	Civil Engineering Cost Analysis	2	NGN 111	MJR
	MTH 221	Linear Algebra	3	MTH 104	MJR
		Total	**18**		

THIRD YEAR (38 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	CVE 301	Theory of Structures	3	CVE 223	MJR
	CVE 303	Geotechnical Engineering Lab	1	CVE 331 co-requisite	MJR
	CVE 331	Geotechnical Engineering Principles	3	CVE 223, CVE 231; CVE 303 co-requisite	MJR
	CVE 341	Hydraulic Engineering	3	CVE 240	MJR
	MTH 203	Calculus III	3	MTH 104	MJR
	COM 207	English for Engineering	3	COM 204	MJR/GER
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
		Total	**19**		
Spring	CVE 304	Environmental and Water Engineering Lab	1	Co-requisite CVE 351	MJR
	CVE 312	Structural Steel Design	3	CVE 301	MJR
	CVE 313	Reinforced Concrete Design	3	CVE 301, CVE 221	MJR
	CVE 325	Computational Methods	3	MTH 205; MTH 221 prerequisite/concurrent	MJR
	CVE 351	Water and Waste Water Treatment	3	CHM 101; CVE 304 co-requisite; CVE 341 prerequisite/concurrent	MJR
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
		Total	**19**		
Summer	CVE 397	Professional Training in Civil Engineering	0	Approval of the training coordinator for the major	MJR

FOURTH YEAR (34 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	CVE 310	Fundamental of Structural Dynamics	3	CVE 301, MTH 205	MJR
	CVE 367	Project Estimating, Planning and Control	3	CVE 267	MJR
	CVE 363	Highway Engineering	3	CVE 263	MJR
	CVE 490	Civil Engineering Design Project I	1	Senior Standing	MJR
	CVE XXX	Major Elective	3		MJE
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	XXX	Free Elective	3		FRE
		Total	**19**		
Spring	CVE 333	Geotechnical Engineering Design	3	CVE 331	MJR
	CVE 491	Civil Engineering Design Project II	3	CVE 490	MJR
	CVE XXX	Major Elective	3		MJE
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
		Total	**15**		

Abbreviations: MJR: Major Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MJE: Major Elective; FRE: Free Elective.

- 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

Free Electives (6 credits)

Six credits from any courses offered at AUS at or above the 100 level.

Bachelor of Science in Computer Engineering (B.S.Co.E.)

Rana Ahmed, Chair

Program Mission and Description

The mission of the Computer Engineering program is to educate students in the principles and modern practices of computer engineering, to prepare students to pursue a wide range of computer engineering careers, and to generate new knowledge by the pursuit of research in selected areas of

computer engineering.

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 design 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-art hardware, software and networking equipment.

Program Educational Objectives

Graduates of Computer Engineering are expected to be able to:

- Serve as engineers, equipped with the necessary technical and problem-solving skills in computer engineering, to analyze, design, implement and maintain integrated hardware/software and networking systems

- Understand the ethical, legal and social issues in the computing discipline and act in society's best interest

- Pursue lifelong learning, continuing education and graduate studies consistent with their professional and personal development goals

- Work on research projects in the area of computer engineering

- Be independent and work as an effective team member on multi-disciplinary projects

- Communicate effectively through speaking, writing and audio-visual tools with peers, management and the public at large

- Play leadership roles in their professions.

Program Outcomes

Upon graduation, the student of the Computer Engineering program is able to:

- Demonstrate proficiency in the areas of digital systems, computer architecture, electronics, computer networks and embedded systems

- Demonstrate proficiency in the areas of software design and development, data structures, algorithms and operating systems

- Identify, formulate and solve computer engineering problems, including the planning, specification, design, implementation and operation of integrated hardware/software and networking systems, and/or processes that meet performance, cost, time, safety and quality requirements

- Apply knowledge of mathematics (especially calculus, differential equations, linear algebra, discrete mathematics and statistics), sciences and engineering to the analysis of computer engineering problems

- Use modern computing techniques and skills and software and hardware tools needed to solve computer engineering problems

- Show an understanding of professional, legal and ethical issues in computer engineering, including software copyright, intellectual property, patents and computer crimes

- Demonstrate the broad education and knowledge of contemporary issues necessary to understand the impact of computer engineering solutions in a global and societal context

- Enter graduate school and/or to engage in a lifelong learning process

- Successfully take professional and certificate exams to improve career opportunities

- Communicate effectively both orally and in written form

- Function as an effective contributing member on multi-disciplinary teams

Graduation Requirements

A total of 140 credits is required. After the third year, each student is required to devote normally 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

- English language competency requirement: 12 credits comprised of COM 101, COM 102, COM 204 and COM 207. Students who have advanced placement in the COM sequence must replace the exempted course(s) by a course(s) in COM or ENG.

- Arabic heritage requirement: ARA 101 or THM 301 or THM 302

- Mathematics and/or statistics requirement: MTH 103 and MTH 104

- Science requirement: CHM 101 and PHY 101

- Humanities and social sciences requirement: Students must satisfy this requirement by completing at least 15 credits or five courses in the humanities and social sciences curricula with a grade of C- or better. If the three credits in courses on Arab heritage are satisfied by one of the theme courses (THM 301 or THM 302), three additional credits must be taken from the humanities or social sciences courses.

- Computer literacy requirement: satisfied through extensive use of computer resources in courses

throughout the engineering curriculum

Major Requirements

- NGN 110 Introduction to Engineering
- NGN 111 Introduction to Statistical Analysis
- MTH 205 Differential Equations
- MTH 213 Discrete Mathematics
- MTH 221 Linear Algebra
- PHY 102 General Physics II
- COE 210 Programming I
- COE 211 Programming II
- COE 212 Program Development and Design in Java
- COE 221 Digital Systems
- COE 311 Data Structures and Algorithms
- COE 331 Microprocessors
- COE 341 Computer Architecture and Organization
- COE 360 Probability and Stochastic Processes
- COE 370 Communications Networks
- COE 371 Computer Networks I
- COE 381 Operating Systems
- COE 397 Professional Training in Computer Engineering
- COE 412 Embedded Systems
- COE 420 Software Engineering I
- COE 424 Advanced Digital System Design
- 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 323 Signal Processing
- ELE 341 Electronics II
- MCE 225 Statics and Dynamics for Computer Engineering

Major Electives (12 credits)

Students are required to take four three-credit courses from the approved technical elective courses shown below. At least three of the four courses should be in Computer Engineering.

- COE 394 Special Topics 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 Industrial Computer Systems
- COE 433 Distributed Systems Design
- COE 434 Mobile Computing
- COE 481 Real-time Industrial Networks
- COE 482 Soft Computing
- COE 494 Special Topics in Computer Engineering
- COE 496 Independent Study
- ELE 311 Electromagnetics
- ELE 441 Microelectronic Devices
- CMP 341 Computational Methods

Proposed Course Sequence of Study (Years 2 and Later)

Bachelor of Science in Computer Engineering (B.S.Co.E.)

Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
SECOND YEAR (42 credit hours)					
Fall	COE 210	Programming I	3	MTH 103	MJR
	COE 221	Digital Systems	4	PHY 102	MJR
	COM 204	Advanced Academic Writing	3	COM 102	MJR/GER
	ELE 211	Electric Circuits I	3	PHY 102	MJR
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	MCE 225	Statics and Dynamics for Computer Engineering	2	MTH 104, PHY 101	MJR
		Total	**18**		
Spring	COE 211	Programming II	3	COE 210	MJR
	COM 207	English for Engineering	3	COM 203 or COM 204	MJR/GER
	MTH 205	Differential Equations	3	MTH 104	MJR
	MTH 221	Linear Algebra	3	MTH 104	MJR
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	MTH 213	Discrete Mathematics	3	MTH 103	MJR
		Total	**18**		
Summer	COE 331	Microprocessors	4	COE 221/CMP 210, COE 210	MJR
	COE 212	Program Development and Design in Java	2	COE 211	MJR
		Total	**6**		

THIRD YEAR (34 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COE 311	Data Structures and Algorithms	3	COE 211, MTH 213	MJR
	COE 370	Communications Networks	3	COE 221/CMP 210	MJR
	ELE 241	Electronics I	3	ELE 211	GER
	ELE 241L	Electronics I Lab	1	ELE 241	MJR
	COE 360	Probability and Stochastic Processes	3	NGN 111, MTH 221	MJR
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
		Total	**16**		
Spring	COE 341	Computer Architecture and Organization	3	COE 331	MJR
	COE 371	Computer Networks I	3	COE 370	MJR
	COE 381	Operating Systems	3	COE 311/CMP 232 and COE 331/CMP 240	MJR
	ELE 341	Electronics II	3	ELE 241	MJR
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	ELE 323	Signal Processing	3	MTH 205, ELE 211	MJR
		Total	**18**		
Summer	NGN 397	Professional Training	0	Approval of the training coordinator for the major	MJR

FOURTH YEAR (33 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COE 412	Embedded Systems	3	COE 331, ELE 241	MJR
	COE 420	Software Engineering I	3	COE 311/CMP 232	MJR
	COE 424	Advanced Digital System Design	3	COE 341	MJR
	COE 490	Design Project I	1	Senior Standing	MJR
	COE XXX	Major Elective	3		MJR
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
		Total	**16**		
Spring	COE XXX	Major Elective	3		MJR
	COE 491	Design Project II	2	COE 490	MJR
	COE/ELE/MTH/ CMP XXX	Technical Elective	3		MJR
	COE XXX	Major Elective	3		MJR
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	XXX	Free Elective	3		FRE
		Total	**17**		

Abbreviations: MJR: Major Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MJE: Major Elective; FRE: Free Elective.

- CMP 418 Introduction to Simulation and Modeling
- CMP 433 Artificial Intelligence
- CMP 435 Computer Security
- CMP 438 Programming Robots
- CMP 471 Multimedia Computing
- MTH 325 Coding Theory I

Free Electives (6 credits)

Six credits of any courses offered at AUS at or above the 100 level.

Bachelor of Science in Electrical Engineering (B.S.E.E.)

Hasan Al-Nashash, Chair

Program Mission and Description

The mission of the Electrical Engineering program is to prepare graduates for successful professional engineering careers emphasizing electrical engineering capabilities necessary to engage in service, research and development that serve the United Arab Emirates, the Middle East and the world.

The Electrical Engineering curriculum is a four-year program leading to a Bachelor of Science in Electrical Engineering (B.S.E.E.). The program is based on a solid foundation of science and mathematics needed to understand advanced engineering topics and applications. 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 that evolve with society needs. The Department of Electrical Engineering provides access to state-of-the-art resources in communications, control and instrumentation, digital signal processing, microelectronics, electromagnetics and microwaves, electric drives, power systems and biomedical electronics.

Faculty members are committed to helping students develop the intellectual, technological and personal skills that allow them to excel in both academia and electrical engineering careers.

AUS electrical engineering graduates should be able to employ their knowledge, analysis and design skills to realize engineering systems and advance the frontiers of science and technology.

Program Educational Objectives

Electrical Engineering graduates are expected to be able to:

- Utilize mathematics, basic and engineering sciences, problem solving and design skills to pursue a career or advanced studies in electrical engineering
- Maintain the desire for innovation, creativity and lifelong learning
- Communicate effectively in multidisciplinary teamwork environments
- Recognize professional and ethical responsibilities and act accordingly within a global and societal context

Program Outcomes

Upon graduation, an AUS graduate in Electrical Engineering should demonstrate the ability to:

- Identify, model and formulate electrical engineering problems
- Propose, design and implement solutions for electrical engineering problems
- Use techniques, skills and modern engineering tools for engineering practice
- Work individually and in team environments
- Act professionally and ethically in the practice of engineering
- Use written and oral communications to document work and present project design and results
- Pursue graduate studies and/or professional development activities
- Show how contemporary issues impact engineering solutions in a global and societal context

Graduation Requirements

A total of 140 credits is required. After the third year, each student is required to devote normally six weeks to the summer internship prior to graduation. Each student is required to complete a senior design project in the fourth year. All Electrical Engineering students are required to take a comprehensive assessment examination during their senior year.

Students seeking a B.S.E.E. degree must

satisfy the following requirements:

General Education Requirements

- English language competency requirement: 12 credits comprised of COM 101, COM 102, COM 204 and COM 207. Students who have advanced placement in the COM sequence must replace the exempted course(s) by a course(s) in COM or ENG.
- Arabic heritage requirement: ARA 101 or THM 301 or THM 302
- Mathematics and/or statistics requirement: MTH 103 and MTH 104
- Science requirement: CHM 101 and PHY 101
- Humanities and social sciences requirement: Students must satisfy this requirement by completing at least 15 credits or five courses in the humanities and social sciences curricula with a grade of C- or better. If the three credits in courses on Arab heritage are satisfied by one of the theme courses (THM 301 or THM 302), three additional credits must be taken from the humanities or social sciences courses.
- Computer literacy requirement: satisfied through extensive use of computer resources in courses throughout the engineering curriculum

Major Requirements

- NGN 110 Introduction to Engineering
- NGN 111 Introduction to Statistical Analysis
- MTH 203 Calculus III
- MTH 205 Differential Equations
- MTH 221 Linear Algebra
- PHY 102 General Physics II
- MCE 224 Statics and Dynamics
- COE 210 Programming 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 360 Probability and Stochastic Processes
- ELE 361 Communications
- ELE 361L Communications Lab
- ELE 371 Power Systems Analysis
- ELE 371L Electric Machines and Power Systems Lab
- ELE 397 Professional Training in Electrical Engineering
- ELE 424 Digital Signal Processing
- ELE 490 Electrical Engineering Design Project I
- ELE 491 Electrical Engineering Design Project II

Major Electives (12 credits)

Students are required to take 12 credits of elective courses including a one-credit laboratory from the following approved list of major electives:

- ELE 394 Special Topics in Electrical Engineering
- 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 441 Microelectronic Devices
- 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

Systems Lab
- ELE 481 Power Systems Protection
- ELE 482 Electric Power Distribution Systems
- ELE 483 Power Systems Operation
- ELE 488L Power Engineering Lab
- ELE 494 Selected Topics in Electrical Engineering
- ELE 496 Independent Study

Free Electives (6 credits)

Six credits of any courses offered at AUS at or above the 100 level.

Minor in Electrical Engineering

Students enrolling in the electrical engineering minor should have normally completed a minimum of 60 credits of coursework and be in good academic standing. Non-engineering majors normally cannot enter an engineering minor.

According to university regulations, the following rules apply:

- The minor consists of a minimum of 18 credits including at least nine credits in courses at or above the 300 level in electrical engineering.
- Free electives can be taken toward the minor.
- At least nine credits of the minor must not have counted toward any other degree requirement.
- At least nine credits of the minor must be taken in residence at AUS
- A grade of at least C- in each course

Proposed Course Sequence of Study (Years 2 and Later)

Bachelor of Science in Electrical Engineering (B.S.E.E.)

		SECOND YEAR (42 credit hours)			
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	COE 210	Programming I	3	MTH 103	MJR
	COM 204	Advanced Academic Writing	3	COM 102	MJR/GER
	ELE 211	Electric Circuits I	3	PHY 102	MJR
	MTH 203	Calculus III	3	MTH 104	MJR
	MTH 221	Linear Algebra	3	MTH 104	MJR
	MTH 205	Differential Equations	3	MTH 104	MJR
		Total	**18**		
Spring	COM 207	English for Engineers	3	COM 203 or COM 204	MJR/GER
	ELE 212	Electric Circuits II	3	ELE 211	MJR
	ELE 241	Electronics I	3	ELE 211	MJR
	ELE 241L	Electronics I Lab	1	ELE 241 co-requisite	MJR
	ELE 251	Electrical Energy Conversion	3	ELE 212 prerequisite/concurrent	MJR
	COE 221	Digital Systems	4	PHY 102	MJR
		Total	**17**		
Summer	COE 331	Microprocessors	4	COE 221 and COE 210	MJR
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
		Total	**7**		

		THIRD YEAR (34 credit hours)			
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	ELE 311	Electromagnetics	3	MTH 203, MTH 205, PHY 102	MJR
	ELE 321	Signals and Systems	3	ELE 212, MTH 205	MJR
	ELE 341	Electronics II	3	ELE 241	MJR
	ELE 341L	Electronics II Lab	1	ELE 341 prerequisite/concurrent	MJR
	ELE 353	Control Systems I	3	MTH 205, ELE 212	MJR
	ELE 371	Power Systems Analysis	3	ELE 251, MTH 221 prerequisite/concurrent	MJR
	ELE 371L	Electric Machines and Power Systems Lab	1	ELE 371 prerequisite/concurrent	MJR
		Total	**17**		
Spring	ELE 332L	Measurements and Instrumentation Lab	1	ELE 341	MJR
	ELE XXX	Major Elective	3		MJE
	ELE 353L	Control Systems I Lab	1	ELE 353	MJR
	ELE 361	Communications	3	ELE 321	MJR
	ELE 360	Probability and Stochastic Processes	3	NGN 111 and MTH 221	MJR
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	MCE 224	Statics and Dynamics	3	MTH 104, PHY 101	MJR
		Total	**17**		
Summer	ELE 397	Professional Training in Electrical Engineering	0	Approval of the training coordinator for the major	MJR

FOURTH YEAR (33 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ELE 361L	Communications Lab	1	ELE 361	MJR
	ELE 424	Digital Signal Processing	3	ELE 321	MJR
	ELE 4XX	Major Elective	3		MJE
	ELE 4XX	Major Elective	3		MJE
	ELE 490	Electrical Engineering Design Project I	2	Senior Standing	MJR
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
		Total	**18**		
Spring	ELE 4XX	Major Elective	3		MJE
	ELE 4XXL	Major Elective Lab	1		MJE
	ELE 491	Electrical Engineering Design Project II	2	ELE 490	MJR
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	XXX	Free Elective	3		FRE
		Total	**15**		

Abbreviations: MJR: Major Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MJE: Major Elective; FRE: Free Elective.

and a GPA of at least 2.0 must be earned in courses taken to satisfy the minor.

Students willing to obtain a minor in electrical engineering must complete the following courses (or their equivalent):

a) ELE 212 Electric Circuits II

b) ELE 241 and ELE 241L (Electronics I and lab)

c) Three credits in courses at or above the 200 level in ELE

d) Six credits in courses at or above the 300 level in ELE

e) At least one ELE major elective.

Bachelor of Science in Mechanical Engineering (B.S.M.E.)

Hany El Kadi, Chair

Program Mission and Description

The mission of the Mechanical Engineering program at AUS is to prepare students for successful careers in industry, government and academia by providing a high-quality mechanical engineering education.

Mechanical engineering provides an excellent broad education for today's technological world. Mechanical engineers model, analyze, test and manufacture the engines that power ground as well as aerospace vehicles. They also 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 high-quality graduates 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 lifelong 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.

Program Educational Objectives

Graduates of the Mechanical Engineering program are expected to be able to:

• Pursue a successful career as a mechanical engineer and/or advanced studies in mechanical engineering or related fields

• Use their broad base of knowledge and systematic thinking to be creative and effective problem solvers

• Have a commitment to lifelong learning and motivation toward continued professional development

• Understand the cultural, ethical and global environment in which professional engineers contribute to society

• Be self-confident team members capable of functioning effectively in multidisciplinary design activities yet carrying out tasks independently

• Communicate effectively with a wide range of audiences

Program Outcomes

Upon graduation, an AUS graduate in Mechanical Engineering is able to demonstrate the ability to:

- Apply knowledge of mathematics, science and engineering fundamentals to a mechanical engineering problem

- Design and conduct experiments, analyze and interpret results and draw correct conclusions

- Design a component or a system by formulating constraints, assessing alternative solutions and implementing one that satisfies specific requirements

- Function on multi-disciplinary teams as an individual contributor and sometimes in a leadership role

- Communicate effectively with a wide range of audiences in oral, written, graphical and visual forms within the context of mechanical engineering practice

- Understand the professional and ethical responsibilities of an engineer

- Understand the general contemporary issues and their influence on technology evolution and implementation including the impact of mechanical engineering solutions in a global and societal context

- Use techniques, skills and modern engineering tools necessary for engineering practice and ability to adapt to emerging technologies

Graduation Requirements

A total of 140 credits is required. After the third year, each student is normally required to devote 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

- English language competency requirement: 12 credits comprised of COM 101, COM 102, COM 204 and COM 207. Students who have advanced placement in the COM sequence must replace the exempted course(s) by a course(s) in COM or ENG.

- Arabic heritage requirement: ARA 101 or THM 301 or THM 302

- Mathematics and/or statistics requirement: MTH 103 and MTH 104

- Science requirement: CHM 101 and PHY 101

- Humanities and social sciences requirement: Students must satisfy this requirement by completing at least 15 credits or five courses in the humanities and social sciences curricula with a grade of C- or better. If the three credits in courses on Arab heritage are satisfied by one of the theme courses (THM 301 or THM 302), three additional credits must be taken from the humanities or social sciences courses.

- Computer literacy requirement: satisfied through extensive use of computer resources in courses throughout the engineering curriculum

Major Requirements

- NGN 110 Introduction to Engineering
- NGN 111 Introduction to Statistical Analysis
- MCE 215 Engineering Drawing and Workshop
- MCE 220 Statics
- MCE 222 Dynamics
- MCE 223 Mechanics of Materials
- MCE 230 Materials Science
- MCE 234 Computer Applications in Mechanical Engineering
- MCE 240 Fluid Mechanics
- MCE 241 Thermodynamics I
- MCE 311 Engineering Measurements
- MCE 321 Mechanical Design I
- MCE 322 Mechanical Design II
- MCE 325 Computational Methods
- MCE 328 Dynamic Systems
- MCE 331 Manufacturing Processes
- MCE 341 Thermodynamics II
- MCE 344 Heat Transfer
- MCE 397 Professional Training in Mechanical Engineering
- 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
- ELE 225 Electric Circuits and Devices
- PHY 102 General Physics II

Major Electives (12 credits)

Students must complete four technical elective courses (12 credits) in the major areas of mechanical engineering.

Mechatronics, Dynamics, Control and Manufacturing
- MCE 316 Kinematics and Dynamics of Machinery
- MCE 334 Fundamentals of Computer-Aided Design and Manufacturing
- MCE 418 Modeling and Simulation of Dynamic Systems

- MCE 423 Mechanical Vibrations
- 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
- 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

Thermosciences
- MCE 445 Energy Systems
- MCE 446 Refrigeration and Air Conditioning
- MCE 447 Internal Combustion Engines
- MCE 448 Intermediate Heat Transfer
- MCE 449 Renewable Energy Systems
- MCE 450 Energy Conservation and Management
- MCE 454 Electronic Heat Transfer
- MCE 473 Applied Finite Elements Analysis
- MCE 487 Turbomachines
- MCE 488 Introduction to Computational Fluid Dynamics (CFD)
- MCE 489 Fluid Power
- MCE 494 Selected Topics in Mechanical Engineering

Minor in Mechanical Engineering

Students enrolling in the mechanical engineering minor in should have normally completed a minimum of 60 credits of coursework and be in good academic standing.

According to the university regulations, the following rules apply:

- The minor consists of a minimum of 18 credits including at least nine credits in courses at or above the 300 level in mechanical engineering.
- Free electives can be taken toward the minor.
- At least nine credits of the minor must not have counted toward any other degree requirement
- At least nine credits of the minor must be taken in residence at AUS.
- A grade of at least C- in each course and an average GPA of at least 2.0 must be earned in courses taken to satisfy the minor.

Students willing to obtain a minor in mechanical engineering MUST complete the following courses or their equivalent

Proposed Course Sequence of Study (Years 2 and Later)
Bachelor of Science in Mechanical Engineering (B.S.M.E.)

SECOND YEAR (42 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COM 204	Advanced Academic Writing	3	COM 102	MJR/GER
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	MTH 205	Differential Equations	3	MTH 104	MJR
	MCE 215	Engineering Drawing and Workshop	3		MJR
	MCE 220	Statics	3	PHY 101	MJR
	MCE 230	Materials Science	3	CHM 101	MJR
		Total	**18**		
Spring	MCE 222	Dynamics	3	MCE 220, MTH 205	MJR
	MCE 223	Mechanics of Materials	3	MCE 220 or MCE 224	MJR
	MCE 234	Computer Applications in Mechanical Eng'g	3		MJR
	MCE 240	Fluid Mechanics	3	MCE 220, MTH 104	MJR
	MCE 241	Thermodynamics I	3	PHY 101	MJR
	MTH 203	Calculus III	3	MTH 104	MJR
		Total	**18**		
Summer	COM 207	English for Engineering	3	COM 204	MJR/GER
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
		Total	**6**		

THIRD YEAR (36 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	MTH 221	Linear Algebra	3	MTH 104	MJR
	MCE 321	Mechanical Design I	3	MCE 215, MCE 223, NGN 111	MJR
	MCE 344	Heat Transfer	3	MCE 240, MCE 241	MJR
	MCE 341	Thermodynamics II	3	MCE 241	MJR
	ELE 225	Electric Circuits and Devices	3	PHY 102	MJR
		Total	**18**		
Spring	XXX	Free Elective	3		FRE
	MCE 311	Engineering Measurements	3	MCE 222, MCE 240, ELE 225	MJR
	MCE 322	Mechanical Design II	3	MCE 321	MJR
	MCE 325	Computational Methods	3	MTH 205; MTH 221 prerequisite/concurrent	MJR
	MCE 328	Dynamic Systems	3	MCE 222, MCE 234, MTH 205, ELE 225	MJR
	MCE 331	Manufacturing Processes	3	MCE 215, MCE 230	MJR
		Total	**18**		
Summer	MCE 397	Professional Training in Mechanical Engineering	0	Approval of the mechanical eng'g training coordinator	MJR

FOURTH YEAR (31 credit hours)					
Term	**Course #**	**Course Title**	**Credit**	**Prerequisite(s)**	**Fulfills**
Fall	MCE 410	Control Systems	3	MCE 311, MCE 328	MJR
	MCE 490	Design Project I	2	Senior Standing	MJR
	MCE XXX	Major Elective	3		MJE
	MCE 482	Intermediate Fluid Mechanics	3	MCE 240, MCE 241, MTH 205	MJR
	MCE XXX	Major Elective	3		MJE
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
		Total	**17**		
Spring	MCE XXX	Major Elective	3		MJE
	MCE 491	Design Project II	2	MCE 490	MJR
	MCE XXX	Major Elective	3		MJE
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
	HUM/SS XXX	Humanities/Social Sciences Elective	3		GER
		Total	**14**		

Abbreviations: MJR: Major Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MJE: Major Elective; FRE: Free Elective.

(All course pre-requisites have to be satisfied). Non-engineering majors normally cannot enter an engineering minor.

- MCE 223 Mechanics of Materials
- MCE 222 Dynamics

OR

- MCE 224 Engineering Mechanics—Statics & Dynamics
- MCE 240 Fluid Mechanics
- MCE 241 Thermodynamics I
- Nine credits at or above the 300 level in mechanical engineering

Free Electives (6 credits)

Six credits of any courses offered at AUS at or above the 100 level.

Bachelor of Science in Computer Science (B.S.C.S.)

Gasser Auda, Chair

Program Mission and Description

The mission of the Computer Science program is to deliver a modern curriculum that will equip graduates with strong theoretical and practical backgrounds to enable them to excel in the workplace and to be lifelong learners. The program is designed to meet the growing needs for computer science experts in the rapidly evolving 21st century economy. It provides graduates a strong computer science base that will enable them to capitalize on the increasing career opportunities in the information technology sector, especially software-related fields; to expand the limits of their knowledge by pursuing further graduate studies; and to explore innovative approaches to computer-related problems. A computer science degree from AUS provides the graduate with a highly demanded level of expertise, great mobility and flexibility, and a wide range of career choices in the broad software and information technology industry.

The program includes general education requirements and core requirements. In addition, technical and free elective courses are required. A senior design project is also accomplished in close coordination with a faculty advisor.

Program Educational Objectives

Graduates of Computer Science are expected to be able to:

- Have successful professional careers, play leadership roles and be able to grasp and apply emerging technologies through training, self-learning or postgraduate studies
- Possess problem-solving and software development skills involving all aspects of the product development process including analysis and design
- Communicate effectively, both orally and in writing, and interact effectively in a multidisciplinary team environment
- Understand and deal with the ethical, legal and social concerns faced in their work and contribute positively to the betterment of society

Program Outcomes

Upon graduation, the student of the Computer Science program is able to:

- Obtain appropriate employment in an information technology field
- Secure admission into a postgraduate program
- Acquire new knowledge through self-learning and training
- Apply knowledge of mathematical concepts in the design and analysis of algorithmic solutions to software problems
- Apply knowledge of one or more specialization areas of computer science to develop feasible solutions to software problems
- Propose feasible software development project plans
- Define software requirements and analyze and design software system solutions
- Implement and test software systems.
- Use modern software development tools effectively while developing software systems
- Communicate effectively, in formal or informal meetings, with clients, managers or peers
- Communicate effectively both orally and in writing
- Interact and work effectively with colleagues in a multidisciplinary team
- Recognize the ethical, legal and social issues involved in the computing profession
- Assess the ethical, legal and social implications of his/her own professional behavior and conduct
- Participate in local, regional and/or global professional organizations and societies

Graduation Requirements

A total of 130 credits is required. These should include 48 credits of general education requirements, 15 credits of free elective, 55 credits of major requirements and 12 credits of computer science elective courses.

Students seeking the B.S. in Computer Science degree must complete the following requirements:

General Education Requirements

- English language competency requirement: 12 credits including COM 101, COM 102 and COM 203 or COM 204. Students who have advanced placement in the COM sequence must replace the exempted course(s) by a course(s) in COM or ENG.

- Arabic heritage requirement: ARA 101 or THM 301 or THM 302.

- Mathematics requirement: MTH 103, MTH104.

- Science requirement: 12 credits from CHM, BIO or PHY. Two out of the three courses must be in the same area.

- Humanities and social sciences requirement: 15 credits.

- Computer literacy requirement: Satisfied through courses throughout the computer science curriculum.

Major Requirements

- 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 or PHI 206 Ethics for Computing and Information Technology
- 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
- STA 201 Introduction to Statistics for Engineering and Natural Sciences

Major Electives (12 credits)

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

- 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
- 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
- CMP 450 Object-oriented Software Engineering
- CMP 452 Compiler Construction
- CMP 453 Organization of Programming Languages
- CMP 454 Software Testing and Quality Engineering
- CMP 455 Human Computer Interactions
- CMP 470 Formal Languages and Computability I
- CMP 473 Game Programming
- CMP 472 Multimedia Computing
- CMP 494 Topics in Computer Science

- COE 370 Data Communications
- COE 423 Computer Networks II

Free Electives (15 credits)

Fifteen credits of any courses offered at AUS at or above the 100 level.

Minor in Computer Science

Students enrolling in the computer science minor should have normally completed a minimum of 60 credits of coursework and be in good academic standing. A minor in computer science is open to all AUS students.

According to university regulations, the following rules apply:

- The minor consists of a minimum of 18 credits including at least nine credits in courses at or above the 300 level in computer science

- Free electives can be taken toward the minor.

- At least nine credits of the minor must not have counted toward any other degree requirement.

- At least nine credits of the minor must be taken in residence at AUS.

- A grade of at least C- in each course and a GPA of at least 2.0 must be earned in courses taken to satisfy the minor.

Students willing to obtain a minor in computer science must complete the following courses or their equivalent:

- Requirements for Architecture and Design students: CMP 120, CMP 220, CMP 430 and CMP 472 or CMP 473.

- 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 321, CMP 340 and CMP 416.

In addition to the above requirements, students must choose the rest of the courses for the minor from the computer science program. Approval of the chair of the Department of Computer Science is required.

Proposed Course Sequence of Study

Bachelor of Science Degree in Computer Science (B.S.C.S.)

Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
FIRST YEAR (33 credit hours)					
Fall	MTH 103	Calculus I	3	MTH 001 or placement test	GER/MJR
	CHM/PHY/BIO	Science Elective: Physics, Chemistry or Biology	4		GER
	COM 101	Communication I	3		GER
	HUM/SS XXX	Humanities/Social Sciences (1)	3		GER
	CMP 111	Computing Fundamentals	3		MJR
		Total	**16**		
Spring	MTH 104	Calculus II	3	MTH 103	GER/MJR
	CHM/PHY/BIO	Science Elective: Physics, Chemistry or Biology	4		GER
	XXX	Arabic Heritage Requirement	3		GER
	COM 102	Communication II	3		GER
	CMP 120	Introduction to Computer Science I	4	CMP 111 or CPT	MJR
		Total	**17**		

Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
SECOND YEAR (34/35 credit hours)					
Fall	COM 203	Writing about Literature			
	or				
	COM 204	Advanced Academic Writing	3	COM 102	GER
	MTH 221	Linear Algebra	3	MTH 104	MJR
	CMP 210	Digital Systems	3	CMP 120	MJR
	CMP 211	Digital Systems Laboratory	1	CMP 210 prerequisite/concurrent	MJR
	CMP 213				
	or				
	MTH 213	Discrete Structures	3	MTH 103	MJR
	CMP 220	Introduction to Computer Science II	3	CMP120; MTH 103 prerequisite/concurrent	MJR
		Total	**16**		
Spring	COM XXX	Communication	3		GER
	HUM/SS XXX	Humanities/Social Science (2)	3		GER
	CHM/PHY/BIO	Science Elective: Physics, Chemistry or Biology	4		MJR
	STA 201	Introduction to Statistics	3	MTH103	MJR
	CMP 232	Data Structures and Algorithms	3	CMP 220; CMP 213 or MTH 213 prerequisite/concurrent	MJR
	CMP 235	Social and Professional Issues	2	CMP 120	
	or				
	PHI 206	Ethics for Computing and Information Technology	3	COM 102	MJR
		Total	**18/19**		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	HUM/SS XXX	Humanities/Social Sciences (3)	3		GER
	XXX	Free Elective	3		GER
	CMP 240	Introduction to Computer Systems	3	CMP 210	MJR
	CMP 320	Database Systems	3	CMP 232	MJR
	CMP 321	Programming Languages Laboratory	3	CMP 232	MJR
	CMP 340	Design and Analysis of Algorithms	3	CMP 232	MJR
		Total	**18**		
Spring	HUM/SS XXX	Humanities/Social Sciences (4)	3		GER
	CMP 341 or MTH 341	Computational Methods	3	MTH 221	MJR
	CMP 310	Introduction to Operating Systems	3	CMP 232, CMP 240	MJR
	CMP 350	Introduction to Software Engineering	3	CMP 232	MJR
	CMP XXX	Major Elective	3		MJE
		Total	**15**		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CMP 416	Internet and Network Computing	3	CMP 310	MJR
	CMP XXX	Major Elective	3		MJE
	CMP XXX	Major Elective	3		MJE
	XXX	Free Elective	3		FRE
	XXX	Free Elective	3		FRE
		Total	**15**		
Spring	HUM/SS XXX	Humanities/Social Sciences (5)	3		GER
	CMP 490	Project in Computer Science	3	CMP 350	MJR
	CMP XXX	Major Elective	3		MJE
	XXX	Free Elective	3		FRE
	XXX	Free Elective	3		FRE
		Total	**15**		

Abbreviations: GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; FRE: Free Elective Requirement; MJE: Major Elective; MJR: Major Requirement; CPT: Computer Placement Test

College of Arts and Sciences

ARA   Arabic

Arabic Language

ARA 103 Composition for Native Speakers of Arabic (3-0-3). 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). (Formerly ARA 100) Introduces students to the script of modern written Arabic and develops their confidence and knowledge in the four skill areas. Materials are designed using a modern approach to foreign language teaching. This course does not satisfy the Arabic heritage requirement and is graded on a pass/fail basis.

ARA 200 Arabic as a Second Language II (3-0-3). An extension of ARA 104. Develops 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 and is graded on a pass/fail basis.

ARA 300 Arabic as a Second Language III (3-0-3). Builds on the earlier Arabic courses using materials that are more advanced. Video materials that build on grammatical structures and conversational skills practiced in earlier courses

will be used as the main focus for this course. Prerequisite: equivalent of approximately 125-150 classroom hours of Arabic. This course does not satisfy the Arabic heritage requirement.

Arabic Literature

ARA 101 and 102 Readings in Arabic Heritage (3-0-3). Given in both Arabic and English, these two courses survey selections from writings in Arabic prose, literature and poetry that reflect the intellectual, literary and cultural development of the Arabs from pre-Islamic times up to the present day. ARA 101 in English has a prerequisite/concurrent: COM 102.

ARA 201 Arabic Literature in Translation (for non-native speakers only) (3-0-3). Provides 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). Designed to illustrate the essential facts of Arab history. This very intensive and wide-ranging survey course 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 that 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 19th

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 19th 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). Surveys 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 looks at the early development of the epistolary genre, which was to become the 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 to or in opposition to other cultures and nationalisms. This course examines representative writings by Arab thinkers and authors that 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). Explores the ways in which Islam has shaped the history and culture of the Arabs and 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 19th 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). Examines the contribution of literary figures in the Arabian Gulf, especially those of the United Arab Emirates, to Arabic literature in general.

ARA 310 Images of America in Arabic Literature and Film (3-0-3). Discusses the way in which America and the Americans have been portrayed in the Arabic travel accounts, Arab mass media, films, plays, and cartoons from around 1890s until now. Prerequisite: COM 102

ARA 312 Modern Arabic Literature: Prose and Poetry (3-0-3). Surveys the renaissance (Nahda) of Arabic literature from the early 20th 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 394 Special Topics in Arabic Literature (1 to 4 credits). A theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

ARA 401 Literary Criticism from the Arab Perspective (3-0-3). Surveys 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). Introduces 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.

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, evolution, the origins of life and bacteriology. 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.

BIO 102 General Biology II (3-3-4). This is part two of a rigorous two-semester course covering plant and animal diversity, animal evolution, plant and animal form and function, body systems, animal behavior, 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). Surveys biological concepts with a strong emphasis on human biology. Topics include the scientific method, biochemistry, cell biology, functions and dysfunctions of the human organ systems, and a strong emphasis on maintaining a healthy lifestyle. Not open to science or Engineering students.

BIO 230 Ecosystems Management (3-0-3).

Focuses on the policies of ecosystems management from a scientific and natural approach. Special attention is 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 260 Genetics (3-0-3). Covers the general principles of genetics from Mendelian to modern molecular genetics, genetic engineering and applications to medicine, agriculture, industry and law enforcement. The student will also obtain a strong understanding of genetic principles as applied to population dynamics behavior, conservation and evolution. Prerequisite: BIO 102.

C H M   Chemistry

CHM 101 General Chemistry I (3-3-4). This introductory course 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.

CHM 102 General Chemistry II   (3-3-4). Deals with properties of solutions, including colligative and chemical properties, acid-base and complex ion equilibria, laws of thermodynamics, enthalpy and free energy, electrochemistry, and nuclear chemistry. Laboratory includes experiments illustrating principles discussed in the course. Prerequisite: CHM 101.

CHM 103 Chemistry and Everyday Life (3-0-3). Introduces students 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 fingerprinting. Not open to science or Engineering students.

CHM 105 Chemistry and the Environment (3-0-3). Covers 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.

CHM 215 Organic Chemistry I   (3-0-3). 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; and SN1, SN2, E1 and E2 mechanisms. Prerequisite/concurrent: CHM 102.

CHM 215L Organic Chemistry Laboratory I (0-4-1). Includes experiments on purification, separation and identification techniques and synthesis of various organic compounds. Prerequisite: CHM 215.

CHM 216 Organic Chemistry II   (3-0-3). Deals with modern spectroscopic techniques for structure determination; chemistry of oxygen and nitrogen compounds; and 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). Includes 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). 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). Introduces the basic theories

underlying analytical methods of chemical analysis. It covers fundamentals and applications of electrochemistry, compleximetric 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 331 Physical Chemistry II (3-0-3). Covers kinetics, electrochemistry, and 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 or MCE 241.

CHM 335 Physical Chemistry Laboratory (1-5-2). Individually performed 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). 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, and mass spectroscopy. Prerequisite: CHM 102.

C O MCommunication

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 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 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 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.

COM 207 English for Engineering (3-0-3). Intended for Engineering students only. Introduces students to English used for communication in their field with a special emphasis on writing and presenting technical reports. Prerequisite: COM 204 and junior standing.

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 203 or COM 204 or COM 231 or MCM 231.

COM 209 Dramatic Expression (3-0-3). (Cross-listed as MCM 209). 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). (Cross-listed as MCM 220). Provides an overview of world cultural literacy and shows how cultures influence communication. Students acquire broad knowledge about the interrelation of the humanities, music, mythology, art, theatre, history and science. Prerequisite: COM 102.

COM 225 Writing for Business (3-0-3). Aims to develop students' skills in writing business documents such as CVs, correspondence, memoranda, short and long reports, and proposals necessary to communicate effectively in the business world. Prerequisite: COM 203 or COM 204 and junior standing.

COM 231 Writing for Visual Media (3-0-3). (Cross-listed as MCM 231). 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 102 and junior standing.

COM 393 Shakespeare on Film (3-0-3). (Cross-listed as MCM 393). Uses an interdisciplinary approach (incorporating English literature and media/film studies) to teach how to synthesize elements of film theory and literary criticism and incorporate them into a

series of research papers. Prerequisites: COM 203 or COM 204.

COM 396 Independent Study of Language (1 to 4 credits). A theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisite: junior standing and approval of advisor.

C S C 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: COM 102.

CSC 202 Western Cultural Studies II (3-0-3). 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: COM 102.

CSC 204 Belief Systems and Ideology in the Western Tradition (3-0-3). 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). Explores the varied cultures of the world. Students 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/concurrent: COM 102.

E N G   English

English Language

ENG 223 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 102.

ENG 224 English Grammar (3-0-3). Focuses on the fundamental rules of English grammar as they relate to sentence structure and function. Students also learn about different systems of analysis, including an introduction to the analysis of texts. Prerequisite: COM 102.

ENG 226 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: ENG 223.

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 method techniques in data collection. Prerequisite: COM 102.

ENG 331 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 224.

ENG 332 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: ENG 223.

ENG 334 Semantics and Pragmatics (3-0-3).

Introduces 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 395 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 223.

ENG 401 Advanced English Grammar (3-0-3). (Cross-listed with ENG 501). 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.

ENG 405 Discourse Analysis (3-0-3). 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

334.

ENG 407 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 332.

ENG 409 Applied Linguistics (3-0-3). Offered in 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: any 300-level ENG Language course.

ENG 419 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 332.

ENG 425 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 407.

ENG 429 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 425.

ENG 494 Special Topics in English Language (1 to 4 credits). A theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

ENG 495 Seminar in English Language (3-0-3). Course content changes from year to year. Focuses on various topics of the English language such as computer-assisted language learning to studies in dialectology and bilingualism or linguistic anthropology. Prerequisite: any 400-level ENG Language course.

ENG 496 Independent Study (1 to 4 credits). A theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisite: junior standing and approval of advisor.

English Literature

ENG 201 Creative Writing (3-0-3). Introduces the basic elements of writing and evaluating poetry, fiction and creative non-fiction. Students submit at least 20 pages of material suitable for inclusion in the student literary magazine. Prerequisite: COM 203 or COM 204.

ENG 202 English Poetry and Prose I: Beginnings to 1800 (3-0-3). Surveys English poetry and prose 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/concurrent: COM 203 or 204.

ENG 210 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. 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.

ENG 213 English Poetry and Prose II: 1800 to Present (3-0-3). Surveys English 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/concurrent: COM 203 or COM 204.

ENG 214 Survey of American Literature (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. Focuses on poetry, drama, the essay and the short story. Prerequisite: COM 203 or COM 204.

ENG 215 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.

ENG 216 Modern Drama and Beyond (3-0-3). Introduces students to developments in drama from the modern period to the present. 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. May include works by such playwrights as Ibsen, Chekhov, Shaw, Breech, Ionic, Beckett, Forms, Holman, Hans berry, Hwang, Misaim, Soyenka, Hovel, Morse, Gad and Winos. Prerequisite: COM 203 or COM 204.

ENG 300 Introduction to Literary Theory (3-0-3). Highlights a variety of 20th century critical practices and theoretical approaches to the study of literature. Offers practical applications of the theoretical texts under examination. Prerequisite: any 200-level English Literature course.

ENG 303 English Renaissance Drama (3-0-3). Examines works by both Shakespeare and other major dramatists of his time. Focuses on at least three Shakespearean plays, a history play, a comedy, and a tragedy, considering the work in the context of such contemporary playwrights as Marlowe and Jonson. Other Renaissance dramatists such as Beaumont and Fletcher, Middleton, Webster and Ford may also be included. Prerequisite: ENG 202 or ENG 213.

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 includes 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 214.

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. Includes such writers as Defoe, Smollett, Richardson, Fielding, Austen, the Brontes, Dickens, Elliot and Hardy. Prerequisite: ENG 213.

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. 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 202 or ENG 213.

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. 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. Introduces 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 215 or ENG 300.

ENG 378 Literature as Film (3-0-3). (Cross-listed with MCM 378). Uses literary works and their cinematic adaptations to introduce students to film theory ideas and their parallel techniques in literature. Prerequisite: COM 203 or COM 204.

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: any 300-level English literature course.

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: any 300-level English literature course.

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 to be studied may include Derek Wollcott, Chinua Achebe, R.K. Narayan, V.S. Naipaul, Gita Mehta, and Michael Ondaatje. Prerequisite: any 300-level English literature course.

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.

ENG 494 Special Topics in English Literature (1 to 4 credits). A theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

ENG 496 Independent Study (1 to 4 credits). A theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisites: junior standing and approval of instructor.

ENV Environmental Science

ENV 100 Environmental Issues and Problems (3-0-3). Introduces the basic principles of environmental science followed by discussion of local, regional and global environmental issues. Main topics include environmental concepts and models; population growth; management of natural resources; energy; causes, remedies and prevention of air, water and soil pollution; global warming; acid rain; ozone depletion; environmental regulations; and social and economic implications of environmental issues. Not open to Science and Engineering students.

ENV 101 Introduction to Environmental Science (3-0-3). Offers interdisciplinary study combining ideas and information from chemical, physical and biological disciplines. Students acquire knowledge on how nature works and how environmental systems are interconnected. This course employs scientific laws,

principles and concepts to help students understand environmental and resource problems and their possible solutions. Connections are made between natural systems and environmental issues using different physical science perspectives. The information presented will ultimately be related to real-world environmental problems. Credit may not be given to both ENV 100 and ENV 101. Prerequisites: CHM 101. Restricted to science and Engineering students.

ENV 231 Transition Metals and their Compounds in the Environment (3-0-3). 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. Discusses applications of coordination compounds in the environment with emphasis on catalysis, enzymes, biological activity and pollution. Prerequisite: CHM 102.

ENV 251 Environmental Ecology (2-3-3). Deals with the general principles of ecology with a strong emphasis on the ecological effects of pollution, disturbance, natural and anthropogenic stress factors. Students learn from case studies related to desert ecology. Laboratory exercises emphasize basic ecological techniques, ecosystems structures, data collection, modeling and analysis. Two professionally written quality reports are required. Prerequisite: BIO 102.

ENV 252 Environmental Chemistry (3-0-3). Investigates in detail the interaction between natural systems and human activity.

Topics emphasized include aquatic chemistry, with special attention paid to water pollution and water treatment; atmospheric chemistry, with emphasis on air pollution, protection of the atmospheric environment, and global atmosphere problems; soil chemistry; and sources and treatment of hazardous wastes. Local and regional pollution problems are emphasized and investigated in detail. Prerequisite: CHM 102.

ENV 261 Physical Geography (3-0-3). 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 and 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 and ENV 252.

ENV 335 Environmental Microbiology (3-3-4). Covers the biology of microorganisms (viruses, bacteria, fungi and helminthes) and emphasizes the role they play in our lives in the environment, pathology, industry, bioremediation and health. Students learn sterile techniques, how to culture and identify bacteria and how to

control them in clinical, personal and environmental settings. Prerequisite: BIO 101.

ENV 351 Environmental Monitoring and Analysis Techniques (2-3-3). 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 stations and other environmental monitoring agencies. Prerequisites: STA 201 and ENV 252.

ENV 352 Environmental Toxicology (3-0-3). Combines principles of chemistry, biochemistry, biology and environmental science. The basic principles of toxicology, including health effects, dose-response relationships, toxicity testing and metabolism of toxicants are discussed. Among the toxicants studied are drugs, industrial products, food additives and pesticides. Special attention is given to environmental pollutants. Principles of risk assessment and legal regulations governing toxins are briefly covered. Prerequisites: CHM 215 and ENV 252.

ENV 361 Evolution and Biodiversity (3-0-3). Evolution is the unifying theme for all biology; therefore, this course introduces 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 is 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). 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 is explored first and then taken to the cellular and metabolic pathway levels. The student gains an understanding of the functions and dysfunctions in plants and animals and the reactions and adaptations to environmental stresses, pollution and manipulation. Prerequisite: ENV 335.

ENV 411 Environmental Assessment and Management (3-0-3). 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. Prerequisite: ENV 252.

ENV 421 Aquatic Environments (2-3-3). 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 is

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 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: ENV 251.

ENV 430 Environmental Systems in the Arabian Peninsula (3-0-3). Focuses on the terrestrial ecosystems 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 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: ENV 251.

ENV 451 Waste Treatment (3-0-3). Introduces the modern concepts of solid and liquid waste treatment. 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; and analysis systems for regional planning. Prerequisite: ENV 252.

ENV 452 Soil and Water Chemistry (3-0-3). Discusses the development of soil/water chemistry. 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: ENV 252.

ENV 491 Senior Research Project I (0-6-3). Student selects an environmental problem for independent research project. Upon approval by the department, the student begins with a literature search then follows up with field and laboratory studies. In addition to the scientific component of the project, students are expected to comment on the ethical and legal dimensions of the environmental issues being investigated. The results are then presented in a seminar as well as in a 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 with a literature search then follows up with field and laboratory studies. The results are presented in a seminar as well as in a thesis form. Prerequisite: senior standing.

FRN French

FRN 101 French for Beginners (3-0-3). For students who have never studied French. 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 (3-0-3). 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). Provides a broad survey of the cultural geography of the world. Among other topics, the course addresses cultural systems, agriculture and natural resources, urbanization, industrialization, development, and political geography. Prerequisite/concurrent: COM 102.

HIS History

HIS 204 Modern Arab History (3-0-3). 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: COM 102.

HIS 205 World History I [up to 1500] (3-0-3). Studies 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: COM 102.

HIS 206 World History II [1500 to 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 e 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: COM 102.

HIS 208 Women in History (3-0-3). Comparatively surveys 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: COM 102.

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. Students become aware of how history and literature intersect and of the similarities and differences in historical and literary writing. The readings include works of fiction and non-fiction such as novels, short stories, memoirs, biographies and autobiographies. Prerequisite: COM 102.

HIS 211 Modern Arab History and Biography (3-0-3). Takes a biographical approach to the subject, examining 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.

HIS 220 The Modern History of Europe and North America (3-0-3). 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 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). Studies 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 17th century English science; and the 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/concurrent: COM 102.

HIS 230 Resistance and Collaboration in Modern France and Algeria (3-0-3). Analyzes the nature of resistance and collaboration in France and Algeria during 1940-1970. Students 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 studies 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.

HIS 307 Modern Palestinian History (3-0-3). Examines Palestinian history before 1948 and brings the story forward to the breakthrough Oslo Accord of 1993 and its troubled aftermath. It focuses primarily on the origins and key aspects of the Arab-Israeli conflict. Prerequisite: COM 102 and junior standing.

HIS 310 Modern Gulf

History (3-0-3). Introduces students to the history of the Gulf Arab states in the 19th and 20th centuries. The first half of the course examines the traditional economy of the Gulf before oil, traditional forms of rulership, the traditional role of merchants, British involvement in the region and the impact of oil. The second half of the course surveys the individual histories of the six Gulf Arab states. Prerequisite: COM 102 and junior standing.

IEP Intensive English

IEP BSC Basic Level (1 credit). 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). 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). 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). 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). 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). 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 are reviewed and reinforced through large amounts of practice. The

instruction includes an introduction to writing term papers.

INS   International Studies

INS 314 Political Economy of the Asia Pacific Region (3-0-3). Explores political, economic, social and environmental issues in the Asia Pacific Region, which includes South, Southeast, East and Northeast Asia, Australasia, and the Pacific littoral states of North, Central and South America. Special emphasis is placed upon the efforts of regional cooperation organizations and lessons to be gleaned by the states of Southwest Asia and the Middle East. Prerequisites: POL 202, ECO 201, ECO 202.

INS 322 Global Political Economy   (3-0-3). 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 focuses 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: POL 202, ECO 201, ECO 202.

INS 413 Political Economy

of the Arab World (3-0-3). Studies the political and economic incentives and events that have influenced, and continue to influence, the political and economic environment in the Arab World. Topics addressed 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: POL 202, ECO 201, ECO 202.

INS 494 Special Topics in International Studies (1 to 4 credits). A theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisites: senior standing.

INS 495 Senior Seminar (3-0-3). 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. Restricted to International Studies students.

INS 496 Independent Study (1 to 4 credits). A theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisites: junior standing and approval of instructor.

INS 497 Internship in International Studies (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. Prerequisite: senior standing.

M C M   Mass Communication

MCM 100 Introduction to Digital Media Design (3-0-3). Introduces students to digital media as part of developing practical communication skills. It covers aspects of advertising and public relations design and layout, Web page design and basic animation techniques using keyboard, mouse, scanners, graphics tools such as graphics pad and stylus as well as still and video inputs and the use of printers. Students will be introduced to the basic use of digital design and animation software. Prerequisite: None. Students cannot obtain credit for both MCM 100 and DES 100. Restricted to Mass Communication students.

MCM 102 Introduction to Media Literacy (3-0-3). Introduces students to media as history as well as how and why various media forms were created. Comparisons and relationships between visual arts, music, and oral, written and technological media will be discussed. It gives students broad background knowledge on art, myth, music and the forces that helped foster their development. Prerequisite/concurrent: COM 102.

MCM 150 Introduction to Mass Communication Studies (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 the individual and society. Prerequisite: COM 102.

MCM 155 Introduction to Film Studies (3-0-3). Looks at influences and impact of pioneer and early silent filmmakers on modern popular film. Topics include the evolution of the comedic form, cinema and society, and the effect of artistic movements such as impressionism and expressionism. Relationships between the film and its technological and cultural impact help develop students' analytical and interpretive skills. A variety of techniques and concepts are discussed. Prerequisite/concurrent: COM 102.

MCM 156 Introduction to Film Studies: The Sequel (3-0-3). Looks at influences and impact of landmark films and filmmakers on modern popular film. Specific topics include the development of new technologies and techniques, as well as approaches that helped make film a distinct art form. Comparison with other art forms and the use of frame and image to convey emotional content will be discussed, along with concepts such as montage, genre, auteur and mise-en-scène. Prerequisite/concurrent: COM 102.

MCM 209 Dramatic Expression (3-0-3). (Cross-listed as COM 209). Gives students an opportunity to perform publicly in a variety of formats, including poetry reading, acting, miming and singing. Prerequisite: COM 102.

MCM 220 Intercultural Communication (3-0-3). (Cross-listed as COM 220). Provides an overview of world cultural literacy and shows how

cultures influence communication. Students acquire a broad knowledge about the interrelation of the humanities, music, mythology, art, theatre, history and science. Prerequisite: COM 102.

MCM 225 Theories of Mass Communication (3-0-3). Introduces students to the various prevailing communication theories, including agenda setting, uses and gratification, and diffusion constructs. Prerequisite: COM 102.

MCM 227 Principles of Public Relations (3-0-3). Surveys the fundamentals and techniques involved in public relations operations, including the history, philosophy and ethics of the practice and the functions of management, planning, research and communication. It explores the theoretical and practical applications of public relations in contemporary society. Prerequisite: MCM 150 or MCM 225.

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 and 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 affects perception of various cultures. Prerequisite: MCM 150 or MCM 225.

MCM 231 Writing for Visual Media (3-0-3). (Cross-listed as COM 231). Introduces students to existing and emerging communication technologies, and examines their 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 102 and junior standing.

MCM 255 Principles of Advertising (3-0-3). 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: MCM 150 or MCM 225.

MCM 269 Public Relations Writing (3-0-3). Introduces the student to the essentials of how to prepare and present written material for use in the practice of public relations. It teaches students the techniques needed for creating effective written communication at a standard generally expected of persons entering into the practice of public relations. Prerequisite: MCM 150 or MCM 225.

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, newsletters, corporate videos, etc. Students also become proficient in art of copy preparation, typography, graphic design, layout, and desktop publishing. Prerequisite: MCM 150 or MCM 225.

MCM 275 Principles of

Journalism (3-0-3). Introduces students to the basic principles of journalism as it occurs in a variety of media forms. The history of journalism is discussed including the penny press, yellow journalism, muck racking, all the way to modern responsible journalism and tabloid journalism. The class also discusses a variety of legal and ethical journalistic concerns. Writing techniques for newspapers, radio and television broadcast news are practiced. Prerequisite: MCM 150 or MCM 225.

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 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. Prerequisite: MCM 150 or MCM 225.

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 and surveys basic concepts of theoretical and empirical research. A variety of methodologies, elementary statistics and criteria for adequate research are covered. Prerequisite: MCM 150 or MCM 225, and QAN 201 or STA 202 or QBA 201.

MCM 281 Principles of Media Production and Performance (3-0-3). Surveys a variety of media production and performance

techniques. Media elements, such as concept development, writing, supervision, performance, scheduling and execution of a variety of media formats, are presented. Background information on the history of specific media, media theory and aesthetics are discussed. Prerequisite: MCM 150 or MCM 155 or MCM 156.

MCM 321 Mass Media Law (3-0-3). Examines the law as it affects the mass media. Discusses such areas as libel, privacy, public records, criminal pre-trial publicity, freedom of information and obscenity. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204.

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, and elements of reproduction mechanicals. Students learn how to embrace new technologies and design parameters to produce effective advertising. Audience differentiation, media strategy and creative strategy all are considered. Emphasis is on persuasive and attention-getting techniques. Prerequisite: 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. These include telemarketing, direct mail and point-of-

purchase. Prerequisite: 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. Prerequisite: 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. Prerequisite: MCM 227.

MCM 363 Organizational Communication and Leadership (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. Prerequisite: MCM 150 or MCM 225.

MCM 365 Employee Relations/Media Relations (3-0-3). Examines interactive employee communication programs, strategies and the manager's role in establishing an 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: MCM 150

or MCM 225, and COM 203 or COM 204.

MCM 371 News Writing (3-0-3). Builds students' expertise in the writing of news for newspapers and magazines. Students 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. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204 and instructor permission.

MCM 372 Advanced News Writing (3-0-3). (Formerly MCM 417). Teaches students how to write carefully researched stories, using writing, reporting, and interviewing skills 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. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204 and instructor permission.

MCM 373 Scriptwriting (3-0-3). Teaches students the craft of writing for the electronic media. Students 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 consists of practice in research, interviewing, production planning and budgeting, the treatment, writing for picture, and writing for talent (actors, narrators). Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204.

MCM 374 Feature Writing (3-0-3). Teaches students how

to plan, write and edit news features, personality profiles, issue-oriented articles and human impact stories for the print media. Emphasis is placed on narrative, descriptive, analytic and storytelling skills. One-on-one instructor-student conferences stress story-building and revision techniques. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204.

MCM 375 Editing for the Print Media (3-0-3). Provides students with practical exposure to skills in preparing and editing manuscripts for publications. Emphasis is placed on a number of editing styles, and appropriate editing symbols are employed. Prerequisite: junior standing and instructor permission.

MCM 377 Photojournalism (3-0-3). Teaches the technical basis of using a 35mm or digital camera to take photos for publication. Early lectures detail technical issues such as lens settings, shutter speed, lighting and composition. Students are then given weekly photojournalism assignments for the student newspaper, The Leopard. Access to a digital or 35mm camera is required. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204.

MCM 378 Literature as Film (3-0-3). (Cross-listed as ENG 378). Introduces the student to the critical terms and techniques used in both film and literary fiction, examining the ways of conveying meaning that both film and literature employ. It focuses on the attempts to translate literary classics to the medium of film, and evaluates the reasons for the success and/or failure of these attempts. Prerequisite/concurrent: COM

203 or COM 204.

MCM 380 Persuasive Communication (3-0-3). Teaches students a comprehensive and critical treatment of theory and research in persuasion. Attitudes, behaviors/actions, functional approaches to attitude, belief-based models of attitude, cognitive dissonance theory, theories of behavioral intention, campaign strategies, message factors, receiver and context factors, and persuasive effects constitute the most important subjects of discussion. Prerequisite: MCM 150 or MCM 225.

MCM 393 Shakespeare on Film (3-0-3). (Cross-listed as COM 393). Uses an interdisciplinary approach (incorporating English literature and media/film studies) to teach how to synthesize elements of film theory and literary criticism and incorporate them into a series of research papers. Prerequisite: COM 203 or COM 204.

MCM 410 Media Producing and Project Management (3-0-3). Discusses media producing and its individual components of media supervision, operational management, contact and freelance personnel management. The course will also focus on project management as well as discussions on audience/marketing and advertising revenue. Other areas will include broadcast management, scheduling and budgeting. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204.

MCM 411 Multiple Camera Studio Production (3-0-3).

Introduces students to multiple camera and studio production techniques. The class emphasizes practical knowledge of basic video and cinema production techniques from the viewpoint of the producer. Students develop and write multiple camera scripts in a variety of formats such as live news, game show and drama. The course also focuses on a variety of producing skills regarding supervision of crew and talent. Prerequisite: MCM 281 or MUM 310 or VIS 310.

MCM 421 Advanced Dramatic Expressions (3-0-3). Builds on the skills learned in MCM 209 Dramatic Expressions. The class focuses on developing acting and presentational techniques for television and film. The class teaches a variety of acting techniques including character analysis, scene interpretation, monologue and dialogue scenes as well as acting for single and multiple camera situations. Prerequisite: COM 209 or MCM 209.

MCM 451 Advertising Research (3-0-3). Introduces students to the concept of media mix-matching product; consumer and media profiles for retail and business-to-business applications; conception, researching and planning; and designing of advertising campaigns for print, broadcast and new media. Focuses on research methods in advertising. Prerequisite: MCM 351.

MCM 453 Advertising Media Planning (3-0-3). 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. Examines target audience, media characteristics and media data sources. Prerequisite: MCM 255.

MCM 454 Case Studies in Advertising (3-0-3). Seminar. Exposes students to the major issues in advertising, with a focus on the characteristics of successful ad campaigns. In addition, students examine international and cross-cultural problems in advertising within and across industry, government and institutions. Prerequisite: MCM 255.

MCM 455 Advertising Campaigns (4-0-4). (Capstone for Advertising students). Class functions as an advertising agency that prepares advertising campaigns for actual clients. Students embark on a semester-long project, collaborating on the conception, research, planning and execution of advertising campaigns. Special emphasis is given to advanced copywriting, as well as to layout and production concerns for print, broadcast and new media. 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. Prerequisite: MCM 255.

MCM 461 International Mass Communication (3-0-3). Helps students gain an understanding of world mass media systems: what they are like; how they operate; what impact they have on people; 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 150 or MCM 225, and COM 203 or COM 204.

MCM 463 International Public Relations (3-0-3). Helps students develop the skills necessary to plan and implement international public relations programs, taking into account social, economic, political, legal and cultural factors. Prerequisite: MCM 227.

MCM 465 Public Relations Campaigns (3-0-3). (Capstone for Public Relations students). Class functions as a full-service public relations firm. The aim is to have students embark on a semester-long PR project using all the relevant skills gained in other MCM courses. Prerequisite: MCM 227.

MCM 467 Public Relations for Non-Profit Organizations. (3-0-3). Explores fund-raising techniques, alumni relations and foundation management. Prerequisite: MCM 227.

MCM 470 Writing and Reporting for Broadcast News (3-0-3). Examines broadcast news writing, with emphasis on practical experience and exercises involving real or simulated airtime. Students are assigned beats and topics and are expected to regularly create scripts and at least three news packages by the end of the semester. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204.

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. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204.

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 is studied. 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. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204.

MCM 475 Writing for Documentaries (3-0-3). Exposes students to representative documentaries with regard to history, form, technique, trends and audience objectives. Students 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 emphasizes 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. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204.

MCM 477 Print Media Project (3-0-3). (Capstone for Journalism students). 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. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204.

MCM 494 Special Topics in Mass Communication (1 to 4 credits). A theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204.

MCM 496 Independent Study (1 to 4 credits). A theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204, and junior standing.

MCM 497 Mass Communication Internship (3-0-3). Provides MCM students with a minimum of six weeks of on-the-job training and experience with a professional firm, in either advertising creativity, sales, advertising media, writing and/or editing for print and/or electronic media. Graded as Pass/Fail. Prerequisite: MCM 150 or MCM 225, and COM 203 or COM 204, and junior standing, and approval of instructor.

M T H   Mathematics

MTH 001 Preparatory Mathematics for Engineers (3-2-4). Preparatory for MTH 103. Emphasizes the basic skills and techniques of algebra and trigonometry. Topics included are real and complex numbers, basic arithmetic, equations and inequalities, study of functions, polynomial and rational functions, exponential and logarithmic functions, trigonometric functions and introduction to limits. Prerequisite: Math Placement Test with grade less than D.

MTH 002 Preparatory Business Mathematics (3-0-3). Preparatory for MTH 101 Mathematics for Business. Covers integers and variable expression, fractions, decimals and real numbers, basic algebraic operations, equations and inequalities, functions and graphs, polynomial and rational functions, and exponential and logarithmic functions.

MTH 003 Preparatory Mathematics for Architects (3-0-3). Preparatory for MTH 111 Mathematics for Architects. Covers basic ideas and concepts of arithmetic, algebra, geometry and trigonometry and calculus applications needed for Architecture and Design.

MTH 004 Pre-Calculus (3-0-3). Preparatory for MTH 103. Covers graphs and functions, exponential and logarithmic functions and their graphs, trigonometric functions of real numbers and angles, analytic trigonometry and introduction to limits. Prerequisite: Math Placement Test with grade D.

MTH 100 Fundamentals of Logic and Geometry (3-0-3). Covers logic and set theory, geometry in the plane and space, and basic algebra. 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; and linear transformations and quadratic forms. Not open to Architecture, Architectural Studies, Engineering, Interior Design or Science students.

MTH 101 Mathematics for Business I (3-0-3). Covers coordinate systems and graphs, matrices, linear systems and applications, elementary linear programming, set theory, counting techniques, permutations and combinations, introduction to probability, and the mathematics of finance. Emphasis is placed on techniques and applications. Not open to science or Engineering students. Prerequisite: MTH 002 or Math Placement Test or SAT II Math 1C test with score 600 and above.

MTH 102 Mathematics for Business II (3-0-3). Covers 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 and 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). Covers functions and limits, differentiation with applications including maxima and minima, related rates, linear approximations, Newton's method, theory of integration with applications including areas, volumes, lengths, moments, center of mass and work.

Prerequisite: MTH 001 or MTH 004 or Engineering Math Placement Test or SAT II Math 1C test with score 600 and above.

MTH 104 Calculus II (3-1-3). Covers transcendental functions, exponential and logarithmic functions, trigonometric functions, techniques of integration, indeterminate forms, infinite series, power series, Talor series, parameterized curves, polar coordinates, integration in polar coordinates and complex numbers. Prerequisite: MTH 103.

MTH 111 Mathematics for Architects (3-2-4). Introduces the topics of geometry and calculus needed for architecture. Reviews trigonometry, areas and volumes of elementary geometric figures, and the analytic geometry of lines, planes and vectors in two and three dimensions. Covers differential and integral calculus, including applications on optimization problems, and areas and volumes by integration. Prerequisite: MTH 001 or MTH 004 or MTH 003 or Math Placement Test or SAT II Math 1C test with score 600 and above.

MTH 203 Calculus III (3-1-3). Covers 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. Prerequisite: MTH 104.

MTH 205 Differential Equations (3-0-3). Covers 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 Discrete Mathematics (3-0-3). (Cross-listed with CMP 213). Covers prepositional and predicate calculus, sets, functions and related algorithms, mathematical induction, recursive definitions, counting, relations, graphs, trees and Boolean algebra. Prerequisite: MTH 102 or MTH 103.

MTH 221 Linear Algebra (3-0-3). Includes 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 104.

MTH 325 Coding Theory (3-0-3). Introduces 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/concurrent: MTH 221.

MTH 341 Computational Methods (3-0-3). (Cross-listed with CMP 341). Introduces the fundamentals of numerical algorithms and their application for scientific computing. Includes topics such as error analysis, root finding, interpolation and function approximations, integration and differentiation, optimization techniques and linear programming. Prerequisite/concurrent: MTH 221.

MTH 342 Numerical Linear Algebra (3-0-3). Covers 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. Also covers singular value decomposition and iterative methods for algebraic eigenvalue problem. Prerequisite: MTH 221.

MTH 351 Methods of Applied Mathematics (3-0-3). Covers Fourier series, special functions, calculus of variation, curvilinear coordinates, integral transforms and integral equations. Real-world problems are used to introduce, motivate and illustrate concepts. Prerequisite/concurrent: MTH 205.

MTH 360 Probability and Stochastic Processes (3-0-3). (Cross-listed as STA 360 or ELE 360 or COE 360). Covers set theory, preliminaries of probability theory and random variables, stochastic processes, Markov chains, examples of continuous time Markov chains and applications to systems. Prerequisite: MTH 221, and NGN 111 or STA 201.

MTH 382 Linear Programming and Optimization (3-0-3). Introduces optimization theory and methods, nonlinear unconstrained optimization, linear programming, sensitivity analysis, various algorithms and search methods for optimization and their analysis. Examples from various disciplines are given. Prerequisite: MTH 221.

MTH 412 Complex Variables (3-0-3). Studies

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 203.

MTH 418 Graph Theory (3-0-3). Covers 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, and applications to science and engineering. Prerequisite: MTH 213 and CMP 213.

MTH 432 Partial Differential Equations (3-0-3). Covers mathematical formulations and solutions of partial differential equations of physical problems, including the wave, heat and Laplace's equation. The mathematical tools include Fourier transform, Fourier series and Laplace transform. Prerequisite: MTH 205

MTH 441 Numerical Solutions of Ordinary Differential Equations (3-0-3). Covers 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 focuses on consistency, accuracy, stability, stiffness, numerical efficiency, etc. Prerequisite: CMP 341 or MTH 341 or MTH 342.

MTH 442 Numerical Solutions of Partial Differential Equations (3-0-3). Covers computationally efficient schemes for solving PDE numerically: finite difference schemes, stability and convergence of finite difference schemes. Introduces finite element methods. Prerequisite: MTH 441.

MTH 494 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 496 Independent Study (1 to 4 credits). A theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisite: junior standing and approval of advisor.

PHI   Philosophy

PHI 201 Introduction to Philosophy (3-0-3). Introduces basic issues and concepts of philosophy, e.g., epistemology, ethics, classical idealism, naturalism, humanism, existentialism, ontology, ethics, skepticism, post-modernism or phenomenology. Thinkers are selected from the classic, modern and contemporary periods. Prerequisite: COM 102.

PHI 202 Introduction to Islamic Philosophy (3-0-3). Surveys the major philosophers in Islam, such as Al-Ghazzi, Ibn Rashid, the Sufis or Al-Farabi. Focuses on the concepts of religious and philosophical doctrines. Prerequisite: COM 102.

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 is on developing a framework for moral thinking and judging, and becoming aware of the moral viewpoint of others. Focuses on case studies, which evoke conflicts between personal convictions and public responsibilities. A special concern is an emphasis on how institutions may support or inhibit professionals in exercising moral leadership and making moral choices. Prerequisite: COM 102. Students cannot obtain credit for both PHI 204 and PHI 206. Not open to Computer Science students.

PHI 206 Ethics for Computing and Information Technology (3-0-3). Examines ethical theory and applied ethics for computing and information technology, which includes some history of the computer and information technology and discussion of the utilitarian and social value of these technological advances. The course offers in-depth discussion of professionalism and its meaning; professionalism and ethical codes; the ACM (Association for Computing Machinery) code of ethics designed for the computing profession; intellectual property defined by copyright, patent and trade secrets; privacy; confidentiality; whistle-blowing security issues; conflict of interest, Mill's harm principle and offensive material on the Internet; computer crime; hacking; viruses; and identity theft. The course aims to prepare the student to understand both the potential of the computer to promote social good as well as its potential for ethical misconduct. Prerequisites: COM 102. Students cannot obtain credit for both PHI 204

and PHI 206.

PHI 303 Political Philosophy (3-0-3). (Cross-listed with POL 303). Introduces the abiding questions of a civil society, pertaining to freedom, equality, justice, glory, power, law, nature, convention and civic virtue. Prerequisite: POL 202.

PHY   Physics

PHY 001 Preparatory Physics (3-0-3). 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.

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. 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. Prerequisite/concurrent: MTH 001, MTH 002, MTH 003 or MTH 100 or Math Placement Test. Not open to science and Engineering students.

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 mechanics. Covers mechanics (kinematics in one and two dimensions; Newton's laws of motion with applications; work and energy; conservation of energy and momentum; general rotation, including torque and angular momentum; static equilibrium) as well as some introductory material on and mechanical waves (simple harmonic motion). The laboratory consists of experiments illustrating the principles, laws and concepts discussed in the course. Prerequisite: PHY 001 or placement test; prerequisite/concurrent: MTH 103. Students cannot get credit for both PHY 101 and PHY 104.

PHY 102 General Physics II (3-3-4). A continuation of General Physics I. Covers electricity (electric fields, including Gauss's law; electric potential; capacitors and resistors; DC circuits), magnetism (sources of the magnetic field, including Ampere's law; induction, including Faraday's law and Lenz's law), and alternating current circuits, as well as introductory material on electromagnetic waves and light and optics (interference). The laboratory includes experiments illustrating the principles, laws and concepts discussed in the course. Prerequisite: PHY 101.

PHY 103 Astronomy (3-0-3). 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.

PHY 104 Physics for Architects (3-0-3). A general physics course, based on algebra, with selected emphasis appropriate to the background and needs of Architecture students. 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. Not open to Engineering and science students. Prerequisite/concurrent: MTH 101 or MTH 103 or MTH 111. Students cannot get credit for both PHY 104 and PHY 101.

PHY 105 Physics for Environmental Sciences (3-3-4). 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 also considers some specific applications in the general areas of energy processes. Restricted to Environmental Science students. Prerequisite: PHY 101.

PHY 201 Modern Physics (3-3-4). Required for Environmental Physics majors but is also very useful to Engineering majors, particularly

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. Prerequisites: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132, and 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. Prerequisites: ARC 201 or IDE 201.

ARC 213 Analysis and Methods in Architecture (3-0-3). (Formerly ARC 212). Introduces 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. Prerequisites: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131 and DES 132.

ARC 215 Descriptive Geometry (4-0-3). Introduces 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. Prerequisites: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131 and DES 132.

ARC 224 Modern Foundations of Art and Architecture (3-0-3). (Formerly ARC 220). Covers 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: COM 102, and ARC 201 or IDE 201.

ARC 225 Islamic Art and Architecture (3-0-3). Concentrates on common and regional elements of Arab and Islamic material culture. Follows developments from formation of an architectural language to diverse regional expressions in calligraphy, ceramics, metals, carpets and other media of artistic work. Relates stylistic phenomena to underlying spiritual and intellectual intent. Prerequisite: COM 102.

ARC 232 Survey of Materials and Practices in Construction (3-0-3). (Formerly ARC 231). Surveys 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: ARC 201 or IDE 201.

ARC 242 Statics and Mechanics of Materials for Architecture (3-1-3). (Cross-listed as CVE 272). (Formerly ARC 240). Covers static equilibrium of forces and free body diagrams; analysis of simple beams, columns and trusses; truss forms, configuration and performance; tributary loads, load path and load tracing in structural systems; simple funicular forms (arches and cables); geometric properties and forms of flexural elements (centroid and moment of inertia); internal forces (bending moment and shear force diagrams in beams); axial stress and strain; bending and shearing stresses; mechanical properties of common building materials; and tensile, compression, and bending and torsion tests for different building materials (steel, concrete, wood). Prerequisite: PHY 104. Not open to Civil Engineering students.

ARC 301 Architectural Design Studio III (12-0-6). Advances the fundamentals of the making of architectural form based on concepts derived from space, structure and building construction. Studio-based projects emphasize design strategies for small, multi-level, infill buildings with conventional, short-span structural systems. Prerequisites: PHY 104, and ARC 202 or IDE 202.

ARC 302 Architectural Design Studio IV (12-0-6). Includes studio-based projects with emphasis on the tectonics of building structure and envelope. Building case studies and design projects explore a range of material and construction system types including steel, wood, masonry and reinforced concrete. Prerequisites: ARC 301 and ARC 213.

ARC 311 Illustration and Rendering (4-0-3). (Cross-listed as IDE 311). Covers illustration and rendering techniques that enable students to express their ideas faster with more precise results. This course covers freehand color drawing techniques using markers, color pencils and watercolors. Prerequisites: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131 and DES 132.

ARC 312 Advanced Representation (4-0-3). Expands on representational techniques. Focuses on the application

and use of these techniques in the presentation and representation of design concepts and drawing compositions. Introduces color drawing techniques using mixed media of hand drawing and computer generated drawings and illustrations, photomontage and collage. Prerequisites: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131 and DES 132.

ARC 315 Modeling and Rendering (4-0-3). (Cross-listed as IDE 315). (Formerly ARC 310). 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 and then are "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 322 Global Issues in Architecture (3-0-3). Examines our emerging understanding of global issues confronting humankind, including population growth, declining reserves of non-renewable resources, etc. Gives an overview of the environmental impact of human communities through history. Prerequisites: ARC 224 and PHY 104.

ARC 325 Ideas in Architecture (3-0-3). (Formerly ARC 321). Introduces 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.

ARC 333 Rough Construction Processes (2-3-3). (Formerly ARC 330). Offers an 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. Spans production to preliminary construction drawings for small buildings. Prerequisite: ARC 232.

ARC 343 Structural Analysis for Architecture (2-2-3). (Cross-listed as CVE 371). (Formerly ARC 341). Introduces structural analysis. Covers classification of structures and sources of loads; load path and load tracing in structural systems; analysis of simple beams, trusses, arches, cables and frames; internal forces (axial, shear and moment diagrams for beams and frames); qualitative analysis of structures; elastic buckling of columns and computer analysis of structures. Prerequisite: ARC 242 or CVE 272. Not open to Civil Engineering students.

ARC 344 Structural Design for Architecture (3-1-3). (Cross-listed as CVE 372). (Formerly ARC 342). Covers classification of structural elements and systems; analysis and behavior of structural elements and systems (simple beams, compression members, continuous beams, frames, plates, membranes and shells); the relationship between the behavior of structural elements used in architecture and their forms; the structural design process, codes and specifications; qualitative and preliminary selection of steel and concrete structural elements; types and behavior of structural connections; and types and behavior of foundation systems. Prerequisite: ARC 343 or CVE 371. Not open to Civil Engineering students.

ARC 354 Environmental Energies and Building Form (2-3-3). (Formerly ARC 351). Studies 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. Studies indoor thermal environment and thermal comfort of building occupants. Prerequisite: PHY 104.

ARC 364 Introduction to Computer-Aided Drawing (0-2-1). (Cross-listed as IDE 364). (May test out of course.) Training for mainstream CAD applications using Windows operating system. Develops basic familiarity and proficiency with applications commonly encountered during professional training. Graded as Pass/Fail. Prerequisite: ARC 202 or IDE 202.

ARC 365 Computer-Aided Design (4-0-3). (Cross-listed as IDE 365). (Formerly ARC 371). Systematically introduces 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. Includes 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 and work strategies. Prerequisite: ARC 201 or IDE 201.

ARC 366 Applied Computer-Aided Design (4-0-3). (Cross-listed as IDE 366). Systematically introduces 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 operating 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). 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 are covered. Principles of reduce, reuse and recycle are reiterated. Predominant emphasis is 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). Requires a 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. Registration fees apply. Prerequisite: ARC 302.

ARC 401 Architectural Design Studio V (12-0-6). Requires design of open site projects of moderate scale with emphasis on building form derived from the analysis of site context and site planning strategies. Prerequisites: ARC 224, ARC 232, ARC 302; and ARC 242 or CVE 272.

ARC 402 Architectural Design Studio VI (12-0-6). Comprises comprehensive building design project integrating building technologies with other non-technical design issues. Introduces programming and includes a detailed, design development of an aspect of building technology. Prerequisites: ARC 325, ARC 333, ARC 354, ARC 397 and ARC 401.

ARC 424 Evolution of Cities (3-0-3). Introduces 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). (Formerly ARC 431). Examines in-depth 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. Includes discussion of design considerations and construction methods with hands-on experience in producing detailed drawings of some elements. Prerequisite: ARC 333.

ARC 436 Working Drawings (4-0-3). (Formerly ARC 472). Introduces 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 is placed on the use of computer technology in drawing production and information coordination. Prerequisite: ARC 301 or IDE 301.

ARC 451 Lighting and Acoustics (2-3-3). Introduces 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 and the process of transmission and practical applications; and the architecture of light, its nature, sources, characteristics, calculation and application. Each part addresses both the art and science of the respective disciplines. Computer simulation and modeling is used as research tools. Prerequisites: PHY 104, and ARC 202 or IDE 202.

ARC 455 Environmental Control Systems (2-3-3). (Formerly ARC 452). Presents 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.

ARC 461 Project Management (3-0-3). (Cross-listed as IDE 461 and DES 461). Introduces the basic and advanced concepts of running design projects. Explores the design process and project phases, analyzing them in detail under the project management concept of delivering projects "on time, on budget, every time." Prerequisite: ARC 397 or IDE 397 or DES 397.

ARC 462 Design Management (3-0-3). (Cross-listed as IDE 462 and DES 462). (Formerly ARC 460). Introduces 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 or DES 397.

ARC 465 Advanced Computer-Aided Design (4-0-3). (Cross-listed as IDE 465). 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). Focuses on the site as a fundamental component of building design. Examines the interrelationship of intended site use with the environment. Examines topography, vegetation and landscape, climate, geography as well as theoretical aspects of site development. Emphasizes the synthesis of programmatic and environmental requirements into a coherent concept for building placement and site improvements. Prerequisite: ARC 302.

ARC 473 Introduction to Landscape Architecture (4-0-3). Introduces the techniques of site inventory, analysis and design. Specific skills in reading and modifying topography, understanding micro-climatic influences, vehicular and pedestrian access, formal and functional relationships to surrounding buildings, respect for ecology and other site and site-use factors are treated in lecture/demonstration class settings. Prerequisite: ARC 302.

ARC 493 Study Abroad (1 to 3 credits). On-site visits offering the opportunity to experience first-hand regional and international design practices, highlighting particular themes relevant to the specific location. Department permission is required for

enrollment and credit. Prerequisite: ARC 302 or IDE 302.

ARC 494 Special Topics in Architecture (1 to 4 credits). Presents a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: ARC 202 or IDE 202.

ARC 496 Independent Study (1 to 4 credits). Involves investigation under faculty supervision beyond what is offered in existing courses. Prerequisites: junior or senior standing, and consent of the instructor.

ARC 497 Internship II (0-0-0). Requires a 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. Registration fees apply. Prerequisite: ARC 402.

ARC 498 Studio Abroad (3 to 6 credits). Provides 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). Research-directed investigation involving architecture and urban design. Prerequisites: ARC 402, and ARC 344 or CVE 372.

ARC 506 Architectural Design Studio VIII (12-0-6). Research-directed design studio. Studio topic is related to some aspect of architectural design (history/theory, technology, representation, urban or heritage resource management, etc.). Students pursue directed research in support of a design investigation. Prerequisites: ARC 497 and ARC 505.

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). Provides in-depth study of the interrelationship of building construction and architectural design with consideration of the design development, taking into account the resulting changes throughout the development of a design. Students gain the ability to assess and analyze the relationship between tectonics and architecture, as well as to apply this to their own design work. Prerequisite: ARC 333.

ARC 561 Construction Management (3-0-3). (Cross-listed as CVE 561). Studies in-depth 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. Reviews 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 571 Fundamentals of Urban Planning (3-0-3). (Cross-listed as UPL 501). Introduces the discipline of urban planning. Surveys the history of the field as well as its links with other fields of environmental studies such as architecture, urban design, geography, engineering, etc. Overviews what planners do and the tools they use in their practice. Prerequisites: ARC 402 and CGPA of 2.5 or above.

ARC 573 Principles of Urban Design (3-0-3). (Cross-listed as UPL 582). Examines major concepts, principles, and theories of urban design. Reviews the historic development of urban design as a professional field and surveys current urban design issues, trends, and practices in both the Western and non-Western/Islamic contexts. Prerequisite/concurrent: ARC 402 and CGPA of 2.5 or above.

ARC 578 Environmental Planning (3-0-3). (Cross-listed as UPL 548). Comprehensive overview of the field of environmental planning and how it relates to efforts intended to manage, organize and protect environmental resources. Reviews the political and administrative context of environmental planning. Addresses principles of sustainability, ethics and the law in relation to land, air, water and other natural resources. Prerequisite/concurrent: ARC 402 and CGPA of 2.5 or above.

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. Prerequisites: ARC 344 or CVE 372, ARC 462 or IDE 462, and ARC 402, ARC 434, ARC 455 and consent of the department.

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. This course may substitute for ARC 506. Prerequisites: ARC 497, ARC 505, ARC 591 and consent of the department.

DES   Design

DES 100 Digital Media in Design (4-0-3). (Formerly ARC 211 or CMP 103 or ARC 230 or CMP 101 in 1997/98). Introduces digital media as an integral part of design process and Internet communications. Covers care and operation of hardware; the function and features of the Mac operating system; and 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. Restricted to SA&D and MCM majors.

DES 111 Descriptive Drawing I (6-0-3). (Formerly AA 111). Introduces the students to the fundamental principles of observational and analytical drawing. Various representational and analytical approaches are explored through assignments that encourage the development of skills needed to effectively represent and communicate visual information. Restricted to SA&D

students.

DES 112 Descriptive Drawing II (6-0-3). (Formerly AA 112). Further introduces the student to the principles of drawing. Emphasis is given to the development of an individual approach to representation, and a wide variety of assignments encourages the student to develop an understanding of a range of techniques and materials of drawing. Restricted to SA&D students. Prerequisite: DES 111.

DES 121 History of Material Culture I (3-0-3). (Formerly AA 121). 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 and the Classical, Medieval and Islamic eras. Restricted to SA&D students.

DES 122 History of Material Culture II (3-0-3). (Formerly AA 122). A continuation of DES 121 that traces development of world artistic material culture from the 15th century to the present time. Restricted to SA&D students.

DES 131 Design Foundations I (6-0-3). (Formerly AA 131). Introduces the principles, conceptual and critical skills, and the techniques of design. Students learn to observe the world critically and meticulously and to analyze both the broad structures and the small details of visual phenomena. Students 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. Restricted to SA&D students.

DES 132 Design Foundations II (6-0-3). (Formerly AA 132). 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. Restricted to SA&D students.

DES 141 Introductory Painting (6-0-3). Introduces 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. Restricted to SA&D students.

DES 142 Painting: The Practice of Color (6-0-3). Suitable for 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. Restricted to SA&D students.

DES 151 Introduction to Printmaking (6-0-3). Introduces 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 work on monochrome and polychrome projects using single and multiple matrixes. They learn the essentials of color printing and how to build color through CMYK methods.

DES 200 Communication Design (6-0-3). Introduces 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 develop a deeper understanding of visual communication and 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 211 Intermediate Drawing Studio (6-0-3). Suitable for intermediate-level students interested in expanding their drawing skills and contextual knowledge of the field of drawing. Encourages experimentation through the introduction and exploration of various mediums and techniques. This course also further explores and enhances the student's knowledge of analytical and observational drawing skills. These objectives are pursued through intensive studio-based practice. Prerequisite: DES 111 and 112.

DES 230 Digital Media in Communication Design (6-0-3). A continuation of DES 100 that builds on the development and skills associated with digital design. Working with the latest in industry-specific hardware and software, students gain a more complete understanding of how digital media is used in electronic design and learn the capabilities available to communication designers. Emphasis is 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). 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 that are representative of the concepts discussed in class. Students 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.

DES 320 Introduction to Web Design (6-0-3). Introduces website design. Students learn to use a variety of graphic design and Web page authoring tools, and Internet technologies and other relevant issues are 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). Comprises three interlinked stages: internship preparation, which concludes with a student proposal for the internship placement; the internship placement, consisting of 240 hours (minimum) of work experience with an approved professional firm; and the internship course for support on the associated internship outcomes and assignments. Students must satisfy the requirements of internship preparation and placement in order to register for the internship course. Students may be asked to pay an insurance fee. Prerequisite: VIS 361.

DES 461 Project Management (3-0-3). (Cross-listed as ARC 461 and IDE 461). Introduces basic and advanced concepts of running design projects. Explores the design process and project phases, analyzing in detail under the project management concept of delivering projects "on time, on budget, every time." Prerequisite/concurrent: DES 397.

DES 462 Design Management (3-0-3). (Cross-listed as ARC 462 and IDE 462). Introduces 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 architecture or design office.
Prerequisite/concurrent: DES 397.

DES 493 Study Abroad (1 to 3 credits).

On-site visits offering the opportunity to experience first-hand regional and international design practices, highlighting particular themes relevant to the specific location. Department permission is required for enrollment and credit. Prerequisite: Second year standing and consent of the department. Prerequisite: ARC 202 or IDE 202 or MUM 202 or VIS 202.

DES 494 Special Topics in Design (2 to 4 credits). Presents a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit.

DES 496 Independent Study (1 to 4 credits). Involves investigation under faculty supervision beyond what is offered in existing courses. Prerequisite: junior or senior standing, and consent of the instructor.

DES 498 Studio Abroad (3 to 6 credits). Provides studio activities conducted in regional and international sites promoting a global-oriented approach to design. Prerequisites: consent of department, and 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). Traces the historical development of art and architecture in the Arabian Gulf region. 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). Charts the development of art and architecture in the Arabian Gulf after the 15th 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). Introduces the relevant theories and history defining 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). Introduces 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 331 Traditional Regional Material and Climate (3-0-3). Introduces how traditional building types were molded by indigenous building materials and climate. Students visit and explore the existing sites to study design responses to lifestyle and climate traditionally employed in the region.

HRM 332 Theory and Practice of Building Restoration (3-0-3). Explores 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 (1 to 4 credits). Presents a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. 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). Investigates 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. Prerequisites: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131, DES 132; and 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). (Formerly IDE 320). Gives an overview of interior design's historical development as a collective expression of art, architecture, science and culture 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. Prerequisites: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131 and DES 132.

IDE 235 Interior Construction (4-0-3). (Formerly IDE 204). 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. Prerequisites: DES 100, DES 111, DES 112, DES 121, DES 122, DES 131 and DES 132.

IDE 236 Soft Furnishings (4-0-3). Introduces 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, and others. Prerequisite: IDE 235 or ARC 232.

IDE 251 Color and Light (4-0-3). (Formerly IDE 310). Introduces 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/concurrent: PHY 104.

IDE 301 Interior Design Studio III (12-0-6). Focuses 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 is on research and analysis of existing structures, contextual development of interior solutions, building constraints, accessibility standards and specialized product and materials specifications. Prerequisites: PHY 104, and ARC 202 or IDE 202.

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 include research applied to selected client identities, design criteria for special population groups, building constraints and accessibility standards, project specifications and creative presentation methods. Prerequisites: IDE 301 and

IDE 223.

IDE 311 Illustration and Rendering (4-0-3). (Cross-listed as ARC 311). Covers illustration and rendering techniques that enable 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 and DES 132.

IDE 315 Modeling and Rendering (4-0-3). (Cross-listed as ARC 315). Presents a rationalized, geometrical approach to the perception and description of form. Selected examples of architectural form are first rigorously analyzed to re-derive their constructional logic and then are "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.

IDE 324 Modern Practices in Interior Design (3-0-3). 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: IDE 223.

IDE 335 Furniture Design Basics (4-0-3). (Formerly ARC 410). Explores the basic function and design of furniture as it relates to human factors, such as anthropometrics and ergonomics. The course provides a link between historical, theoretical and practical experience. It defines the elements of form, function and aesthetic by exploring experimental concepts and adopting alternative ways of thinking about the objects that surround us. Furniture models built to scale, or other presentation techniques, will be applied as needed to effectively support the evolution of new concepts. Prerequisite: IDE 235 or ARC 232.

IDE 352 Environmental Control Systems in Interior Design (2-3-3).

(Formerly ARC 352). Provides 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.

IDE 364 Introduction to Computer-Aided Drawing (0-2-1). (Cross-listed as ARC 364). Training for mainstream CAD applications using Windows operating system. Develops basic familiarities and proficiency with applications commonly encountered during professional training. Prerequisite: ARC 202 or IDE 202.

IDE 365 Computer-Aided Design (4-0-3). (Cross-listed as ARC 365). Systematically introduces computer-aided architectural design. Discussion and training focuses on a variety of CAAD applications in order to show the similarities (basic principles of CAAD) and the idiosyncrasies of the individual applications, as well as modeling of existing interior spaces utilizing selected CAAD applications. Prerequisite: ARC 201 or IDE 201.

IDE 366 Applied Computer-Aided Design (4-0-3). (Cross-listed as ARC 366). Systematically introduces 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 operating system. Topics extend those introduced in IDE 365 to include detailed treatment of tool palettes and inter-platform compatibility. Prerequisite: ARC 201 or IDE 201.

IDE 374 Environmentally Sustainable Design (4-0-3). (Cross-listed as ARC 374). 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 are covered.

Principles of reduce, reuse and recycle are reiterated. Predominant emphasis is on practical strategies directly applicable in design. Material is presented as lectures and seminars, supplemented with readings. Prerequisite: PHY 104.

IDE 397 Internship (0-0-0). Requires a minimum of six 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. Registration fees apply. 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 406 Interior Design Studio VI (12-0-6). Research directed design studio. Focuses on a topic related to some aspect of architectural design (history/theory, technology, representation, heritage resource management, etc.). Students pursue directed research in support of a design investigation. Prerequisites: IDE 397 and IDE 405.

IDE 432 Advanced Detailing (4-0-3). Continuation of IDE 235 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). (Formerly IDE 503). 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.

IDE 461 Project Management (3-0-3). (Cross-listed as ARC 461 and DES 461). (Formerly IDE 431). Introduces the basic and advanced concepts of running design projects. Explores the design process and project phases,

analyzing them 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 and DES 462). Introduces 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.

IDE 465 Advanced Computer-Aided Design (4-0-3). (Cross-listed as ARC 465). Concentrates on the specific demands on CAD systems by the architecture and building professions. Covers 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.

IDE 491 Final Project Research (6-0-3). (Formerly IDE 401). Students choose a design topic with the guidance of an advisor and approval of the faculty. Each student prepares an individual program for IDE 492 Final Project Design, concluding with a formal, bound document. Prerequisites: IDE 302, IDE 335, IDE 352 and consent of the department.

IDE 492 Final Project Design (12-0-6). (Formerly IDE 490). Individual design resolution based upon the research findings initiated in 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. This course may substitute for IDE 406. Prerequisites: IDE 405, IDE 491, IDE 397 and consent of the department.

IDE 493 Study Abroad (1 to 3 credits). On-site visits offering the opportunity

to experience first-hand regional and international design practices, highlighting particular themes relevant to the specific location. Department permission is required for enrollment and credit. Prerequisite: ARC 302 or IDE 302.

IDE 494 Special Topics in Interior Design (1 to 4 credits). Presents a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: IDE 202.

IDE 496 Independent Study (1 to 4 credits). Involves investigation under faculty supervision beyond what is offered in existing courses. Prerequisites: consent of the instructor, and junior or senior standing.

IDE 498 Studio Abroad (3 to 6 credits). Provides studio activities conducted in regional and international sites promoting a global-oriented approach to design. Prerequisites: consent of department, and ARC 302 or IDE 302.

MUM   Multimedia Design

MUM 301 Design Studio III (6-0-3). (Cross-listed as VIS 301). Using a variety of media, this core studio focuses on the potential contribution of design in the visual culture of society. The course emphasizes exploration and experimentation and encourages the students to apply acquired knowledge and skills to a set of hypothetical problems. Students are required to produce a digital portfolio of their coursework. Prerequisites: VIS 202, VIS 213 and VIS 360.

MUM 310 Film Production I (6-0-3). (Formerly MUM 210). Introduces 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/concurrent: MUM 301 or VIS 301.

MUM 312 Film Production II (6-0-3).

(Formerly MUM 211). A continuation of MUM 310 that emphasizes digital and analog audio recording, location production of audio and video, and non-linear/ computer-based post-production processes and techniques. Prerequisite/concurrent: MUM 301 or VIS 301.

MUM 320 Web Design (6-0-3). Introduces website design. Students learn to use a variety of graphic design and Web page authoring tools, and Internet technologies and other relevant issues are discussed. Students are expected to learn and use software packages for developing real-life Web pages. Prerequisite/concurrent: MUM 301 or VIS 301.

MUM 321 Photojournalism (6-0-3). (Cross-listed as VIS 321). Explores the history and practice of photojournalism. 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 investigates subject matter through the development of the photographic essay. Prerequisite/concurrent: VIS 221, and MUM 301 or VIS 301.

MUM 330 Interactive Design (6-0-3). 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 the information industry. Prerequisite/concurrent: MUM 301 or VIS 301.

MUM 331 Modeling and Animation (6-0-3). Introduces 2-D and 3-D modeling, animation and various modeling and animation tools. The course helps students advance into the realm of computer modeling, animation, and video and motion picture production. Students are able to use high-end software and hardware for developing a professional quality portfolio. Prerequisite/concurrent: MUM 301 or VIS 301.

MUM 397 Internship (3-0-3). Comprises three interlinked stages: internship preparation, which concludes

with a student proposal for the internship placement; the internship placement, consisting of 240 hours (minimum) of work experience with an approved professional firm; and the internship course for support on the associated internship outcomes and assignments. Students must satisfy the requirements of internship preparation and placement in order to register for the internship course. Students may be asked to pay an insurance fee. Prerequisites: VIS 361, and MUM 301 or VIS 301.

MUM 401 Design Studio IV (6-0-4). (Cross-listed as VIS 401). Encourages the development of individual creativity through practical project work at a significant level of depth and complexity. Toward the end of this course, students are asked to professionally present their project work and to critically evaluate this work within the context of contemporary commercial expectations. Prerequisite: MUM 301 or VIS 301.

MUM 402 Senior Multimedia Design Portfolio (6-0-4). (Cross-listed as VIS 402). Requires students to design a comprehensive digital portfolio (plus a hard copy where applicable) in preparation for professional career opportunities after graduation. This portfolio should demonstrate the cumulative knowledge and skills acquired over four years of academic design education. Prerequisite: MUM 401 or VIS 401.

MUM 410 Film Production III (Advanced Technique) (6-0-3). (Formerly MUM 311). Offers 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 MUM 312.

MUM 493 Study Abroad (1 to 3 credits). On-site visits offering the opportunity to experience first-hand regional and international design practice, highlighting particular themes relevant to the specific location. Department permission is required for enrollment and credit. Prerequisite: VIS 202.

MUM 494 Special Topics in Multimedia (1 to 4 credits). Presents a

theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: MUM 301 or VIS 301.

MUM 496 Independent Study (1 to 4 credits). Involves investigation under faculty supervision beyond what is offered in existing courses. Prerequisite: junior or senior standing.

MUM 498 Studio Abroad (3 to 6 credits). Provides studio activities conducted in regional and international sites promoting a global-oriented approach to design. Prerequisites: consent of department and VIS 202.

VIS   Visual
Communication

VIS 201 Design Studio I (6-0-3). Introduces the broad field of graphic design. An extension of DES 132, this design-based course involves the application of design principles to graphic forms. Prerequisites: DES 100, DES 112 and DES 132; DES 121 or 122; MTH XXX; and COM 101 or 102.

VIS 202 Design Studio II (6-0-3). A continuation of VIS 201 that places an increasing emphasis on identifying the design process. The course material is focused entirely on the components of graphic design. Prerequisites: VIS 201, VIS 221 and VIS 230.

VIS 213 Illustration Drawing (6-0-3). Builds on skills introduced in foundation drawing and 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. Prerequisites: VIS 201, VIS 221 and VIS 230.

VIS 221 Photography Basics (6-0-3). Introduces basic photo skills and 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. Prerequisites: DES

100, DES 112 and DES 132; DES 121 or 122; MTH XXX; and COM 101 or 102.

VIS 230 Digital Media in Visual Communication (6-0-3). (Formerly MUM 230). A continuation of DES 100 that further develops the skills associated with digital design. Working with PostScript illustration, bitmapped images and desktop publishing, students acquire interactive design skills and use industry specific software to create vector-based and bitmapped images. An introduction to layout and desktop publishing is included and class discussion encourages students to explore various design concepts. Emphasis is given to the creation, preparation and printing of finished designs and an interactive design portfolio. Prerequisites: DES 100, DES 112 and DES 132; DES 121 or 122; MTH XXX; and COM 101 or 102.

VIS 301 Design Studio III (6-0-3). (Cross-listed as MUM 301). A development of VIS 202, this course focuses on what graphic design could/might be. This level emphasizes exploration and experimentation. Students are required to produce a digital portfolio of their coursework. Prerequisites: VIS 202, VIS 213 and VIS 360.

VIS 311 Illustration Design (6-0-3). Introduces the student to various techniques of idea generation by focusing upon illustration as a means of conveying ideas and concepts. Students are encouraged to arrive at visual equivalents to written and/or oral texts. Prerequisite/concurrent: MUM 301 or VIS 301.

VIS 312 Illustration Genres (6-0-3). 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/concurrent: MUM 301 or VIS 301.

VIS 320 Multiples I (Printmaking) (6-0-3). (Formerly VIS 222). Introduces 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/concurrent: MUM 301 or VIS 301.

VIS 321 Photojournalism (6-0-3). (Cross-listed as MUM 321). Explores the history and practice of photojournalism. 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. Prerequisite: VIS 221; prerequisite/concurrent MUM 301 or VIS 301.

VIS 322 Multiples II (Printmaking) (6-0-3). Requires students to 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/concurrent: MUM 301 or VIS 301.

VIS 323 Photography for Communication (6-0-3). Covers the theory and practice of image manipulation through the extension of the traditional boundaries of photography. A wide range of techniques and processes are covered, such as polarization, non-silver methods, toning and digital media. A lab fee of Dhs. 150 is applied. Prerequisite: VIS 221;

prerequisite/concurrent: MUM 301 or VIS 301.

VIS 325 Creative Studio Photography (6-0-3). Explores the control and manipulation of artificial lighting for creative effect in the photography studio environment. In addition to learning the practical skills of handling a range of studio flash equipment, students explore the creative use of lighting in photographic image making both in practical work and in the review of historical examples of this genre. Prerequisite: VIS 221; prerequisite/concurrent MUM 301 or VIS 301.

VIS 360 Fundamentals of Media Theory (3-0-3). Surveys the elements that make up film, video, audio and still images and analyzes how these elements are used in 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, including the social, economic, cultural, political, ethical and theoretical bases of the media. Prerequisites: DES 132, and DES 121 or DES 122.

VIS 361 The Design Profession (3-0-3). Explores issues of working in design related fields. As a part of this course students will research the regional design profession via direct interview and site visits. Research and field trip documentation is presented within the class context allowing for knowledge of the region's design industry to further inform individual research topics. Students are required to organize a field trip to a relevant design related company/department as part of this course. This course will also explore professional practice relating to intellectual property, employability, freelancing and working within a cultural context. Prerequisite: COM 101 or COM 102.

VIS 397 Internship (3-0-3). Comprises three interlinked stages: internship preparation, which concludes with a student proposal for the internship placement; the internship placement, consisting of 240 hours (minimum) of work experience with an approved professional firm; and the internship course for support on the associated internship outcomes and assignments. Students must satisfy the requirements of internship preparation and placement in order to register for the internship course. Students may be asked to pay an insurance fee. Prerequisites: VIS 361, and MUM 301 or VIS 301.

VIS 401 Design Studio IV (6-0-4). (Cross-listed as MUM 401). Encourages the development of individual creativity through practical project work at a significant level of depth and complexity. Toward the end of this course, students are asked to professionally present their project work and to critically evaluate this work within the context of contemporary commercial expectations. Prerequisite: MUM 301 or VIS 301.

VIS 402 Senior Design Portfolio (6-0-4). (Cross-listed as MUM 402.) Requires students to design a comprehensive digital portfolio (plus a hard copy where applicable) in preparation for professional career opportunities after graduation. This portfolio should demonstrate the cumulative knowledge and skills acquired over four years of academic design education. Prerequisite: MUM 401 or VIS 401.

VIS 410 Senior VisCom Studio (6-0-3). Based upon their experience in third year major electives, students are encouraged to develop work that reflects and identifies their own personal stylistic strengths. Emphasizes an individual approach to image generation within the context of photography, illustration and/or printmaking. Prerequisites: any four of the following: VIS 311, VIS 312, VIS 321, VIS 323, VIS 320 and VIS 322.

VIS 420 Senior VisCom Portfolio (6-0-3). Encourages students to develop their own individual expertise and style within the realms of photography, illustration and/or printmaking. Toward the end of the semester, students are required to organize an exhibition that demonstrates a high level of proficiency in their chosen discipline. Prerequisite: VIS 410.

VIS 493 Study Abroad (1 to 3 credits). On-site visits offering the opportunity to experience first-hand regional and international design practices, highlighting particular themes relevant to the specific location. Department permission is required for enrollment and credit. Prerequisite: VIS 202.

VIS 494 Special Topics in Visual Communication (3 to 6 credits). Presents a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite/concurrent: MUM 301 or VIS 301.

VIS 496 Independent Study (1 to 4 credits). Involves investigation under faculty supervision beyond what is offered in existing courses. Prerequisite: junior or senior standing.

VIS 498 Studio Abroad (3 to 6 credits). Provides studio activities conducted in regional and international sites promoting a global-oriented approach to design. Prerequisites: consent of the department and 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/concurrent: MTH 101, and QAN 201 or QBA 201 or NGN 111 or STA 201 or STA 202.

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. Prerequisites: ACC 201 and MTH 101; Prerequisite/ concurrent: QAN 201 or QBA 201 or NGN 111 or STA 201 or STA 202.

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: COM 102 and ACC 202, and prerequisite/concurrent: MGT 201. OR Prerequisites: COM 102 and ACC 202, and CMP 220.

ACC 302 Intermediate Financial Accounting II (3-0-3). Continuation of Intermediate Financial Accounting I; focuses on accounting for long-term liabilities, stockholder's equity, cash flow analysis and international financial statements. Prerequisites: ACC 301 and FIN 201, and prerequisite/concurrent: MIS 201. OR Prerequisites: ACC 301 and FIN 201, and CMP 220.

ACC 303 Cost Accounting (3-0-3). Covers the uses of accounting data for planning control and decision-making. Topics include budgets and cost concepts, techniques and behavior. Prerequisites: ACC 202 and FIN 201,

and prerequisite/concurrent: MIS 201 and MKT 201. OR Prerequisites: ACC 202, FIN 201 and CMP 220. Normally offered only in Fall Semester.

ACC 304 Auditing (3-0-3). Studies 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 301. Normally offered only in Spring Semester.

ACC 305 Income Tax I (3-0-3). Introduces the US 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, expenses, credits, property transactions and AMT as they apply to theory and practice. Prerequisites: ACC 302 and BLW 301, and prerequisite/concurrent: QAN 202 or QBA 202. OR and Prerequisites: ACC 302 and CMP 220. Normally offered only in Fall Semester.

ACC 306 Income Tax II. (3-0-3). Introduces the US 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 and accumulated earnings rules. Prerequisite: ACC 301. Normally offered only in Spring Semester.

ACC 394/494 Special Topics in Accounting (1 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

ACC 401 Advanced Financial Accounting (3-0-3). Covers theory and

practices of accounting for partnerships, business combinations and consolidated financial statements. Advanced topics in financial accounting. Prerequisites: ACC 302 and BLW 301, and QAN 202 or QBA 202. OR Prerequisites: ACC 302 and CMP 220. Normally offered only in Fall Semester.

ACC 406 Accounting Information Systems (3-0-3). Provides an overview of current accounting information systems concepts, Web technology, online auditing issues and contemporary accounting issues. Specific topics include e-business, computer hardware and software issues, accounting cycles, systems development, computer crime, auditing, and expert systems. Prerequisite/concurrent: ACC 304.

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, and the social, political and economic influences on accounting standard setting are also considered. Prerequisite: ACC 401; prerequisite/concurrent: MGT 360 and BLW 301. OR Prerequisites: ACC 401 and CMP 220. Normally offered only in Spring Semester.

ACC 496 Independent Study in Accounting (1 to 4 credits). Requires a theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisites: junior standing and approval of department.

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 and Web development, spreadsheets, and DBMS. This course provides students with the essential computer literacy skills needed in higher-level courses.

BIS 101 Business Information Systems (3-0-3). Applies knowledge accumulated by students in BIS 001 to solve basic business problems. Students work 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. Prerequisite: BIS 001 or DES 100 or placement test. Not open to Computer Science and Engineering majors.

B L W Business Legal Issues

BLW 301 Business Law (3-0-3). Examines business legal issues such as legal concepts, philosophy and functions of court systems. Surveys contracts, sales, agents, legal forms of business and the regulation of businesses. The course is focused on US law but also considers international and global legal perspectives. Prerequisites: ACC 201 and ECO 202; prerequisite/concurrent: COM 204 or COM 208.

BLW 302 Advanced Corporate Law (3-0-3). Covers 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. US and UAE corporate law are compared. Prerequisite: BLW 301.

B U S Business

BUS 300 International Study Tour (3-0-3). Provides a firsthand opportunity to learn by experiencing the world of international business. Students visit the headquarters of multi-national organizations and attend seminars given by the professionals from these corporations. Prerequisite: good academic standing, and junior standing or sophomore standing with permission of instructor.

BUS 394/494 Special Topics in Business (1 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

BUS 397 Business Internship (3-0-3). The School of Business Internship Office places students in corporations so that they may utilize the skills and knowledge acquired in the classroom. Prerequisite: junior or senior standing.

BUS 496 Independent Study in Business (1 to 4 credits). Requires a theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisites: junior standing and approval of department.

E C O Economics

ECO 201 Principles of Microeconomics (3-0-3). Introduces 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. Prerequisite/concurrent: COM 101.

ECO 202 Principles of Macroeconomics (3-0-3). Introduces the basic principles of macroeconomics, stressing national income, unemployment, inflation, economic growth, business cycles and open economies. Prerequisite/concurrent: COM 101.

ECO 281 Social Science Analysis of Environmental Issues I (3-0-3). (Cross-listed with THM 310). Provides students with a broad overview of social science issues related to the use of environmental and natural resources. Among other topics, the course provides an overview of current and historical environmental trends; a framework of environmental policy analysis; and an overview of environmental law, environmental ethics, special interest group politics, and the role of political and economic systems in determining environmental quality. Prerequisite: junior standing.

ECO 282 Social Science Analysis of Environmental Issues II (3-0-3). (Cross-listed with THM 311). Uses the analytical tools and background studied in ECO 281 to address specific environmental and natural resource problems. Problems addressed include, among others, global climate change, acid rain, ozone depletion, solid waste disposal, water resources, energy resources, fisheries, forests and biodiversity. Prerequisites: ECO 281 or THM 310.

ECO 301 Intermediate Microeconomics (3-0-3). Studies the theory of consumer behavior, production and pricing. Emphasizes the comparison of resource allocation in competitive and non-competitive markets. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 302 Intermediate Macroeconomics (3-0-3). Examines macroeconomic theory and its application to factors that determine the level of income, employment, output and prices in an economic system. Emphasizes stabilization policies and empirical applications. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 305 International Trade (3-0-3). Introduces the economics of international trade, including why countries trade, commercial trade policies and their effects, growth and international trade, and multinational firms. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 306 International Finance (3-0-3). Starts with basics of international capital flows, exchange rate determination, and the analysis of the international monetary system. The course uses theory to analyze contemporary issues such as globalization and liberalization of capital flows. Addresses the stability of foreign exchange markets with

reference to currency crises in emerging markets. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 310 Development Economics (3-0-3). Studies the economic transformation of developing countries. The course examines both standard models of economic growth and micro-level foundations of economic development. Among the latter are the role of institutional arrangements, the absence of fully functioning markets and the functional role of income distribution. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 312 Economics of Labor (3-0-3). Provides an economic analysis of employment and wages, including the economics of education, unemployment, labor unions, discrimination and income inequality. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 315 Economics of the Middle East (3-0-3). Provides a 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. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 318 Economics of Water Resources (3-0-3). Examines the supply, demand, pricing, allocation and distribution of water resources. Explores the impact of water policy on economic growth and conservation. Considers the planning, development and management of water resources. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 320 History of Economic Thought (3-0-3). Analyzes the development of economic theory. Uses specific historical contexts and also explores the major figures and schools in economic thought. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 321 Comparative Economic Systems (3-0-3). Examines the major economic systems with emphasis on implications for resource allocation, income distribution and economic growth. Uses an evolutionary/institutional approach to examine the unique cultural and

historical factors that shape a particular economy. Examines and compares various economic systems beginning with those of ancient Rome and Medieval England and then moves toward the modem social economies present today. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 325 Public Economics (3-0-3). Examines the 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 are considered. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 326 Economics and the Law (3-0-3). Examines property rights, contract rights and liability rules. Both efficiency and fairness are 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 that legal rulings have upon the distribution of wealth. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 327 Industrial Organization (3-0-3). Studies the theory and the empirical evidence concerning the organization of firms and industries. Focuses on industry structure, on conduct and performance, and on more recent advances based on microeconomic theory, including transactions cost economics, game theory, strategic behavior and information theory. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 328 Government Regulation of Business (3-0-3). Examines the reasons why governments regulate business. Such reasons include fairness, excessive competition, natural monopoly, externalities, imperfect information and transactions costs. Class time is divided between examining the theories for regulation and investigating actual legal cases. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 330 Money and Banking (3-0-3). Examines the role of money and credit

in the economy. Topics include the structure and operations of commercial banks, central banking and the operation of monetary policy, non-banking institutions and the structure of financial markets, and elements of monetary theory. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 333 Islamic Economics I (3-0-3). Introduces students to the positive and normative principles of Islamic economics from a historical and history of thought perspective. Examines the role of the state in economic activity, comparing the Islamic economic system with contemporary systems such as capitalism and Marxism. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 334 Islamic Economics II (3-0-3). Studies the origin and contemporary development of Islamic banking and finance. Examines case studies of the experience of Islamic finance in several countries. Current and future challenges to Islamic finance in an integrated world economy are explored. Prerequisites: ECO 333 and COM 102.

ECO 335 Economic History of the World Economy (3-0-3). Examines the historical investigation of economic development using Western Europe, Russia, the Third World and the United States as case studies. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 340 Great Economic Thinkers (3-0-3). 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. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 345 Economics of Collective Decision-Making (3-0-3). Introduces the economics of collective decision making, including decision making in a democratic government. 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. Subjects include the theory of constitutions, voting and elections, political parties, law making, bureaucracy, rent seeking and privatization. Prerequisites: ECO 201,

ECO 202 and COM 102.

ECO 403 Economics of Natural and Energy Resources (3-0-3). 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 are central to the course. The issues of oil and gas supply, demand and pricing the role of energy in Gulf economies are also addressed in detail. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 404 Economics of Environmental and Natural Resources (3-0-3). 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 on environmental pollution are also addressed. The environmental problems covered may include water and air pollution, global climate change, temperate and tropical forest management, fisheries, biodiversity and habitat preservation. Prerequisites: ECO 201, ECO 202 and COM 102.

ECO 405 Introduction to Econometrics (3-0-3). Reviews the theory of economic statistics and statistical techniques. Emphasizes the application of 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. Prerequisites: ECO 301, ECO 302 and MTH 101; and STA 202 or QAN 201 or QBA 201.

ECO 494 Special Topics in Economics (1 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

ECO 495 Senior Seminar in Economics (3-0-3). Intensely investigates special topics in economics

chosen by the instructor. Prerequisites: ECO 301, ECO 302 and senior standing.

ECO 496 Independent Study (1 to 4 credits). Requires a theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisites: junior standing and approval of instructor.

ECO 497 Internship in Economics (3-0-3). Requires applied work in economics with business or government organizations. Prerequisite: senior standing, consent of the instructor and consent of the chair of the department.

FIN   Finance

FIN 201 Fundamentals of Financial Management (3-0-3). Introduces 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. Prerequisite/concurrent: ACC 202, and QAN 202 or QBA 202.

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 and COM 102.

FIN 302 Financial Markets and Institutions (3-0-3). Covers the history, purpose, function and organization of the short-term money market and long-term capital market. Offers an integrated view of the participating institutions and the markets in which they operate, their investment constraints and their resulting portfolios. Prerequisites: COM 102 and

FIN 201; prerequisite/concurrent: MIS 201. Normally offered only in Fall Semester.

FIN 303 Investment Analysis (3-0-3). Covers 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: ACC 202, FIN 201 and COM 102; prerequisite/concurrent: MKT 201 and MGT 201.

FIN 304 Real Estate Finance (3-0-3). Covers terminology, legislation, principles and analytical techniques pertaining to financing of real estate. Includes the perspective of lender, residential borrower and income property borrowers. Prerequisites: ACC 202, FIN 201 and COM 102; prerequisite /concurrent: QAN 202 or QBA 202. Normally offered only in Fall Semester.

FIN 306 Insurance and Financial Planning (3-0-3). Introduces insurance and risk management and personal financial planning with specific applications to property, disability, health and life insurance. Also covers aspects of financial planning including mutual funds, retirement planning, offshore banking and investment objectives. Prerequisites: FIN 201, ACC 202 and COM 102.

FIN 310 Analysis of Financial Statements (3-0-3). Provides students with the skills needed to read, analyze and interpret the information contained in a company's financial statements. Integrates accounting and financial principles and discusses the ethics of both professions. Prerequisites: FIN 201, ACC 202 and COM 102.

FIN 320 Banking (3-0-3). Provides an overview of the banking industry with an emphasis on commercial bank management. Specific topics include the duration and term structure of interest rates, asset/liability management, and risk and credit management. Prerequisites: FIN 201 and COM 102; prerequisite/concurrent: MIS 201.

FIN 330 Investments (3-0-3). Covers investment objectives, mechanics of

buying and selling financial assets, and portfolio management. The focus is on risk versus return in investment theory, but students also construct and manage real-time hypothetical investment portfolios. Prerequisites: FIN 201, ACC 202 and COM 102; prerequisite/concurrent: MKT 201 and MGT 201.

FIN 394/494 Special Topics in Finance (1 to 4 credits). Examines a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

FIN 401 International Finance (3-0-3). Covers financing of international trade and investment, foreign exchange markets and exchange rate determination, and balance of payments. Focuses on international financial management within the firm. Prerequisites: FIN 303 or FIN 330, and QAN 202 or QBA 202; prerequisite/concurrent: FIN 302 or FIN 320. Normally offered only in Fall Semester.

FIN 402 Futures and Options (3-0-3). Covers conceptual and practical aspects of the functioning of speculative markets various derivatives. Examines futures, options, swaps, and other products. Prerequisites: FIN 303 or FIN 330, and QAN 202 or QBA 202; prerequisite/concurrent: FIN 302 or FIN 320. 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. Prerequisites: FIN 303 or FIN 330, and QAN 202 or QBA 202. Normally offered only in Fall Semester.

FIN 430 Financial Forecasting (3-0-3). An applied computer intensive course that illustrates how to use statistical models and technical analysis to forecast future movements of financial variables such as stock prices, exchange rates and interest rates. Prerequisite: FIN 201 or ECO 405.

FIN 440 Asset Valuation (3-0-3). Covers concepts and techniques for analyzing financial decisions and asset valuation. Topics include valuation techniques for various asset classes, forecasting and estimation of free cash flow, estimating the cost of capital and real options. Valuation is applied to single and multiple projects, individual businesses, subsidiaries and diversified companies. Prerequisite: FIN 303 or FIN 330; prerequisite/concurrent: FIN 302 or FIN 320.

FIN 450 Case Studies in Corporate Finance (3-0-3). Emphasizes the case study approach to intermediate financial management (corporate finance). Topics include capital budgeting, corporate governance, mergers, capital structure, dividend policy and short-term financial management. Prerequisites: FIN 303 or FIN 330, and FIN 302 or FIN 320.

FIN 496 Independent Study in Finance (1 to 4 credits). Explores a theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisites: junior standing and approval of department.

MGT Management

MGT 201 Fundamentals of Management (3-0-3). Surveys the basic concepts and ideas of organizational behavior and the various functions and activities of the manager through global perspective. Topics include plans, goals, decision making, change, motivation, human resources, ethics and social responsibility, groups and teams, organization design,

leadership and control. Prerequisite/concurrent: COM 102.

MGT 301 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. Prerequisites: MGT 201 and ACC 201, and QAN 201 or QBA 201; prerequisite/concurrent: COM 204.

MGT 302 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 include manpower planning, recruitment and selection, policy and procedures, performance appraisal, compensation and benefits, training, safety and industrial relations. Prerequisites: MGT 201, ACC 202, FIN 201 and COM 204; and QAN 202 or QBA 202.

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. Prerequisites: MGT 201, FIN 201, ACC 202 and COM 204.

MGT 305 International Business (3-0-3). Examines 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 and management. Prerequisites: MGT 201, FIN 201, ACC 202 and COM 204.

MGT 311 Organizational Behavior (3-0-3). (Cross-listed with MGT 301). 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; prerequisite/concurrent: COM 204. Not open to SBM students.

MGT 315 International Business (3-0-3). (Cross-listed with MGT 305). Examines 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 and management. Prerequisites: MGT 201 and COM 204. Not open to SBM students.

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 as well as the global perspective. Prerequisites: MGT 201 and ACC 201, and QAN 201 or QBA 201; prerequisite/concurrent: COM 204.

MGT 361 Business Ethics and Social Responsibility (3-0-3). (Cross-listed with MGT 360). 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 as well as the global perspective. Prerequisites: MGT 201; prerequisite/concurrent: COM 204. Not open to SBM students.

MGT 380 Project Management (3-0-3). Examines the concepts and techniques of managing projects in service and manufacturing settings. Topics include project selection and evaluation,

dynamics, motivation and evaluation of team members, scheduling, budgeting and closure. Prerequisites: MIS 201, FIN 201, ACC 202 and COM 204; and MGT 301 or MIS 303.

MGT 394/494 Special Topics in Management (1 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

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. Prerequisites: COM 204, university senior standing or by permission of department. Normally offered only in Spring Semester.

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; and international, social and ethical issues. Prerequisites: business senior standing; MGT 201, MKT 201, MIS 201, FIN 201 and COM 204; or by permission of department.

MGT 496 Independent Study in Management (1 to 4 credits). Requires a theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisites: junior standing and approval of department.

MIS   Management Information

Systems

MIS 200 Business Process Logic (3-0-3). Introduces students to the logic of business processing independently of any programming language. Students learn to extract program specifications from business narratives or business process descriptions. Flowcharts, decision tables, decisions trees, use cases and structured English is used to document program specifications, which can be easily translated into any programming language. Prerequisites: MTH 101, and BIS 101 or BIS 201.

MIS 201 Fundamentals of Management Information Systems (3-0-3). Covers information as an organizational resource. 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, and more. A technology update is provided in hardware and software basics, database management and telecommunications. Prerequisite: BIS 101 or BIS 201 or CMP 102 or CMP 105 or CMP 111 or NGN 110.

MIS 203 Software Development for Business Applications (3-0-3). Analyzes business problems to design and implement the software component of an information system. Introduces application development using an object-oriented language/event-driven language. Emphasizes the concepts and techniques for developing business applications, as well as an overview of object-oriented programming techniques and visual programming techniques. Laboratory sessions illustrate various aspects of visual programming languages, as well as testing and debugging. Prerequisites: MIS 200 and MIS 201.

MIS 300 Fundamentals of

Telecommunications and Internet Technologies (3-0-3). Provides a basic understanding of the technical and management aspects of business data communications and networking. Topics include: telecommunications services, technology and policy; standard organizations that contribute to global telecommunications technology specification; signaling and switching; physical transmission media; wireless transmission services; network access and transmission methods; data network topologies and network access methods (e.g., ethernet and ATM); network transmission methods (e.g., T-carriers, DSL and ISDN); data network connectivity; and networking in open source environments. Prerequisites: MIS 201 and COM 102. 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 covers organizational data management, data analysis and modeling with the entity relationship model, database design with SQL, normalization and the relational model. Prerequisites: MIS 200, MIS 201 and COM 102; prerequisite/concurrent: FIN 201.

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 covers 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; prerequisite/concurrent: QAN 202 or QBA 202. Normally offered in Spring Semester.

MIS 303 Introduction to Systems Analysis (3-0-3). Examines 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 the ability to use the various tools associated with systems analysis. Prerequisites: MIS 200, MIS 201 and COM 102; prerequisite /concurrent: FIN 201, MGT 201 and MKT 201.

MIS 304 Applied Systems Design (3-0-3). Builds on previous courses and allows students to apply the tools studied in MIS 303. 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. Project teamwork is emphasized. Prerequisites: MIS 303, and MIS 301 or CMP 320; prerequisite/concurrent: QAN 202 or QBA 202.

MIS 394/494 Special Topics in Management Information Systems (1 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

MIS 402 Technology and Knowledge Management (3-0-3). Explores the theoretical foundation of technology and knowledge management and its value to the organization. The nature of technological change, innovation and intellectual capital, and the valuation of an organization's knowledge assets will also be examined. Prerequisites: MIS 301, MIS 303 and MGT 360; and QAN 202 or QBA 202. Normally offered in Fall Semester.

MIS 404 Internet Business Applications (3-0-3). Examines how the Internet and the World Wide Web are used for marketing and business purposes. Students study well-established US and UAE companies that have established a marketing presence on the Internet. Projects include building a website to market a specific product and establishing a simulated business on the Internet. Students use tools and techniques for project initiation, project analysis, design and implementation.

Prerequisites: MIS 301 and MIS 303; prerequisite/concurrent: BLW 301. 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 such as e-government and cyber ethics are also taught within this course. Prerequisites: business senior standing and MIS 304. Normally offered in Spring Semester.

MIS 410 Supply Chain Management (3-0-3). Introduces the student to the dynamics and infrastructural requirements of a supply chain management system. Using cases, industry speakers and software applications, this course combines conceptual models as well as hands-on experience related to demand management, supply chain planning and supply chain integration, as well as the role of IT and the Internet in particular. Prerequisites: MIS 301 and MIS 303, and QAN 202 or QBA 202.

MIS 496 Independent Study in Management Information Systems (1 to 4 credits). Requires a theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisites: junior standing and approval of department.

M K T   Marketing

MKT 201 Fundamentals of Marketing (3-0-3). (Cross-listed with MKT 211). Introduces the concept of making marketing decisions in business and non-profit organizations within the global context. Particular attention is devoted to analyzing consumer needs, segmenting markets, and developing product, promotion, pricing and distribution strategies. Relationships between consumers, business and governments are explored. Prerequisites: ECO 201 and ECO 202; prerequisite/concurrent: COM 102.

MKT 211 Fundamentals of Marketing (3-0-3). (Cross-listed with MKT 201). Introduces the concept of making marketing decisions in business and non-profit organizations within the global context. Particular attention is devoted to analyzing consumer needs, segmenting markets, and developing product, promotion, pricing and distribution strategies. Relationships between consumers, business and governments are explored. Prerequisites: ECO 201 or ECO 202; prerequisite/concurrent: COM 102. Not open to SBM students.

MKT 301 Consumer Behavior (3-0-3). Studies 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. Prerequisites: MKT 201, ACC 201 and COM 102; and QAN 201 or QBA 201.

MKT 302 Marketing Research (3-0-3). Examines research tools students can use to help make 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. Prerequisites: MKT 201, ACC 201 and COM 102; and QAN 202 or QBA 202; prerequisite/concurrent: MIS 201.

MKT 303 E-Commerce (3-0-3). Examines how the Internet and the World Wide Web are used for marketing and business purposes. Students study well-established US and UAE companies that have established a marketing presence on the Internet. Projects include building a website to market a specific product and establishing a simulated business on the Internet. Prerequisites: MKT 201, MIS 201, FIN 201, ACC 202 and COM 102.

MKT 304 Sales Management (3-0-3). Introduces 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. Prerequisites: MKT 201, FIN 201, ACC 202 and COM 102.

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. Prerequisites: MKT 201, FIN 201, ACC 202 and COM 102.

MKT 306 Advertising Management (3-0-3). Takes an integrative and project/oriented focus on the role of advertising and sales promotion within an institution and within society. Explores a firm's advertising and sales promotion decisions, and focuses on the design and content of advertising messages from a communication standpoint. Also examines media, budget and measurement issues in advertising. Prerequisites: MKT 201, FIN 201 and ACC 202.

MKT 307 Business Marketing (3-0-3). Provides an in-depth understanding of the unique aspects of marketing in a business-to-business environment through the use of lectures, cases, guest speakers and media presentations. Focuses on organizational buying, buyer-seller relationships, market analysis and planning, demand and sales estimation and marketing-mix decisions. Considers a variety of business marketing situations, such as marketing to manufacturers, other commercial organizations, government and institutions. Prerequisites: MKT 201, FIN 201, ACC 202 and COM 102.

MKT 308 Marketing Channels (3-0-3). Surveys, organizes and integrates theories and practices relative to current problems of marketing channel management, with a focus on key strategic marketing principles. Physical distribution is reviewed as a functional area within the firm and its interface with channel intermediaries is analyzed. Topics include retailing, wholesaling, industrial marketing, transportation, warehousing, location, inventory control and channel design. Prerequisites: MKT 201, FIN 201, ACC 202 and COM 102.

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. Examines and analyzes environmental forces affecting international marketing decisions, selection of international target markets, and the design and development of international marketing plans. Prerequisites: MKT 201, FIN 201, ACC 202 and COM 102.

MKT 394/494 Special Topics in Marketing (1 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

MKT 401 Marketing Strategy (3-0-3). Analyzes current marketing management issues. Students develop a marketing plan for an outside organization, analyze case studies and participate in computer simulation exercises. Prerequisites: MKT 301, MKT 302, FIN 201 and ACC 202.

MKT 496 Independent Study in Marketing (1 to 4 credits). Requires a theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisites: junior standing and approval of department.

PBA   Public Administration

PBA 101 Introduction to Public Administration (3-0-3). Introduces 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. Open to Public Administration students and all non-SBM students.

PBA 201 Public Management (3-0-3). Introduces students to the contemporary techniques of management and leadership in public organizations. Problems of public agencies, nonprofit organizations and others are analyzed. Focuses on how to cope with the challenges, internal and external, that the top level of management faces. Prerequisites: PBA 101 and COM 102.

PBA 204 Women in Public Management (3-0-3). Examines and analyzes the emerging role of women in management positions in government, business and nonprofit organizations. Examines the unique problems and challenges that may be related to gender including building effective management, teamwork and espirit de corps in the context of a diverse workforce. Prerequisites: PBA 101 and COM 102.

PBA 205 Intergovernmental Relations (3-0-3). Explores the political, fiscal and administrative relationships that help to shape complex intergovernmental systems. Focuses on federal, centrally unified, emirate (provincial), municipal and other jurisdictions. Prerequisites: PBA 101 and COM 102.

PBA 210 Urban Management (3-0-3). Covers structure, process and policy issues in urban public administration and public policy. Considers major theoretical approaches to urban government, local autonomy, public and private authority, economic constraints, social welfare and service delivery. Also examines race, gender and ethnicity; and policy focus on education, crime, social welfare and economic development. Prerequisites: PBA 101 and COM 102.

PBA 301 Organizational Behavior (3-0-3). Focuses on leadership, communication, techniques of motivation, delegation of authority and strategic planning. Prerequisites: PBA 101 and COM 102.

PBA 302 Comparative Public Administrative Systems (3-0-3). Examines 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. Prerequisites: PBA 101 and COM 102.

PBA 304 Public Budgeting (3-0-3). Surveys 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. Prerequisites: PBA 101 and COM 102.

PBA 305 Classification, Job Analysis, Compensation and Fringe Benefits in Public Organizations (3-0-3). Looks at classification systems and techniques, rational job analysis, compensation and incentive plans, and fringe benefit management as aspects of achieving maximum organizational efficiency and effectiveness. Prerequisites: PBA 101 and COM 102.

PBA 306 Human Resources Management in Public Organizations (3-0-3). Introduces students to management and leadership tasks of running a professional-level, human resources subsystem. Focuses on the challenges, opportunities and strategies that human resources managers face, including the dynamics of external and internal conflict resolution and acting in an advisory capacity to executive-level managers. Prerequisites: PBA 101 and COM 102.

PBA 310 Research in Public Administration (3-0-3). Introduces research methods in public administration. Topics include research design, the concept of validity, data collection and data analysis. Prerequisites: PBA 101 and COM 102.

PBA 311 Nonprofit Organization Management (3-0-3). Covers concepts of management and organizational development that are appropriate to the nonprofit sector. Emphasis is on developing people skills, a volunteer workforce, fundraising, goal setting, motivation and communication techniques. Prerequisites: PBA 101 and COM 102.

PBA 380 Contemporary Issues in Human Resources Management (3-0-3). Focuses 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 US. Prerequisites: PBA

101 and COM 102.

PBA 394 Special Topics in Public Administration (1 to 4 credits). Explores selected topics of current interest in public administration. Prerequisites: PBA 101 and COM 102.

PBA 402 Local and Regional Administration (3-0-3). Surveys the structure, function and process of administration in a local government setting and at regional levels. Focuses on the unique challenges public organizations face with respect to national issues, local issues, funding, social groups, environmental pollution and politics. Prerequisites: PBA 101 and COM 102.

PBA 407 Legal Issues in Public Administration (3-0-3). Introduces the legal issues facing public managers including risk management, due process for employees, judicial review aspects, administrative ethics and personal liability. Prerequisites: PBA 101 and COM 102.

PBA 408 Development Management (3-0-3). Covers the concepts and techniques of development administration with a focus on Third World nations and societies that are pre-eminently concerned with basic economic development, capital formation and exports. Prerequisites: PBA 101 and COM 102.

PBA 410 Public Program Evaluation (3-0-3). Introduces the elements of program evaluation in public organizations. Covers qualitative and quantitative analysis, and valid methods. Prerequisites: PBA 101 and COM 102.

PBA 411 Foundations of Public Policy Analysis (3-0-3). Examines the public policy process in the Middle East and the West. Focuses on concepts of externalities, risk and uncertainty, and public choice models in public policy analysis. Prerequisites: PBA 101 and COM 102.

PBA 413 Public Financial Analysis (3-0-3). Covers 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. Prerequisites: PBA 101 and COM 102.

PBA 415 Law and Public Policy (3-0-3). Analyzes selected public policy issues such as poverty, population, density, housing, transportation, energy, education, crime and environmental pollution. Considers the response of laws and regulations to social problems, and the political processes that affect governmental decision making. Prerequisites: PBA 101 and COM 102.

PBA 417 Public Finance (3-0-3). Considers 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 and COM 102.

PBA 419 Seminar in Executive-Level Public Management (3-0-3). Concentrates on identifying the tasks, challenges and responsibilities of being a CEO, a CAO or an executive director of an organization. Prerequisites: PBA 201 and COM 102.

PBA 495 Seminar in Public Administration (3-0-3). Concentrates on expertise and bureaucratic power, relations between political institutions, the role of public employees, the politics of administrative processes and administrative ethics. Prerequisites: PBA 201 and COM 102.

PBA 496 Independent Study (1 to 4 credits). Explores a theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisite: junior standing and approval of instructor.

PBA 497 Internship in a Public Organization (3 to 6 credits). Placement of students by a Public Administration professor in a government agency, a nonprofit organization or a private firm. Emphasizes administrative-level, hands-on experience that benefits the agency and the student. A written report, a daily journal and an agency supervisor's evaluation are required. Graded as Pass/Fail. Prerequisite: senior standing and the approval of the department.

QAN Quantitative Methods

QAN 201 Fundamentals of Quantitative Methods (3-0-3). Covers descriptive statistics, probability distributions and estimation to include the use of statistical software. An applications-oriented course that prepares the student for more advanced study. Prerequisite/concurrent: MTH 101.

QAN 202 Quantitative Analysis for Decision Making (3-0-3). An applications-oriented course that covers a wide range of fields including accounting, advertising, finance, 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.

QBA Quantitative Business Analysis

QBA 201 Quantitative Business Analysis (3-0-3). An applications-oriented course that covers descriptive and inferential statistics. Introduces students to the use of statistical software. Topics include descriptive statistics, probability distributions, estimation and hypothesis testing, correlation, and simple and multiple linear regression. Prerequisite: MTH 101.

QBA 202 Operations Management (3-0-3). Covers and applies the basic principles, functions and concepts involved in the design, operation, and control of operations in contemporary organizations to real operations management decisions. Topics include operations strategy, forecasting, capacity planning, location decisions, production planning, materials management, productivity management and quality management. Prerequisite: QAN 201 or QBA 201.

School of Engineering

CHE   Chemical Engineering

CHE 205 Principles of Chemical Engineering I (1-2-2). Introduces the analysis of chemical process systems using mass conversion equations, stoichiometry and steady state calculations. Covers unit conversions and process flow sheets. Introduces ideal and real gas relationships. Prerequisite: CHM 101; prerequisite/concurrent: MTH 104.

CHE 206 Principles of Chemical Engineering II (2-2-3). Covers the application of energy balances to chemical engineering equipment and processes. Topics include steady state energy balances with and without chemical reactions, heat of solution and mixing, humidity charts and simultaneous material and energy balances. Prerequisite: CHE 205; prerequisite/concurrent: CHM 102.

CHE 230 Materials Science (2-3-3). Introduces to material science, relationships between structure and properties of materials. Topics include atomic bonding, crystalline structures, crystal defects and imperfections; phase diagrams and equilibrium microstructural development; and properties of metals, alloys, polymers, composites and ceramics. Prerequisite: CHM 101.

CHE 300 Fluid Flow (3-0-3). Explores introductory concepts 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 and dimensional analysis. Prerequisites: MTH 205 and CHE 205; prerequisite/concurrent: MTH 203.

CHE 303 Chemical Engineering Thermodynamics I (2-2-3). Studies first, second and third law of thermodynamics and their application in chemical engineering; volumetric properties of pure fluids; definitions and use of internal energy, enthalpy, entropy and free energy; Maxwell relations; ideal and real cycles and processes; refrigeration and liquefaction. Prerequisites: PHY 101 and CHE 206; prerequisite/concurrent: MTH 203 and MTH 205.

CHE 304 Chemical Engineering Thermodynamics II (3-0-3). Examines thermodynamic properties of fluids and mixtures, residual properties, excess properties, phase equilibria and chemical reaction equilibria for gases and liquids. Prerequisite: CHE 303.

CHE 307 Heat Transfer (3-0-3). Covers mechanism of heat transfer; heat transfer by conduction, convection and radiation; and analysis of heat transfer equipment used in chemical engineering. Prerequisite: CHE 206; prerequisite/concurrent: CHE 300.

CHE 321 Chemical Reaction Engineering (3-0-3). Examines chemical reaction kinetics, interpretation of experimental rate data, design of batch and continuous reactors, effect of temperature and pressure, and heterogeneous catalysis. Prerequisite: CHE 300; prerequisite/concurrent: CHE 307, CHM 331 and CHE 304.

CHE 329 Mass Transfer I (3-0-3). Covers mechanisms of mass transfer, laws of diffusion, mass transfer coefficients, theories of mass transfer, and mass transfer and chemical reactions. Prerequisite/concurrent: CHE 303.

CHE 350 Chemical Engineering Measurements Laboratory (0-3-1). Covers chemical and physical properties measurement and analysis, and thermodynamic, fluid flow and heat transfer measurement and analysis devices. Students are required to apply experimental design, prepare reports and give oral presentations. Considers safety. Prerequisites: NGN 111. Prerequisite/concurrent: CHE 307 and CHE 303.

CHE 394 Special Topics in Chemical Engineering (1 to 4 credits). Examines a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

CHE 397 Professional Training in Chemical Engineering (0-0-0). Requires a 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. Registration fees apply.

CHE 412 Mass Transfer II (3-0-3). Examines 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 (3-0-3). Examines principles of process dynamics and control in chemical engineering applications; transfer functions; block diagrams; input disturbance; frequency response and stability criteria; single and multi-loops; P, PI and PID controllers; advanced control; process control software Prerequisite: CHE 430.

CHE 430 Process Modeling, Simulation and Optimization (2-3-3). Introduces 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. Covers Laplace Transform, process optimization, process modeling and optimization using process simulators. Prerequisite: CHE 304; prerequisite/concurrent: CHE 412 and CHE 321.

CHE 432 Process Design Safety and Economics (3-0-3). Covers the application of chemical engineering principles to the design and integration of chemical equipment and processes. Topics include process safety, pollution prevention and waste minimization, plant economics and cost estimation. Prerequisite: CHE 321; prerequisite/ concurrent: CHE 430.

CHE 451 Chemical Engineering Laboratory I (0-3-1). Covers hands-on lab experiments illustrating the application of chemical engineering principles and calculations: mass transfer equipment, kinetic and reactor design. Includes experimental design, safety, report writing and oral presentation. Prerequisite: CHE 350; prerequisite/ concurrent: CHE 321 and CHE

412.

CHE 452 Chemical Engineering Laboratory II (0-3-1). Covers integrated experiments illustrating various applications of chemical engineering principles and calculations: separation processes, environmental applications, water purification. Includes experimental design, safety, report writing and oral presentation. Prerequisite: CHE 451.

CHE 460 Wastewater Treatment (2-2-3). Covers characteristics of wastewater, BOD, COD and THOD; treatment by physical, chemical and biological processes; activated sludge and effluent disposal; local and state regulations; and industrial applications. Prerequisites: CHM 101 and CHE 203.

CHE 461 Air Pollution (3-0-3). Covers 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; and aerosols. Prerequisites: CHM 101 and PHY 101.

CHE 465 Desalination (2-2-3). Examines principles of desalination, evaporation, vapor compression desalination, membrane technology, ion exchange, seawater chemistry, scale formation in separation equipment, and dual-purpose power desalination co-generation plants. Prerequisite: CHE 329.

CHE 466 Polymer Technology (2-3-3). Covers polymerization and polymers; the process of homogeneous and heterogeneous polymerization; methods of producing plastics, synthetic fibers and synthetic rubber; and physical and chemical properties of polymers. Prerequisites: CHE 321 and CHE 304.

CHE 467 Corrosion (2-3-3). Examines 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; and corrosion case studies in petroleum industry. Prerequisite: CHM 101.

CHE 470 Waste Management and Control in Chemical Engineering (3-0-3). Covers management and control of gaseous, liquid and solid wastes; regulation and management procedures; waste minimization and resource recovery; and separations and reaction engineering approaches. Prerequisite: CHE 412.

CHE 472 Water Processes (3-0-3). Covers design and selection of unit operations utilized in water and wastewater treatment, advanced wastewater treatment technologies, physical and chemical treatment, biological treatment and industrial wastewater minimization. Prerequisite: CHE 329.

CHE 474 Environmental Transport Phenomena (2-3-3). Examines environmental chemodynamics, interphase equilibrium, reactions boundary layers, transport mechanism and models for movement of substances/contaminants across natural resources, and air-water-solid. Prerequisites: CHM 101 and CHE 300.

CHE 476 Environmental Risk Assessment (3-0-3). Examines risk assessment concepts and their application to environmental analyses such as hazardous waste site evaluation and remediation. Covers principles of human health and ecological toxicology, exposure

assessment, estimation of individual and aggregate risk, risk assessment in regulatory decision making and standard setting. Prerequisite: CHM 101.

CHE 481 Fundamentals of Biomedical Engineering I (3-0-3). Uses chemical engineering principles including fluid mechanics, heat transfer, kinetics and material science to model physiological systems and solve medical problems. Prerequisite/ concurrent: CHE 321.

CHE 483 Oil and Gas Chemical Processes (2-2-3). Studies chemical processes in the oil and gas industry. Topics include design and operation of chemical processing facilities, gas sweetening, removal of sulphur and nitrogen compounds, and simulation of oil and gas processing. Prerequisite: CHE 321; prerequisite/concurrent: CHE 430.

CHE 490 Senior Design Project I (0-3-1). Requires 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. Students must present and defend their in oral presentations. Each student is required to complete a comprehensive assessment exam of engineering fundamentals. Prerequisite/concurrent: CHE 432.

CHE 491 Senior Design Project II (0-6-2). Continues the work of CHE 490. Prerequisite: CHE 490; prerequisite/concurrent: CHE 421.

CHE 494 Selected Topics in Chemical Engineering (1 to 4 credits.) Examines a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

CHE 495 Chemical Engineering Seminar (1-0-1). Introduces leading-edge practices in the chemical engineering field through guest lectures. Graded as Pass/Fail. Prerequisite: senior standing.

CHE 496 Independent Study (1 to 4 credits). A theoretical or practical topic project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisite: junior standing and approval of instructor.

CMP Computer Science

CMP 105 Introduction to C++ Programming (3-1-3). Provides a general overview of programming design and analysis of programs in C++. Topics include data types, arithmetic and logic operators and expressions; input/output; conditional expressions and statements; repetitive structure, functions, arrays and pointers; and concepts of object-oriented programming (classes, objects, inheritance).

CMP 107 COBOL Programming (3-1-3). Studies elementary and intermediate programming techniques in COBOL. Covers computer solutions to business-oriented problems.

CMP 108 Java Programming (3-1-3). Covers basic concepts of problem solving and programming in Java. Topics include basic data types, operators, variables and expressions; arrays and strings; and fundamental concepts of object-oriented programming such as classes, objects, methods and attributes, inheritance and reusability. Also covers designing interactive Web applets and applications, and graphical user interfaces and their components. Greater emphasis in this course is placed on business-oriented applications. Not open to Computer Science and Computer Engineering students.

CMP 110 Visual Basic (2-2-3). Introduces programming using Visual Basic. Topics covered include event-driven programming concepts, GUI design (using forms, labels, textboxes, buttons, listboxes, etc.), functions and procedures, and arrays. Emphasis is given to writing database applications using a relational DBMS.

CMP 111 Computing Fundamentals (2-2-3). Covers the history of computing, the concept of algorithm and problem solving strategies and computing disciplines. Surveys 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; and artificial intelligence. (Not open for Business and Engineering students).

CMP 120 Introduction to Computer Science I (3-2-4). Covers 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. Also covers arrays, strings, and testing and debugging programs. Prerequisite: CMP 111 or CPT.

CMP 210 Digital Systems (3-0-3). (Equivalent to COE 221). Covers 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). Includes experiments and laboratory work to support CMP 210. Prerequisite/concurrent: CMP 210 or COE 221.

CMP 213 Discrete Structures (3-0-3). (Cross-listed as MTH 213). Covers propositional and predicate calculus, sets, major classes of functions and related algorithms, principle of mathematical induction, proof techniques, recursive definitions, counting, relations, posets, graphs and trees. Prerequisite: MTH 103.

CMP 220 Introduction to Computer Science II (3-1-3). Covers objects and classes, object-oriented programming concepts (constructor methods, overloaded and overriding methods, inheritance and polymorphism), stream I/O operations, graphics and graphical user interfaces, event-driven programming. Includes advanced programming topics such as exception and multithreading. Prerequisite: CMP 120; prerequisite/concurrent: MTH 103.

CMP 232 Data Structures and Algorithms (3-1-3). Covers data abstraction, encapsulation and information hiding; data structures and the complexity of algorithms; abstract data types (stacks and queues, binary search tress, hash tables, lists, graphs and priority queues); searching and sorting algorithms; applications of abstract data types; and advanced data structures. Prerequisite: CMP 220; prerequisite/concurrent: CMP

213 or MTH 213.

CMP 235 Social and Professional Issues (2-0-2). Studies the social impact of computers, economics of computing, policy, moral and legal issues, privacy and security issues, computer crimes and law. Work in this course is based on group and class discussions and essays addressing the above topics. Prerequisite: CMP 120.

CMP 240 Introduction to Computer Systems (3-0-3). Introduces computer organization, registers, machine instructions, data representations, execution control and addressing techniques, segmentation, linkage and recursion. Prerequisite: CMP 210 or COE 221.

CMP 310 Introduction to Operating Systems (3-1-3). (Equivalent to COE 381). Covers operating systems architectures, process scheduling and synchronization, multithreading, memory management, virtual memory, deadlocks management, file system, input/output management and distributed systems. Prerequisites: CMP 232 or COE 311, and CMP 240 or COE 331.

CMP 320 Database Systems (3-1-3). (Equivalent to COE 422). Introduces database concepts, database advantages and users, data independence, relational data model, object-oriented model, database design by analysis and synthesis, relational algebra, data definition and manipulation languages, semantic integrity constraints, semantic query transformation and optimization. Prerequisite: CMP 232 or COE 311.

CMP 321 Programming Languages Laboratory (2-2-3). Provides an overview of programming languages syntax and semantic definitions,

language translators, language categories, and programming in a high-level language other than the one taken in CMP 120. Prerequisite: CMP 232.

CMP 340 Design and Analysis of Algorithms (3-0-3). Covers algorithmic analysis; algorithmic strategies; advanced searching and sorting algorithms; hashing, graph and spanning trees algorithms; topological sort; pattern matching; numerical algorithms; matrix operations; complexity classes; approximation algorithms; and basic computability theory. Prerequisites: CMP 232 or COE 311, and STA 201 or NGN 111.

CMP 341 Computational Methods (3-0-3). (Cross listed with MTH 341). Introduces 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/concurrent: MTH 221.

CMP 350 Introduction to Software Engineering (3-1-3). (Equivalent to COE 420). Covers the software development life cycle; software project management; software requirements, specifications and design techniques; graphical user interface design; software testing and maintenance; and software tools and environments. A substantial software project is required. Prerequisite: CMP 232 or COE 311.

CMP 410 Computer System Architecture (3-0-3). Provides advanced study of the architecture of computer systems. Topics include 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). Covers modeling and evaluation of computer systems. Topics include 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, and modeling concurrent processes and the resources they share. Prerequisites: CMP 310 or COE 381, and STA 201 or NGN 111.

CMP 412 Introduction to Distributed Systems (3-0-3). (Equivalent to COE 433). Covers architectures for distributed systems. Provides an overview of network topologies and networking technologies and infrastructures. Topics include distributed algorithms, deadlock and termination detection; N-Tier client-server computing systems; and fault-tolerance and recoverability issues. Includes applications and case studies. Prerequisites: CMP 340 and CMP 310 or COE 381.

CMP 415 Computer Networks (3-0-3). Introduces computer networks and network architectures. Provides an overview of layered protocol hierarchies. Topics include OSI reference model, the physical, link and network layers, network protocols, error control, flow control and routing algorithms, application layer protocols, multimedia networking and network security. Prerequisites: CMP 240, and CMP 310 or COE

381.

CMP 416 Internet and Network Computing (3-0-3). Studies the Internet, its protocols and architecture; TCP/IP and internet application protocols; designing Internet-based clients and servers; multi-tiered applications; network security and network management; distributed object computing; remote method invocation; emerging Internet technology standards (CORBA, XML); and building Internet-based applications. Prerequisites: CMP 310 or COE 381, and CMP 320 or COE 422.

CMP 417 Parallel Computing Systems (3-0-3). Covers 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; and selected topics in the latest field developments. Prerequisites: CMP 240 and CMP 340.

CMP 418 Introduction to Simulation and Modeling (3-0-3). Covers design and implementation of simulation models for systems design and analysis. Emphasizes 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). (Equivalent to COE 429). Studies of two- and three-dimensional graphics, graphics representation, algorithms for computing graphics and producing images, clipping,

windowing, transformation, graphics hardware and applications. Prerequisites: MTH 221, and CMP 220 and or COE 211.

CMP 431 File Processing (3-0-3). Covers 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; and the protection problem. Prerequisite: CMP 232.

CMP 432 Image Processing (3-0-3). Introduces basic techniques of analysis and manipulation of pictorial data by computer, digital image acquisition and formats, software-based image manipulation and enhancements in the spatial domain, frequency domain transformations and manipulations, lossless and lossy image compression, digital video coding and compressed domain processing. Prerequisite: CMP 232.

CMP 433 Artificial Intelligence (3-0-3). Introduces problems and techniques in artificial intelligence. Includes 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 syntactic and semantic structures; and learning as a form of problem solving through problem decomposition and subparts interaction. Prerequisite: CMP 232 or COE 311.

CMP 434 Information Theory (3-0-3). Covers 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, and area of application. Prerequisite: STA 201 or NGN 111.

CMP 435 Computer Security (3-0-3). Studies security issues in computer systems. Covers 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; and application to electronic commerce systems. Prerequisite: CMP 310 or COE 381.

CMP 436 Introduction to Symbolic Computation. (3-0-3). Studies the history of systems for symbolic computation. Topics include 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; and symbolic integration. Prerequisites: CMP 232, and CMP 213 or MTH 213.

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: CMP 232.

CMP 438 Programming Robots (3-0-3). Examines programming issues involved in creating autonomous robots, which can interact with

their environments in "intelligent" ways. Topics include traditional robotics, vision-based robotics, sensor processing, sensor-based control and programming robotic reasoning. Prerequisite: CMP 232 or COE 311.

CMP 450 Object-Oriented Software Engineering (3-0-3). Explores object-oriented analysis and design. Covers topics in object-oriented analysis and design: object-oriented requirements capturing, modeling and refinement. Includes object-oriented design, design patterns and object-oriented testing. A substantial object-oriented software project is required. Prerequisite: CMP 350 or COE 420.

CMP 452 Compiler Construction (3-0-3). Reviews program language structures, translation, loading, execution and storage allocation. Includes 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; and use of compiler writing languages and bootstrapping. Prerequisite: CMP 350 or COE420.

CMP 453 Organization of Programming Languages (3-0-3). Studies the history and classification of programming languages. Covers 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 and concurrency; logic programming languages; and object-oriented programming languages. Prerequisite: CMP 232.

CMP 454 Software Testing and Quality Engineering (3-0-3). Provides an overview of software engineering. Covers software quality assurance; black-box and white-box testing; integration and regression testing; and selected topics from the following: object-oriented software testing, acceptance testing, conformance testing, diagnostic testing, test execution, distributed systems testing, test languages and test tools, GUI testing, interoperability testing, test metrics, and standards for software quality and testing. Prerequisite: CMP 350 or COE 420.

CMP 455 Human Computer Interaction (3-0-3). Studies human behavior and user interface design. Covers 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. Includes case studies and a project. Prerequisite: CMP 350 or COE 420.

CMP 470 Formal Languages and Computability (3-0-3). Introduces 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 or MTH 213.

CMP 472 Multimedia Computing (3-0-3). Studies hardware and software components and processes

involved in multimedia development. Covers digital representation and coding of multimedia building blocks (text, images, graphics, video and sound), hypertext and hypermedia concepts, compression and decompression techniques, multimedia authoring tools, and building Web applications. Includes selected multimedia applications. Prerequisite: CMP 310 or COE 381.

CMP 473 Game Programming (3-0-3). Covers openGL architecture, 3D graphics theory and coordinate transformations, motion equations, color spaces, lighting models, shading and texture mapping, working with audio, and working with 3D models. Prerequisite: CMP 340.

CMP 490 Project in Computer Science (3-0-3). Includes faculty-supervised student projects on special topics of current interest. Both oral and written presentations on the topics are required. Prerequisites: senior standing, and CMP 350 or COE 420.

CMP 494 Topics in Computer Science (1 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

CMP 496 Independent Study (variable credit: 1-4 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). Requires that a student spend at least 240 hours of work in a computer-related job. A pass or fail grade will show on the transcript. Prerequisite: senior standing. Registration fees apply.

COE   Computer Engineering

COE 210 Programming I (2-3-3). Provides an overview of computer architecture and programming languages. Examines elements of a C++ program, statements and expressions, formatting and data types, 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. Includes lab and programming assignments. Prerequisite: MTH 103.

COE 211 Programming II (2-3-3). Introduces students to object-based program development using C++, class design and implementation, template classes and functions, single and multiple inheritance and virtual functions, operator overloading, streams I/O and exception handling. Includes lab and programming assignments in C++. Prerequisite: COE 210.

COE 212 Program Development and Design in Java (2-1-2). Covers structured programming in Java, object-oriented programming, inheritance, interfaces, polymorphism, overloading, Graphical User Interface (GUI), I/O streams, exceptions, multithreading, layout managers, and applications, including client-server. Prerequisite: COE 211.

COE 221 Digital Systems (3-3-4). (Equivalent to CMP 210). Covers number systems, representation of information, introduction to Boolean algebra, and combinational and sequential circuits analysis and design. Prerequisite: PHY 102

COE 311 Data Structures and Algorithms (3-1-3).

Examines the analysis, design and implementation of abstract data types/data structures and their algorithms. Topics include complexity analysis, linear data structures (stacks, queues, priority queues, lists and strings), non-linear data structures (hash tables, binary trees, search trees, balanced trees, heaps and multi-way trees), searching and sorting algorithms and graph algorithms. Includes substantial programming assignments. Prerequisites: COE 211 and MTH 213.

COE 331 Microprocessors (3-3-4). Examines hardware and software model of microprocessors; programming of microprocessors; memory systems, memory interface and memory access (DMA); input/output programming and interface; and design of microprocessors-based systems. Prerequisites: COE 210, and COE 221 or CMP 210.

COE 341 Computer Architecture and Organization (3-0-3). Covers CPU organization and microarchitectural level design; RISC design principles; memory, peripheral devices and input/output busses; and introduction to parallel computing. Prerequisite: COE 331.

COE 360 Probability and Stochastic Processes (3-0-3). (Cross-listed as ELE/STA/MTH 360). Covers set theory, preliminaries of probability theory and random variables, stochastic processes, Markov chains, examples of continuous time Markov chains and applications to systems. Prerequisites: NGN 111 and MTH 221.

COE 370 Communications Networks (3-0-3). Examines open systems interconnection reference model, network topologies, transmission media, transmission, error detection,

data encoding, modulation, data link protocols [High-Level Data Link Control (HDLC)], Local Area Network (LAN) systems, ethernet, token ring, interconnection devices and the Internet. Prerequisites: COE 221 or CMP 210.

COE 371 Computer Networks I (2-3-3). Covers high-speed LANs, wireless LANs, Transmission Control Protocol/ Internetworking Protocol (TCP/ IP), routing protocols, and introduction to network programming and WAN Networks [frame relay and Asynchronous Transfer Mode (ATM)]. Prerequisite: COE 370.

COE 381 Operating Systems (3-1-3). (Equivalent to CMP 310). Covers introduction to operating systems, process management, process scheduling, interprocess communication, memory management techniques, virtual memory, 1/0 management, deadlock avoidance, file system design and security issues. Includes examples from commonly used operating systems (e.g., Windows and UNIX). Prerequisites: COE 311 or CMP 232, and COE 331 or CMP 240.

COE 394 Special Topics in Computer Engineering (1 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

COE 397 Professional Training in Computer Engineering (0-0-0). Requires a 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.

Registration fees apply.

COE 412 Embedded Systems (2-3-3). Examines 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; and introduction to DSP hardware architecture, software model and instruction set. Includes class projects. Prerequisites: COE 331 and ELE 241.

COE 420 Software Engineering I (3-1-3). (Equivalent to CMP 350). Introduces the basic principles and practices of software engineering. Emphasis is placed on the different phases of the software development process and quality issues. Other topics include software life cycle models; general design, implementation, and testing issues; specification and design methodologies; model-based approaches to software design; and the use of various design and development tools. Prerequisites: COE 311 or CMP 232.

COE 421 Software Engineering II (3-0-3). Focuses on the application of principles, tools and methods taught in COE 420 Software Engineering I. Students work in teams to develop a software system, following a process similar to an industry experience. Prerequisites: COE 420 or CMP 350.

COE 422 Database Systems (3-1-3). (Equivalent to CMP 320). Introduces the basic principles of database management systems; data models; hierarchical, network and relational; query languages; and physical representation of data in secondary storage. Prerequisites: COE 311 or CMP

232.

COE 423 Computer Networks II (3-0-3). Examines the latest developments in computer networking and communications technologies. Topics include high-speed networks, wireless communications and networks, optical networks, network security, and performance modeling and simulation in computer networks. Prerequisites: COE 371 (or CMP 415) and COE 360.

COE 424 Advanced Digital System Design (3-0-3). Covers advanced digital design techniques, the Algorithmic State Machine (ASM) method for advanced digital design, case studies of complex digital system design, reliable design techniques, hardware description languages and advanced implementation techniques, and the design of microprocessors using ASM. Prerequisite: COE 341.

COE 425 Modern Computer Organizations (3-0-3). Covers performance measures, RISC processors, datapath and control units design, memory hierarchy, pipelining, I/O systems and multiprocessors. Prerequisite: COE 341.

COE 427 Internet Computing (3-0-3). Introduces students to the underlying infrastructure of the Internet and the World Wide Web. Topics include Internet protocols, routing, and Internet and Web-based non-trivial applications. Prerequisites: COE 212 and COE 371.

COE 428 VLSI Design (3-0-3). Covers hardware modeling languages; use of CAD tools for logic synthesis, simulation and testing; CMOS IC design techniques; and rapid prototyping using FPGAs. Prerequisites: COE 221 and ELE 241.

COE 429 Computer Graphics (3-0-3). (Equivalent to CMP 430). Examines hardware and software aspects of graphics generation. Programming assignments provide practical experience in implementing and using standard graphic primitives and user interfaces. Prerequisite: COE 211 or CMP 220 and MTH 221.

COE 431 Industrial Computer Systems (3-0-3). Covers microprocessor-based data acquisition units and their industrial applications, programmable logic controllers and their industrial applications, Web-based monitoring and control of industrial plants. Includes a class project. Prerequisite: COE 412 or ELE 341.

COE 433 Distributed Systems Design (3-0-3). (Equivalent to CMP 412). Covers principles of distributed systems, their communication and synchronization structures, and 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.

COE 434 Mobile Computing (3-0-3). Introduces students to the challenging field of mobile computing. Topics include location management, routing in ad hoc wireless network, file systems issues and caching strategies. Prerequisite: COE 371.

COE 481 Real-time Industrial Networks (3-0-3). Explores industrial computer network principles, commercial industrial networks, third-generation industrial networks, network layout and intrinsic safety considerations, software issues, real-time data processing and case studies. Prerequisite:

COE 371.

COE 482 Soft Computing (3-0-3). Covers fuzzy logic, fuzzy control, artificial neural networks, neuro-fuzzy networks, and industrial applications of soft computing. Prerequisite: COE 341.

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. They work in close accord with one or more faculty members. The course emphasizes engineering ethics and communication skills. Prerequisite: senior standing.

COE 491 Design Project II (0-6-2). Continues the work of COE 490. Prerequisite: COE 490.

COE 494 Selected Topics in Computer Engineering (1 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific

COE 496 Independent Study (1 to 4 credits). Explores a theoretical or practical topic project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisites: junior standing and approval of instructor.

CVE Civil Engineering

CVE 202 Construction Materials Lab (0-3-1). Focuses on the 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. Includes timber and metals tests. Requires written reports covering the planning, execution, results and conclusions of the investigation. Emphasizes teamwork. Co-requisite: CVE 221.

CVE 211 Fundamentals of Graphics and Computer Programming (2-3-3). Covers graphical communication including lettering, drawing equipment and techniques. Topics include orthographic projections, sections, and technical sketching; isometric and oblique projections; communication and documentation of engineering design through engineering drawing; computer-aided design; and elements of computer programming and problem-solving techniques. Uses computer tools in data analysis, data display and visualization techniques. Prerequisite: NGN 111.

CVE 220 Statics (3-1-3). (Cross-listed as MCE 220). Covers 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; and friction. Prerequisite: PHY 101.

CVE 221 Construction

Materials and Quality Control (3-0-3). Examines properties of construction materials (aggregate, Portland cement, admixtures, concrete and bituminous materials used in construction and maintenance of structures, roads and pavements); design of concrete mixes including admixtures; concrete trial mixes on construction site; concrete curing methods; concrete strength and durability; design of paving mixtures; and production, specifications, tests and quality control of various construction materials. Prerequisite: CVE 220; co-requisite: CVE 202.

CVE 223 Mechanics of Materials (3-1-3). (Cross-listed as MCE 223). Covers stress and strains; mechanical properties of materials; axial load, torsion, bending and transverse shear; combined loading; stress transformation; deflection of beams and shafts; and buckling of columns. Prerequisite: CVE 220 or MCE 224.

CVE 231 Engineering/Environmental Geology (3-0-3). Covers 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, contaminants in the geologic environment, and physical and engineering properties of rocks. Prerequisite: NGN 110.

CVE 240 Fluid Mechanics (2-3-3). (Cross-listed as MCE 240). Examines fundamental concepts including 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; and dimensional analysis and dynamic similitude. Prerequisites: MTH 104 and CVE 220.

CVE 241 Elementary Surveying (3-0-3). Introduces geodetic positions, coordinate systems, datum, basic measurement procedures and use of surveying instruments. Covers principles and practice in measuring distance, elevation, and angles; and leveling, traverse, and earth work computations. Introduces GPS and GIS. Prerequisite: MTH 104; co-requisite: CVE 242.

CVE 242 Field Plane Surveying (0-3-1). Covers fundamental principles of surveying; basic measuring procedures and use of surveying instruments; and use of surveying equipment for leveling, traverse and area/volume computations. Co-requisite: CVE 241.

CVE 263 Urban Transportation Planning (3-0-3). Examines 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. Introduces Intelligent Transportation Systems (ITS). Prerequisites: CVE 241 and NGN 111.

CVE 267 Civil Engineering Cost Analysis (2-0-2). Covers economic analysis and evaluation of civil engineering proposals utilizing time-value and related factors; time value of money; worth of investments and economic evaluation of alternative choices; cost estimating; depreciation methods; breakeven analysis; benefit cost analysis; sensitivity and decision making; feasibility and optimum life comparison. Prerequisite: NGN 111.

CVE 272 Statics and Mechanics of Materials for Architecture (3-1-3). (Cross-listed as ARC 242). Covers static equilibrium of forces and free body diagrams. Analyzes simple beams, trusses and columns. Covers truss forms, configuration and performance; tributary loads, load path and load tracing in structural systems; simple funicular forms (arches and cables); geometric properties and forms of flexural elements (centroid and moment of inertia); internal forces (bending moment and shear force diagrams in beams); axial stress and strain; bending and shearing stresses; mechanical properties of common building materials; and tensile, compression, bending and torsion tests for different building materials (steel, concrete, wood). Prerequisite: PHY 104. Not for Civil Engineering majors.

CVE 301 Theory of Structures (3-0-3). Covers stability and determinacy of structures; force calculation in trusses; axial load, shear and bending moment diagrams for beams and frames; approximate analysis of indeterminate frames; analysis of cables and arches;

deflection calculations; influence lines for determinate structures; and analysis of statically indeterminate structures using classical methods. Uses commercial software for structural analysis. Prerequisite: CVE 223.

CVE 303 Geotechnical Engineering Lab (0-3-1). Includes experiments in soil mechanics. Laboratory experiments cover geotechnical test equipment and techniques. Includes the applications of testing principles to the measurement of fundamental aspects of soil behavior from classification to engineering properties. Emphasizes rigorous techniques to measure mechanical behavior under various boundary conditions. Provides exposure to error estimation. Laboratory studies utilize standard test methods and equipment to assess physical, mechanical, chemical and hydraulic properties of soils for application in civil engineering design. Includes laboratory work on classification and engineering tests on intact and weathered rock. Co-requisite: CVE 331.

CVE 304 Environmental and Water Engineering Lab (0-3-1). Includes experiments in environmental engineering, hydraulic engineering and surface and ground water hydrology. Laboratory work includes sampling, physical, chemical and bacteriological analysis of water and wastewater. Laboratory sessions utilize standard test methods and equipment for measurement of important environment parameters. Covers sampling methods and data presentation. Includes experiments in water surface run off and subsurface infiltration and flow, experiments in closed conduit, open channel tests and related hydraulic structures. Co-requisite: CVE 351.

CVE 310 Fundamentals of Structural Dynamics (3-0-3). Examines fundamental concepts of kinematics and kinetics of rigid body motion, and sources and types of dynamic forces in structures. Introduces the basic concepts of structural dynamics; equations of motion of single degree of freedom systems, free and forced vibration; response to earthquake loading; and generalized single degree of freedom systems. Introduces multi-degree of freedom systems and applications to civil engineering disciplines. Uses relevant computer modeling and dynamic analysis programs. Prerequisites: CVE 301 and MTH 205.

CVE 312 Structural Steel Design (3-0-3). Covers loads on structures; design criteria and philosophies; and analysis and design of structural steel elements found in buildings and bridges including tension members, compression members, beams, columns, beam columns and connections. Requires a design project and use of computer software. Prerequisite: CVE 301.

CVE 313 Reinforced Concrete Design (3-0-3). Covers 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; and bond development of reinforcement. Requires a design project and use of computer software. Prerequisites: CVE 301 and CVE 221.

CVE 325 Computational Methods (2-3-3). (Cross-listed as MCE 325). Covers basic concepts of computational methods; errors, accuracy and precision; numerical solution of

non-linear equations; direct and iterative methods for solving systems of linear algebraic equations; numerical differentiation and integration; and interpolation, approximation and curve fitting. Includes numerical solutions of ordinary and partial differential equations and applications of computational methods using computers. Prerequisite: MTH 205; prerequisite/concurrent MTH 221.

CVE 331 Geotechnical Engineering Principles (3-0-3). Studies physical properties of soils, classification systems, soil structure and soil water systems, effective stress principle and stresses in soil due to applied loads. Topics include compressibility, consolidation and swell; permeability and seepage analysis; soil compaction; stress-strain-shear strength relationships of soils; failure criteria; direct and triaxial shear testing; and soils used in construction. Introduces lateral earth pressures. Uses computer software for geotechnical analysis. Prerequisites: CVE 223 and CVE 231; co-requisite: CVE 303.

CVE 333 Geotechnical Engineering Design (3-0-3). Covers 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; design of deep foundations including driven piles, shafts and drilled piers; pile load tests; end bearing and friction of deep foundations under axial loading; settlement of piles; bearing capacity and settlement of pile groups; piles subjected to lateral loading and moments; and design of pile foundations. Introduces design of retaining

walls. Requires extensive use of computer-aided design in team projects. Prerequisite: CVE 331.

CVE 341 Hydraulic Engineering (3-0-3). Introduces surface hydrology. Reviews basic conservation principles of continuity, energy and momentum. Covers incompressible flow in pipes, steady and unsteady flow in pipelines and pipe networks, open channel and pipe network hydraulics, water supply canals, bridge and culvert hydraulics, collection and distribution of water, pumps and pumping stations, design of water supply distribution network, and the Darcy equation. Introduces ground water hydraulics and wells hydraulics. Includes team projects, and analysis and design using computer software. Prerequisite: CVE 240.

CVE 351 Water and Wastewater Treatment (3-0-3). Examines 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; and treatment of sea and brackish water. Prerequisite: CHM 101; co-requisite: CVE 304; prerequisite/concurrent: CVE 341.

CVE 363 Highway Design (3-0-3). Explores 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 263.

CVE 367 Project Estimating, Planning and Control (3-0-3). Covers the application of cost estimating and planning techniques for construction projects. Introduces construction project management; quantity surveying; labor, material and equipment costing; indirect and general overhead costs; preparation of approximate and definitive estimates; work breakdown structures; project scheduling; network modeling; critical path method; linear rescheduling; resource leveling; time-cost tradeoff; earned value; and project controls. Prerequisite: CVE 267.

CVE 371 Structural Analysis for Architecture (2-2-3). (Cross-listed as ARC 343). Introduces structural analysis. Covers classification of structures and sources of loads; load path and load tracing in structural systems; analysis of simple beams, trusses, arches, cables, and frames; internal forces (axial, shear and moment diagrams for beams and frames); qualitative analysis of structures; elastic buckling of columns; computer analysis of structures. Prerequisites: CVE 272 or ARC 242. Not open to Civil Engineering majors.

CVE 372 Structural Design for Architecture (3-1-3). (Cross-listed as ARC 344). Covers classification of structural elements and systems; analysis and behavior of structural elements and systems (simple beams, compression members, continuous beams, frames, plates, membranes and shells); the relationship between the behavior of structural elements used in architecture and their forms; the structural design process, codes and specifications; qualitative and preliminary selection of steel and concrete structural elements; types and behavior of structural connections; and types and behavior of foundation systems. Prerequisite: CVE 371 or ARC 343. Not open to Civil Engineering majors.

CVE 397 Professional Training (0-0-0). Requires a minimum of six weeks of approved professional experience. Work undertaken must be documented in a formal report to the program by the beginning of the following term. Prerequisite: approval of training coordinator for the major. Registration fees apply.

CVE 410 Computer Methods in Structural Analysis and Design (3-0-3). Explores structural systems; loading on structures (wind and earthquake loads); virtual work method, stiffness and flexibility methods; matrix formulation of the stiffness and flexibility methods; direct stiffness method; introduction to finite element method; computer analysis and design of 2D and 3D framed structures and high-rise buildings. Emphasizes team-based learning through specific design projects. Prerequisite: CVE 301.

CVE 411 Structural Concrete Design (3-0-3). Introduces flooring and structural systems. Covers design of reinforced concrete members including beams subjected to torsion, two-way slabs, column under biaxial bending, slender columns, combined footings and shear walls. Introduces pre-stressed concrete, pre-stress materials and losses. Includes design of pre-stressed beams and computer analysis and design of structures. Emphasizes

team-based learning through specific design projects. Prerequisite: CVE 313.

CVE 412 Finite Element Method (3-0-3). Explores matrix representation of stress, strain and material relations. Covers 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. Uses a general-purpose finite element analysis computer program. Application to civil engineering problems. Prerequisite: CVE 301.

CVE 413 Bridges Design (3-0-3). Covers design of highway bridges; history, classification, and aesthetics of bridge structure design philosophy; loading, girder distribution factors; load combinations; design of concrete deck slab and reinforced concrete box girders; design of non-composite steel beams and composite steel girders; fatigue considerations; design of pre-stressed concrete girders; and design of piers, bearings and abutments. Prerequisites: CVE 312 and CVE 313.

CVE 437 Advanced Concrete Technology (3-0-3). Explores properties and applications of special concretes, curing methods, admixtures, fiber-reinforced concrete and high- performance concretes (HPC) and their use in innovative design solutions. Covers hot and cold weather concrete; concrete construction in hot weather with special reference to the Middle East; design of concrete mixes based on experience with local construction materials; properties of high-performance concrete; design of high-

performance concrete materials and their use in innovative design solutions; concrete production, strength, durability, deterioration and quality control aspects; maintenance and repair materials and methods; and computer applications for the prediction of service life and cost analysis of the reinforced concrete structures. Prerequisites: CVE 221 and CVE202.

CVE 441 Advanced Soil Mechanics (3-0-3). Covers 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, and analysis of earth retaining structures and slope stability under drained and undrained conditions. Prerequisites: CVE 303 and CVE 331.

CVE 442 Advanced Foundation Engineering (3-0-3). Includes site investigation with emphasis on in-situ testing. Covers 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 and reinforced earth structures; offshoring; problematic soil and ground improvement; and the design of staged construction embankments. Introduces seismic behavior of ground and

geotechnical earthquake engineering, and design with geotextiles. Emphasizes design of locally used geotechnical structures. Requires extensive use of computer-aided design in team-projects. Prerequisite: CVE 333.

CVE 445 Environmental Geotechnology (3-0-3). Covers 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; and case studies. Prerequisite: CHM 101; prerequisite/concurrent: CVE 331.

CVE 446 Geotechnical Dam Engineering (3-0-3). Examines regional geoscience and seismotectonic investigations; related subsurface exploration programs; in-situ permeability testing; and 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; and grouting in the ground. Introduces earthquake analysis and design of earth and rockfill dams. Special considerations include

liquefaction problems, sinkholes, land subsidence, foundation defects and dispersive soils. Covers compaction methods, monitoring and staged construction. Includes case studies and computer-aided design projects. Prerequisite/concurrent: CVE 331.

CVE 447 Irrigation and Drainage Engineering (3-0-3). Explores soil/plant/water relationships, crop water requirements, methods of irrigation (surface, sprinkle, drip and subsurface), irrigation scheduling, water logging and salinity control, drainage criteria, artificial drainage systems, and operation and maintenance of irrigation systems. Prerequisite: CVE 341.

CVE 448 Port and Harbor Engineering (3-0-3). Covers principles of port and harbor planning and design. Includes 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; and hydraulic considerations. Introduces selected coastal engineering problems. Includes team projects, case studies, site visits and computer-aided analysis and design using commercial software. Prerequisite: CVE 223; prerequisite/concurrent: CVE 341.

CVE 450 Environmental Pollution Engineering and Control (3-0-3). Examines pollution of water bodies and control, self-purification process, and measurement of water quality and water quality for various beneficial uses. Also covers 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, and hazardous substances and risks. Prerequisites: CVE 351 and CVE 304.

CVE 455 Environmental Impact Assessment, Protection and Public Health (3-0-3). Explores humanity and environment. Covers 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; and environmental monitoring. Prerequisite: CVE 351 and CVE 304.

CVE 456 Traffic Engineering (3-0-3). Explores characteristics of road users and the characteristics of the traffic stream: speed-flow-density, traffic volume, traffic accidents, travel time and delay, parking, capacity and level of service of freeways, signalized intersections and at-grade intersection design. Also covers transportation models. Prerequisite: CVE 263.

CVE 457 Airport Planning and Design (3-0-3). Examines airport master planning, forecasting air travel demand and design of airports, including lighting, terminal facilities, noise-level control, aircraft control, airspace utilization and automobile parking. Prerequisite: CVE 263.

CVE 461 Advanced Surveying (3-0-3). Covers photogrammetry and modern surveying and mapping techniques. Includes Global Positioning Systems (GPS) and Geographic Information Systems (GIS) applications in civil engineering. Prerequisite: CVE 241.

CVE 463 Construction Management (3-0-3). Examines management in the construction industry; construction delivery systems; management organizations; construction contracts; preconstruction planning and scheduling; bidding and award; contract administration and control; managing submittals, drawings, communications, progress payments, cash flow and site materials; and progress monitoring and control. Introduces construction quality and safety management. Prerequisite: CVE 267.

CVE 464 Building Construction (3-0-3). Topics include masonry construction, steel frame construction, cast-in-place concrete framing systems, pre-cast concrete framing systems, roofing, glass and glazing, cladding, interior finishes, interior walls and partitions, and finish for ceilings and floors. Also covers preconstruction site investigation, earthwork methods' construction equipment, drilling and blasting of rocks, soil compaction methods and equipment, material handling and transportation, formwork and cranes. Includes 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. Prerequisites: CVE 221 and CVE 301; prerequisite/concurrent: CVE 333.

CVE 468 Systems Construction Management, Scheduling and Control (3-0-3). Explores the basic elements of management of civil engineering projects: the roles of all participants in the process, coordination with various authorities, emphasis on contractual aspects and contract documents, construction law, variations, arbitration, claims, settlement of disputes, risk management, construction planning and scheduling, work breakdown structure, critical path method, procurement schedule, resources (labor, and equipment), cost-schedule integration, least cost schedules, progress monitoring and control. Prerequisite: CVE 267.

CVE 490 Civil Engineering Design Project I (0-3-1). Requires an open-ended, in-depth design project of civil and/or environmental engineering significance that includes the analysis and design of a civil engineering system meeting desired objectives within one, or more, of the civil engineering practice areas. Students apply creativity with their engineering knowledge in the solution of civil engineering problems. Students work in close accord with one or more faculty members in a team environment. Students apply civil engineering principles to analyze and design the civil/environmental engineering system. The project outcomes must demonstrate that students have attained the level of competency needed for entry into the civil engineering profession. Prerequisite: senior standing.

CVE 491 Civil Engineering

Design Project II (1-6-3). Continues the work of CVE 490. Prerequisite: CVE 490.

CVE 494 Selected Topics in Civil Engineering (1 to 4 credits). Explores selected topics in the fields of civil, environmental and urban systems engineering. Prerequisite: topic specific.

CVE 496 Independent Study (1 to 4 credits). Requires a theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisites: junior standing and approval of instructor.

CVE 561 Construction Management (3-0-3). (Cross-listed as ARC 561). Studies in-depth 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. Not open to civil engineering majors. Prerequisite: ARC 397 or IDE 397.

ELE   Electrical Engineering

ELE 211 Electric Circuits I (2-3-3). Examines physical concepts and mathematical analysis of electric circuits. and DC, transient and sinusoidal steady state analysis of circuits. Includes laboratory experiments and use of Pspice and MATLAB. Prerequisite: PHY 102.

ELE 212 Electric Circuits II (2-3-3). Covers magnetically coupled inductors

and ideal transformers, frequency response analysis, Laplace transform, application of Laplace transform in circuit analysis, two port networks. Introduces three phase circuits. Includes laboratory experiments. Prerequisite: ELE 211.

ELE 225 Electric Circuits and Devices (2-3-3). Covers electrical quantities and variables; circuit principles; signal processing circuits; DC and AC circuit analysis; and diodes, transistors, operational amplifiers and digital devices. Prerequisite: PHY 102. Not open to Electrical or Computer Engineering majors.

ELE 241 Electronics I (3-0-3). Reviews semiconductor physics. Cover 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; and 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). Covers magnetic circuits, single phase transformer and equivalent circuit, three-phase transformers, basic concepts of electromechanical energy conversion, and DC and AC machines. Prerequisite/concurrent: ELE 212. Prerequisite: ELE 225 for non-Electrical Engineering students only.

ELE 311 Electromagnetics (3-0-3). Covers vector algebra, vector calculus, electrostatic boundary conditions, magnetostatic fields, magnetic materials, Maxwell's equations, electromagnetic wave propagation and transmission lines. Prerequisites: MTH 203,

MTH 205 and PHY 102.

ELE 321 Signals and Systems (3-0-3). Studies classification and manipulation of continuous-time and discrete-time signals, linear time invariant system modeling, convolution of discrete-time and continuous signals, Fourier representation of signals (Fourier series, Fourier transform and discrete-time Fourier transform), applications of Fourier representations in signals and systems, and the Z-transform and analysis of discrete-time systems. Prerequisites: ELE 212 and MTH 205.

ELE 323 Signal Processing (3-0-3). Covers signal classification and system behavior, impulse response and convolution, signals and systems analysis and representation via the Fourier transform and the Z transform, sampling of band limited signals, FIR and IIR Digital filters and their design, and random variables and stochastic processes for statistical signal processing. Prerequisites: MTH 205 and ELE 211 or ELE 225. Not open to Electrical Engineering majors.

ELE 332L Measurements and Instrumentation Lab (0-3-1). Includes error analysis, linear displacement transducers, strain gauge, rotational speed measurement, capacitive and inductive transducers, temperature measurement, measurement of pressure and flow, and ultrasonic measurement systems. Prerequisite: ELE 341.

ELE 341 Electronics II (3-0-3). Covers operational amplifiers, power amplifiers, frequency response characteristics of amplifiers, feedback and stability, oscillators, active filters, timing circuits, digital to analog conversion (D/A), and 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). Examines mathematical models of systems, feedback control system characteristics, transient response analysis, performance and stability of feedback control systems, root locus analysis, frequency response analysis and design of feedback control systems. Prerequisites: MTH 205 and ELE 212.

ELE 353L Control Systems I Lab (0-3-1). Laboratory to accompany ELE 353. Prerequisite: ELE 353.

ELE 360 Probability and Stochastic Processes (3-0-3). Covers set theory, preliminaries of probability theory and random variables, stochastic processes, Markov chains, examples of continuous time Markov chains and applications to systems. Prerequisites: NGN 111 and MTH 221.

ELE 361 Communications (3-0-3). Reviews Fourier series. Topics include Fourier transform and communication systems, random variable and stochastic processes, continuous wave modulation (amplitude modulation and angle modulation), pulse modulation, multiplexing techniques and performance of various modulation schemes in the presence of noise. Introduces digital communications. Prerequisite: ELE 321.

ELE 361L Communications Lab (0-3-1). Laboratory to accompany ELE 361. Prerequisite: ELE 361.

ELE 371 Power Systems Analysis (3-0-3). Examines power system concepts and per

unit quantities; transmission line, transformer and rotating machine modeling; steady-state analysis and power flow; fault analysis; theory of symmetrical components; and power system stability. Prerequisite: ELE 251; prerequisite/concurrent: MTH 221.

ELE 371L Electric Machines and Power Systems Lab (0-3-1). Laboratory to accompany ELE 371 . Prerequisite/concurrent: ELE 371.

ELE 394 Special Topics in Electrical Engineering (1 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

ELE 397 Professional Training in Electrical Engineering (0). Requires a 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 the training coordinator for the major. Registration fees apply.

ELE 424 Digital Signal Processing (3-0-3). Covers 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, and digital signal processing (DSP) applications. Prerequisite: ELE 321.

ELE 426 Imaging Systems (3-0-3). Cover 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, and image construction and reconstruction. Cover radiation protection. Prerequisite: ELE 311.

ELE 432 Medical Instrumentation I (3-0-3). Examines principles of medical instrumentation. Covers 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; and electrical safety. Prerequisite: ELE 341.

ELE 433 Medical Instrumentation II (3-0-3). Covers blood flow measurements, respiratory system measurements, chemical biosensors, clinical laboratory instrumentation, and therapeutic devices. Prerequisite: ELE 432.

ELE 439L Medical Electronics Systems Lab (0-3-1). Explores data acquisition tools, medical signal processing, biopotential amplifiers, biopotentials, bioimpedance measurements, blood pressure measurements, respiratory measurements, ultrasonic measurements and electrical safety. Prerequisite/concurrent: ELE 432.

ELE 441 Microelectronic Devices (3-0-3). Covers conceptual and functional description of the physics, characterstics and fabrication of microelectronic devices as it applies to current and future integrated circuits (IC) and systems. Includes properties and dynamics of semiconductor carriers, P-N junctions, MOS capacitor and MOSFETs, BJTs, and modern FETs. Uses state-of-the-art technology CAD/CAE simulation tools and analytical techniques for device design, layout, fabrication and testing. Prerequisite: ELE 241.

ELE 444 Control Systems II (3-0-3). Covers state-space modeling and analysis, controllability, observability, state feedback design and pole placement, dynamic observers, output feedback design and stability analysis. Prerequisite: ELE 353.

ELE 451 Wireless Communications (3-0-3). Provides an 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). Covers 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 and synchronization. Prerequisite: ELE 361.

ELE 453 Microwave Engineering (3-0-3). Examines electromagnetic plane waves, microwave transmission lines, Smith charts and stubs, microwave waveguides and components, microwave measurements and applications, and microwave generators. Prerequisite: ELE 311.

ELE 454 Antennas and Wave Propagation (3-0-3). Covers radiation pattern, directivity and gain, half-power beamwidth and beam efficiency, antenna bandwidth, polarization, input impedance, radiation efficiency, wire antennas, loop antennas, array antennas, aperture antennas and reflector antennas. Prerequisite: ELE 311.

ELE 455 Digital Image Processing (3-0-3). Covers mathematical represenation and fundamentals of digital images. Also includes image enhancement, image restoration, image compression, image segmentation and color represenatation. Prerequisite/concurrent: ELE 424.

ELE 457 Satellite Communications (3-0-3). Explores the technical and economical aspects of satellite communication. Topics include design considerations of low, medium and high power transponders; antenna types; and ground station design. Prerequisites: ELE 361 and ELE 311.

ELE 458L Communications Systems Lab (0-3-1). Examines practical aspects of digital communications, antennas and microwave engineering. Topics include pulse code modulation (PCM), modulation schemes, pulse shaping, noise effects, optical fiber link, time division multiplexing, antenna parameters measurements, microwave reflection, transmission parameter measurements, and real-time DSP programming and

applications. Prerequisites: ELE 311 and ELE 361.

ELE 459 Introduction to Radar Systems (3-0-3). Explores the nature of radars. Topics include 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). Covers discrete-time systems and the Z-transform, sampling and reconstruction, open-loop and closed discrete-time systems, system time-response characteristics, stability analysis techniques and digital controller design. Prerequisite: ELE 353.

ELE 472 Nonlinear Control (3-0-3). Analyzes nonlinear systems. Covers phase plane analysis, limit cycle, describing function and its applications; stability analysis of nonlinear systems using Liapunov, input/output and asymptotic methods; and 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). Reviews measurement systems. Covers 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, and DCS, SCADA and Fieldbuses in industrial control. Prerequisites: ELE 332L and ELE 353.

ELE 476L Instrumentations and Control Systems Lab (0-3-1) Reviews measurement systems. Explores programmable logic controllers programming, PC-based data acquisition and control, Electro-Pneumatic System Control and Electro-Hydraulic System Control. Prerequisites: ELE 353L and ELE 332L.

ELE 481 Power System Protection (3-0-3). Covers unsymmetrical fault analysis, 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 and standard protective schemes for system coordination of relays. Prerequisite: ELE 371.

ELE 482 Electric Power Distribution Systems (3-0-3). Examines concepts and techniques associated with the design and operation of electrical distribution systems. Topics include load characteristics, distribution substations, choice of voltage levels, loss minimization and voltage control, calculation of impedances of unbalanced three-phase systems, and analysis techniques of radial systems. Prerequisite: ELE 371.

ELE 483 Power System Operation (3-0-3). Introduces economic operation, transmission system effects, unit commitment and fuel scheduling of power systems. Covers modeling of system components and control equipment, automatic control of generation and frequency regulation, and aspects of interconnected operation. Prerequisite: ELE 371.

ELE 484 Control of AC Machines (3-0-3).

Covers dynamic models of three-phase AC machines, PWM inverters, scalar control of induction machines, the principle of field orientation, flux estimators and observers, vector control of induction and permanent magnet synchronous machines. Prerequisites: ELE 251 and ELE 353.

ELE 485 Power Electronics (3-0-3). Explores electric power conditioning and control; characteristics of solid state power switches; and analysis and applications of AC power controllers, controlled rectifiers, DC choppers and DC-AC converters. Prerequisites: ELE 241 and MTH 205.

ELE 486 Electric Drives (3-0-3). Covers the application of semiconductor switching power converters to adjustable speed DC and AC motor drives. Also includes steady state theory and analysis of electric motion control in industrial, robotic and traction systems. Prerequisites: ELE 251, ELE 241 and MTH 205.

ELE 488L Power Engineering Lab (0-3-1). Explores 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 Engineering Design Project I (0-6-2). Introduces design methodology in electrical engineering through lectures and an open-ended, in-depth design project . 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 work

in close accord with one or more faculty members. The course emphasizes engineering ethics and communication skills. Prerequisite: senior standing.

ELE 491 Electrical Engineering Design Project II (0-6-2). Continues the work of ELE 490. Prerequisite: ELE 490.

ELE 494 Special Topics in Electrical Engineering (1 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisite: topic specific.

ELE 496 Independent Study (1 to 4 credits). Requires a theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisites: junior standing and approval of instructor.

M C E   Mechanical Engineering

MCE 215 Engineering Drawing and Workshop (1-6-3). Covers orthographic projections of machine elements, auxiliary views, section views, dimensioning, introduction to fits and tolerances, basic detailed and assembly drawings, and computer-aided drafting using commercial computer-aided design software. Introduces the use of basic machines, the development of hand skills and safety in the workshop. Covers basic hand tools, basic machining operations, welding, casting, woodwork, sheet metal work and measuring instruments.

MCE 220 Statics (3-1-3). (Cross-listed as CVE 220). Covers fundamental concepts and principles of mechanics,

vectors and force systems. Topics include 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; area moment of inertia; and friction. Prerequisite: PHY 101.

MCE 222 Dynamics (3-1-3). Examines fundamental concepts of kinematics and kinetics with application to motion of particles and plane motion of rigid bodies. Topics include 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; and energy and momentum methods. Prerequisites: MCE 220 and MTH 205.

MCE 223 Mechanics of Materials (3-1-3). (Cross-listed as CVE 223). Covers stress and strain; mechanical properties of materials; axial load, torsion, bending and transverse shear; combined loadings; stress transformation; deflection of beams and shafts; and buckling of columns. Prerequisite: MCE 220 or MCE 224.

MCE 224 Engineering Mechanics – Statics and Dynamics (3-1-3). Covers particle statics and dynamics, vector mechanics, free body diagrams, two- and three-dimensional force equilibrium systems, internal forces, centroid and moment of inertia, rectilinear and curvilinear motion, coriolis effects, considerations of work and energy, and periodic motion. Prerequisites: MTH 104 and PHY 101. Not open to Mechanical Engineering or Civil Engineering majors.

MCE 225 Statics and Dynamics for Computer Engineers (2-1-2). Covers particle statics and dynamics, vector mechanics, free body diagrams, two-dimensional force equilibrium systems, rectilinear and curvilinear motion, considerations of work and energy. Prerequisites: MTH 104 and PHY 101. Not open to Mechanical Engineering, Civil Engineering or Electrical Engineering majors.

MCE 230 Materials Science (2-3-3). (Cross-listed as CHE 230). Introduces students to material science; relationships between structure and properties of materials; atomic bonding, crystalline structures, crystal defects and imperfections; phase diagrams and equilibrium microstructural development; and properties of metals, alloys, polymers, composites and ceramics. Prerequisite: CHM 101.

MCE 234 Computer Applications in Mechanical Engineering (2-3-3). Introduces structured programming and software suite for mechanical engineering applications. Includes programming using Matlab; Boolean logic; conditional statements; for and while loops; input/output; arrays; indexing; assignments; commands; Nastran, SimMechanics and Simulink simulations; introduction to computer hardware; and use of software and hardware in the design of modern mechanical systems.

MCE 240 Fluid Mechanics (2-3-3). (Cross-listed as CVE 240). Covers fundamental concepts and properties of fluids; fluid statics, forces on planar and curved surfaces, and buoyancy; kinematics of fluid motion; conservation equations with applications; continuity, momentum and energy

Graduate Studies and Research

Director
Judith Killen

The American University of Sharjah strives to be a center for education and research and to serve as a resource for development, sustainability and advancement.

To this end, AUS has established a number of graduate programs that target the needs of the local community and the Gulf region. Students in these programs seek career advancement opportunities and personal enrichment. The diversity of the graduate programs is expressed through the university's commitment to offering cross-disciplinary courses and specialized degrees.

Offering a stimulating intellectual environment with qualified faculty and state-of-the-art facilities, AUS fosters an atmosphere in which faculty and students are involved in a constructive dialogue toward collaborative research and intellectual exchange.

Admissions

The university seeks to attract to its graduate programs motivated students who demonstrate the ability to do creative and original work. A graduate applicant must have a recognized four-year bachelor's degree from an accredited institution with an academic 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, meeting any additional admission requirements pertinent to each program and space availability.

Application Process

The Office of Admissions is responsible for admitting students to all graduate programs at the university. All inquiries, requests for application forms and subsequent correspondence should be addressed to:

American University of Sharjah
Office of Admissions
P.O. Box 26666, Sharjah, UAE
Tel: + (971) 6 515 1000
Fax: + (971) 6 558 5018
E-mail: graduateadmission@ausharjah.edu
www.ausharjah.edu

To be considered for admission, a graduate applicant must complete an application, pay the required application fees and include all requested materials, such as official transcripts, TOEFL score, GMAT score (if applicable) and other program-specific requirements as listed on the application form. Incomplete applications will not be processed. Upon receiving a completed application, a file for each applicant is prepared by the Office of Admissions to ensure that the applicant meets the minimum university requirements. The file is then sent to the appropriate college/school for evaluation and recommendation. The Office of Admissions then informs the applicant of the decision. Those who have been accepted are informed of the required tuition fees and dates for advising and registration.

Application Deadlines

To guarantee that their applications will be processed before the semester begins, applicants should submit completed application forms and all supporting documents to the Office of Admissions by the following dates:

Fall Semester	July 15
Spring Semester	November 15
Summer Term	April 15

For the School of Business and Management, the deadlines are as follows:

Fall Semester	July 10
Spring Semester	December 15
Summer Term	May 15

Important Notes

- *Students who need visas should apply at least one month before the established deadlines.*

- *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.*

General Requirements for Admission

Eligibility

Admission to the university's graduate programs is competitive. All 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 admission as described below.

Categories of Admission

To be considered for admission all applicants must meet the following minimum general admission requirements as well as any additional requirements pertinent to each program.

Full Admission

Full admission to graduate certificate and master's degree programs may be granted to applicants holding appropriate bachelor's degrees who have a cumulative grade point average (CGPA) of at least 2.75 (on a scale of 4.00) or its equivalent, and 3.00 or its equivalent in 300- and 400-level courses in discipline(s) relevant to the graduate program. Additionally, some graduate programs may require satisfactory performance on specific entrance examinations. A graduate applicant must attain a minimum International TOEFL score of 197 (530). Translation and TESOL programs require an International TOEFL score of 213 (550) and the TESOL program also requires a TWE (Test of Written English) score of 5.

Special Admission

Special admission to graduate certificate and master's degree programs may be granted as a preliminary step to applicants holding appropriate bachelor's degrees with a minimum cumulative GPA of at least 2.50 (on a scale of 4.00) or its equivalent and a 2.75 or its equivalent in 300- and 400-level courses in discipline(s) relevant to the graduate program. In order to continue in their graduate program, special admission students must achieve a cumulative GPA of at least 3.00 in their first five graduate courses.

Special admission may also be granted to applicants who meet the above GPA requirements but who have an International TOEFL score of at least 173 (500). To continue beyond the first semester in the graduate program, these students must present a minimum International TOEFL score of 197 (530) before the beginning of their second semester. Special admission may also be granted to TESOL and Translation applicants. Please refer to the individual sections for the particular requirements. The program director or graduate admissions committee may assign undergraduate prerequisite courses and/or specially tailored leveling courses for each student on special admission status. The dean of the college/school offering the program must approve the prescribed set of courses. Undergraduate prerequisite courses and specially tailored leveling courses cannot be used to satisfy the credits required for completion of the graduate program nor will they count in the graduate-level cumulative GPA.

Visiting Students Admission

A student who is currently enrolled in another institution but wishes to take a course at AUS for credit transfer may be admitted as a visiting student if he/she is in good academic standing in the current institution and has a minimum International TOEFL score of 173 (500).

Courses taken as a visiting student cannot be used for credits at AUS.

Requests are submitted to the Office of the Registrar. The School of Business and Management does not admit visiting students.

Normally, a visiting student is allowed to register as a visitor for no more than one academic year. Visiting students should check with their home institutions to determine if AUS credits will transfer to their program.

Regular graduate tuition rates apply.

Non-degree Admissions

An applicant who is 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 requirements for graduate admission. Applications are submitted to the Office of Admissions. The School of Business and Management does not accept non-degree admissions.

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 requests to change his/her status to a degree candidate, the program director may consider accepting credit for courses taken under non-degree status. All academic regulations applicable to degree students will apply retroactively to such a change of status. Regular graduate tuition rates apply.

Entrance Examinations

Additional placement and skills-related tests may be required by some programs. The tests must be current and the results must be no more than two years old. Please refer to specific degree program descriptions.

Transfer Policy

Upon the recommendation of the student's department to the college's/school's dean, a graduate student may normally receive up to six graduate credits for graduate-level work completed at another university if the grades received were not less than a B. The coursework should not have been used previously to earn another degree. Courses taken more than five years prior to entering a graduate program at AUS are not transferable. Applicants must request that their credit transfers be reviewed at the time of application. Some programs may waive courses toward fulfillment of foundation requirements. Please refer to the specific program description for more details.

Tuition

For graduate courses offered by the School of Architecture and Design, School of Business and Management and the School of Engineering, tuition is charged at the rate of UAE Dirhams 2,000 per graduate credit hour. Tuition for courses in the humanities is UAE Dirhams 1,650 per graduate credit hour. For all other non-tuition fees, refer to the Undergraduate Fees section of this catalog.

Fines

Faculty, staff and students must adhere to university deadlines, rules and regulations. Late fees and fines may apply for late library returns, parking violations, breakage/replacement charges, late tuition payment, etc.

Academic Regulations

Current university regulations apply regardless of the regulations in effect when a student first enrolled in the university unless stated otherwise.

Caution: The course offerings and requirements of the American University of Sharjah are under continual examination and revision for improvement. This catalog is not a contract. It merely presents the offerings and requirements in effect at the time of publication and in no way guarantees that the offerings and requirements will not change. The university specifically reserves the right to change requirements for any major during any particular year. The student assumes full responsibility for compliance with all academic requirements.

The graduation requirements for any individual student are determined either by the catalog that was in effect when the student first enrolled in AUS or the catalog in effect for the academic year when the student graduates. In case of major changes in course offerings, equivalent graduation requirements are determined by the college/school dean and the Vice Chancellor for Academic Affairs.

Registration

The Office of the Registrar is usually open to graduate students from Sunday to Thursday from 9 a.m. to 4 p.m. to assist with graduate students' registration issues.

Students must register during the official registration period announced in the academic calendar. They should plan their courses with their advisors prior to registration and follow the instructions in the 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.

Course 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 completion. Since permission to audit is granted on a space-available basis, applicants are not permitted to register until after regular students have been registered. An applicant must hold a bachelor's degree in a related field of study from an accredited university and demonstrate the required level of English proficiency. Registration for audits is done through the Office of the Registrar, given the approval of the instructor of the course, program director and college/school dean. Regular graduate tuition rates apply.

Add/Drop and Withdrawal Policies and Procedures

If students pay careful attention to the degree requirements and course offerings, there should be minimal need for course changes after registration. Any student who wishes to add or drop a course must first obtain the appropriate form from the department of his/her major and have it approved by his/her advisor before changing the registration. Add/drop period is announced by the Office of the Registrar.

Students are allowed to add and/or drop courses during the official published add/drop period. Such changes in courses are not recorded in a student's transcript.

Students may withdraw from courses without academic penalty by a date established by the Office of the Registrar. A grade of W will be assigned to these courses. After the deadline, students may withdraw from courses but a grade of WF is assigned to those courses.

Academic Load

The normal academic load 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 15 hours per semester. See descriptions of individual degrees for program-specific restrictions.

Continuous Enrollment

Students are expected to maintain a continuous enrollment until they complete their program (fall and spring semesters). If a student cannot attend a particular semester, it is expected that he/she will enroll in the matriculation course (XXX 693) to maintain an active status in the program. Failure to enroll will result in the dismissal of the student from the program and the student will be required to re-apply for admission back into the program.

Grading System

Final grades are recorded on the student's permanent record in the Office of the Registrar. Grades may not be removed from the record. A minimum passing grade of C is required for each course. The following grading system for individual graduate courses is used at the American University of Sharjah:

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

Incomplete Work

In some circumstances, graduate students who are unable to finish a course may be permitted to complete it in the following semester. In the

meantime, a grade of I (incomplete) is assigned for the course. Whether registered or not, students are responsible for making arrangements with the professor and the department of their 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 also submit a form to the Office of the Registrar providing the following information:

• The valid reason for the incomplete

• The material that the student has not submitted

• The action necessary for removal of the incomplete

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

Probation, Dismissal and Repeats

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 a master's degree.

With the recommendation of the program director and the approval of the college/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 student's tenure in a graduate program. Both the original grade and the new grade will appear in the transcript, but only the new grade will be calculated into the GPA. Normally, graduate students who receive an F in a graduate course will 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 acquire 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 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.

Permanent Record

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

Students' Privacy Rights

Students have the right to:

- inspect and review information contained in their educational records. The university is not required to provide (or allow the making of) copies of these documents.

- request changes or updates to their personal data

- consent to disclosure, within the extent of UAE federal and local laws, personally identifiable information from education records

Student Records

All transcripts and other documents from other institutions are the property of the American University of Sharjah,

and, as such are under the control of the Office of the Registrar. The university is not required to provide (or allow the making of) copies of these documents. Transcripts submitted to AUS for admission or credit transfer become the property of AUS and cannot be returned to the student or forwarded to other institutions.

Transcripts

Students may obtain transcripts of their academic records from the Office of the Registrar. 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.

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 must be registered for regular courses in the semester they intend to graduate. Students who fail to complete all degree requirements by the end of the term for which they apply to graduate need not reapply for graduation. Their previous application will be automatically forwarded to the following semester.

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.

Participation in the Commencement Exercises

Only students who have successfully completed degree requirements and

have no holds by the end of the term for which they have applied to graduate are certified for conferral of a degree. Students registered at the 11th week for courses necessary to complete their degrees may participate in commencement at the end of that semester. Degrees are conferred at the end of the semester in which requirements have been met. Conferral of the degree is noted on the permanent record of the graduate with date of graduation.

Programs of Graduate Studies

The master degrees offered at AUS are:

College of Arts and Sciences
Master of Arts in Teaching English to Speakers of Other Languages
Master of Arts in English/Arabic/ English Translation and Interpreting

School of Architecture and Design
Master of Urban Planning

School of Business and Management
Master of Business Administration

School of Engineering
Master of Science in Engineering Systems Management
Master of Science in Mechatronics Engineering

The graduate certificates offered at AUS are:

College of Arts and Sciences
Graduate Certificate in Teaching English to Speakers of Other Languages
Graduate Certificate in English/Arabic/ English Translation and Interpreting

School of Architecture and Design
Graduate Certificate in Heritage Resource Management
Graduate Certificate in Urban Planning

School of Engineering
Graduate Certificate in Engineering Systems Management
Graduate Certificate in Mechatronics Engineering

Please refer to the individual program descriptions for details of particular programs and courses.

Advising

Each graduate student is assigned an academic advisor. Students are required to consult with their advisor on issues regarding degree requirements, policies and procedures.

Some programs require that students have a graduate advisory committee, which has specific responsibilities identified by each graduate program in accordance with university policy. The committee oversees the preparation of the degree plan, proposals for professional projects, thesis research and preparation, and final examination of the scholarly work of the student. The committee will also make recommendations to the college/school dean and Vice Chancellor for Academic Affairs regarding awarding of the master's degree.

Independent Research

Some programs may require a graduate thesis, final project or their equivalent in partial fulfillment of program requirements. Please see the individual program descriptions for specific details. In the event that a graduate thesis or final project extends beyond one semester, students must re-register for the course (no credit).

Qualifying and Exit Examinations

Some programs may require qualifying or exit examinations. Please see the individual program descriptions for specific details.

Time Limits on Duration of Study

Students in the graduate certificate programs must complete their program requirements within five consecutive semesters from first enrollment at AUS.

Students in the master's degree programs must complete their program requirements within five years from first enrollment at AUS. Students must register for at least three semesters to obtain a master's degree from AUS.

Academic Integrity

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 of this catalog.

Academic Grievance Procedure

Graduate students are entitled to receive fair and equitable treatment from faculty and fellow students. In the event that a student seeks a reappraisal of a grade or wants to file a complaint against a faculty member or student, he/she can file a petition with the director of the program. Complete procedures are listed in the *Graduate Student Manual*.

Graduate Policies and Procedures

The *Graduate Student Manual* provides further details on issues of academia, policies and procedures. Students are responsible for knowing and observing all procedures and requirements of graduate studies at AUS. A student is expected to be fully informed about his/her program of study and degree requirements.

Graduate Programs

College of Arts and Sciences

Teaching English to Speakers of Other Languages

Fatima Badry-Zalami, Director

The mission of the Master of Arts in Teaching English to Speakers of Other Languages (M.A.TESOL) program is to provide comprehensive study and practical opportunities at an advanced level to both experienced and novice English language teachers. Highly qualified, multiculturally experienced faculty, research-based methodology, practical teaching experience and computer-assisted learning provide a solid foundation for this program.

The program provides students with advanced practical, theoretical and critical knowledge of language learning models and teaching methodologies for English instruction at different levels, primarily throughout the schools of the Gulf region. The core of the program leads to a comprehensive understanding of the forms and functions of English and relates pedagogical theories to English language teaching. This goal is reinforced by supervised teaching practice in real-world classrooms.

Master of Arts in Teaching English to Speakers of Other Languages (M.A.TESOL)

The M.A.TESOL program prepares its graduates to evaluate the effectiveness and validity of different teaching methodologies and testing procedures, develop or adapt materials for special teaching/learning situations, supervise classroom teachers and assist in the administration of English as Second Language (ESL) programs.

Admission Requirements

In addition to fulfilling the university's general admission requirements for graduate studies, the applicant must have a TOEFL score of 550 (213 computer based) or higher with a minimum of 5 on the TWE (Test of Written English). Only official ETS scores are accepted.

Applicants with a bachelor's degree or equivalent in English/linguistics, with a minimum grade point average of 3.0 (B) from an accredited institution, are granted full admission. Holders of bachelor's degrees in other fields who satisfy all admission requirements are granted conditional acceptance pending completion of Introduction to Language Study (ENG 223) and Advanced English Grammar (ENG 501) with a GPA of 3.0 or higher. These courses will not be counted toward the degree requirements. However, these courses may be waived with a minimum of two years of full-time English language teaching in an accredited institution.

Degree Requirements

The M.A. degree in TESOL is awarded after successful completion of 36 credits (12 courses) at the graduate level, in addition to a research thesis. Courses are offered in the evenings and/or on weekends.

Required Courses (27 credits)
- ELT 511 Linguistics for ESL Teachers
- ELT 513 Language Acquisition and Development
- ELT 515 English Language Teaching Methodology
- ELT 517 Curriculum and Materials Development
- ELT 551 Language Testing and Evaluation
- ELT 553 Technology in the ESL Curriculum
- ELT 611 Classroom Research
- ELT 619 Practicum in TESOL
- ELT 695 Research Seminar

Elective Courses (9 credits)
Students must select three courses from the list below, in consultation with their advisor.
- ELT 501 Advanced English Grammar

- ELT 504 Discourse Semantics and Pragmatics
- ELT 503 Contrastive Linguistics
- ELT 505 Culture and the Language Teacher
- ELT 521 Reading and Writing in ESL
- ELT 523 Bilingual Education
- ELT 531 Sociolinguistics
- ELT 594 Special Topics in Applied Linguistics

Other Degree Requirements

The research thesis (ELT 699) must be prepared under close direction of a faculty supervisor on a topic related to some aspect of TESOL. It must be defended to the satisfaction of the thesis committee composed of three faculty members from the department of English.

Academic Advising

Students work closely with their advisor in selecting elective courses that address their individual needs. The advisor also encourages students to develop professional portfolios that include samples of selected work such as research papers, teaching reports, projects and lesson plans.

Graduate Certificate in Teaching English to Speakers of Other Languages (G.C.TESOL)

Certificate Requirements

The Graduate Certificate in TESOL comprises 15 credits (five courses). Graduate certificate students who wish to continue in the master's degree program in TESOL must have achieved a minimum cumulative GPA of B (3.0) in at least two consecutive semesters and a minimum graduate certificate

overall GPA of B (3.0). Students who do not wish to continue in the master's program in TESOL will receive a Graduate Certificate in TESOL upon the completion of all requirements. All courses taken for the graduate certificate can be credited toward the master's degree.

Required Courses (12 credits)
- ELT 511 Linguistics for ESL Teachers
- ELT 513 Language Acquisition and Development
- ELT 515 English Language Teaching Methodology
- ELT 619 Practicum in TESOL

Elective Courses (3 credits)
Students must complete any one elective three-credit ELT course in consultation with their advisor.

Translation and Interpreting

Said Faiq, Director

Translation and interpreting services are in demand now more than ever as the world market expands and the trend toward globalization gathers momentum. The vital role that English continues to play in international communication and the growing impact of the Arab region on world affairs combine to create a demand for highly trained English/Arabic translators and interpreters.

Master of Arts in English/Arabic/English Translation and Interpreting (M.A.T.I.)

The M.A.T.I. degree at AUS is designed to respond to these demands. The program aims to equip graduates from a variety of disciplines with highly specialized translation and interpreting skills in English and Arabic. The program also addresses the need for upgrading the skills of professionals who are already working as translators and interpreters. The courses are intended to produce graduates conversant with the various forms of translation and interpreting required in the complex web of communication. 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.

The M.A.T.I. program enables students to achieve a high level of competence in English/Arabic/ English translation and interpreting, provides them with advanced training in translation and interpreting techniques, and helps them develop a thorough understanding of translation theory and its relevance to the practical concerns of translators. In addition, students can further develop their knowledge of academic writing conventions and research methods.

Admission Requirements

Applicants are required to fulfill the university's general admission requirements for graduate studies. Full admission to the program is granted to applicants who hold a recognized B.A. degree or equivalent bachelor's degree with an overall GPA of at least 2.75 (or equivalent) and 3.0 or its equivalent in 300- and 400-level courses in discipline(s) relevant to the program. In addition to the general admission requirements, non-native speakers of Arabic must hold a B.A. in Arabic.

A TOEFL score of 550 (213 computer based) is required. Only official ETS scores will be accepted.

Special Admission status may be granted to applicants with a minimum overall GPA of 2.50 (or equivalent) and a 2.75 or its equivalent in 300- and 400-level courses in discipline(s) relevant to the program, and at least three years of relevant practical experience in translation and/or interpreting. In such cases, the student

must take Principles and Strategies in Translation and Interpreting (TRA 500) and Specialized Translation and Terminology I (TRA 501), and must attain a GPA of 3.00 (B) or above for that semester to achieve full admission and to be allowed to proceed.

Furthermore, applicants with TOEFL score of 530 and above (197 computer based) but below 550 (213 computer based), may be granted conditional admission for one semester but must meet the program's required TOEFL score by the end of that semester. Only students who meet the TOEFL requirements will be allowed to continue in the program.

A maximum of six credits completed (with a minimum grade of B) at the graduate level at an accredited institution may be transferable toward the master's degree requirements. Applicants must request that their credit transfers be reviewed at the time of application.

Degree Requirements

To graduate with the M.A. in English/Arabic/English Translation and Interpreting, students must complete all the requirements of the program (10 required courses and two advised electives), which consists of 36 credits inclusive of a research thesis. Courses are offered during the weekday evenings.

Required Courses (27 credits)
- TRA 500 Principles and Strategies in Translation and Interpreting
- TRA 501 Specialized Translation and Terminology I
- TRA 502 Specialized Translation and Terminology II

- TRA 503 Theoretical Models of Translation
- TRA 505 Interpreting and the Profession I
- TRA 509 Interpreting and the Profession II
- TRA 556 Rhetoric for Translators
- TRA 558 Contrastive Linguistics
- TRA 695 Translation Research Seminar
- TRA 699 Thesis

Elective Courses (6 credits)

Students must complete two advised elective courses (six credits) selected from the TRA course list below in consultation with their advisor.

- ELT 501 Advanced English Grammar
- TRA 504 Discourse Semantics and Pragmatics in Translation
- TRA 506 Theoretical Perspectives on Translation Quality Assessment
- TRA 508 Research and Academic Writing
- TRA 610 InterculturalCommunication

Other Degree Requirements
(3 credits)

The research thesis (TRA 699) is an extended piece of individual research (10,000 to 12,000 words) on a topic within translation/interpreting studies, including an extended translation (approximately 5,000 words) and a commentary, chosen in consultation with the thesis faculty supervisor. Emphasis is placed on the theoretical and practical aspects of translating or interpreting. The thesis must be completed within two consecutive academic semesters. An extension may be allowed if a candidate presents acceptable mitigating circumstances. The thesis is defended to the satisfaction of a committee composed of three faculty members. Candidates must pass this examination of the thesis by at least a grade B (3.0).

Graduate Certificate in English/Arabic/English Translation and Interpreting (G.C.T.I.)

Certificate Requirements

The Graduate Certificate in English/Arabic/English Translation and Interpreting is comprised of 12 credits (four courses). Graduate certificate

students who wish to continue in the master's degree program must have achieved a minimum cumulative GPA of B (3.0) in at least two consecutive semesters and a minimum graduate certificate overall GPA of B (3.0). Students who do not wish to continue in the master's degree program will receive a Graduate Certificate in English/Arabic/English Translation upon the completion of all requirements. All courses taken for the graduate certificate can be credited toward the master's degree.

Required Courses (9 credits)

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

Elective Courses (3 credits)

Students must complete one advised elective course (three credits) selected from the following list in consultation with their advisor.

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

School of Architecture and Design

Heritage Resource Management

Samia Rab, Coordinator

Heritage Resource Management (HRM) is an emerging field that involves identifying, documenting, interpreting, safeguarding and preparing for public viewing and education the world's heritage resources. These range from works of art and artifacts to buildings and archaeological sites. It draws upon disciplines affiliated with natural sciences, arts, humanities, architecture and design.

The HRM program at AUS recognizes

the importance of safeguarding the region's built and movable cultural heritage. It addresses the regional need for educating professionals who can treat the heritage resources of their nations as economic assets, linking these resources to overall strategies for sustainable development and promoting cultural and ecological tourism in this vast region.

Graduate Certificate Program in Heritage Resource Management (G.C.HRM)

The Graduate Certificate in Heritage Resource Management (G.C.HRM) provides students with an understanding of the legal, historical, theoretical and practical aspects of safeguarding historic resources and giving them a new lease on life. Students will also receive credentials required by international agencies that are participating in the massive task of reconstructing and safeguarding many decaying or destroyed artifacts, museums, buildings, urban areas and landscapes in this vast region.

Admission Requirements

Applicants are required to fulfill the university's general admission requirements for graduate studies. Full admission to the Graduate Certificate Program in HRM requires that an applicant must have received from an accredited institution a four-year university degree in a HRM-related field, including architecture, interior design/architecture, engineering, archaeology, history, art history, planning and tourism management. In addition, work experience is desirable but not required.

Certificate Requirements

To earn the Graduate Certificate in HRM, students must successfully complete five courses (15 credits). All courses are offered in the evening and/or on weekends.

Required Courses (15 credits)
- HRM 511 Research and Documentation
- HRM 521 History of Material Culture
- HRM 531 Theory and Practice of Building Restoration

- HRM 571 Legal and Economic Issues in Architectural and Urban Conservation
- HRM 594 Special Topics in Heritage Management

Urban Planning

Amer Moustafa, Director

Urban planning is concerned with creating better environments in which present and future generations live, work, entertain and engage in their customary community, social, religious and cultural activities. Urban planning has its roots in architecture, engineering, public health, law and the social sciences. Planners combine design, analytical and communication skills to help communities manage change. Urban planning entails taking concerted action by the government, private enterprise and local communities toward achieving a common goal.

Master of Urban Planning (M.U.P.)

The M.U.P. program provides professionals with outstanding, specialized graduate education that will enable them to undertake leadership roles in managing urban growth, prescribing urbanization policies, and advancing social development. The program seeks to empower students with the highest ethical standards compatible with values of local cultural settings, principles of social justice, and concerns for environmental protection and sustainability.

Admission Requirements

The program admits students with a university degree from all fields of study including, but not limited to, architecture, engineering, business, the humanities (e.g., literature, history, journalism, etc.) and the social sciences (e.g., geography, psychology, political science, etc.). In addition to meeting the university's general graduate admission requirements, applicants must submit an updated curriculum vitae (CV).

Academic Load

The program is currently offered on a part-time basis. Normally, students register for two courses per semester.

Degree Requirements

The program is modeled after leading graduate urban planning programs in the United States. Students must complete 48 credit hours including an internship, and a research thesis or a final project. In addition to the core course requirements, students will choose one of two areas of concentration: Design of the Built Environment or Transportation Planning. Students must also take two free electives at the graduate 500 or 600 level. Classes are held on weekday evenings or Thursdays.

Required Courses (36 credits)

Core Courses (27 credits)
- UPL 501 Fundamentals of Urban Planning
- UPL 541 Planning Theory and Methods
- UPL 547 Research Methods and Analysis
- UPL 548 Environmental Planning
- UPL 550 Urban Economics and Analysis
- UPL 556 Advanced Planning Tools: GIS Applications
- UPL 565 Land Use Planning Principles and Practice
- UPL 597 Planning Internship
- UPL 667 Urban Planning Lab

Concentration: Design of the Built Environment (9 credits)
- UPL 582 Theory and Principles of Urban Design
- UPL 584 Urban Form Analysis
- UPL 686 Space, Society and the Public Realm

Concentration: Transportation Planning (9 credits)
- UPL 572 Urban Transportation Planning
- UPL 574 Urban Transportation Systems Analysis
- UPL 676 Transportation Systems Operations and Control

Elective Courses (6 credits)

Students must complete two advised elective course (six credits) selected from the following list in consultation with their advisor.
- ESM 510 Economic Decision Analysis
- ESM 520 Management for Engineers
- ESM 530 Strategic Technology Management
- MBA 602 Managing People and Organizations

Other Degree Requirements (6 credits)

In addition to the courses above, students must pursue either a final project (UPL 698) or a research thesis (UPL 699) option.

Academic Advising

Academic advisors are responsible for orienting, guiding and following the student's progress. The advisor works closely with the student in selecting elective courses that address the student's individual needs. Upon completing 30 credits in the program and once a research topic has been identified for the final project or thesis, the program director will encourage the student to select a research advisor whose background and interests suit the research interest of the student. The role of the academic advisor will then be transferred to the research advisor.

Graduate Certificate in Urban Planning (G.C.U.P.)

Certificate Requirements

The Graduate Certificate in Urban Planning comprises 15 credits (five courses). Graduate certificate students who wish to continue in the master's degree program must have achieved a minimum cumulative GPA of B (3.0) in at least two consecutive semesters, and a minimum graduate certificate overall GPA of B (3.0). Students who do not wish to continue in the master's degree program will receive a Graduate Certificate in Urban Planning upon the completion of all requirements. All courses taken for the graduate certificate can be credited toward the master's degree program.

Required Courses (3 credits)
- UPL 501 Fundamentals of Urban Planning

Elective Courses (12 credits)

Students must complete four advised elective courses (12 credits) selected from the following list in consultation with their advisor.
- UPL 541 Planning Theory and Methods
- UPL 548 Environmental Planning
- UPL 550 Urban Economics and Analysis
- UPL 556 Advanced Planning Tools: GIS Applications
- UPL 565 Land Use Planning Principles and Practice
- UPL 572 Urban Transportation Systems Planning Techniques
- UPL 582 Theory and Principles of Urban Design

School of Business and Management

Business Administration

J. Reagan McLaurin, Director

The AUS Master of Business Administration program (MBA) is committed to the idea of helping individuals in the Gulf region to think and act globally and integrate knowledge into 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.

Master of Business Administration (MBA)

Through this program, students are prepared 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 in the global environment in which they function. They will also learn the skills and analytical tools for effective communicating and decision making.

AUS faculty worked in close cooperation with American University, Washington, D.C., to design the program. Individual participation is emphasized through class discussions, case study methodology, and interaction and cooperation with other students in the class.

Graduates of the MBA program are prepared to identify, analyze and understand the interrelationships among business organizations and international and domestic institutions in the UAE and throughout the world. Students also develop an awareness of societal and environmental needs and concerns as they relate to ethical, professional and socially responsible business practices.

Admission Requirements

Admission to the MBA program is on a case-by-case basis. In addition to meeting the university's general graduate admission requirements, applicants must meet the specific requirements of the MBA program. Admission to the program normally requires an acceptable score on the Graduate Management Admission Test (GMAT). This score is then combined with the student's undergraduate grade point average for the last two years of study. The resulting score will determine if an applicant will be admitted to the program. GMAT scores more than five years old will not be accepted. The test may be administered locally.

Special Admission

Special admission is limited and difficult to receive. In addition to the university requirements for special admission, the MBA program only allows students to take two graduate courses under the special admission status. During the semester in which they have special admission status, applicants must satisfy all admission requirements for the MBA program. Failure to do so will result in the student being unable to take any further courses in the MBA program and possible termination from the program.

Waiver Policy

Students may qualify to waive up to 18 credits (six courses) from the foundation courses (see Degree Requirements). In general, a course may be waived if the student has completed comparable coursework at the undergraduate level. Students may be required to submit course documentation. Waivers are only granted after an official, sealed transcript is received by the AUS Office of Admissions. The waiver rules are:

- Students may waive foundation courses if two similar undergraduate courses have been taken at an accredited university within five years prior to admission to the AUS program with a minimum grade of B.

- 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.

Academic Load

An MBA student can register for up to nine credits per semester. Upon a student's request, the program director can approve additional three credits if the first semester in the MBA program has already been completed, and the cumulative GPA is 3.5 or above.

Grade Policy

The MBA program follows the university graduate program guidelines in terms of grading. A 3.0 cumulative GPA is required to graduate. In addition to university guidelines, the following rules apply:

- A student is allowed to receive two Cs (C or C+) in courses in the MBA program. If the student receives a third C or C+, he/she is automatically dismissed from the program.

- A student who receives an F in any course in the MBA program is automatically dismissed from the program.

Degree Requirements

The degree is composed of 48 credits (16 courses). Eighteen credits (six courses) comprise the foundation courses and 30 credits (10 courses) comprise the core courses. Courses are offered in the evenings and/or weekends.

The MBA 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.

Foundation Courses (18 credits)

- 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

Core Courses (30 credits)

- MBA 608 Professional Communication
- 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 615 Innovation and Entrepreneurship
- MBA 616 International Electronic Commerce
- MBA 617 Ethical and Legal Issues
- MBA 620 Strategic Management in the 21st Century

Elective Courses

With permission from the director of graduate programs, students may replace core courses with elective courses in the areas of finance,

marketing or management.

- MBA 632 Securities Analysis
- MBA 633 Financial Futures and Derivatives
- MBA 650 Internet Marketing Management
- MBA 655 Internet Marketing Project
- MBA 670 Entrepreneurship and New Venture Management
- MBA 672 Managing a Family Business
- MBA 696 Special Topics in Business

Other Degree Requirements

Students are required to submit a thesis project reflecting various cross-disciplinary aspects covered throughout the MBA program as part of the Strategic Management in the 21st Century course (MBA 620).

Academic Advising

The MBA Graduate Program office provides advising to students throughout the program through the director and coordinator. Additionally, the graduate committee will provide assistance in advising as required. The graduate committee consists of faculty members who teach in the MBA program and are appointed on a yearly basis. They assist the director in admissions, advising, curriculum and other related matters.

School of Engineering

Engineering Systems Management

Ibrahim Al Kattan, Director

The School of Engineering offers a Master of Science degree in Engineering Systems Management (M.S.E.S.M.). The mission of the Engineering Systems Management (ESM) graduate program is to significantly increase the opportunities for practicing, degreed engineers working in engineering management and in systems engineering positions to be successful in their efforts to build effective teams, lead and manage major engineering projects, and expand economic development for the private and public sectors of UAE and the Gulf region countries.

Master of Science in Engineering Systems Management (M.S.E.S.M.)

The curriculum of the M.S. program currently provides core courses followed by courses in the theme areas of Engineering Management (EM) and Construction and Materials Management (CMM).

The M.S.E.S.M. degree is recognized by the Ministry of Higher Education and Scientific Research of the United Arab Emirates. This program is designed to educate engineers of all disciplines in techniques to manage and lead industrial and public projects in a systematic and effective manner. The ESM program, with quality standards similar to those established in the United States, offers a multidisciplinary curriculum designed to integrate management skills with technical knowledge from different engineering disciplines to accomplish work activities and entire projects more economically and productively. ESM encompasses the integration of system elements–people, information, hardware, software, facilities, equipment, energy, and processes–to manage work activities and projects in the public and private sectors. Skills are enhanced to assist graduates in the:

- Making of decisions that meet quality and funding goals while adhering to technical specifications and timeline requirements
- Development of realistic alternatives, use of practical decision criteria and the implementation of the selected alternative
- Identification, collection and analysis of engineering and other information to make technically correct and financially sound decisions

Program Educational Objectives

Graduates of the Engineering Systems Management program are expected to be able to:

- Organize and lead project teams engaged in narrowly defined and broadly scoped studies of commercial and public systems for domestic and international operations
- Lead and perform quantitatively-based studies of systems and processes in a selected technical area or multi-disciplinary engineering area

- Perform the ongoing management of technical activities and personnel of a core unit of industrial corporations, domestic institutions and governments
- Lead and manage technological development through the application of systems engineering techniques in order to add value to a product or service
- Understand and apply principles and techniques of systems analysis and modeling applicable to most engineering-based processes and systems
- Demonstrate broadened skills and technical knowledge in the application of engineering principles and methods needed for project coordination and management positions
- Communicate to industry and government management in concise written and spoken forms the results of studies that involve the elements of design, analysis and synthesis

Admission Requirements

In addition to meeting the university's general graduate admission requirements, applicants must meet the specific requirements of the ESM program. Applicants must hold a bachelor of science degree in engineering from an accredited institution. Degreed individuals in fields closely related to engineering or a quantitative science may be considered on a case-by-case basis. Please note that an applicant with a bachelor's degree in technology (or less than four years of university-level work) is not normally admissible to the program. Also required is at least one year of professional experience following the bachelor of science degree in an engineering or closely related field that has provided good professional experience in design, analysis, management, research, technical sales or another relevant dimension of engineering practice.

Academic Standing

Enrolled students must maintain a GPA of at least 3.0 (B average) to remain in good standing. Students who fall below

that level will be placed under probation and must raise their overall GPA to at least 3.0 within one semester to be returned to good standing.

Credit Transfer Policy

The credit transfer policy is described in the information on General Requirements for Admission in the Graduate Studies and Research section.

Degree Requirements

Applicants are required to complete a minimum of 36 credit hours including the core courses as follows:

- At least 15 credit hours in the M.S.E.S.M. graduate program of foundation courses (500 level) plus the seminar course ESM 595
- At least 15 credit hours in one of the theme areas: Engineering Management or Construction and Materials Management. These courses are at the 600 level and may include no more than one 500-level course approved by the advisor.
- Minimum six credit hours for either research reported in a thesis or a professional project presented in a report
- A student must complete the degree requirements within five years from the time of initial enrollment into the program.

Foundation Courses

Prerequisite Courses
- ESM 500 Statistical Methods for Engineers
- ESM 505 Introduction to Information Technology

Required Courses
- ESM 510 Economic Decision Analysis
- ESM 520 Management for Engineers
- ESM 540 Modeling and Simulation
- ESM 550 Information Technology for Engineering Managers
- ESM 595 Seminar

Elective Courses
Students must complete one of the following courses:

- ESM 530 Strategic Technology Management

- ESM 560 Quality Engineering and Management
- ESM 570 Project Management.

Only those students who have finished the foundations courses with 3.00 (B) GPA or above can pursue the M.S.E.S.M. degree. Students completing the foundation courses with less than 3.00 (B) GPA may receive the Graduate Certificate in ESM (described below).

Theme Courses

Engineering Management (EM) Theme
Students are required to take at least 15 credits of 600-level courses, with no more than one 500-level course, approved by the advisor.

A student may emphasize either the Applied Management Operations area or the Quantitative Management area by taking three courses in the area of emphasis and two courses in the secondary area. All courses must be approved by the student's advisory committee.

Applied Management Operations Area Courses (2 or 3 courses)
- ESM 630 Advanced Economic Decision Analysis
- ESM 636 Human Resources Management for Engineers
- ESM 644 Financial Management for Engineers
- ESM 664 Infrastructure Systems Maintenance and Management
- ESM 668 Engineering Safety and Environment
- ESM 694 Special Topics (in Engineering Management)

Quantitative Management Area Courses (2 or 3 courses)
- ESM 632 Applied Operations Research
- ESM 638 System Optimization and Decision Analysis
- ESM 640 Logistics Management
- ESM 694 Special Topics (in Engineering Management)

Construction and Materials Management (CMM) Theme

Students are required to take at least 15 credits of any 600-level courses in either Construction Management or Materials Management and no more than one of the 500-level courses as approved by the advisor. There are three required courses regardless of which area is emphasized.

Required Courses

• ESM 650 Construction Management

• ESM 652 Construction Planning and Scheduling

• ESM 654 Materials Management

A student may emphasize either Construction Management or Materials Management by taking two elective courses approved by the student's advisory committee.

Elective Courses (2 courses)

• ESM 644 Financial Management for Engineers

• ESM 660 Application of Construction Law

• ESM 662 Construction Business Operations

• ESM 664 Infrastructure Systems Maintenance and Management

• ESM 666 Advanced Construction Materials Management

• ESM 667 Construction Contracting and Cost Estimating

• ESM 668 Engineering Safety and the Environment

• ESM 694 Special Topics (in CMM)

Other Degree Requirements

In order to complete the requirements for the degree, either a professional project and report or research and thesis must be completed for a total of six credit hours (ESM 698 Professional Project or ESM 699 Research).

Thesis or Project Advising

A student will complete his/her thesis or project under the direct supervision and guidance of the major advisor. This faculty member is normally the chair of the student's advisory committee.

Graduate Certificate in Engineering Systems Management (G.C.E.S.M.)

The Graduate Certificate in ESM is awarded upon the completion of at least five courses. A minimum of four of the courses must be taken from the ESM program and four of the courses must be at the 500 level or above. A student must complete the certificate requirements within five consecutive semesters from the time of initial enrollment in the ESM program.

Mechatronics Engineering

Mohammad-Ameen Jarrah, Director

The School of Engineering offers a Master of Science Degree in Mechatronics Engineering (M.S.MTR.). The degree is recognized by the Commission for Academic Accreditation of the Ministry of Higher Education and Scientific Research of the United Arab Emirates. This graduate program is committed to being an international, multidisciplinary center of excellence in synergistic applications of the latest techniques in embedded systems, precision mechanical engineering, control theory, computer science and electronics through education, research and outreach. The technological gap between developing and industrialized nations continues to widen at an alarming rate, largely due to the lack of skilled engineers capable of integrating new technologies into existing systems and networks. The mandate of the Mechatronics Engineering (MTR) program is to improve this situation by equipping engineers with the design, analysis and synthesis abilities to plan, implement and manage the latest technologies. The curriculum of the Mechatronics Engineering program meets the region's needs–both present and future–through the education of young engineers and scientists.

Professional jobs considered to be in the mechatronics engineering field are grounded in the multidisciplinary

aspects of electrical, mechanical, control, computer and software engineering. The unique skills of the mechatronics graduate are becoming increasingly valuable to employers in a variety of areas, including modern industrial installations and systems, computer integrated manufacturing systems, maintenance diagnosis and troubleshooting, defense systems, vehicle design and manufacturing, robotics and many more.

Master of Science in Mechatronics Engineering (M.S.MTR.)

This M.S. program provides students with state-of-the-art knowledge in their areas of specialization and with practical strategies for adapting that knowledge to serve the specific needs of the region. Multidisciplinary engineers are needed now more than ever to meet the demands for a flexible engineering workforce to deal with highly integrated engineering systems.

Program Educational Objectives

Graduates of the M.S. in Mechatronics Engineering program are expected to be able 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

• Provide an employer with interdisciplinary skills necessary to utilize cutting edge technology tools in the design, development and implementation of modern engineering systems

• Understand and develop technologies such as information technology, embedded systems, modeling and simulation, and precision engineering systems in the design and development of "smart" products

• Apply mechatronics principles in the broad context of engineering system design

• Address open-ended problems and maintain an attitude of self-learning

Admission Requirements

In addition to meeting the university's general graduate admission requirements, applicants must meet the specific requirements of the Mechatronics Engineering program. Applicants must hold a bachelor of science degree in engineering from an accredited institution. Degreed individuals in fields closely related to engineering or a quantitative science may be considered on a case-by-case basis. Please note that an applicant with a bachelor's degree in technology (or less than four years of university-level work) is not normally admissible to the program.

Academic Standing

Enrolled students must maintain a GPA of at least 3.0 (B average) to remain in good standing. A student who falls below that level will be placed on probation and must raise his/her overall GPA to at least 3.0 within one semester to be returned to good standing.

Credit Transfer Policy

The credit transfer policy is described in the information on General Requirements for Admission in the Graduate Studies and Research section.

Degree Requirements

Students must complete prerequisite discipline-bridging courses as required by the Mechatronics Admission Committee. These courses do not generate credits toward the completion of the M.S. degree. Students must file formal study plans upon the completion of 12 credits of approved graduate courses. The formal program of study must include a minimum of 30 credits including the completion of either a research thesis or professional project. Both options require students to take four core courses (12 credits) with a minimum cumulative GPA of B (3.0). Both options also require students to take a minimum of 12 additional credits with at least three courses at the 600 level with a cumulative GPA of B.

Prerequisite Discipline-Bridging Courses

- MTR 505 Applied Electrical and Electronics Systems (Students with a B.S. in Electrical Engineering are exempted.)
- MTR 510 Applied Mechanical Systems Students with a B.S. in Mechanical Engineering are exempted.)
- MTR 515 Information Technology for Mechatronics (Students with a B.S. in Computer Engineering are exempted.)

Required Core Courses (12 credits)

Students must complete the following courses:

- 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 695 Mechatronics Seminar

Elective Courses (12 credits)

Students must take a minimum of 12 credit hours with at least three courses at the 600 level.

- 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 and Sensor Fusion
- MTR 694 Special Topics

Only those students who have finished a total of five graduate courses (15 credits) in the program with a cumulative GPA of 3.0 or above can pursue the M.S. degree. Students completing the five courses with less

than a 3.00 cumulative GPA may receive the Graduate Certificate in Mechatronics Engineering (described below).

Other Degree Requirements

Thesis Option

Students must complete a program of research culminating in a thesis for at least six credits (MTR 699 Master's Thesis) that contributes to a selected area of knowledge. Students will be supervised by a faculty member with a main advisor to supervise the research topic. The faculty advisor is appointed no later than the end of the second semester of study in the program. Students must pass a final oral thesis defense and exam.

Design Project Option

Students must complete two comprehensive design projects for three credit hours each. The first project (MTR 590 Mechatronics Design) is accomplished during the first year and the second project (MTR 691 Mechatronics Design Project) is completed during the final semester of the M.S. program. Projects are normally industry related and developed through an industrial partner. Students must pass a final oral project presentation and exam.

Thesis or Project Advising

A student will complete his/her thesis or project under the direct supervision and guidance of the major advisor. This faculty member is normally the chair of the student's M.S. advisory committee.

Graduate Certificate in Mechatronics Engineering

The Graduate Certificate in Mechatronics Engineering may be awarded upon the completion of at least five courses (15 credits). A minimum of four of the courses must be taken from the MTR program and four of the courses must be at the 500 level or above. A student must complete the certificate requirements within five consecutive semesters from the time of initial enrollment in the program.

RESEARCH CENTERS

Mechatronics Center

Mohammad-Ameen Jarrah, Director

Modern engineering systems combining computer technology and precision mechanical engineering are rapidly revolutionizing many aspects of engineering product design, monitoring and diagnostics, and automated manufacturing. Responding to this challenge, the School of Engineering established the Mechatronics Center in 2001. The mission of the center is to assume a leadership role in research and development of advanced engineering systems and high-tech technology transfer to the region. The Mechatronics Center, the first of its kind in the region, seeks to promote multidisciplinary research activities among faculty. Additionally, it supports the Master of Science in Mechatronics Engineering program. The center provides services to and cooperates with industry and government agencies where extensive integration of instrumentation, control systems, electronics, intelligent software and computers is required. Areas of expertise within the center include modern industrial installations and systems, computer integrated manufacturing systems, maintenance diagnosis and troubleshooting, micro-electro- mechanical systems, vehicle manufacture and design, robotics, electrical control and drives, and automated production systems.

Institute of Materials Systems

Adil Al-Tamimi, Director

The Institute of Materials Systems (IMS) of the School of Engineering was established in 2001 based on needs of the region. It is a multidisciplinary institute involving faculty members of the School of Engineering and the School of Architecture and Design. The IMS collaborates with both the governmental and private sectors in areas of materials research and applications. Some of the primary focuses of IMS are quality control, performance, the development and use of standard procedures, and the assurance of quality of materials used in the region.

Objectives of the institute are to:

- Conduct scientific research focused on materials properties and applications taking into consideration the harsh environment in the region
- Take an active role with governmental departments in establishing local and regional codes of practice
- Provide independent technical evaluation and consultation services on materials related issues
- Enhance education through seminars, conferences and short courses
- Establish collaboration with similar centers of excellence on a worldwide basis

Institute of Urban and Regional Planning and Design

Amer Moustafa, Director

The Institute of Urban and Regional Planning and Design (IURPD) was founded in May 2001 through a directive by the AUS Board of Trustees. IURPD is 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 institute strives to advance urban planning as it relates to the local culture and identity of the UAE and the Arab Gulf region, and it seeks to promote sustainability as integral to all activities pertinent to urban planning and urban design.

The basic objectives of IURPD are to:

- Advance the production and accumulation of knowledge in urban and regional planning and urban design
- Develop and offer educational and training opportunities in the field of urban and regional planning and urban design to meet the increasing demand for specialized professionals in these fields
- Collaborate with local governmental, not-for-profit, non-governmental and private agencies concerned with urban planning and development in areas of mutual interest with the intent of advancing the quality of practice and research
- Advance the public discourse on urban planning through the initiation and/or participation in public forums (e.g., seminars, conferences, symposia)
- Increase the public's awareness and interest in urban planning and urban design through pursuing public outreach programs and engagement in mass media opportunities

College of Arts and Sciences

ELT TESOL

ELT 501 Advanced English Grammar (3-0-3). (Cross-listed with ENG 401). Provides an intensive investigation into contemporary English structure, function and meaning. Also analyzes how structure types and sentence relationships are realized in various texts and genres. Discusses issues relative to descriptive/prescriptive approaches to language.

ELT 503 Contrastive Linguistics (3-0-3). Deals with how English and Arabic compare and contrast at various levels of linguistic organization: phonology, morphology, syntax and semantics. A discourse pragmatic perspective, together with a functional approach to the lexico-grammar, is promoted throughout to enable students look at the way texts are organized functionally.

ELT 505 Culture and the Language Teacher (3-0-3). 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 511 Linguistics for ESL Teachers (3-0-3). (Formerly ENG 511). Investigates areas in linguistics relevant to ESL teachers. Students examine key linguistic concepts and definitions in phonetics, phonology, morphology, syntax and semantics and their applications to teaching and learning English. The course explores ways of using research and generalizations derived from linguistics to inform teaching practice.

ELT 513 Language Acquisition and Development (3-0-3). Focuses on processes involved in understanding and producing language, and 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 Language Teaching Methodology (3-0-3). 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: ELT 513.

ELT 517 Curriculum and Material Development (3-0-3). 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: ELT 511.

ELT 521 Reading and Writing in ESL (3-0-3). 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, writing and learning and explore ways to apply them for effective language instruction. Prerequisite: ELT 513.

ELT 523 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 531 Sociolinguistics (3-0-3). Examines the relationship between language and society at both macro and micro levels. Also studies the methods and techniques used in sociolinguistic research and analysis. A major component of the course looks at the implications of sociolinguistic research on the teaching of English as a foreign or second language. Topics 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. Prerequisite: ELT 511.

ELT 551 Language Testing and Evaluation (3-0-3). Reviews the fundamental goals, principles, standards and uses of language assessment and language assessment research. 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 515.

ELT 553 Technology in the ESL Curriculum (3-0-3). Introduces a wide range of current applications of technology in the English language classroom and focuses on creating innovative and successful ESL teaching and learning environments using computers and other technologies. Various technologies, such as computer software, the Internet and electronic

communication applications for the ESL classroom, are demonstrated and discussed. In addition, students are provided with theoretical and pedagogical standards for evaluating these technologies, as well as strategies for integrating these applications in their classrooms. Students also become familiar with current research into the issues and considerations behind integrating technology into English language learning. The central focus of the course is always the pedagogical rationale for the use of media in a particular lesson. Prerequisite: ELT 515.

ELT 594 Special Topics in Applied Linguistics (3-0-3). Focuses on a range of issues relevant to the preparation of second language teachers by addressing topics in linguistics and their application to teaching a second/foreign language. Given the wide scope of the field, the approach adopted in this course is an eclectic one, whose main objective is to examine ways to make research findings in linguistics applicable to language teaching/learning situations. Emphasis may change each semester. Prerequisite: ELT 513.

ELT 611 Classroom Research (3-0-3). 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 619 Practicum in TESOL (3-0-3). 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 at different age levels. Students attend weekly seminars to discuss their classroom experiences and reflect on their personal growth as English language teachers. Prerequisite: ELT 551.

ELT 693 Matriculation Continuation (0-0-0). Registers matriculating students in the graduate program who are not registering for two consecutive semesters (excluding summer session). Such students are required to register for this course in their second semester out in order to hold their seat in the program. Failure to do so will result in the loss of their admission and will require them to reapply to the program. Cannot be repeated more than two times. This course does not generate credits for graduation. Tuition charged is equivalent to one graduate credit.

ELT 695 Research Seminar (3-0-3). For the master's degree student nearing the conclusion of his/her program and who is about to commence work on his/her thesis. Allows students 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: ELT 551.

ELT 699 Master Thesis (0-0-0). Requires that the thesis be prepared under close direction of a faculty supervisor on a topic related to some aspect of TESOL. The thesis must be defended to the satisfaction of the thesis committee composed of three faculty members from the Department of English. Graded as Pass/Fail. Prerequisite: permission of program director. Registration fees apply.

T R A English/Arabic/ English Translation and Interpreting

TRA 500 Principles and Strategies in Translation and Interpreting (3-0-3). Provides advanced training in principles and methods of translation and interpreting from English to Arabic and vice versa. A variety of text types are covered, ranging from legal to journalistic genres.

TRA 501 Specialized Translation and Terminology I (3-0-3). Provides focused training in the translation of texts in the fields of international relations (law, journalism, social sciences and the humanities) from and into English and Arabic. The treatment of such texts is guided by theoretical input covered in TRA 500 and more importantly by input from the area of terminology and its application in these fields. Prerequisite/concurrent: TRA 500.

TRA 502 Specialized Translation and Terminology II (3-0-3). Provides focused training in the translation of texts in the fields of business, science and technology from and into English and Arabic. The treatment of such texts is guided by theoretical input covered in TRA 500 and more importantly by input from the area of terminology and its application in these fields. Prerequisite: TRA 501.

TRA 503 Theoretical Models of Translation (3-0-3). 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 that govern the process of translation and to the theoretical underpinnings that have motivated different attitudes to translating and translations. Prerequisite: TRA 500.

TRA 504 Discourse Semantics and Pragmatics in Translation (3-0-3). Addresses the needs of the practicing 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 558.

TRA 505 Interpreting and the Profession I (3-0-3). Provides 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 500.

TRA 506 Theoretical Perspectives on Translation Quality Assessment

(3-0-3). Enables students both to achieve competent standards of translation and to reflect on the process of deriving texts from English or Arabic. Emphasis is placed on texts with a persuasive function in professional settings such as journalism, advertising and translation for the media. Prerequisite: TRA 503.

TRA 508 Research and Academic Writing (3-0-3). Introduces students to the conventions of academic writing in both English and Arabic and promotes an "action research" stance. These research skills are applied to the work of the translator and interpreter both as practitioners and as analysts. Prerequisite: TRA 500 and TRA 501.

TRA 509 Interpreting and the Profession II: Simultaneous Interpreting (3-0-3). Builds on TRA 505 Interpreting and the Profession I and provides high-level training in those skills most relevant to simultaneous interpreting (SI), including professional standards and international conventions, as well as training on the equipment simultaneous interpreters use. Theoretical insights into the process of interpreting are presented and placed within an overall, practice-driven model of the process. Prerequisite: TRA 505.

TRA 556 Rhetoric for Translators (3-0-3). Surveys the various traditions within both English and 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 rhetorical thinking is developed and applied particularly to the translation of sacred and sensitive texts. Prerequisite: TRA 500.

TRA 558 Contrastive Linguistics (3-0-3). 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 610 Intercultural Communication (3-0-3). Provides an in-depth view of the way in which cultures influence communication. Topics covered include perception differences, worldview, identity, verbal and non-verbal communication styles in both high and low context cultures, and the effect of bias and conflicting value systems on cross-cultural communication.

TRA 693 Matriculation Continuation (0-0-0). Registers matriculating students in the graduate program who are not registering for two consecutive semesters (excluding summer session). Such students are required to register for this course in their second semester out in order to hold their seat in the program. Failure to do so will result in the loss of their admission and will require them to reapply to the program. Cannot be repeated more than two times. This course does not generate credits for graduation. Tuition charged is equivalent to one graduate credit.

TRA 694 Special Topics (1 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Can be repeated for credit. Prerequisites: permission of program director.

TRA 695 Translation Research Seminar (3-0-3). For the master's degree student nearing the conclusion of his/her program and who is about to commence work on his/her thesis. 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: permission of program director.

TRA 696 Independent Study (3-0-3). Requires a theoretical or practical project initiated by an individual student and conducted under faculty supervision beyond what is offered in existing courses. Prerequisite: permission of program director.

TRA 699 Master Thesis (3-0-3). Requires students to complete an extended piece of individual research (10,000-12,000 words) on a topic within translation/interpreting studies, including an extended translation (c. 5,000 words) and a commentary, chosen in consultation with the thesis faculty supervisor. Emphasis is placed on the theoretical and practical aspects of translating or interpreting. The thesis must be completed within two consecutive academic semesters. An extension may be allowed if a candidate presents acceptable mitigating circumstances. The thesis must be defended to the satisfaction of a committee composed of three faculty members. Candidates must pass this examination of the thesis by at least a B grade. Prerequisite: permission of program director.

School of Architecture and Design

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HRM     Heritage
        Resource
        Management
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HRM 511 Research and Documentation (3-0-3). Introduces methodologies for documenting artifacts and conducting reconnaissance surveys; emerging technologies in recording heritage resources (includes three weeks of workshops on MultiGin, Photogrametry and GIS) and standards recommended by UNESCO and the US National Park Service for safeguarding heritage resources; and strategies for identifying, recording and interpreting distinctive features of heritage resources (includes basic instruction on preparing a registration form for historic property listing and compiling inventory forms).

HRM 521 History of Material Culture (3-0-3). Surveys the history, theory and study of material culture, focusing on ancient civilizations, the development of the discipline of archaeology and the origins of modern concerns with protection of heritage resources. The course provides a historical context within which the earliest archaeological sites and agricultural settlements in this region developed, examining the rise, spread and impact of Islam in the region's material culture, and assessing the state of cultural heritage in the contemporary period.

HRM 531 Theory and Practice of Building Restoration (3-0-3). Examines the theories and practices of restoration, focusing on the inherent behavior of architectural structures and strategies to detect and resist building failure. Includes study of traditional building materials, technologies and tools, and strategies for rehabilitating historic buildings after natural disasters and/or destruction caused by war or human conflict. Includes field demonstrations related to building diagnostics, analysis and prevention of further deterioration.

HRM 571 Legal and Economic Issues in Architectural and Urban Conservation (3-0-3). Surveys the constitutional, statutory and legal theories; financial incentives; national and international laws; and planning and management of heritage management projects. Discusses architectural and urban impact of regulatory and aesthetic zoning, planning and design, and the strategies to develop heritage destinations for culturally and ecologically sensitive tourism.

HRM 594 Special Topics in Heritage Management (3-0-3). Introduces the critical issues in heritage management through case studies and collaboration with local and regional organizations. The course illustrates the fundamental issues that heritage managers will encounter in their professional career. Includes hands-on participation in different aspects of a local restoration project, a site accessibility proposal plan, or museum exhibition design and implementation. Examines implementation of project planning and budgeting, research, documentation and code issues.

HRM 693 Matriculation Continuation (0-0-0). Registers matriculating students in the graduate program who are not registering for two consecutive semesters (excluding summer session). Such students are required to register for this course in their second semester out in order to hold their seat in the program. Failure to do so will result in the loss of their admission and will require them to reapply to the program. Cannot be repeated more than two times. This course does not generate credits for graduation. Tuition charged is equivalent to one graduate credit.

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UPL Urban Planning
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UPL 501 Fundamentals of Urban Planning (3-0-3). (Cross-listed as ARC 571). Introduces the discipline of urban planning. Surveys the history of the field as well as its links with other fields of environmental studies, such as architecture, urban design, geography, engineering and others. Overviews what planners do and the tools they use in their practice.

UPL 541 Planning Theory and Methods (3-0-3). Explores the theoretical foundations of planning and its associated methods. Examines the basic theoretical framework that fosters good planning practice. Reviews the classical theoretical paradigms of planning, examines the major roles played by practicing planners, and looks at the application of theory in dealing with such issues as community development, environmental protection, economic policies, political and administrative structure, and social equity.

UPL 547 Research Methods and Analysis (3-0-3). Introduces the quantitative and qualitative methods and techniques used in urban planning research and practice. Analytic approaches include research design, multivariate regression, survey research, case study research, evaluation and graphic data presentation. The emphasis is on methods in the context of planning and urban policy research. Prerequisite: UPL 501.

UPL 548 Environmental Planning (3-0-3). (Cross-listed as ARC 578). Provides a comprehensive overview of the field of environmental planning and how it relates to efforts intended to manage, organize and protect environmental resources. Reviews political and administrative context of environmental planning. Addresses principles of sustainability, ethics and the law in relation to land, air, water and other natural resources. Prerequisite: UPL 501.

UPL 550 Urban Economics and Analysis (3-0-3). Examines the economics of cities and urban problems. Undertakes economic analysis of the location and growth of urban and regional areas with emphasis

on public policy issues. Discusses land-use patterns, measurement and change in regional economic activity, and urban problems such as transportation, housing, poverty and crime. Special attention is placed on local fiscal behavior, overlapping jurisdictions and the provision of local public goods, and intergovernmental fiscal relations. Prerequisite: UPL 501.

UPL 556 Advance Planning Tools: GIS Applications (4-0-3). Introduces the Geographic Information Systems (GIS) concepts, capabilities and applications. The course focuses on developing the skills required to use GIS tools to analyze geographic data. Issues of data input, data models, spatial analysis and data output are discussed. By the end of the course, students have a good understanding of GIS development, capabilities, and potentials for socio-economic and urban planning studies. Prerequisite: UPL 501.

UPL 565 Land Use Planning Principles and Practice (3-0-3). Examines various theoretical and practice-based approaches to land use planning. Gives an overview of the various social, economic, political and legal influences on land use and the planning process and application appropriate to balance such influences. Prerequisite/concurrent: UPL 501.

UPL 572 Urban Transportation Systems Planning Techniques (3-0-3). Covers data collection, trip generation, trip distribution, factors underlying the choice of mode, traffic assignment, modeling and evaluation techniques, use of planning software packages, development and evaluation of alternatives. Prerequisite/concurrent: UPL 501.

UPL 574 Urban Transportation Systems Analysis (3-0-3). Covers the use of quantitative techniques for modeling urban transportation systems' performance. Topics include the application of graph theory and network analysis to transportation problems, and analytical approaches to formulate network equilibrium assignment problems and solution algorithms. Introduces dynamic traffic assignment. Prerequisite: UPL 572.

UPL 582 Theory and Principles of

Urban Design (3-0-3). (Cross-listed as ARC 573). Examines major concepts, principles and theories of urban design. Reviews the historic development of urban design as a professional field and surveys current urban design issues, trends and practices in both the Western and non-Western/Islamic contexts. Prerequisite/concurrent: UPL 501.

UPL 584 Urbanism and Urban Form Analysis (3-0-3). Examines urban form elements, patterns and evolution. Focuses on the forces that have shaped cities in history and analyzes contemporary trends that impact urban formation and regeneration. Explores methods of urban morphological analysis as related to urban design. Special attention is placed on the study of cities of the Middle East and Islamic societies. Prerequisite: UPL 501.

UPL 594 Special Topics in Urban Planning (2 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Prerequisites: UPL 501.

UPL 597 Planning Internship (0-0-0). Consists of eight weeks (320 hours) of approved internship. At the end of the internship, the student must submit a report of the internship work experience. Course is offered on a pass/fail basis. Prerequisite: UPL 501. Registration fees apply.

UPL 667 Urban Planning Lab (12-0-6). Coves the application of substantive skills in urban planning. Focuses on comprehensive planning exercises for an urban area in the UAE/Gulf region, involving fieldwork and hands-on analysis and application. Emphasizes the methods and tools of preparing plans. Addresses development of baseline data; analysis of existing conditions; identification of strategic planning and development issues; forecasting of future conditions; review of development goals, objectives and policies; development and synthesis of alternative plans; evaluation of alternatives; and development of implementation strategies and programs that support policymaking. Prerequisites: UPL 501, UPL 541, UPL 548, UPL 550 and UPL 556.

UPL 676 Transportation Systems

Operations and Control (3-0-3). Studies the operation and control of transportation systems with emphasis on traffic characteristics, capacity analysis, traffic improvements, signalization, signs and marking, channelization, intersection capacity, and principles and techniques used to improve the efficiency and safety of transportation systems. Prerequisite: UPL 572.

UPL 686 Space, Society and the Public Realm (3-0-3). Explores the nature of urban space and its role in the social being. Focuses on the potentials of space as a tool in shaping the public realm and nurturing citizenship. Examines critical issues of globalization and the transforming role of space in the post-industrial, informational city. Prerequisite: UPL 582.

UPL 693 Matriculation Continuation (0-0-0). Registers matriculating students in the graduate program who are not registering for two consecutive semesters (excluding summer session). Such students are required to register for this course in their second semester out in order to hold their seat in the program. Failure to do so will result in the loss of their admission and will require them to reapply to the program. Cannot be repeated more than two times. This course does not generate credits for graduation. Tuition charged is equivalent to one graduate credit.

UPL 694 Special Topics in Urban Planning (2 to 4 credits). Explores a theoretical or practical topic proposed by the faculty beyond what is offered in existing courses. Prerequisites: UPL 501.

UPL 698 Final Project (0-6-6). Requires an independent, original research project conceived and developed by the student and guided by an advisor and a reader. Students must integrate, synthesize and apply concepts, ideas and/or theories from coursework. Prerequisite: completion of all MUP coursework except one concentration elective.

UPL 699 Master Thesis (0-6-6). Requires independent original research conceived and developed by the student and guided by an advisor and a reader. Students must integrate, synthesize and

School of Business and Management

apply concepts, ideas and/or theories from coursework. Prerequisite: completion of all MUP coursework except one concentration elective.

MBA   Master of Business Administration

MBA 601 Managerial Economics (3-0-3). Covers the 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). Looks into the factors that influence individual and group performance while incorporating current management theory and research. 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. Also explores the 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). Examines the decision-aiding tools that can be applied by managers to gain insight into decision problems, ranging 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). Covers 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. Prerequisites: 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. Topics include 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). 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 and presentation, listening and negotiation skills. Stresses the study and practice of advanced techniques of argumentative writing. Required only for students admitted in 2003-2004.

MBA 608 Professional Communication (1-0-1). Focuses on effective communication skills of business professionals. Emphasis is placed on the use of technology in 21st century business communications. Topics include effective business writing and presentation and negotiation skills.

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). 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). Investigates the role of leadership 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). Introduces 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). Considers

the practices and techniques used to stimulate and sustain innovation and the entrepreneurial spirit. The process of new venture formation and the issues involved are examined in both the contexts of existing firms and free-standing new ventures. Prerequisites: MBA 602, MBA 605 and MBA 614.

MBA 616 International Electronic Commerce (3-0-3). 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). Intensively introduces the legal and ethical issues confronting the global business manager. Addresses the legal system, legal processes and several areas of substantive commercial law relevant to the business manager. 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. Integrates 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. Prerequisites: MBA 610, MBA 611, MBA 612 and MBA 615.

MBA 620 Strategic Management in the 21st Century (5-0-5). Focuses on developing and applying strategic management to successfully position organizations in a competitive 21st century environment. Integrates previous course experiences to hone decision-making, analysis, and oral and written communication skills. Students will prepare and present a major

business research project that requires analysis of a company's external environment, detailed internal corporate audit and build detailed action plans including implementation issues and financial forecasting. Required for students admitted in Fall 2003 onwards. Prerequisites: MBA 610, MBA 611, MBA 612 and MBA 615.

MBA 632 Securities Analysis (3-0-3). Covers 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.

MBA 633 Financial Futures and Derivatives (3-0-3). Comprehensively studies equity and debt-based futures and other derivative instruments. Discusses the functioning of options and futures markets and the role the market participants. Derivative instruments will be analyzed with a focus on pricing, hedging techniques and arbitrage applications. Prerequisites: MBA 632.

MBA 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 course focuses 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.

MBA 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 website; nature of the marketing offer; and communication, pricing and service objectives. Prerequisites: MBA 601 and MBA 616.

MBA 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.

MBA 672 Managing a Family Business (3-0-3). 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 considered. Cases and empirical studies engage students in family business experiences. Prerequisites: MBA 602 and MBA 605.

MBA 693 Matriculation Continuation (0-0-0). Registers matriculating students in the graduate program who are not registering for two consecutive semesters (excluding summer session). Such students are required to register for this course in their second semester out in order to hold their seat in the program. Failure to do so will result in the loss of their admission and will require them to reapply to the program. Cannot be repeated more than two times. This course does not generate credits for graduation. Tuition charged is equivalent to one graduate credit.

MBA 696 Special Topics in Business (1 to 4 credits). Explores special research topics proposed by students and accepted by faculty for oversight. Topics must be approved by the director of graduate programs and the dean.

School of Engineering

ESM Engineering Systems Management

ESM 500 Statistical Methods for Engineers (3-0-3). Covers the principles and methods of statistics as applied to engineering systems and management. Topics include probability, sample statistics, confidence intervals, and introduction to quality control for product acceptance and process control.

ESM 505 Introduction to Information Technology (1-1-1). Introduces computer hardware and computer software. Covers desktop publishing, word processing, presentations graphics and spreadsheets. Introduces databases and database management system tools, webpage design and Web authoring tools.

ESM 510 Economic Decision Analysis (3-0-3). Covers economic decision analysis and accounting/finance fundamentals for engineering projects and management. Also covers time value of money and the effects of interest, project cost estimation, alternative evaluation methods, make/buy decisions, replacement studies and project selection under limited budget. In addition, fundamental principles of accounting, indirect cost distribution and financial analysis are covered. There is extensive use of spreadsheets and case studies

ESM 520 Management for Engineers (3-0-3). This is the foundational engineering management graduate course. Treats a range of integrated topics for individuals in both public and private sector organizations who coordinate and manage engineering projects, personnel, resources and systems. Professional practice topics include human resources, communication skills, leadership styles, team building, total quality management, principles of project management, and the fundamentals of organizational development and performance evaluation. Management needs in multicultural and multinational environments are also considered. An important aspect of this course is to integrate core management principles with engineering experiences using case studies and applications.

ESM 530 Strategic Technology Management (3-0-3). Gives students a broad overview of the main topics encompassed by management of technology. Includes technical managerial challenges that are presented by new technologies in the context of engineering systems, and development and implementation of technological strategies to create competitive advantages. Presents innovative activities beginning with research and development and extending through production and marketing. Focuses on the emergence of the knowledge economy and technology as a key knowledge asset. Also covers technological innovation, technological forecasting, technological impact identification, technology assessment and evaluation, and case studies. Prerequisite/concurrent: ESM 510 and ESM 520, or MBA 601 and MBA 302.

ESM 540 Modeling and Simulation (3-0-3). Covers the concepts and principles associated with systems modeling and simulation using contemporary software such as simulation with ARENA. Topics include probability and statistics review; modeling techniques, including problem formulation and queuing theory; and discrete event simulation modeling. Students become experienced with the state-of-the-art simulation and modeling software, reflecting the joint nature of these activities in good simulation studies, and continuous simulation of industrial and manufacturing systems using ARENA. Team project included. Prerequisite: ESM 500.

ESM 550 Information Technology for Engineering Managers (2-0-2). Introduces information systems, classifications and components; database management systems; e-business and e-commerce; technology and managerial issues. Also covers telecommunication and networks management, capacity planning, IT supply chain management, enterprise resource planning (ERP) and information security management.

ESM 560 Quality Engineering and Management (3-0-3). Covers the techniques and applications of quality control, total quality management and reliability engineering. Topics include sampling procedures, data patterns, product quality and control of engineering materials, statistical process control (charts and troubleshooting), product acceptance sampling plans, process capability analysis, an introduction to total quality management, reliability principles and analysis, time-to-failure, failure rate, reliability determination, and component and system reliability. Prerequisite: ESM 500.

ESM 570 Project Management (3-0-3). Covers the application of management techniques related to the unique nature of projects. Examines the elements of project management critical to the success of projects: project management framework, project life-cycle, scope management, time management, cost management, project controls and earned value, and use of project management software. The principles and tools are integrated and clarified through case studies from a variety of disciplines and through creation of project management plans developed by students working in teams.

ESM 595 Seminar (1-0-1). Presentations conducted in a seminar

setting by practicing   systems and management engineers that include projects and industrial case studies. Used to bring about understanding and integration of managerial and engineering tools for enhancement of the UAE technology environment.

ESM 630 Advanced Economic Decision Analysis (3-0-3). Covers advanced topics in engineering economy, including the effects of inflation and taxes, treatment of depreciation, risk and uncertainty, cost estimation, indirect cost allocation, and life cycle cost analysis. Also covers value engineering and its application. Case studies and a project are included.

ESM 632 Applied Operations Research (3-0-3). This is a course for the quantitative management decision skills. Topics include formulation of mathematical model, solution using linear programming, sensitivity and cost analysis of developing alternative optimum solutions, inventory control, production planning and control, management resource planning, forecasting and stochastic modeling. Includes a team-based design project.

ESM 636 Human Resources Management for Engineers (3-0-3). Introduces current trends, practices and methodology of Human Resources Management (HRM) and planning as related to the engineering profession and conduct of business. Topics include the human resources planning process; tools and techniques; job specification; methods of job analysis; legal requirements and ethical context of HRM; methods of recruitment, evaluation, career training and development programs; salary systems and employee benefits; HR information systems; and international HR issues. HR management practices and methodologies are integrated with engineering experiences. Prerequisite: ESM 520.

ESM 638 System Optimization and Decision Analysis (3-0-3). Covers theory and practice of analyzing decisions in the public and private sectors. Multiple objectives, influence

diagrams, decision trees, sensitivity analysis, probability assessment, multi-attribute utility and human biases are covered. Practical applications through real-world systems model building are described and conducted. Uses case studies to examine the use of decision analysis software and spreadsheets to solve real-life problems.

ESM 640 Logistics Management (3-0-3). Offers an overview of supply chain management (SCM), an integration of purchasing, operations, logistics, management of physical warehouse, documentation and information flows within the supply chain cycle. Topics include supply chain management purposes and processes; supply chain design, evaluation and measurement models; trends in strategic operations, procurement, and logistics within the supply chain. Includes case studies in logistic modeling for diverse distributors.

ESM 644 Financial Management for Engineers (3-0-3). Helps students in understanding, recording and analyzing financial information, cost concepts, cost behavior and cost accounting. Cost-volume-profit analysis and leverage, capital budgeting for profit planning; financial planning and forecasting are covered. In addition, risk and return, portfolio theory and asset pricing models, multinational and international finance are covered.

ESM 650 Construction Management (3-0-3). Covers the application of construction management techniques related to the unique nature of construction projects. Looks at elements of construction management, construction delivery systems, partnering and subcontracting, cost estimating and scheduling, contract administration and control techniques. Also covers construction quality control, construction safety, use of construction contract control software. Includes case studies from the construction industry.

ESM 652 Construction Planning and Scheduling (3-0-3). Covers the application of planning and scheduling techniques related to the unique nature

of construction projects. Looks at elements of project planning and scheduling critical to the success of construction projects, work breakdown structures (WBS), network modeling, activity on arrow techniques, Critical Path Method, program evaluation and review techniques, project monitoring and control, earned value, and use of construction planning and scheduling software. Includes case studies from the construction industry.

ESM 654 Materials Management (3-0-3). Covers applications of management skills on construction materials, site, personnel, planning process, information systems, expediting and quality assurance, purchasing, logistics, materials control, electronic data management, bar coding, and materials selection and specifications.

ESM 660 Application of Construction Law (3-0-3). Introduces construction contracts and their administration with special emphasis for engineering. Covers construction claims, matters of time, delays and litigation. Professional topics include analysis of specific issues concerning contracts, subcontracting, tort claims, insurance and bonds. Also covers strategies for avoiding or terminating litigation, methods of dispute resolution, key aspects of prosecuting and defending claims, the role of dispute review boards and their use, procedures of claims presentation, conduct cost evaluation of claims, and methods of international construction contracts. Actual legal cases involving construction and law are covered. Prerequisite/concurrent: ESM 650.

ESM 662 Construction Business Operations (3-0-3). Examines the elements of construction contracting critical to the success of construction businesses. Covers business ownership, company organization, insurance, labor law, business methods, accounting and cost keeping systems, budgeting and financial management. Includes case studies from the construction industry.

ESM 664 Infrastructure Systems Maintenance and Management (3-0-3). Explores civil infrastructure facility and asset management as comprehensive systems with emphasis

on transportation and building structures. Includes needs assessment, information management, in-service monitoring and condition evaluation, performance modeling, life cycle cost and benefits analysis, prioritization and optimization. The course also covers planning, scheduling and coordination of maintenance activities.

ESM 666 Advanced Construction Materials Management (3-0-3). Covers an inventory management for construction materials, operational plan and forecasting supply and demand for the construction materials, construction facilities and handling of materials on site. Also covers applications of research and development (R&D) and IT in construction materials management, handling of construction materials waste and planning for codes and specifications. Prerequisite: ESM 654.

ESM 667 Construction Contracting and Cost Estimating (3-0-3). Examines the cost elements of construction contracting crucial to the success of construction businesses. Provides an overview of basic cost estimating and bidding procedures, including the role of the estimator, various levels and details of an estimate and the bidding process. Topics include accounting and cost keeping systems, budgeting, quantity takeoff, pricing labor, material and equipment, bonding, private and public bidding formats, minority requirements, markups and bidding strategies.

ESM 668 Engineering Safety and the Environment (3-0-3). Provides an overview of safety, health and environmental concerns in the engineering worksite. Topics include physical, chemical, and radiological hazards; regulatory responsibilities; safety audits; creating a safe workplace; environmental audits; and pollution prevention.

ESM 693 Matriculation Continuation (0-0-0). Registers matriculating students in the graduate program who are not registering for two consecutive semesters (excluding summer session). Such students are required to register for this course in their second semester out in order to hold their seat in the program. Failure to do so will result in the loss of their admission and will require them to reapply to the program. Cannot be repeated more than two times. This course does not generate credits for graduation. Tuition charged is equivalent to one graduate credit.

ESM 694 Special Topics (3-0-3). Covers selected topics that meet student interest and reflect recent trends in the area of engineering systems and management.

ESM 698 Professional Project (1 to 6 credits). Requires an approved professional project for completion of the MS degree. A selected area of engineering management and systems engineering is chosen for the project. Requires a report and final presentation to the advisory committee. Graded as Pass/Fail.

ESM 699 Research (1 to 6 credits). Comprises research in the disciplinary areas that encompass systems engineering and engineering management. Taken during the planning and completion of the thesis for the MS degree. Completed under the supervision of the faculty member serving as the thesis advisor. A thesis and final defense to the advisory committee are required. Graded as Pass/Fail.

MTR Mechatronics Engineering

MTR 500 Advanced Engineering Mathematics (3-0-3). Covers analysis of linear and nonlinear physical systems equations of motion (ODEs and PDEs), partial differential equations of mathematical physics (wave, diffusion, Laplace, Poisson Equations), transform and integral methods for solving boundary and initial value problems, and numerical methods for ordinary and partial differential equations. Prerequisite: admission to program.

MTR 505 Applied Electrical and Electronics Systems (3-1-3). Covers operational amplifiers and their applications, power amplifiers and switches, DC and AC motors, digital systems and electronic CAD tools. Prerequisite: admission to program.

MTR 510 Applied Mechanical Systems (3-0-3). Covers modeling of thermal and fluid systems. Includes kinematics and dynamics of machinery, and CAD tools for mechanical systems. Prerequisite: admission to program.

MTR 515 Information Technology for Mechatronics (3-1-3). Covers computer organization, operating systems, computer networking (LAN and WAN), Internet programming and application, and Web-based monitoring. Prerequisite: admission to program.

MTR 520 Embedded Systems for Mechatronics (2-3-3). Explores microprocessor hardware and software modules. Covers microcontroller's hardware and software architectures, microcontrollers programming and interface with real-time mechatronics systems, data acquisition unit and designing stand-alone embedded systems for mechatronics products. Includes case studies and course projects. Prerequisite: admission to program.

MTR 530 Power Electronics and Electrical Drives (3-0-3). Gives an overview of power electronic systems, energy conversion and electric power conditioning. Covers analysis and applications of various energy conversion processes: AC power controllers, controlled rectifiers, DC choppers, DC-AC converters, operation of DC machines and AC Drives. Prerequisite: MTR 505.

MTR 535 Electro-pneumatic and Hydraulic Systems (2-3-3). Explores fluids and fluid flows in high performance actuators and controllers, power flow and fluid power elements, valve and pump control, linear and rotary motion and state space descriptions. Covers design of electro-hydraulic position and velocity control servo-mechanisms for high performance with stability. Prerequisites: MTR 505 or MTR 510.

MTR 540 Advanced Industrial Instrumentation and Control (2-3-3). Covers signal conditioning. Topics

include grounding and cabling, data acquisition, continuous and discrete-time signals, Fourier representation of signals, the Discrete-Time Fourier Transform, linear time invariant systems modeling, FIR and IIR digital filters, state variable models, design of control systems in state space, full state observers, reduced order observers, simulation and animation of dynamic systems, and programming of PLC systems. Introduces DCS and SCADA systems. Prerequisite: admission to program.

MTR 590 Mechatronics Design (2-3-3). (Formerly MTR 525). Requires individual and team projects involving the development and integration of hardware and software into a "smart" system, which includes the sensing, processing and controlling functions. Prerequisite: MTR 520.

MTR 600 Modeling and Simulation of Dynamic Systems (3-0-3). Introduces multi-domain systems. Topics include mechanical, thermal, fluid, electrical, electronic and electro-mechanical system dynamics. Emphasizes modeling and simulation of hybrid systems using computer-aided tools. Prerequisite: MTR 500.

MTR 605 Advanced Digital Signal Processing and Control Systems (3-0-3). Covers Z-transform, estimation of signals in noise, short-time Fourier Transform, wavelet representation of signals, time-frequency state-variable representations, systems modeling, digital compensator design, pole placement, state estimation, optimal linear quadratic regulation and non-parametric control. Prerequisites: MTR 500 and MTR 520.

MTR 610 Automated Manufacturing Systems (3-0-3). Describes and demonstrates automated machine tools and machining cells. Covers machining center configuration and operation, machine tool controller, machining code generation, in-process sensing and control, cell controllers and system simulation. Prerequisites: MTR 520.

MTR 615 Artificial Intelligent Systems (3-0-3). Covers biological and cognitive paradigms, concepts of machine intelligence, intelligent agents, vision and image analysis, principles of decision making, fuzzy logic, decision trees, case-based reasoning, genetic algorithms, neural networks and expert systems. Prerequisites: MTR 515 and MTR 520.

MTR 620 Machinery Dynamics and Vibration (3-0-3). Covers machinery vibration analysis (signature analysis in time and frequency domains, fault detection, diagnosis, and correction), instrumentation, case studies and machine monitoring programs. Prerequisite: MTR 500.

MTR 625 Distributed Control Systems (3-0-3). Studies distributed computer systems architecture, system elements, data communications links, software algorithms, reliability and applications. Prerequisite: MTR 500.

MTR 630 Real Time Robotics Systems (2-3-3). Covers components of robot systems, analysis and design of modern robotic and industrial control systems, hardware and software, computational methods and techniques used in vision-based robotics, real-time embedded control, optimization techniques, matrix analysis and analytic 2D/3D geometry. Prerequisites: MTR 500 and MTR 520.

MTR 635 Smart Structures and Sensor Fusion (3-0-3). Covers basic material properties, models, and active and sensory material systems. Topics include health monitoring approaches to detect damage in a structure; applications of smart materials primarily for vibration and pointing control; finite element models with piezoelectric elements use in sensor selection and actuator; the design of feedback and adaptive feed-forward control algorithms; and implementation of sensor, actuator and control electronics. Prerequisite: MTR 520.

MTR 691 Mechatronics Design Project (0-6-3). Requires an extended project of interdisciplinary nature. Elements of computing, mechanics, and

electronics should be involved. Graded as P/F. Prerequisite: MTR 600.

MTR 693 Matriculation Continuation (0-0-0). Registers matriculating students in the graduate program who are not registering for two consecutive semesters (excluding summer session). Such students are required to register for this course in their second semester out in order to hold their seat in the program. Failure to do so will result in the loss of their admission and will require them to reapply to the program. Cannot be repeated more than two times. This course does not generate credits for graduation. Tuition charged is equivalent to one graduate credit.

MTR 694 Special Topics (3-0-3). Explores selected topics that meet student interest and reflect recent trends in the field of mechatronics. Prerequisite: approval of advisor.

MTR 695 Mechatronics Seminar (1-0-0). Explores project planning development and realization, case studies of engineering systems design and realization and current research topics in mechatronics engineering, including areas such signal processing, image processing, control, robotics, intelligent systems, computer vision and MEMS. Prerequisite: approval of advisor.

MTR 696 Independent Study (1 to 3 credits). Requires investigation under faculty supervision beyond what is offered in existing courses. Prerequisite: approval of advisor.

MTR 699 Master Thesis (1 to 6 credits). Requires an extended investigation having original contribution to the field of study. Elements of computing, mechanics, electronics and intelligence should be involved. Graded as P/F. Prerequisite: approval of advisor.

The Continuing Education Center

Director
Bashir AboLail

The Continuing Education Center (CEC) 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 on AUS's Main Campus, at the Al Buhairah site in downtown Sharjah and in different locations around the Emirates. CEC provides a unique combination of experienced personnel, excellent facilities, the latest technology and access to the educational resources of AUS.

Professional Certificate Programs

Certificate programs offer concentrated study to help students become specialized in their fields without having to meet the extended requirements of a standard degree program. A student can earn a certificate to learn more about a subject, become an expert in an emerging field, or boost his/her career. The programs are abbreviated enough to easily fit into the schedule of a busy professional, but thorough enough to give students a deep knowledge and understanding of the subject matter.

These programs include a wide range of professional disciplines such as business administration, sales and marketing, accounting, finance, computers, human resources, business English and other language courses. 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 CMA/CFM, TOEFL, GMAT and others. These certificates enhance an individual's professional ability and earning potential.

Programs Offered

Professional Certificates (8 months)
- Business Administration
- Sales and Marketing
- Accounting and Finance
- Information Technology and Computing
- Digital Media Production
- E-Commerce
- Human Resources

Certificates of Achievement
(1 to 3 months)
- Selling Skills
- Accounting
- Business English
- American English Conversation
- French Conversation

Certificates of Attendance
(3 to 15 days)
- Strategic, Collaborative Leadership
- Effective Communication
- Effective Negotiation
- Professional Selling Skills
- Managing Diversity and Cross-Cultural Issues
- Developing Corporate E-Strategy
- Professional Project Management
- Executive Programs for Growing Companies
- Finance for Non-Financial Managers
- Stress Management
- 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 to serve organizational needs. The expertise of affiliates and other national and international experts is also utilized. The CEC administration 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 develop internal certification programs

Course Delivery

In recognition of the schedule of working professionals, CEC 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 programs, please contact the CEC through the following numbers or by e-mail.

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Full-Time Faculty

A

Abdalla, Jamaleldin, Ph.D., University of Califonia at Berkeley, 1989; Associate Professor of Civil Engineering and Chair, Department of Civil Engineering

Abdel-Fatah, Akmal, Ph.D., University of Texas at Austin, 1999; Assistant Professor of Civil Engineering

Abdel-Malek, Kamal, Ph.D., McGill University, 1992; Associate Professor of Arabic Language and Literature

Abdul Hadi, Zayid Abdullah, Ph.D., Université Laval, 1987; Associate Professor of Mathematics

Abu-Hassan, Jenifah, M.Sc., Professional Studies (TESOL), 1989; Instructor in Intensive English

Abu-Muhanna, Yusuf, Ph.D., State University of New York at Albany, 1979; Professor of Mathematics and Chair, Department of Mathematics and Statistics

Abu-Yousef, Imad, Ph.D., McGill University, 1996; Associate Professor of Chemistry

Abu Al-Foul, Bassam, Ph.D., University of Utah, 1994; Assistant Professor of Economics

Abualrub, Taher, Ph.D., University of Iowa, 1998; Associate Professor of Mathematics

Abukhaled, Marwan, Ph.D., Texas Tech University, 1995; Associate Professor of Mathematics

Ahmad, Saiyad, Ph.D., Princeton University, 2000; Assistant Professor of Arab and International Studies

Ahmad, Shoaib Nabi, M.I.D., Rhode Island School of Design, 1991; Assistant Professor of Design

Ahmed, Rana, Ph.D., Duke University, 1991; Associate Professor of Computer Engineering and Chair, Department of Computer Engineering

Ahmed, Aftab, M.A., University of London, 1997; Instructor in Intensive English

Ahmed, Saad, Ph.D., Georgia Institute of Technology, 1981; Professor of Mechanical Engineering

Algren, Mark, M.A., Southern Illinois University, 1982; Instructor in Intensive English and Director, Intensive English Program

Alhasani, Nadia, Ph.D., University of Pennsylvania, 1990; Associate Professor of Architecture and Assistant Vice Chancellor for Academic Affairs

Alobaidi, Ghada, Ph.D., University of Western Ontario, 2000; Assistant Professor of Mathematics

Aloul, Fadi, Ph.D., University of Michigan, 2003; Assistant Professor of Computer Engineering

Al-Ali, Abdul Rahman, Ph.D., Vanderbilt University, 1990; Associate Professor of Computer Engineering

Al-Issa, Ahmad, Ph.D., Indiana University of Pennsylvania, 1998; Assistant Professor of English

Al-Mohamad, Hussam, Ph.D., University of Paris XI, Centre d'Orsay, 1985; Associate Professor of Computer Science

Al-Musawi, Muhsin, Ph.D., Dalhousie University, 1978; Professor of Arabic (on leave 2004-05)

Al-Rousan, Mohammad, Ph.D., Brigham Young University, 1996; Associate Professor of Computer Engineering

Al-Sayah, Mohamed, Ph.D., University of Alberta, 2002; Assistant Professor of Chemistry

Al-Tamimi, Adil, Ph.D., Strathclyde University, 1990; Associate Professor of Civil Engineering

Al Assaf, Yousef, Ph.D., Oxford University, 1988; Professor of Electrical and Electronic Engineering and Associate Dean of Engineering.

Al Ghoussein, Tarek, M.A., University of New Mexico, 1989; Associate Professor of Photography

Al Homoud, Azm, Ph.D., Massachusetts Institute of Technology, 1990; Professor of Civil Engineering

Al Kattan, Ibrahim, Ph.D., Tennessee Technical University, 1994; Associate Professor of Engineering Systems Management and Director, Graduate Program in Engineering Systems Management

Al Khazali, Osamah, Ph.D., University of Memphis, 1997; Associate Professor of Finance and Chair, Department of Finance and Accounting

Al Nashash, Hasan, Ph.D., Kent University, 1988; Professor of Electrical and Electronic Engineering and Chair, Department of Electrical Engineering

Anabtawi, Mahmoud, Ph.D., University of Texas, 1998; Assistant Professor of Mathematics

Anderson, Pia-Kristina, Ph.D., University of California at Berkeley, 2001; Assistant Professor of Arab and International Studies

Assaleh, Khaled, Ph.D., Rutger's University, 1993; Assistant Professor of Electrical and Electronic Engineering

Atiyah, Wadiah, Ph.D., American University in Washington, DC, 1997; Dean, School of Business and Management

Auda, Gasser, Ph.D., University of Waterloo, 1996; Associate Professor of Computer Science and Chair, Department of Computer Science

B

Badawi, Ayman, Ph.D., University of North Texas, 1993; Associate Professor of Mathematics

Badry-Zalami, Fatima, Ph.D., University of California at Berkeley, 1983; Professor of English and Linguistics and Director, Graduate Program in TESOL

Baghestani, Hamid, Ph.D., University of Colorado, 1982; Associate Professor of Economics

Bahloul, Maher, Ph.D., Cornell University, 1994; Assistant Professor of English

Bahloul, Raja. M., M.A., Cornell University, 1994; Instructor in Intensive English

Bantey, Paul, B.F.A., The University of Arts, 1981; Instructor in Visual Design

Barlas, Gerassimos, Ph.D., National Technical University, Athens, 1996; Associate Professor of Computer Science

Bartholomew, Aaron, Ph.D., College of William and Mary, 2001; Assistant Professor of Biology

Bendik-Keymer, Jeremy, Ph.D., University of Chicago, 2003; Assistant Professor of Arab and International Studies

Berbic, Amir, M.F.A., Art Institute of Chicago, 2004; Assistant Professor of Design

Bérubé, Claude, M.D.E., University of Aston, 1972; Assistant Professor of Interior Design

Bigelow, Kim, M.F.A., Northwestern University, 1983; Assistant Professor of Mass Communication

Blake, Barbara Leslie, M.A., University of Wales, 1997; Instructor in English

Blank, Leland, Ph.D., Oklahoma State University, 1970; Professor of Engineering and Dean, School of Engineering

Bley, Jörg, Ph.D., Florida Atlantic University, 2000; Assistant Professor of Finance

Botthoff, John, M.I.D., Pratt Institute, 1980; Assistant Professor of Design

Boyd, David, D.B.A., Lousiana Tech University, 1996; Professor of Accounting

Boyd, Sanithia, D.Ed., Grambling State University, 1996; Associate Professor of Acounting

Brodtkorb, M. Tor, L.L.B., McGill University, 2000; Assistant Professor on Business Law and Ethics

C

Caesar, Judith, Ph.D., Case Western Reserve University, 1976; Associate Professor of English

Campa, Halina, M.A.T., University of Washington, 2003; Instructor in Intensive English

Capar, Nejat, Ph.D., Florida State University, 2003; Assistant Professor of Management

Carlstedt, Edward, M.A., University of Leicester, 2000; Instructor in Intensive English

Chen, Kim Heng, Ph.D., Washington State University, 2002; Assistant Professor of Quantitative Methods

Chilton, John, Ph.D., Brown University, 1989; Assistant Professor of Economics and Chair, Department of Economics and Public Administration

Colbert, David, M.A., New Mexico State University, 1997; Instructor in Intensive English

Connell, John, M.A., Southern Illinois University, 1988; Instructor in Intensive English

Cook, Robert D., Ph.D., University of California at Los Angeles, 1967; Professor of Chemistry and Dean, College of Arts and Sciences

Crain, Richard, M.A., Northern Arizona University, 1997; Instructor in English

Cruickshank, Donald, Ph.D., University of Illinois at Urbana-Champaign, 1984; Associate Professor of English

Cumbus, Jerald, M.A., University of North Florida, 1992; Instructor in English

D

Daghfous, Abdelkader, Ph.D., Pennsylvania State University, 1997; Assistant Professor of Management Information Systems

Darrat, Ali, Ph.D. Indiana University, 1982; Professor of Finance

Deiab, Ibrahim, Ph.D., McMaster University, 2003; Assistant Professor of Mechanical Engineering

Dhaouadi, Rached, Ph.D., University of Minnesota, 1990; Associate Professor of Electrical and Electronic Engineering

Djeredjian, Daron, Ph.D., Syracuse University, 2004; Assistant Professor of Economics

Dodigovic, Marina, Ph.D. University of Bremen, 1995; Assistant Professor of English

Dougan, Brian, M.Arch., Texas A&M University, 1989; Associate Professor of Foundations

Driscoll, Tina Joyce, M.A., University of Warwick, 1997; Instructor in Intensive English

E

Eberlein, Armin, Ph.D., University of Wales, 1998; Associate Professor of Computer Engineering

Egan, Matthew, M.F.A., University of South Dakota, 2000; Assistant Professor of Foundations

Eldred, Gary, Ph.D., University of Illinois, 1973; Associate Professor of Finance

Espada-Jallad, Cyntia, Ph.D., Purdue University, 2003; Assistant Professor of Environmental Sciences

El Fakih, Khaled, Ph.D., University of Ottawa, 2002; Assistant Professor of Computer Science

El Jarkass, Zouheir, C.F.A., Association of Investment Management and Research, 1995; Instructor in Accounting and Finance

El Kadi, Hany, Ph.D., University of Alberta, 1993; Associate Professor of Mechanical Engineering and Chair, Department of Mechanical Engineering

El Morr, Christo, Ph.D., University of Technology of Compiegne, 1997; Assistant Professor of Management Information Systems

El Sadek, Ibrahim, Ph.D., University of California at Santa Barbara, 1983; Professor of Mathematics and Associate Dean of Arts and Sciences

El-Baz, Hazim, Ph.D., University of Missouri, Rolla, 1991; Associate Professor of Engineering Systems Management

El-Mousfy, Mona, M.Arch., Georgia Institute of Technology, 1983; Assistant Professor of Interior Design

El-Sayegh, Sameh, Ph.D., Texas A & M University, 1998; Assistant Professor of Civil Engineering

El-Tarhuni, Mohamed, Ph.D., Carleton University, 1997; Assistant Professor of Electrical and Electronic Engineering

F

Faiq, Said, Ph.D., Salford University, 1991; Associate Professor of English and Tranlation Studies, Chair, Department of English and Translation and Director, Graduate Program in Translation and Interpreting

Farah, Anthony, M.S.A., Central Michigan University, 1994; Instructor in Management Information Systems

Fox, John, Ph.D., State University of New York, 1975; Professor of Anthropology

G

Gadalla, Mohamed, Ph.D., University of Alabama, 1988; Associate Professor of Mechanical Engineering

George, Daniel, Ph.D., University of California at Los Angeles, 1997; Assistant Professor of Management

Gibbs, Joseph, Ph.D., Boston University, 1994; Assistant Professor of Mass Communication

Giesen, Leslie, M.A., School for International Training, 2001; Instructor in Intensive English

Giesen, Martin, Ph.D., Heidelberg University, 1973; Professor of History of Art and Architecture

Gilbertson, Milton, M.Ed., McGill University, 1991; Instructor in Intensive English

Gilbertson, Sharon, M.Ed., McGill University, 1993; Instructor in Intensive English

Golley, Nawar, Ph.D., Nottingham University, 1994; Assistant Professor of English

Grant, James, D.B.A., Mississippi State University, 1978; Profesor of Marketing

Guessoum, Nidhal, Ph.D., University of California at San Diego, 1988; Associate Professor of Physics

Gugin, David, M.A., Western Kentucky University, 1995; Instructor in English

Gunn, Cindy, Ph.D., University of Bath, 2001; Assistant Professor of English

H

Hamdan, Nasser, Ph.D., Middle East Technical University, 1993; Associate Professor of Physics and Chair, Department of Physics

Hamilton, Ann, Ph.D., University of Oklahoma, 2002; Assistant Professor of Mass Communication

Haney II, William, Ph.D., University of California at Davis, 1984; Professor of English and Communication Skills

Hashem, Mahboub, Ph.D., Florida State University, 1984; Professor of Mass Communication and Chair, Department of Mass Communication

Hatim, Basil, Ph.D., University of Exeter, 1981; Professor of English and Translation

Heintz, Eirik, M.Arch., Harvard University, 1994; Assistant Professor of Foundations

Hewitt, David, M.F.A., Cornell University, 1979; Assistant Professor of Foundations

Horger, Christopher, M.A., University of Arizona, 1992; Instructor in English

Husseini, Ghaleb, Ph.D., Brigham Young University, 2001; Assistant Professor of Chemical Engineering

I

Ibrahim, Taleb, Ph.D., Auburn University, 1997; Assistant Professor of Chemical Engineering and Acting Chair of Chemical Engineering

J

Jaidi, Asad Hasan, Ph.D., University of Kansas, 1993; Associate Professor of Physics

Jallad, Karim, Ph.D., Purdue University, 2001; Assistant Professor of Chemistry

Jarrah, Mohammad, Ph.D., Stanford University, 1989; Professor of Mechanical Engineering and Director, Graduate Program in Mechatronics Engineering

Jensen, Beverly, Ph.D., University of Washington, 1987; Associate Professor of Mass Communication

Jumean, Fawwaz, Ph.D., City University of New York, 1973; Professor of Chemistry and Chair, Department of Biology and Chemistry

K

Kah, Jainaba, Ph.D., State University of New Jersey, 2001; Assistant Professor of Economics and Public Administration

Kah, Muhammadou, Ph.D., Stevens Institute of Technology, 1999; Assistant Professor of Management Information Systems and Chair, Department of Management Informations Systems

Kanan, Sofian, Ph.D., University of Maine, 2000; Assistant Professor of Chemistry

Karake-Shalhoub, Zeinab, Ph.D., George Washington University, 1987; Professor of Management Information Systems and Associate Dean of Business and Management

Katodrytis, George, A.A. Dipl., Architectural Association, UK, 1985; Assistant Professor of Architecture

Kawash, Jalal, Ph.D., University of Calgary, 2000; Assistant Professor of Computer Science

Khaliq, Abdul, Ph.D., Georgia Institute of Technology, 1995; Assistant Professor of Electrical and Electronic Engineering

Khan, M. Muqeem, M.A., Ohio State University, 1996; Assistant Professor of Digital Design

Khan, Masood, M.S.M.E., Colorado State University, 1991; Instructor in Digital Design

Kherfi, Samer, Ph.D., Simon Fraser University, 2002; Assistant Professor of Economics

Khoury, Suheil, Ph.D., Michigan State University, 1994; Associate Professor of Mathematics

Kienke, Christopher, M.F.A., Southern Illinois University, 2000; Assistant Professor of Foundations

Kostopoulos, George, Ph.D., Arizona State University, 1971; Professor of Management Information Systems

Kuehn, Kermit, Ph.D., University of Nebraska-Lincoln, 1993; Associate Professor of Management

Kucuk, Ismail, Ph.D., University of Utah, 2001; Assistant Professor of Mathematics

L

Lazor, Dinah, M.S., Florida State University, 1974; Assistant Professor of Interior Design

Lea, David, Ph.D., University of Ottawa, 1990; Associate Professor of Philosophy

Leduc, Guillaume, Ph.D., Carleton University, 1995; Assistant Professor of Mathematics and Statistics

Lee, Minsoo, Ph.D., Washington State University, 1999; Assistant Professor of Economics

Lewis, Dennis, M.A., University of Toronto, 1995; Instructor in English

Loehlein, Gisela, Ph.D., Cardiff University, 2001; Assistant Professor of Architecture

Lonnman, Bruce, M.A.U.D., Cornell University, 1986; Associate Professor of Architecture and Chair, Department of Architecture

M

Majeed, Tariq, Ph.D., York University, 1991; Assistant Professor of Physics

Marx, Daniela, M.F.A., California Institute of Arts, 2001; Assistant Professor of Design

Mason, Peter, M.B.A., Marshall University, 1977; Instructor in Marketing and Management

McCallum, Ann, M.Ed., University of Maryland, 1996; Instructor in English

McCallum, Brent, M.S., American University in Washington, DC, 1993; Assistant Professor of Accounting

McClane, Richard, M.A., University of Utah, 1997; Instructor in Intensive English

McElwain, Gregory, M.A., University of New Mexico, 1990; Instructor in English

McKechnie, Donelda, Ph.D., Bradford University, 2001; Assistant Professor of Marketing

McLaurin, J. Reagan, Ph.D., Memphis State University, 1994; Associate Professor of Management and Director, MBA Program

Mitchell, Kevin, M.Arch., University of Washington, 1996; Assistant Professor of Architecture and Director, Foundation Program

Mitias, Peter, Ph.D., Louisiana State University, 1997, Associate Professor of Economics

Mokhtar, Ahmed, Ph.D., Concordia University, 1998; Associate Professor of Architecture
Mottola, Louis, Ph.D., University of Northern Colorado, 1972; Associate Professor of Management
Mourtada Sabbah, Nada, Ph.D., Sorbonne (Paris II), 1997; Associate Professor of Political and International Studies and Chair, Department of Arab and International Studies
Moustafa, Amer A., Ph.D., University of Southern California, 1999; Associate Professor of Architecture, Associate Dean of Architecture and Design and Director, Graduate Program in Urban Planning

N

Nsiri, Imed, M.A., Indiana University, 2001; Instructor in Arabic

O

Olson, Dennis, Ph.D., University of Wyoming, 1982; Professor of Finance
Onley, James, Ph.D., University of Oxford, 2001; Assistant Professor of History and International Studies
Ozkul, Tarik, Ph.D., Florida Institute of Technology, 1988; Associate Professor of Computer Engineering

P

Palliam, Ralph, D.Com., University of Pretoria, 1998; Assistant Professor of Quantitative Methods
Papadakis, Anne Marie, M.Ed., University of New Castle, 2003; Instructor in Intensive English
Pilkington, Mark, M.A., Royal College of Art, 1977; Assistant Professor of Design and Chair, Department of Design
Pringle, Jane, M.Ed. (TESOL), St. Petersburg University, 2003; Instructor in Intensive English

Q

Qadah, Ghassan, Ph.D., University of Michigan, 1983; Associate Professor of Computer Engineering
Qaddoumi, Nasser, Ph.D., Colorado State University, 1998; Assistant Professor of Electrical and Electronic Engineering

R

Rab, Samia, Ph.D., Georgia Institute of Technology, 1997; Associate Professor of Architecture and Heritage Management and Coordinator, Graduate Program in Heritage Resource Management
Raddawi, Rana, Ph.D., Sorbonne (Paris III), 1995; Assistant Professor in Translation and Communication Skills
Randle, Jay, M.L.Arch., North Carolina State University, 1971; Associate Professor of Architecture
Raymond, Sylvie, M.Ed., Sheffield University, 1999; Instructor in Intensive English
Redding, Rodney, Ph.D., Pennsylvania State University, 1979; Associate Professor of Acounting
Richardson, Tina, M.A., University of Oregon, 2003; Instructor in English
Riordon, Olivia, M.S., Temple University, 2001; Instructor in Intensive English
Rousseu, Scott, M.Ed., University of Southern Queensland, 2003; Instructor in Intensive English
Rupasingha, Anil, Ph.D., Texas A&M University, 1997; Assistant Professor of

Economics
Russell, Dennis, Ph.D., University of Hawaii, 1981; Associate Professor of Biology

S

Saad, Mohsen, Ph.D., University of Delaware, 2003; Assistant Professor of Finance
Sabet, Mehdi, M.Arch., Virginia Polytechnic Institute, 1978; Associate Professor of Architecture
Sadik, Rula, Ph.D., University of California at Berkeley, 1996; Assistant Professor of Urban and Regional Planning
Sagahyroon, Assim, Ph.D., University of Arizona, 1989; Associate Professor of Computer Engineering
Sahraoui, Sofiane, Ph.D., University of Pittsburgh, 1994; Associate Professor of Management Information Systems
Saifi, Ali, Ph.D., University of Sussex, 1978; Associate Professor of Mathematics
Saifi, Toufic, M.S., University of Balamand, 2000; Instructor in Management Information Systems
Sakhi, Said, Ph.D., University of Montreal, 1994; Assistant Professor of Physics
Salamin, Yousef, Ph.D., University of Colorado, 1987; Professor of Physics
Saleh, Kassem A., Ph.D., University of Ottawa, 1991; Professor of Computer Science
Salloukh, Bassel, Ph.D., McGill University, 2000; Assistant Professor of International Studies
Saravia, Antonio, Ph.D., Arizona State University, 2003; Assistant Professor of Economics and Public Administration
Schmitt, Thomas, M.A., City University of New York, 2000; Instructor in Intensive English
Shakarchi, Ali, M.A.S.A., University of British Columbia, 1999; Assistant Professor of Architecture
Shanableh, Tamer, Ph.D., University of Essex, 2001; Assistant Professor of Computer Science
Shannon, John, Ph.D., The Ohio State University, 1995; Assistant Professor of English
Shaw, Pelly, M.A., University of British Columbia, 1991; Instructor in Intensive English
Sheil, Phil, M.F.A., University of Calgary, 1995; Associate Professor of Design
Sallie, Sheppard, Ph.D., University of Pittsburg, 1977; Professor of Computer Science and Interim Vice Chancellor for Academic Affairs
Shine, Anne, M.Ed., Massey University, 1999; Instructor in English
Skelton, Brian, M.A., Colorado State University, 1998; Instructor in Intensive English
Soliman, Mohamed, Ph.D., University of Oregon, 2002; Assistant Professor of Economics
Stevens, Mark, M.A., Iowa State University, 1991; Instructor in Intensive English
Stevenson-Abouelnasr, Dana, Ph.D., Georgia Institute of Technology, 1984; Associate Professor of Chemical Engineering (on leave 2004-05)
Sulieman, Hana, Ph.D., Queen's University, 1998; Assistant Professor of Statistics
Swanstrom, John, M.A., Humboldt State University, 1995; Assistant Professor of Multimedia Design

T

Tabsh, Sami W., Ph.D., University of Michigan, 1990; Associate Professor of Civil Engineering
Tayim, Hassan, Ph.D., University of Illinois,

1967; Professor of Chemistry
Techel, Florian, M.Arch., Ball State University, 1991; Assistant Professor of Digital Design
Tesunbi, Samuel K., Ph.D., Howard University, 1994; Assistant Professor of Mass Communication
Thompson, Winfred L., Ph.D., University of Chicago, 1987; Professor of History and Chancellor
Toledo, Hugo, Ph.D., Auburn University, 1999; Assistant Professor of Economics
Tyson, Rodney, Ph.D., University of Arizona, 1994; Associate Professor of English

V

Van Wyk, Dirk, M.A., University of Calgary, 1970; Associate Professor of Visual Communication

W

Waigand, Angela, M.A., University of Arizona, 2001; Instructor in Intensive English
Walker, Peter, Ph.D., University of Lancaster, 1970; Professor of Mathematics
Wallis, Joseph, Ph.D., Rhodes University, Grahamstown, South Africa, 1984; Associate Professor of Economics and Public Administration
Ward, Amanda, M.A., Colorado State University, 2000; Instructor in Intensive English
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