



American
University
of Sharjah

A Decade of Achievement
1997-2007



UNDERGRADUATE

Catalog

2007-2008

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His Highness Sheikh Dr. Sultan Bin Mohammed Al Qassimi

Supreme Council Member, Ruler of Sharjah
Founder and President of American University of Sharjah

Chancellor's Message

In academic year 2007–2008, American University of Sharjah celebrates the 10th anniversary of its service to the people of the United Arab Emirates and the Gulf region. With the support of the Founder, His Highness Sheikh Dr. Sultan Bin Mohammed Al Qassimi, Member of the Supreme Council and Ruler of Sharjah, and through dedication of faculty, staff and students, AUS has gained a reputation that is unsurpassed in the region.

A mature university serves many roles but all of them must be consistent with its primary mission of providing the best possible education to its students. AUS takes that primary mission seriously and strives to improve upon all aspects of its operations to meet that goal. Completion of a magnificent new library building is recent testament of our determination to provide the best possible learning environment to students, as is the construction, soon to begin, of a new building for the School of Business and Management. Constant attention to curricular modifications to meet changing circumstances is a less obvious example of the same commitment.

This catalog is intended to provide students with a listing of available courses, programs, regulations and services that they may expect at AUS. Most of the information contained in the catalog is also available on our website, www.aus.edu, which in some instances provides a more recent summation than is possible in printed form. I encourage you to review the materials in this catalog and to visit our website as well. Additionally, a visit to our magnificent campus will help you gain an even better appreciation for the unique environment at American University of Sharjah.

Winfred L. Thompson



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Mr. Saeed Al-Shamsi, Public Relations

Mr. Munketh Taha, Student Activities

Dr. Pia Anderson, Student Advising and Counseling

Dr. Lubna Yousif, MD, University Health Center

The academic requirements of American University of Sharjah are under continual examination and revision for improvement. This catalog is not a contract. The student assumes full responsibility for compliance with the most up-to-date academic requirements.

Academic Calendar 2007–2008

Fall Semester		2007	
July	15	Sunday	Fall Semester 2007 admission application deadline
August	16	Thursday	Residential halls open
	17	Friday	New students' and parents' welcome session
	18	Saturday	TOEFL tests (tentative)
	19	Sunday	New students' academic and school orientation
	20	Monday	Registration for all returning students ends 5 p.m.
	20–21	Monday–Tuesday	Placement tests (new students)
	22–23	Wednesday–Thursday	Registration for new students
	26	Sunday	First day of classes
	26–30	Sunday–Thursday	Add/drop week
September	4	Tuesday	Application for Fall Semester 2007 graduation due
October	11	Thursday	Classes end for Eid Al Fitr holiday 10 p.m.*
	21	Sunday	Classes resume at 8 a.m.
	24	Wednesday	Honors Convocation
November	8	Thursday	Last day to withdraw from a course without penalty
	25	Sunday	Deadline for enrolled students to apply/renew financial aid for Spring Semester 2008
	29	Thursday	Classes end at 10 p.m. for National Day holiday
December	4	Tuesday	Classes resume at 8 a.m.
	4–17	Tuesday–Monday	Advising and early registration for Spring Semester 2008
	5	Wednesday	Transfer students' application deadline for Spring Semester 2008
	16	Sunday	Spring semester admission application deadline
	17	Monday	Fall Semester 2007 classes end 10 p.m.
	18–25	Tuesday–Tuesday	Eid Al Adha and Christmas holiday
	17	Monday	Deadline for new students to apply for financial aid/scholarships for Spring Semester 2008

Spring Semester		2008	
	26	Wednesday	Study and examination period begins
	31	Monday	Study and examination period ends
January	1	Tuesday	New Year's Day holiday
	2	Wednesday	Make-up examination day
	3	Thursday	Fall 2007 Commencement
	6	Sunday	Interession recess begins
	10	Thursday	Al Hijra holiday
	17	Thursday	Residential halls open
	18	Friday	New students' and parents' welcome session
	19	Saturday	TOEFL tests (tentative)
	20	Sunday	New students' academic and school orientation
	21	Monday	Registration for all returning students ends 5 p.m.
	21–22	Monday–Tuesday	Placement tests (new students)
	23–24	Wednesday–Thursday	Registration for new students
	27	Sunday	First day of classes
	27–31	Sunday–Thursday	Add/drop week
March	13	Thursday	Classes end for Spring Break 10 p.m.
	20	Thursday	Al-Mawlid Al-Nabawi holiday
	23	Sunday	Classes resume 8 a.m.
April	10	Thursday	Last day to withdraw from a course without penalty
May	1–15	Thursday–Thursday	Advising and early registration for Summer Session and Fall Semester 2008
	15	Thursday	Deadline for enrolled students to apply/renew financial aid for Fall Semester 2008
	15	Thursday	Spring Semester 2008 classes end 10 p.m.
	17	Saturday–Thursday	Study and examination period begins
	22	Thursday	Study and examination period ends
	24	Saturday	Make-up examination day
June	5	Thursday	Spring 2008 Commencement

Summer Session		2008	
June	8–9	Sunday–Monday	Registration for Summer Session 2008
	10	Tuesday	First day of classes; late registration and add/drop begins
	12	Thursday	Late registration and add/drop ends
	18	Wednesday	Transfer students' application deadline for Fall Semester 2008
July	7	Monday	Last day to withdraw from a course without penalty
	21	Monday	Summer Session 2008 classes end 10 p.m.
	22–24	Tuesday–Thursday	Study and examination period
	31	Thursday	Deadline for new students to apply for financial aid/scholarships for Fall Semester 2008

* 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) may be extended.

University Terminology

Academic Standing	Determined by regulations governing good standing, probation and dismissal
Academic Year	The period of time beginning with the first day of class of a fall semester up to, but exclusive of, the first day of class of the fall semester of the following year
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 acceptance as a student
Advisor	Faculty member/administrator assigned to counsel students on academic matters. The student is called the advisor's "advisee."
Alumni	Those who have graduated from 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's Degree	A four-year minimum undergraduate degree
Calendar, Academic	Annual listing of all official dates and deadlines for the academic year
Catalog Year	A student's catalog year denotes which specific set of graduation requirements will apply to that student. Unless altered, a student's catalog year is the year when the student first matriculated to study at AUS.
Class Standing	The class ranking determined by the number of credits an undergraduate student has earned. For example, 0-14 is Freshman I, 15-29 is Freshman II, 30-44 is Sophomore I, etc.
Common Examinations	Examinations for courses with multiple sections scheduled at a common time at the request of the college/school
Concentration	Subspecialization 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
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 semester or term
Credit	The equivalent of a one-hour lecture, two to three hours of laboratory, or three hours of recitation work per week for one regular semester
Curriculum	A structured set of learning objectives built 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
Educational Records	Records directly related to the education of 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 services; does not include course tuition
Full-Time Student	An undergraduate student who is registered for 12 or more credit hours in a given semester
General Education Requirements	Requirements common to all undergraduate degree programs designed to provide the students with a comprehensive background of knowledge

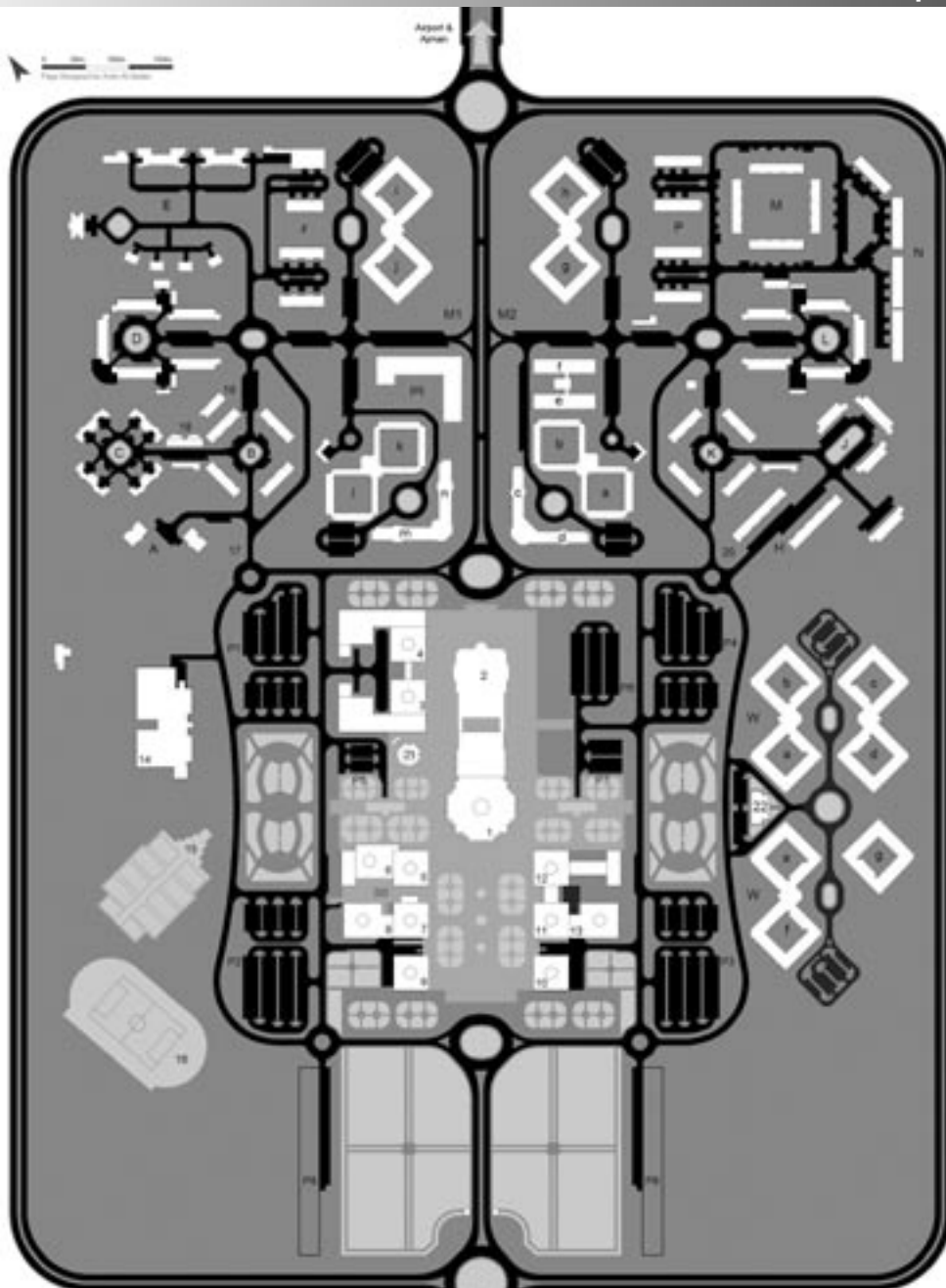
Good Standing, Academic	The academic standing of an undergraduate student who has achieved a cumulative GPA of 2.00 or higher
GPA	Grade point average of the grades of AUS courses
Grade Points	Numerical value associated with each grade
ID Card	University student identification card providing and controlling access to university facilities and services
Independent Study	Theoretical or practical research or course work beyond the courses offered in a specific semester conducted by a student under the supervision of a designated faculty member
Major	A student's main field of study
Matriculation	Enrollment as a 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 courses but are not 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	Undergraduate 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 that must be completed either along with or before enrolling in a certain course
Probation	A warning status resulting from the student's unsatisfactory conduct
Probation, Academic	Status of any undergraduate student who has less than a 2.00 cumulative GPA
Registration	The process of enrolling in classes
Regular Student	A degree-seeking student
Required Courses	Courses other than free electives prescribed by the school or college necessary for the completion of a particular degree program
Residence	A student's tenure within the university inclusive of all interruptions of study
Schedule, Class	A list of courses offered during a semester that specifies the days, hours, locations of classes and the names of the instructors
Schedule, Student	A listing of the courses a student is taking in a given semester that specifies the days, hours, locations of classes and the names of the instructors
Semester	Either of the two 18-week periods of instruction and exams into which the academic year is divided
Term	A period of instruction and exams that is shorter than a semester
Transcript	A student's historical academic record
Transfer Credit	Credit from course work completed at another institution that is accepted at AUS and which may or may not be applicable toward a specific AUS degree
Tuition	The fees charged for courses each semester or term
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.

Directory

UAE Code 971, Sharjah Code 6

www.aus.edu

Department	Telephone	Fax	E-mail
Academic Achievement Center	515 2096	515 2150	aac@aus.edu
Academic Affairs	515 2020	515 2150	vcaa@aus.edu
Admissions	515 1000	558 5018	admission@aus.edu
Alumni Affairs	515 2000	515 2125	alumni@aus.edu
Architecture and Design	515 2825	515 2800	docad@aus.edu
Arts and Sciences	515 2412	558 5067	deanofcas@aus.edu
Business and Management	515 2310	558 5065	deanofsbm@aus.edu
Career Advising and Placement Services	515 2036	515 2065	caps@aus.edu
Chancellor	515 2205	558 5858	chancellors_office@aus.edu
Engineering	515 2948	515 2979	dosoe@aus.edu
Finance	515 2185	515 2190	finance@aus.edu
Finance and Administration	515 2192	515 2130	vcfa@aus.edu
Financial Aid and Scholarships	515 2005/60/55	515 2040	scholarship@aus.edu
General Information	558 5555	558 5858	info@aus.edu
Graduate Studies	515 2208	515 2150	gradstudies@aus.edu
Health Center	515 2699	515 2690	clinic@aus.edu
Human Resources	515 2228	515 2280	hr@aus.edu
Information Technology	515 2119	515 2120	it@aus.edu
Intensive English Program	515 2654	515 2638	iep-office@aus.edu
International Student Exchange Program	515 2001	515 2002	isep@aus.edu
Learning and Counseling Services	515 2790	515 2711	aalghourani@aus.edu
Library	515 2252	558 5008	auslibrary@aus.edu
Operations	515 2299	558 5009	operations@aus.edu
Public Affairs	515 2207	515 2200	public_affairs@aus.edu
Registrar	515 2031	515 2040	registration@aus.edu
Research and Grants	515 2200	515 2150	research@aus.edu
Residential Halls	515 2244	515 2294	res-halls@aus.edu
Student Accounts	515 2233/82	515 2190	studentaccounts@aus.edu
Student Affairs	515 2166	558 5024	studentaffairs@aus.edu
Emergency Numbers			
Maintenance Emergency	515 2100		
Medical Hotline (24 hours)	050 635 7651		
Security	515 2222		



- 1- Main Building & Auditorium
- 2- Library
- 3- Engineering & Computing I
- 4- Engineering & Computing II
- 5- Student Center
- 6- Cafeteria
- 7- Architecture & Design I
- 8- Architecture & Design II

- 9- Languages, Health Center
- 10- Arts & Sciences: Physics
- 11- Arts & Sciences: Chemistry
- 12- Business & Management
- 13- New Academic Building
- 14- Sports Complex
- 15- Outdoor Courts
- 16- Sports Fields

Green & Blue

- 17- Faculty/Staff Housing (West)
- 18- Day Care Center
- 19- Leisure Center
- 20- Faculty/Staff Housing (East)
- 21- Mosque
- 22- Women's Welcome Center
- W- Women's Dormitories
- M1- Men's Dormitories (West)

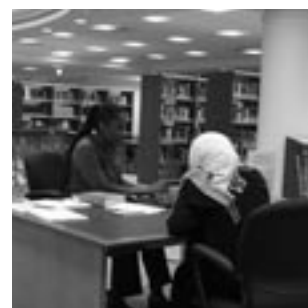
- M2- Men's Dormitories (East)
- P1- Red Lot / Paid Parking
- P2- Yellow Lot / Paid Parking
- P3- Green Lot / Paid Parking
- P4- Blue Lot / Paid Parking
- P5- Visitors' Parking
- P6- Purple Lot / Paid Parking
- P7- Reserved Parking
- P8- Free Parking



Table of Contents

Board of Trustees and Emeriti	vi
University Administrators	vii
Academic Calendar	ix
University Terminology	x
Directory	xii
Campus Map	xiii
The University	2
Historical Preamble	2
Mission Statement	2
Overview	4
Introduction	4
The Campus Complex	4
On-Campus Services	6
University Resources	8
Admissions, Registration and Academic Policies	12
Office of Admissions	12
Minimum Admission Requirements	12
Recognized Secondary School Certificates	12
Procedures for Applying	13
Program Admission Requirements	14
Office of the Registrar	16
Academic Policies and Regulations	17
Registration	17
Course Information and Attendance	20
Fields of Study	21
Grades and Academic Standing	22
Students Petition and Appeals	24
Graduation Requirements	24
Graduation procedures	27
Student Academic Integrity Code	27
Adjudication of Academic Offenses	28
Tuition, Fees, Scholarships and Aid	32
Tuition and Fees	32
Scholarships and Aid	33
Office of Student Affairs	36
Judicial Affairs	36
Residential Halls	37
Advising and Counseling Center	38
Division of Student Activities	39
Intensive English Program - CAS	42
College of Arts and Sciences (CAS)	46
Department of Arabic Studies	46
Department of Biology and Chemistry	47
Bachelor of Science in Chemistry	47
Bachelor of Science in Environmental Sciences	50

Department of English	57
Bachelor of Arts in English Language and Literature	57
Department of Fine Arts	62
Department of International Studies	62
Bachelor of Arts in International Studies	62
Department of Mass Communication	74
Bachelor of Arts in Mass Communication	74
Department of Mathematics and Statistics	82
Bachelor of Science in Mathematics	82
Department of Physics	85
Department of Writing Studies	85
College of Engineering (CEN)	88
Department of Chemical Engineering	91
Bachelor of Science in Chemical Engineering	91
Department of Civil Engineering	94
Bachelor of Science in Civil Engineering	94
Department of Computer Engineering	97
Bachelor of Science in Computer Engineering	97
Department of Electrical Engineering	100
Bachelor of Science in Electrical Engineering	100
Department of Mechanical Engineering	104
Bachelor of Science in Mechanical Engineering	104
Department of Computer Science	108
Bachelor of Science in Computer Science	108
School of Architecture and Design (SA&D)	116
Foundations Year	117
Department of Architecture	117
Bachelor of Architecture	117
Bachelor of Interior Design	123
Department of Design	127
Bachelor of Science in Design Management	127
Bachelor of Science in Multimedia Design	130
Bachelor of Science in Visual Communication	134
School of Business and Management (SBM)	140
Bachelor of Science Business Programs	140
Bachelor of Science in Business Administration	141
Bachelor of Science in Finance	151
Bachelor of Science in Management Information Systems	155
Bachelor of Arts Business Programs	159
Bachelor of Arts in Economics	159
Bachelor of Arts in Public Administration	163
Undergraduate Course Descriptions	168
Full-Time Faculty	227
Index	233



AUS



The University

Historical Preamble

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 mission of American University of Sharjah (AUS) is to achieve and maintain preeminence as a coeducational institution based upon American models and grounded in the history and culture of the Arab Gulf region.

AUS is a not-for-profit university that:

- admits students on the basis of their academic qualifications regardless of race, color, gender, religion, disabilities, age or national origin

- employs faculty and offers academic programs that are equivalent to those at leading institutions of higher education in the United States
- integrates liberal studies, professional education, and co-curricular and extracurricular learning experiences to provide its graduates both breadth and depth of knowledge
- values strong relationships with its alumni, the public, the media and appropriate governmental entities
- encourages and supports research and scholarship by its faculty and students and serves as a resource for the community
- provides students with a rich and varied campus life that fosters personal growth, maturity and a sense of social responsibility
- operates effectively and efficiently, develops and uses its fiscal and human resources wisely, and encourages wide participation in its governance



AUS



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.

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. 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 communication, global economies, social pluralism and political interdependence.

The university offers 22 bachelor's degrees, 39 minors and eight master's degrees through the College of Arts and Sciences, College of Engineering, School of Architecture and Design, and School of Business and Management.

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 USA, 215 662 5606). AUS is also licensed by the UAE Ministry of Higher Education and Scientific Research, and all programs are recognized by the ministry and have been awarded either full or initial accreditation status. All bachelor's degree programs in the College of Engineering are accredited by the Engineering Accreditation Commission of ABET, Inc. (111 Market Place, Suite 1050, Baltimore, MD 21202 USA, 410 347 7700).

The Campus Complex

American University of Sharjah is situated in University City, which is 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 11 academic buildings. The academic buildings house classrooms and lecture halls of various sizes; a state-of-the-art library; science, language, computer and engineering laboratories; workshops, digital studios and dark rooms; and offices for faculty, academic administrators and support staff.

The campus includes 12 student residential halls (eight for men and

four 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 that allows for on-going interaction with faculty members 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 over 27 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 International Biennial art exhibition. 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.

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

Banking Services

Located on the ground floor of the Main Building, the Sharjah Islamic Bank offers banking services such as checking and saving accounts, ATM transactions and transfer of funds. ATMs are located at the bank, the Student Center and the Women's Welcome Center.

Bookstore

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

Campus Cash Program

Students can use their ID cards for purchases at various AUS outlets through the Campus Cash program at no additional charge. To participate, a student must deposit an initial sum with the university cashier, who will credit that amount to the student's Campus Cash account. The Campus Cash program is very secure, and students may check their balances online. Students can use their ID cards at most AUS outlets. For program details, visit the Campus Cash section of the university website.

Copy Center

The AUS Copy Center is located 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

Many international franchise restaurants, coffee shops and snack services are located in the Student Center and the Library building. Most of these outlets offer campus delivery service.

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

Gifts and Memorabilia

Located on the ground floor of the Library Building adjacent to the bookstore, the AUS Gift Shop offers a variety of merchandise, memorabilia and gift items customized for AUS.

Information Technology

The Information Technology (IT) Department serves the computer-related administrative, instructional, technical and research needs of students, faculty and staff. It also acts as the university's gateway to the Internet for academic purposes. Services provided include e-mail accounts and passwords, online courseware (Blackboard), wireless and local area networks and telephone services. Many services are monitored 24 hours a day, seven days a week to maintain availability for on-campus users. The university's computer network uses fiber-optic cables that interconnect the entire campus, including the residential halls and faculty housing. Additional information can be found in the IT section of the university website.

International Students Office

Part of the Public Relations Department, the International Studies 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 LEAP students. Furthermore, the International Studies Office provides passport custody and medical test assistance.

Lost and Found

The lost and found is located at the Student Center reception desk. Items unclaimed after one semester will be given to charitable organizations, sold or destroyed.

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 *Campus Report*, which is published for the campus community, and *AUS News*, which is distributed on and off campus. Updates to the university's website are coordinated between the Media and Printing 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. One outlet is located in the Student Center; a second outlet is located in the Women's Welcome Center.

Parking and Transportation

Parking lots, free and paid, are provided for faculty, staff, students and visitors. 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. Parking regulations are posted on the Security Division's portion of the AUS website.

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 Transportation Services, which can provide transportation to the cities of Sharjah, Dubai, Abu Dhabi and Al Ain. For more information on all routes and schedules, contact Transportation Services at 515 2171 or visit the university website. Transportation Services also provides information on local taxi and rental car services.

Personal Services

A beauty salon is located in the Women's Welcome Center, and a barbershop is located in the Student Center. Regular and dry-clean laundry services are available on the west and east sides of campus near the faculty housing.

Pharmacy

Located in the Student Center, the pharmacy is part of the health coverage program and offers a full range of medication and various health, hygiene and cosmetic products.

Post Office and Mail

AUS provides a full-service post office on the ground floor of the Main Building. Mail is distributed daily to all university offices by the University Post Office. It also maintains individual post office boxes for all resident students. 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. Students must carry their IDs with them at all times and have them available upon request. ID cards must be validated by the Public Relations Department every semester (including summer session) to avoid charges.

Safety

The Safety Enforcement Division, part of the Public Relations Department, is located on the mezzanine floor of the Main Building. This division provides information on occupational safety and health hazards, and promotes a safe and healthy environment on campus.

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.

Travel Office

The Travel Office, located in the Student Center, 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, and faculty and staff members and their dependents. The center is open Sunday–Thursday from 8:30 a.m. to 4:30 p.m. and provides 24-hour accident and emergency care as well. Depending on the severity of the illness, patients are referred to hospitals for further treatment. Great emphasis is placed on making the campus a healthy and safe place to study, work and live.

The UHC is staffed with a highly qualified medical team, which includes three general practitioners, a psychologist, a nutritionist and four registered nurses. The UHC is equipped with an ECG machine to monitor heart ailments, nebulizers for respiratory problems, a respiratory function test (spirometer), glucometers to check blood sugar levels, and an observation room (day care) to closely monitor patients.

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 and healthy eating.

Health Insurance Plans for Students

As part of the registration procedures, every student must enroll in one of two health insurance plans. Plan I is compulsory for AUS-sponsored students but optional for others who are officially enrolled in health insurance plans with their families.

Plan II is compulsory for all students who are not enrolled in Plan I. Visit the University Health Center's section on the AUS website for more information on the health insurance plans.

University Resources

Academic Achievement Center

This center offers students assistance in academic matters through individual and group advising. The academic achievement advisors help students with issues such as study skills, time management, test-taking techniques and strategies for course selection. They also help develop a retention plan for students, and follow the progress of students on probation.

Architecture and Design Facilities

Beginning with the sophomore year, School of Architecture and Design students benefit from personally assigned workstations in digital studios. Students accepted into the second year have dedicated individual worktables and desktop computer workstations with network connections. The school provides for the use of both Macintosh and Intel-based platforms. All students have 1:1 access to the 100 Mbps Ethernet. Dedicated ancillary spaces, which are shared by all curricula, include digital classrooms and closed networked studios, a high-end Macintosh lab, an Intel-based lab, input/output labs, a printmaking shop, lighting and photography labs, a dedicated student wood and metal shop, the Visual Resource Center, the Technical Equipment Center, a 3-D lab, the Material Resource Room, an exhibition gallery and dedicated critique rooms. Multimedia, video and sound equipment are featured in the Advanced Digital Laboratory, which includes sound editing booths.

AUS Writing Center

The AUS Writing Center, located on the first floor of the Library building is dedicated to helping students become

independent, confident writers through an interactive approach to writing. Available to all AUS students, the Writing Center offers one-on-one writing conferences by appointment or on a drop-in basis. During these conferences, students and consultants work together on various aspects of writing: thesis development, organization, outlining, paragraph development, vocabulary, sentence structure and mechanics. Students can visit the Writing Center to work on their drafts, to do research or to work with a consultant on particular aspects of their writing. The Writing Center also offers workshops on a variety of writing topics throughout the academic year. For more information, visit www.aus.edu/cas/writingcenter/.

Computer Learning Resources

All classrooms are networked and most are equipped with data projectors and other technology that enable faculty members and students to enhance learning with digital and online content. Wireless network access is available in all academic areas of the campus, and its capacity is being increased in selected locations to support wireless laptops.

AUS departments and programs offer a range of specialized computer laboratories with software to support student work. Additionally, the library features an information commons with an expanded range of computers, software and related technology along with support for students' research and other academic work.

Engineering and Computing Laboratories

The College of Engineering has approximately 30 undergraduate laboratories and workshops. All equipment and instruments are accessible to and extensively used by the students. Laboratory summaries are presented below by department, and may be reviewed in detail on each department's website.

Chemical engineering has unit operation, software, environmental,

petroleum, water, materials, fluid flow and heat transfer laboratories.

Civil engineering laboratories are designed for conducting standard construction materials, soil, rocks, water and environmental tests.

Computer engineering has general-purpose programming, digital systems, microprocessor, very large scale integration (VLSI), embedded systems, industrial computer applications, high-performance computer cluster, computer network, software engineering and database laboratories.

Computer science has one dedicated computer lab as well as a senior project lab. In addition, the computer engineering digital systems lab is used by computer science students for their digital systems laboratory course component.

Electrical engineering laboratories focus on electronics, electric power, control, measurements, machines, communications and signal processing, nondestructive testing and medical electronics.

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.

The various departments share six computer labs with more than 180 stations. All labs have dedicated lab instructors and engineers. Additionally, all engineering facilities offer wireless connectivity.

Library

The AUS Library, a stunning 11,000-square-meter state-of-the-art facility, provides collections, services and programs to support the curricular and research needs of the university community. The majority of the library's rapidly growing physical collections of 100,000 items is in English; however, there are also materials available in Arabic. 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 e-books, online databases, full-text journals and other digital resources. Library facilities include the Information Commons, group study rooms, quiet study areas and media viewing rooms. The library offers hands-on information literacy classes to teach students research skills. The library works in conjunction with all parts of the university to provide academic resources for all classes taught at AUS. Further information regarding the library is available at <http://library.aus.edu>.

Mass Communication

Laboratories and Studios

Students in the Department of Mass Communication benefit from high-tech laboratories with computer stations featuring graphic design and desktop publishing software. The Mass Communication Studio is a state-of-the-art video studio dedicated to the development of student media skills. It consists of four digital wide-screen cameras, a wide-screen digital video mixer and a digital audio mixer. A variety of sets and studio environments can quickly be created, including a blue screen, an infinity sweep set, a limbo set, a reality set and a news set. Entry-level students can also benefit from a mini-studio used as a lecture lab before they are allowed to use the main studio.

Office of Alumni Affairs

The Office of Alumni Affairs works to maintain contact between alumni and the university. Together with the AUS Alumni Association, the office organizes events, facilitates contact among graduates and publishes the quarterly magazine *AUS Connect*. The Office of Alumni Affairs also oversees worldwide chapters of the AUS Alumni Association. For more information, visit www.aus.edu/alumni/.

The office further aims to establish endowments and scholarships to support the academic endeavors of AUS students and faculty through named scholarships.

Research and Grants

AUS supports and promotes the research and consulting activities of its faculty members. In addition, AUS offers its students opportunities to work on faculty research projects, to present papers with faculty at international conferences and to assist faculty in developing research grants.

AUS upholds its ethical and legal responsibility to administratively review all proposed research projects involving humans or animals as participants to ensure compliance with internationally recognized principles and regulations governing the protection of research participants. All research studies at AUS involving the participation of humans must be submitted to and approved by the AUS Institutional Review Board (IRB) before any study is undertaken; research involving animals must be approved by the Animal Care Committee.

For further information on the university's research and grant opportunities, please visit the AUS website.

Research Centers

AUS has established a number of research centers as part of its commitment to research and community outreach.

Earthquake Observatory

The AUS Earthquake Observatory uses state-of-the-art equipment and software to record and analyze the region's earthquake activity. The Earthquake Observatory also provides expert opinions on earthquake hazard and related risk in the UAE and the Gulf region; assessment of seismic hazards at construction sites and petrochemical and industrial facilities; assessment of seismic risk of existing

structures and recommendations for strengthening and retrofitting; analysis and design of earthquake-resistant structures; evaluation of local site effects; preparation of macrohazard and microhazard zonation maps; evaluation of dynamic soil properties; training workshops for engineers on the analysis and design of structures for earthquake loading; and expertise on the development of earthquake-resistant design codes.

Mechatronics Center

The Mechatronics Center leads research and development in advanced engineering systems and high-tech technology transfer in the region. It promotes multidisciplinary research activities among faculty members and graduate students at AUS, and between AUS and universities in the United States, Europe and Japan. It also 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

The Institute of Materials Systems collaborates with governmental and private sectors in areas of materials research and applications, focusing on quality control, performance, development and use of standard procedures, and quality assurance materials used in the region. Objectives of the institute are to conduct scientific research focused on materials properties and applications in harsh environments; assist 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; and establish collaboration with similar centers of excellence worldwide.

Institute of Urban and Regional Planning and Design

The Institute of Urban and Regional Planning and Design advances urban planning as it relates to the local culture and identity of the UAE and the Arab Gulf region, and promotes sustainability as integral to all activities pertinent to urban planning and urban design. The institute's objectives are to advance production and accumulation of knowledge in urban and regional planning and urban design; develop and offer educational and training opportunities in urban and regional planning and urban design; collaborate with local governmental, not-for-profit, non-governmental and private agencies concerned with urban planning and development to advance quality of practice and research; advance public discourse on urban planning through public forums (e.g., seminars, conferences, symposia); and increase public awareness in urban planning and urban design.

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, spectrophotometers, a rapid kinetic apparatus, and electrochemical and chromatographic equipment. The environmental sciences and analytic chemistry laboratories are equipped with the latest sampling and analytical devices, including AA, GC-MS, ICP, FTIR and HPLC equipment. The physics laboratories are supplied with up-to-date standard equipment, including computer interfaces, motion sensors, current sensors, voltage sensors, magnetic field sensors, linear air tracks, photogates, smart timers, projectile launchers, ballistic pendulums, rotational systems, digitometer, electric field mappers,

current balance apparatus, signal/function generators, oscilloscopes, a Hall effect apparatus, lasers, spectral lamps, photoelectric effect apparatus, Geiger-Muller tubes, radiation counters, h/e apparatus, Frank Hertz apparatus, e/m apparatus, spectrometers, Interferometers, X-ray machines, a Millikan oil drop apparatus, heat engines/gas law apparatus, a thermal expansion apparatus and an adiabatic gas law apparatus. The biology laboratories are equipped with the latest stereo inverted and compound microscopes, a microtome, an autoclave, a laminar flow sterile hood, PAGE and agarose electrophoresis equipment, cryostat and microtome units, a workstation with a computer connected to digital microscope cameras, a growth chamber, IDEXX Colilert and a manifold filtration unit for microbiological analysis.

Interpreting Laboratory

The Department of Arabic Studies has a purpose-built interpreting facility. It features simultaneous interpreting booths, a consecutive interpreting table, Internet access and equipment for simulated video conferencing. This interpreting facility is also equipped with the latest technology and machine translation software, TRADOS and other relevant, including Internet-based, software needed in language engineering.

AUS



Office of Admissions

Dean

Ali Shuhaimy

American University of Sharjah places particular emphasis on quality education. Applicants are considered based on their qualifications regardless of race, color, gender, religion, disabilities, age or national origin. The most qualified candidates are selected to fill the seats 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 college/university experiences applying to AUS as first-year students will be considered only if they were in good academic standing in their previous college/university.

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
admission@aus.edu
www.aus.edu/admissions/

Minimum Admission Requirements

The university's 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. Admission to the university is competitive, and the actual required minimum average for admission consideration and to guarantee a seat will depend on:

- secondary education certificate or school average
- SAT scores (as applicable)
- number of qualified applicants
- number of available seats

However, the minimum required average for accepting an application is the equivalent of 80 percent or more in the final year (national exams only) of secondary education, or 80 percent or more in the best two out of the last three years. Other program-specific requirements or restrictions may also apply.

Furthermore, applicants must obtain a score of at least 197 on the Computer-Based TOEFL (CBT) or 71 on the Internet-Based TOEFL (iBT) in order to be admitted to an AUS college/school. Scores are only valid for two calendar years. Students who score below the minimum required TOEFL score but who otherwise meet AUS admission standards may be admitted to the Intensive English Program (IEP) at AUS upon meeting the minimum required IEP placement test score. They must study for at least one semester in IEP and score the required 197 CBT/71 iBT on TOEFL to be eligible to matriculate into their chosen field of study.

Note: *The AUS TOEFL code is 0526.*

Recognized Secondary School Certificates

AUS recognizes secondary school certificates awarded by ministries of education and by private secondary schools that are recognized by their host country. The university also

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

Examples of Secondary School Certificates

Following is a list of some common certificates and the corresponding minimum levels of performance required for accepting an application at 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.

- **National General Secondary School Certificates (Arts or Science):** minimum required average is the equivalent of 80 percent or more in the final year national exam, or 80 percent or more in best two years
- **American-style High School Diploma:** minimum 3.0 CGPA (or equivalent) on a 4.0 scale (only subjects classified as academic are considered in the calculation of the CGPA)
- **International Baccalaureate (IB):** must complete any six subjects, with at least three at the higher level
- **Lebanese Baccalaureate:** completion of Part II required
- **French Baccalaureate or equivalent:** completion of Part II required
- **Pakistani Board(s) Certificates:** Higher Secondary School Certificate (Part II) required
- **Indian Board(s) Certificates:** Senior Secondary School Certificate (12th Standard) required
- **Iranian Certificate:** completion of pre-university year required
- **German Abitur:** minimum average of three required
- **IGCSE, GCSE, GCE:**
 - Minimum of 11 years of schooling;

School Leaving Certificate must be provided showing last grade (year) completed.

- Minimum of eight different IGCSE/GCSE subjects. Moreover, to accept an application, an applicant must have a minimum of four C grades and four B grades, or higher. Preference in admission considerations will be given to applicants with higher grades.
- Students who complete advanced supplementary level (AS-level) and/or advanced level (A-level) are given preference in admission considerations and selection of majors.
- Subjects must be from at least four different subject groups. Also, only subjects classified as academic (including arts and creativity subject group) will be accepted for admission consideration.

Procedures for Applying

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

General Documents Required for Admission to AUS

Every applicant is required to submit the following documents:

1. an application for admission with every item 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. SAT scores (as applicable)
5. four recent passport-size photographs
6. a photocopy of the applicant's passport
7. a non-refundable application fee of UAE Dirhams 200
8. Test of English as a Foreign Language (TOEFL) score, if available at the time of applying
9. the appropriate documents for the type of admission sought (early, regular or transfer)

Early Admission

A student in his/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 and SAT scores (as applicable). Early admission is offered only to highly qualified applicants and 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 cannot register for courses 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 in addition to the general documents required for admission to AUS as listed above:

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, must be provided.
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 2007 July 15, 2007

Spring Semester 2008 December 16, 2007

Students who need visas should apply at least one month before the established deadlines.

Transfer Student Admission

Depending on available seats, candidates transferring from institutions of higher education may be considered 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). The required minimum cumulative grade point average (CGPA) depends on the institution the applicant is transferring from. Please contact the Office of Admissions for specific CGPA requirements.
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 of AUS.
5. They submit official transcripts of their high school and college/university records along with the syllabi for and descriptions of courses 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.
7. They pay a non-refundable credit transfer evaluation fee of UAE Dirhams 300. However, this fee is deductible from tuition once the applicant joins AUS.

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 course work in photographic, digital or original format. No engineering or computer science courses will be transferred from academic programs not recognized by ABET, Inc. (Accreditation Board for Engineering and Technology).

Transfer applicants from four-year

colleges/universities with a similar mission to AUS may be awarded transfer credits. The minimum required course grade(s) to be considered for credit transfer will depend on the institution from which the applicant is transferring.

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/head at AUS. Transcripts will be evaluated once only. Transfer students must complete their transfer file and be awarded transfer credits before the end of their first semester at AUS.

Courses completed 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. No more than 50 percent of the credits required to earn a degree from AUS may be transferred from another institution. In addition, transfer students must satisfy the university's graduation residence requirements as outlined in the Academic Policies and Regulations section of this catalog.

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 2007 June 21, 2007

Spring Semester 2008 December 6, 2007

Summer Session 2008 May 1, 2008

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 for evaluation is:

Fall Semester 2007 July 1, 2007

Spring Semester 2008 December 13, 2007

Summer Session 2008 May 8, 2007

Upon receipt, AUS will investigate the authenticity and accuracy of all submitted transcripts and supporting documents/materials.

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 cannot register for non-degree status.

Visiting, Study Abroad and Transient Student Admission

Visiting students, study abroad students and transient students apply for admission through the Office of the Registrar. For information on admission and registration procedures for these types of students, please see the Academic Policies and Regulations section of this catalog.

Applicants with Disabilities

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

The Offer of Admission

The offer of admission, regardless of type, is valid only for the semester for which a student applies. If an applicant is granted admission for a certain semester and for some reason fails to register in that semester, the applicant may request, in writing, deferring admission for the following semester only. Admission consideration for the following semester will depend on available seats and the applicable admission criteria.

Admission Deposit

All admitted students, regardless of type, are required to pay a seat reservation deposit of UAE Dirhams 5,000 and a residential hall room reservation deposit (if applicable) of UAE Dirhams 500. Both deposits are non-refundable and non-transferable to others and must be paid before the established deadline indicated in the letter of admission. These deposits are deductible from the student's bill once the applicant joins AUS. If a student requests to defer admission to the following semester and the request is approved, both deposits will be applied to the following semester's invoice.

Program Admission Requirements

Certificate Requirements

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

- **Literary Certificates:** Holders may be admitted to the College of Arts and Sciences (except for the chemistry and environmental sciences majors), the School of Architecture and Design (except for the architecture and interior design majors) and any major offered by the School of Business and Management.
- **Scientific Certificates:** Holders may be admitted to any major in any of the colleges/schools.
- **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.

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

the TOEFL are required to sit for placement tests appropriate for their intended majors as shown in the following chart. Those who do not sit for the placement tests will be required to take the corresponding preparatory course. No student is allowed to sit for a placement test more than once. The sole exception is for the mathematics placement test if a student is changing programs and the mathematics level is different in the two programs.

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 later. Students are allowed to repeat a preparatory course up to Sophomore I (less than 45 credits).

Placement Tests

All freshman applicants who attain the minimum score or higher on

Preparatory Courses

Students who score low on a particular placement test are enrolled in an

Required Placement Tests						
Majors	Placement Test					
	Engineering Math and Science	Business Math	Architecture Math	Physics	English	Computer
English Language & Literature/Mass Communication	No	No	No	No	Yes	No
Chemistry/Environmental Sciences	Yes	No	No	Yes	Yes	No
International Studies	No	Yes	No	No	Yes	No
Architecture/Interior Design	No	No	Yes	No	Yes	No
Design Management/Multimedia Design/Visual Communication	No	Yes	No	No	Yes	No
Business and Management (all majors)	No	Yes	No	No	Yes	Yes
Computer Science/Mathematics	Yes	No	No	Yes	Yes	No
Engineering (all engineering majors)	Yes	No	No	Yes	Yes	No
Undeclared Major	*	*	*	*	Yes	*
* The appropriate placement test(s) must be taken before a student can enroll in the first-year course.						

Office of the Registrar

Registrar

Lynda Ataya

The Office of the Registrar is the only official office of records for students pursuing degrees at AUS. Among other matters of record, the Office of the Registrar is responsible for the following:

- implementing the university's academic policies and regulations in an accurate and timely manner
- managing the registration processes for every semester
- coordinating the evaluation of transfer students' records and awarding them equivalent AUS credits
- evaluating students' financial aid and scholarship applications
- coordinating the admission and registration of study abroad, transient and visiting students
- maintaining records of the academic progress and accomplishments of AUS students in a private and secure manner
- issuing official student transcripts and certifying the enrollment and attendance of students
- awarding degrees

University Academic Policies

The Office of the Registrar is entrusted with ensuring that the university's academic policies and procedures are timely and accurately implemented. These policies, regulations and procedures encompass the evaluation of the academic records of students admitted to AUS as transfer students; the registration of new, transfer, study abroad, transient and visiting students; the update of students' academic records; and the degree evaluation of students towards awarding them AUS degrees.

For details on registration procedures and policies, study abroad, visiting students, change of student academic information, grades and graduation requirements, please refer to the Academic Policies and Regulations section of this catalog.

For details on transfer evaluation and awarding of transfer credits,

please contact the Office of the Registrar at 06 515 2009 or e-mail registration@aus.edu.

Student Aid and Scholarship

The Office of Financial Aid within the Office of the Registrar assists students in applying for the different types of aid and scholarship provided by the university, processes their applications, and ensures that proper and fair decisions are made in the awarding of financial aid and/or scholarship, taking into account each applicant's unique situation.

For details on student aid and scholarships, please refer to the Tuition, Fees, Scholarships and Aid section of this catalog.

Student Records

Student 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

The university reserves the right to disclose students' records to the immediate guardian of the student and to the private or public authority sponsoring the student.

Custody of Records

All transcripts and other documents submitted from other institutions are the property of American University of Sharjah, and, as such, become 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 and Certificates

Student Transcripts

A permanent record reflecting the academic achievements of each student who registers at the university (also referred to as the "academic transcript" or "transcript") is maintained by the Office of the Registrar. At the end of every semester, the Office of the Registrar issues updated transcripts for all the students who were registered for the semester. These transcripts are mailed to every individual student. These copies are not official and are only intended to update students on their academic achievement. Students may also access their transcripts through the secure online student information system. Students are encouraged to review their records online periodically.

Students may obtain transcripts of their academic records at AUS from the Office of the Registrar. Transcripts will only be released with a signed request from the student concerned. The request form is available at the Office of the Registrar as well as at www.aus.edu/registration. A nominal fee applies. The university will issue only complete transcripts, not parts of the student record.

An explanation of the university's grading system is included in the Academic Policies and Regulations section of this catalog.

Certificates of Enrollment

Students may request academic certificates of enrollment from the Office of the Registrar or by the the Enrollment Request form available at www.aus.edu/registration. A nominal fee applies.

For further information on requests for other types of official documents pertaining to a student's academic record, contact the Office of the Registrar, 06 515 2031 or e-mail registration@aus.edu.

Academic Policies and Regulations

Registration

Orientation Program

Prior to registration, academic orientation is held for all new students to introduce them to the university's general academic regulations, policies and support services. In addition, each college/school has an orientation to familiarize students with its specific regulations and assist them with the registration process. During orientation, the Office of Student Affairs introduces university life through campus tours and visits, meetings, lectures, demonstrations and other activities. Attendance at these programs is mandatory for all new students.

Academic Advisors

Academic advising is an essential element of the educational process. 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 the most recent 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 members, department or program heads, program coordinators and deans.

Registration Procedures

Before the registration period begins, the Office of the Registrar posts the registration guide on the AUS website. 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 as well. Students should carefully read the registration guide as they prepare for registration and meet with their academic advisor.

Registration involves three main steps:

1. advisement and consultation
2. selection and registration of courses
3. payment of fees

Continuing and returning students register through the website. New students and transfer students register with their respective colleges/schools. Non-degree, study abroad, transient and visiting students register with the Office of the Registrar. Registration by way of proxy is not permitted.

New and transfer students must ensure 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.

Transfer Student Registration

Transfer students cannot register for subsequent courses if their transferred courses do not meet the prerequisite requirements. Transfer students must complete their transfer file and be awarded transfer credits before the end of their first semester at AUS.

Non-degree, Visiting, Study Abroad and Transient Student Registration

Non-degree, study abroad, transient and visiting students register through the Office of the Registrar.

Application for Non-degree Students

For information on how to apply as a non-degree student, please refer to the Office of Admissions section.

Application for Visiting Students

A visiting student is one who is not formally admitted to American University of Sharjah but is allowed to take courses at AUS for transfer back to their home institution. Visiting students should check with their home

institutions about the transferability of AUS credits to their programs.

Applicants seeking visiting student status must submit a visiting student application (available from the Office of the Registrar and the university website), an official university transcript and a letter of good academic standing from their home institution to the Office of the Registrar. To secure seats in courses, applications should be submitted by April 15 for summer and fall enrollment and November 20 for spring enrollment. TOEFL is required except for students studying at a four-year university in North America where English is the medium of instruction. 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.

Application for AUS Students Studying Abroad

AUS offers students the opportunity to study abroad at other institutions during a regular semester and gain full AUS course credit. The Study Abroad Program aims to provide students the opportunity to immerse themselves in a different culture, to enhance their language skills, to build international work connections and to gain further insight into their field of expertise. With this in mind, students may choose to attend accredited institutions that provide learning experiences similar to those offered by AUS. Of particular interest might be institutions with which AUS has semester exchange programs. For further information, please contact the International Student Exchange Program Office in the Office of Student Affairs.

Note: Normally, students are expected to complete their last semester in residence at AUS.

Students who wish to study abroad during a regular semester must have

a cumulative GPA of 2.5 and have completed at least 59 credits (junior standing) of undergraduate courses in residence at AUS. Interested students must submit the AUS Study Abroad Program form available from the Office of the Registrar or at www.aus.edu/registration/study_abroad.php. Students should be aware that further admission requirements might exist at study abroad or semester exchange institutions.

Application for Students Studying Abroad at AUS

A study abroad student is not formally admitted to American University of Sharjah but is allowed to take courses at the university in the context of a semester exchange program between AUS and the student's university. The International Student Exchange Program Office under the Office of Student Affairs is in charge of facilitating such programs. Students must first apply through their study abroad office at their home institution. In addition, they must submit the Study Abroad Application form to the Office of the Registrar. The form is available either from the Office of the Registrar or at www.aus.edu/registration/study_abroad.php.

Normally a study abroad student is allowed to register in this status for not more than one academic year.

Application for Transient Students

Transient student status covers those who have obtained their undergraduate or graduate degrees from AUS and have returned to take extra course(s) at AUS, those who hold degrees from universities other than AUS and who want to take course(s) at AUS but not toward a degree, and AUS faculty/staff and spouses of faculty/staff who want to take course(s) for reasons other than seeking a degree.

Applicants seeking transient student status at AUS must submit the Transient Student Application form to the Office of the Registrar. The form is available either from the Office of the Registrar or at www.aus.edu/registration/study_abroad.php.

One can be a transient student for no

more than one academic year.

Registration

Non-degree, study abroad students taking courses at AUS, transient and visiting students 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. In courses with enrollment limits, priority is given to AUS students.

Students from AUS who plan to study abroad at a university with which AUS has a semester exchange program must register with the AUS Office of the Registrar in addition to registering with the study abroad host university.

AUS students who have received approval to study abroad at a university of their choice and not in the context of a semester exchange program register directly with the study abroad host university.

Summer Courses Outside AUS

An enrolled student who plans to take courses at another college or university during the summer term and to 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. Interested students must complete the Permission to Take Courses outside AUS form available from the Office of the Registrar or at www.aus.edu/registration/study_abroad.php.

Auditing Courses

An AUS student who wishes to attend a course but who does not wish to participate, take examinations, receive a final grade or receive credit for the course may register to audit the course 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 the add and 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 registering for credit.

With the permission of the instructor, senior students (90 and above credits) can audit a graduate course in their field. This course will appear on a student's transcript as audited. Students pay the regular undergraduate fee per credit hour. The audit status of such courses cannot be changed to a for-credit status. Only undergraduate students in the architecture program who are auditing graduate courses in urban planning may elect to change the audit status to credit status in order to receive full credit for the graduate courses by the end of the add and drop period. See the Department of Architecture section for more information.

Tuition and Fees

Please refer to the Tuition, Fees, Scholarships and Aid section of this catalog for specific information on fees, tuition and payment methods.

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

- A letter is submitted to the Student Accounts Office by the student's sponsor explaining the reasons for the inability to pay the full tuition and fees at registration. This letter must be received before or during the registration period.
- At least 60 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 and the student.

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

Non-degree, transient and visiting students must pay the same tuition and fees as regular students. Tuition payment for students who are studying abroad at AUS is governed by the specific terms of the agreement between AUS and their home university.

The tuition payment of AUS students studying abroad at universities with which AUS has a semester exchange program is governed by the agreement between AUS and the study abroad host university. For details on payment procedures, please check with the International Student Exchange Program Office under the Office of Students Affairs.

AUS students who have received approval to study abroad at a university of their choice and not in the context of a semester exchange program make their payments directly to their study abroad host university.

Add and Drop

Students are allowed to add and/or drop courses during the first week of fall and spring classes and the first three days of summer classes. Courses dropped during the add and drop period are not recorded in the students' transcripts. The semester tuition of individual students is recalculated accordingly with no fee penalty charged. Students interested in adding or dropping courses should first consult with their respective advisors.

Student Course 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. A student can register for up to seven credits (two courses) in the summer session.

The degree programs have been designed to be normally completed in four years, except for architecture, which is a five-year program. However, some students may require additional time. The proposed study

plans of every program help students planning their semester course load so that they complete their degree requirements within the normal time limit of their respective programs.

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 or vice chancellor is required)
- those who need fewer than 12 credits to complete an undergraduate degree
- those who are enrolled as auditing, non-degree, transient, study abroad or visiting students

Overload Students

A graduating senior 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 the semester of graduation. All credits exceeding 16 credits will require a supplemental fee.

Freshman Course Load

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. Freshman students enrolled in two or more preparatory courses (e.g., MTH 001, WRI 001, etc.) may register for up to 13 credits.

Withdrawal from Courses

Students are permitted to withdraw from courses without penalty after submitting the appropriate withdrawal form. 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. A W grade does not impact the student's GPA.

Students are expected to maintain a minimum of 12 credits, but, under special circumstances such as medical conditions, students may be allowed to drop below 12 credits. In such cases, students must petition for approval. 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. Furthermore, as of the 11th week of classes, faculty members may assign a WF for excessive absence or no show.

If a student with documented medical condition (e.g., operation, hospital stay, serious illness, etc.) is withdrawn from a course after the established withdrawal deadline, the student may submit a petition to the Office of the Registrar with the appropriate original medical documents. The Office of the Registrar will verify the claims and approve the change of status from a WF to a W.

Withdrawal from the University

In the event a student formally withdraws from the university, a grade of W or WF will be recorded depending on time of withdrawal. The following refund schedule will apply:

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

Reinstatement

A student in good academic standing is allowed no more than one semester of leave. To resume studies afterwards, the student needs to submit a reactivation form to the Office of the Registrar one month ahead of registration. Courses taken at another institution during this interim period will not be transferred.

Students who were on probation prior to complete withdrawal must petition for reinstatement.

Any student who leaves AUS for two or more consecutive semesters must submit a new application for admission to the Office of Admissions.

Course Information and Attendance

Courses and Class Schedules

Every course in each discipline or field of study offered by the university is represented by a three-letter prefix followed by a number indicating the level of the course content. Below is an example:

BIO 260 Genetics (3-0-3)

In this example, BIO is the course prefix (which represents biology) and 260 is the course number. This particular course is a second-year course in biology (denoted by the 200 level). This course is more advanced than 100-level introductory courses such as BIO 103 Introduction to Life Sciences. The numbers in parentheses following the title of a course indicate the contact hours and course credit information.

Below is another example:

CHM 101 General Chemistry 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 biology course above (BIO 260) 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. This information is noted immediately following the description of the course as listed in the Course Descriptions section of 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 one or two 50-minute recitation sessions per week each semester. Design and studio courses in the School of Architecture and Design are weighted differently. A semester comprises 16 weeks.

Class Schedules

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. 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 curricula are listed by course subject and code by college/school in the Course Descriptions section of this catalog and on the

university website. Descriptions of non-recurring topics are made available during registration in the college/school offering the course.

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 minimum background requirements for the course.

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 American University of Sharjah courses. Equivalent courses satisfactorily completed at other institutions may also meet prerequisite requirements by transfer credit. Students should consult the head of the appropriate department for more information. Students are responsible for having the required competence when entering a class. Courses for which a grade below C- was received do not satisfy prerequisite requirements.

In general, courses should be taken in an order of increasing difficulty. Credit may not be awarded for an introductory course after a more advanced course in that subject has been successfully completed.

Attendance and Lateness

Attendance and participation in all class, studio, recitation, workshop and laboratory sessions are essential to the process of education at 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.
- Beyond the 10th week of class, faculty members may assign students a grade of WF for excessive absence or no show. 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. 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.

Fields of Study

Degree Offerings

American University of Sharjah has four colleges/schools that offer both undergraduate and graduate degree programs. Undergraduate degree programs are listed below. Detailed information about concentrations within the majors is given in the catalog section of the college/school offering the major. Graduate degree offerings are listed in the *AUS Graduate Catalog*.

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 Chemistry
- Bachelor of Science in Environmental Sciences
- Bachelor of Science in Mathematics

College 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

School of Architecture and Design

- Bachelor of Architecture
- 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
- Bachelor of Science in Finance
- Bachelor of Science in Management Information Systems

Declaration of a 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. To declare a major, the student has to submit the Change of Major form to the Office of the Registrar by the last day of the add and drop week. Forms submitted beyond the add and drop week will be effective as of the following semester/term.

A change in major might entail a change in a student's catalog year. Please refer to the Catalog section under Graduation Requirements for more details.

Transferring from Non-degree to Degree Status

Students wishing to transfer from non-degree 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 minimum cumulative GPA of 2.0. Moreover, a request has to be submitted to the Office of Admissions for a change of status. For application deadlines, see the Office of Admissions section.

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.

Declaration of a Double Major

Students may select to enroll in two separate majors. To declare a double major, a student must complete the Declaration/Cancellation/Change of a Minor or a Second Major form and submit it to the Office of the Registrar by the last day of the add and drop week. Forms submitted after add and drop week will be effective as of the following semester. 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. The advisor of the primary major will serve as the student's registration advisor. The student's degree and transcript will indicate all majors completed at the time of graduation.

For graduation information, please refer to the section on Double Major Requirements under the Graduation Requirements section.

Change of Major

Students seeking to change their major within their college/school or to change their college/school must complete the Change of Major 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 by the last day of the add and drop week. Forms submitted after add and drop week will be effective as of the following semester/term. To be eligible for a change of major, a

student must meet the requirements for admission to the new major.

A change in major might entail a change in a student's catalog year. Please refer to the Catalog section under Graduation Requirements for more details.

Minor Offerings

Listed below are the minors offered by the university. Detailed information about the various minors is given in the catalog section of the department offering the minor (refer to the index of this catalog).

College of Arts and Sciences

- Minor in American Studies
- Minor in Applied and Computational Mathematics
- Minor in Arabic Language and Literature
- Minor in Biology
- Minor in Education
- Minor in English/Arabic Translation and Interpreting
- Minor in English Language
- Minor in English Literature
- Minor in Environmental Policy
- Minor in Environmental Sciences
- Minor in Governmental Studies
- Minor in International Studies
- Minor in Mass Communication
- Minor in Philosophy
- Minor in Physics
- Minor in Psychology
- Minor in Women's Studies

College of Engineering

- Minor in Aerospace Engineering
- Minor in Biomedical Engineering
- Minor in Computer Engineering
- Minor in Computer Game Programming
- Minor in Computer Science
- Minor in Electrical Engineering
- Minor in Engineering Management
- Minor in Mechanical Engineering
- Minor in Petroleum Engineering
- Minor in Software Engineering and Security

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 Business Administration
- Minor in Economics
- Minor in International Business
- Minor in Public Administration

Declaration of Minors

To be eligible to apply for a minor, students must be in good academic standing. To declare a minor, a student must complete the Declaration/Cancellation/Change of a Minor or a Second Major form, available from the Office of the Registrar, in consultation with the department offering the minor. Declaration forms submitted after the add and drop week of a semester will be effective at the beginning of the following semester/term. A student cannot declare a major and a minor in the same program. A student cannot pursue more than two minors.

A student may drop a minor prior to graduation by submitting the Declaration/Cancellation/Change of a Minor or a Second Major form to the Office of the Registrar not later than the end of the add and drop week of the semester of graduation. Minors are noted on the student's transcript. They do not appear on the degree.

For information on completing a minor, please refer to the section on Requirements for Minors in the Graduation Requirements section of this catalog.

Concentrations

Some majors allow students one or more areas of concentration. This option allows students a more in-depth knowledge of a subject area. Please refer to the appropriate major sections for relevant concentration requirements.

To declare a concentration, a student must complete the Change of Major

form and submit it to the Office of the Registrar by the last day of the add and drop week. Forms submitted after the last day of the add and drop week of a semester will be effective as of the following semester/term.

Grades and Academic Standing

Examinations

Regular and common final examination schedules are published by the Office of the Registrar on the university's website. 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 his/her associate dean by the end of week 11 of the semester to make the necessary adjustments to his/her schedule.

Grading System

The grade point average (GPA) is based on a four-point scale. The following grading system is used at 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 0.00 grade points
Withdrawal Fail	
WF	equals 0.00 grade points

Grades not calculated in the grade point average are:	
I	Incomplete
IP	In Progress
AUD	Audit
WV	Waive; no credit
TR	Transfer; credit counted
W	Withdrawal
N	No Grade
P	Pass; credit counted
AW	Non-Academic Administrative Withdrawal

The grade appeals process is outlined in the Students Petitions and Appeals section of this catalog.

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. 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 compelling medical or other emergency certified in writing by a medical or other professional, is a student assigned an incomplete grade (I) in a given course. The instructor of the course will then process an Incomplete Grade form through the college/school housing the course and submit it to the Office of the Registrar for final approval and implementation. The Incomplete Grade form must be submitted within the final examinations grading period.

All incomplete work must be submitted 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 either an F grade or the alternative grade indicated by the instructor of the course on the Incomplete Grade Form. It is the responsibility of the student to find out from his/her professor the specific dates by which requirements must be fulfilled.

Repeating Courses

A student may repeat any course, pending seat availability, up to two times without the approval of the student's academic dean. Students are allowed to repeat a preparatory course up to Sophomore I standing (less than 45 credits).

Effective June 2004, only the last grade of the repeated course is counted in the calculation of the cumulative GPA.

Class Standing

The class standing of a student in a specific semester is determined by the number of credit hours the student has completed up until and excluding that semester. The following table summarizes the earned credit hours to class standing equivalencies:

Hours	Standing
0–29 credits	Freshman
30–59 credits	Sophomore
60–89 credits	Junior
90 and above credits	Senior

During the period of early registration, the credit hours of the courses in progress are considered when determining the class standing of a student who wishes to enroll in a course with a class standing restriction.

Grade Point Average

AUS uses two grade point averages: the semester grade point average (SGPA) and the cumulative grade point average (CGPA).

Semester Grade Point Average (SGPA)

The SGPA is the grade point average of grades earned in a particular semester. It is calculated by dividing the sum of the quality points of courses taken in a particular semester by the total number of credits of the courses taken in that same semester.

$SGPA = \frac{\text{sum (quality points of courses taken in semester X)}}{\text{sum (credit hours of courses taken in semester X)}}$

Cumulative Grade Point Average (CGPA)

The CGPA is calculated by dividing the sum of the quality points of courses taken in all semesters by the total number of credits of all courses taken in all semesters.

$CGPA = \frac{\text{sum (quality points of courses taken in all semesters)}}{\text{sum (credit hours of courses taken in all semesters)}}$

Effective June 2004, only the last entry of a repeated course is considered in the CGPA calculation.

Quality Points

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 grades obtained in non-credit courses are not included in the computation of a grade point average. Students who enroll in the Intensive English Program prior to admission to the undergraduate level will have the last six credits of their IEP courses counted in the calculation of their undergraduate CGPA. Preparatory courses grades count in both the SGPA and the CGPA. Effective June 2004, only the last grade of the repeated course is counted in the calculation of the CGPA. Credits for repeated courses are only counted once.

Academic Standing

A student's academic standing is determined by his/her CGPA.

Good Standing

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

Placement on Academic Probation

All students are placed on academic probation at the end of a semester in which the CGPA falls below C (2.00).

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. Thereafter, a student must be in good academic

standing (minimum CGPA of 2.00) to continue at AUS.

Removal of Academic Probation and Dismissal

Probation will be removed at the end of any semester in which the student attains a CGPA of 2.00. Students on probation are advised to repeat courses in which they have obtained failing grades.

A student who fails to remove his/her probation by the end of the second semester on probation is academically dismissed and will not be allowed to continue as a student at AUS.

IEP Probation and Dismissal

Students in the Intensive English Program (IEP) will be placed on academic probation at the end of any semester in which their SGPA is below C (2.00). IEP students on probation will have one semester in which to achieve a SGPA of 2.00 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.

University Honors and Awards

Dean's List

The Office of the Registrar issues the 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 SGPA
- be in good academic standing
- 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 CGPA. These are

Summa cum laude: 3.90–4.00 CGPA

Magna cum laude: 3.70–3.89 CGPA

Cum laude: 3.50–3.69 CGPA

Latin honors are noted on the student's diploma and transcript.

Student Petitions and Appeals

Student Responsibility

Students are responsible for their behavior, academic or otherwise, at 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 e-mail address. These are considered official notifications. Students are responsible for checking their AUS e-mail accounts and for responding to or acting upon messages accordingly.

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

Petitions

Students may petition for exceptions to academic policies of the university. Petitions are processed through the Office of the Registrar.

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.

Students who believe they have a legitimate grievance may pursue the matter by consulting with the professor, department head, 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. Grade appeal requests to the college/school must be submitted no later than five working days after the last day of final examinations week.

After having exhausted these means to resolve the matter and having found the grievance still not reconciled, the student may file a petition, setting forth a full, fair account of the incident or circumstances giving rise to the grievance. The student must clearly state the basis upon which the petition is submitted. Grade appeal requests must be submitted no later than the end of the first day of orientation week of the following semester.

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 head of the department and/or dean of the college/school.

If, in the judgment of the dean of the college/school, 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 matter shall be referred to the Academic Appeals Committee or prescribe an appropriate procedure consonant with the university's mission. Academic appeals requests must be submitted no later than the end of the first day of orientation week of the following semester.

Graduation Requirements

Catalog

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 minimum total number of credits for graduation is 120 and the CGPA is at least 2.00. In case of substantial changes in course offerings, equivalent graduation requirements are determined by the dean.

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

General Education Requirements

The university general education requirements (GER) are derived from the AUS mission statement. Liberal studies and professional education are integrated to give students 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 a minimum of 42 credits of the following general education requirements with a minimum grade of C- to graduate:

- Arabic heritage requirement (minimum of 3 credits)
- English language competency requirement (minimum of 12 credits)
- mathematics and/or statistics requirement (minimum of 6 credits)
- information literacy requirement (0 credits)
- computer literacy requirement (0 credits)
- science requirement (minimum of 6 credits)

- humanities and social sciences requirement (minimum of 15 credits)

Some general education courses may count toward the fulfillment of 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. Furthermore, a general education course cannot be counted twice in fulfilling the general education requirements.

Students who transfer to American University of Sharjah may satisfy parts or all of the GER by transferring approved credits from their previous institution.

Arabic Heritage Requirement

The Arabic heritage requirement is designed to further students' understanding of the importance and relevance of the Arab culture and civilization in its historical development. Readings draw on Arabic texts from various literary genres and cultural topics.

All students must satisfy the Arabic heritage requirement by passing one of the following courses:

- ARA 101, ARA 201, ARA 206, ARA 207, ARA 302, ARA 304, ARA 310, ARA 312, ARA 401, ARA 405, ARC 225 (for non-SA&D students), CSC 303, CSC 402, THM 301 and THM 302
- any other Arabic literature course, for a minimum of 3 credits, with the approval of the Dean of the College of Arts and Sciences prior to registering for the course.

English Language Competency Requirement

All students must be able to write with a level of mastery equal to the demands of university course work. In addition, students need to acquire the critical reading and comprehension skills necessary for all their courses. To this effect, students are required to complete a minimum of 12 credits in ENG/WRI courses. Students may also complete MCM 209 Dramatic Expression as part of the English language competency requirements.

All matriculating students must

take the English Placement Test to determine which WRI (writing) course they are to be placed into (001, 101 or 102). WRI 101 Academic Writing and WRI 102 Writing and Reading across the Curriculum should be completed in the first year (freshman) or before completion of 30 credits. Students are strongly advised to complete their 12 credits in ENG/WRI courses by the end of their second year (sophomore) or before the completion of 60 credits. The specific courses needed for each program are established by the college/school housing that program.

Mathematics and/or Statistics Requirement

All students must have mastery of quantitative reasoning and university-level mathematical skills. Students are urged to satisfy this requirement by the end of the second year (sophomore). Students may satisfy the mathematics and statistics requirement by passing any two mathematics courses or one mathematics and one statistics courses for a minimum of six credits. The specific courses needed for each program are established by the college/school housing that program.

Information Literacy Requirement

Information literacy refers to a set of critical research skills that enable students to identify, locate, retrieve and evaluate information resources in a variety of formats. Information literacy competencies are gained through WRI 102, ENG 203 and ENG 204.

Computer Literacy Requirement

All AUS students must be computer literate. Although computer skills are taught within the context of many courses, students may be required to take additional specific computer courses depending on the requirements of their degree program. Courses satisfying the computer literacy requirement include BIS 101, DES 100, MCM 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 courses for a minimum of six credits from the disciplines of biology (BIO), chemistry (CHM), environmental sciences (ENV) and physics (PHY). The specific courses needed for each program are established by the college/school housing that program.

Humanities and Social Sciences Requirement

Participation in the global community and the global economy requires understanding of various cultures. Therefore, AUS students need to become thoroughly grounded in the humanities and social sciences to compete successfully in the global market. Students must satisfy the humanities (H) and social sciences (SS) requirement by completing at least 15 credits of which at least six credits must be in the humanities and at least six credits must be in the social sciences.

Humanities (H)

- American studies (AMS)
- Arabic literature (ARA)
- cultural studies (CSC)
- education (EDU)
- English language and/or literature (ENG)*
- French (FRN)
- history (HIS)
- music (MUS)
- philosophy (PHI)
- theme courses (THM)
- women's studies (WST)

*Note: ENG 203, ENG 204, ENG 207, ENG 208, ENG 225 and ENG 231 do not count as humanities.

Social Sciences (SS)

- American studies (AMS)
- economics (ECO)
- education (EDU)
- geography (GEO)
- international studies (INS)
- political science (POL)
- psychology (PSY)
- sociology (SOC)

- theme courses (THM)
- women's studies (WST)

In addition, the following specific courses may be counted as humanities: ARC 225 (for non-SA&D students), DES 121, DES 122, DES 231, ENG/MCM 320, HRM 201, HRM 202 and MCM 102. The following courses may be counted as either humanities or social sciences: MCM 155 and MCM 156.

Major Requirements

Each student in a degree program must complete at least 36 credits in major and major-related courses. The specific major and major-related requirements of a major are listed under the corresponding program section in this catalog. A grade of C- or better is required for each major and major-related requirement. Some major requirements may count toward fulfilling general education requirements.

Double Major Requirements

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. The catalog in effect for the student's primary major will be followed for the degree audit of the second major.

Requirements for Minors

Most minor programs consist of a minimum of 18 credits including at least 50 percent of the credits in courses at or above the 300 level in the discipline of the approved minor. At least six credits of the courses at or above the 300 level in the discipline must be taken in residence at AUS. Fifty percent of all credits required for the minor must be completed in residence at AUS. Students must meet the prerequisite requirements for courses required for 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 first catalog in which the minor is listed will be applied. Graduation requirements for both the major and the minor must be completed at the same time. The minimum GPA for minor courses is 2.00.

For those programs offering a minor, the specific course requirements constituting a minor are listed under the corresponding program section in this catalog. Free electives may be taken toward the minor. A grade of C- or better is required for each course used to satisfy the requirements of the minor.

To complete an additional minor, students must satisfy all the requirements of the two minors requested.

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 colleges/schools may restrict the choice of free electives. Preparatory courses (i.e., intensive English courses, preparatory 00X courses) do not fulfill free electives requirement.

Internships

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

Graduation Residence Requirements

Candidates for the bachelor's degree are expected to complete their last semester in residence at the university unless registered in an AUS-recognized semester exchange program. 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

course work must be successfully completed in residence at AUS to obtain a bachelor's degree. Courses with a grade of D or higher can be used to meet the graduation residency requirement.

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.

Academic Standing Requirement

A student must be in good academic standing to be eligible for graduation.

Graduation Procedures

Participation in the Commencement Exercises

The university holds two commencement exercises: a fall commencement ceremony at the end of the fall semester and a spring commencement ceremony at the end of the spring semester.

Students who have been certified for conferral of a degree in a summer or a fall semester are eligible to participate in the corresponding fall commencement ceremony. Likewise, students who have been certified for conferral of a degree in a spring semester are eligible to participate in the corresponding spring commencement ceremony.

In addition, students registered at the 11th week of a semester for courses necessary to complete their degrees may participate in commencement at the end of that semester.

Students who do not wish to participate in the commencement exercises of their semester of graduation must complete an Absentia Form available at www.aus.edu/registration or www.aus.edu/commencement. Absentia graduates are not eligible to participate in another semester commencement ceremony.

Application for Graduation

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 form 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 moved to the following semester.

Conferral of Degrees

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.

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 the date of graduation.

Names on Degrees

The names of AUS students on 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 Honors

For details on graduation honors, please see the Grades and Academic Standing section above.

Attestation of Degrees and Transcripts

The Office of Alumni Affairs offers the service of attesting degrees and

transcripts with the UAE Ministry of Higher Education once at the end of every semester. The office also provides all information relevant to the attestation process to help graduates who wish to handle it individually.

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 Student Academic Integrity Code for 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, 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/she has chosen. Accordingly, each student is required to conform to the regulations of the university, of the college/school in which he/she has enrolled and of the classes in which he/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 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, the 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 course work or other academic activity.

Interference with Other Students' Work

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

Copyright Violations

Copyright laws must be observed. These laws govern practices such as making use of printed materials, duplicating computer software, duplicating images, photoduplicating

copyrighted materials and reproducing audio/visual works. The academic integrity code prohibits theft and the unauthorized use of documents and requires adherence to the laws of Sharjah and the federal laws of the UAE.

Complicity in Academic Dishonesty

Complicity in academic dishonesty consists of helping or attempting to help another person commit an act of academic dishonesty or willfully assisting another student in the violation of the academic code of integrity. Complicity in academic dishonesty is pre-meditated and intentional. This can include, but is not limited to, (1) doing 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/herself to the faculty member.

Violations of the academic integrity code that involve admission and/or placement testing fall within the jurisdiction of an ad hoc committee

that is called upon when such violations are reported.

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.

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:

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

- 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 five 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.
- 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.
- When appropriate, the dean (or appointed designee) will gather additional evidence from the student, the complainant and other concerned parties before the adjudication process.
- 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 a scheduled meeting regarding such changes, the date of which will be made known in advance to him/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. A notation of the academic integrity code violation will be entered on the student's permanent record.

- In assigning a penalty, the dean will take into account both the seriousness of the offense and any particular circumstances involved.
- After a second determination of guilt is established through formal review, a student may be suspended or dismissed.
- Penalties for an academic offense may include one or more of the following:
 - resubmission of the work in question
 - submission of additional work for the course in which the offense occurred
 - a lowered grade or loss of credit for the work found to be in violation of the integrity code
 - a failing grade of F or WF or denial of credit for the course in which the offense occurred
 - suspension for one or more academic terms, including the term in which the offense occurred
 - dismissal (for a specified term or permanently) from the university
- 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.
- If the penalty levied is (e) or (f), the dean of the college/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

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 head of the department in which the case occurred and the student's dean if the student is enrolled in another college/school.

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 five 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 of conduct review panel meeting. Appeals will be reviewed by the Vice Chancellor for Academic Affairs or designee, who may consult the case's written record, 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

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.

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/she has satisfied all requirements imposed by the dean when the original action was implemented.

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 later 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. 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

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 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.

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

AUS



Tuition, Fees, Scholarships and Aid

Tuition and Fees

Tuition for full-time undergraduate students is given in the table below. The full-time course load is 12 to 16 credits. Students registering for more than 16 credits are charged a supplementary fee per credit over 16. Part-time students registering for less than 12 hours are charged per credit regardless of their major. Additional undergraduate fees and housing charges are given in the tables that follow.

Undergraduate Tuition for Academic Year 2007–2008				
Credits	Major	Rate A Per Semester AED	Rate B Per Semester AED	Tuition For Summer AED
Less than 12	All except IEP	2,320 per credit hour	2,420 per credit hour	2,320 per credit hour
12 to 16	All majors	26,500	27,700	-
Over 16	All majors	26,500 + 1,770 per credit hour exceeding 16 credit hours	27,700 + 1,850 per credit hour exceeding 16 credit hours	-
	Intensive English Program	21,360	27,700	6,770
Rate A: For continuing undergraduate and IEP students, and undergraduate students matriculated from IEP, with uninterrupted registration from Spring 2007. Rate B: For undergraduate and IEP students admitted after Spring 2007 and for students returning in or after Fall 2007 after not attending AUS for at least one regular semester (spring or fall).				

Undergraduate Fees for Academic Year 2007–2008				
Fee Type	Compulsory	Per Course AED	Per Semester AED	For Summer Session AED
Lab/Technology Fee A	Applies for each registered course that has a fee "A" attached as per AUS catalog	440	-	-
Lab/Technology Fee B	Applies for each registered course that has a fee "B" attached as per AUS catalog	600	-	-
Student Activities	All students	-	100	50
Reinstatement Fee	If applicable	-	1,000	1,000
Late Registration	If applicable	-	400	200
Health Insurance:				
Plan I	AUS-sponsored students	-	550	-
Plan II	For all students who are not on Plan I	-	250	-
Other Expenses	Costs of textbooks and supplies are the responsibility of student.			

Student Housing Fees for Academic Year 2007–2008			
AUS has 12 residence halls (eight for men and four for women). Living on campus is optional. Students should contact the Office of Student Affairs for information regarding individual cases.			
Room		Per Semester AED	Per Summer Session AED
Private	Single occupancy with private bath and kitchenette	10,450	4,190
Semi-Private	Single occupancy with a shared bath and kitchenette	7,720	3,090
Sharing	Double occupancy with a shared bath and kitchenette	4,570	1,840
Single	Single occupancy with a common bath and no kitchenette (men only)	4,430	-
Double	Double occupancy with a common bath and no kitchenette (men only)	2,730	-
Utilities Service Fee	Compulsory for all students residing in dormitories; will be charged to student account as an addition to the respective room rate.	125	-
Dorm Damage Deposit	Compulsory for all students residing in dormitories; refundable	1,000 (one-time fee)	

Payment of Tuition and Fees

Tuition and 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 (AED) only
- checks drawn on local banks in UAE Dirhams (If two or more checks return due to insufficient funds, checks will no longer be accepted.)
- banker's drafts in UAE Dirhams
- credit cards (including online payment)
- direct transfers to Sharjah Islamic Bank 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.

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 e-mail to studentaccounts@aus.edu.

Late Fees and Fines

All university employees 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.

Scholarships and Aid

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

Students may apply for aid and scholarships regardless of their race, gender, religion or national origin. Applications for student aid and scholarships may be collected directly from the Office of Financial Aid and Scholarships (Main Building MG21, MG23 and MGB15). For more information, please call 515 2005, 515 2055 or 515 2060 or visit www.aus.edu/registration/financial_aid.php.

AUS students studying abroad at universities with which AUS has a semester exchange program will

continue to use their AUS-granted aid or scholarship for that semester abroad.

Student Aid

Chancellor's Scholars Award

First-time students may apply for the highly competitive Chancellor's Scholars Award. The award applies to the student's tuition. Applications for the Chancellor's Scholars Award must be submitted by July 31 for the fall semester. Applicants should meet the following requirements:

- outstanding personal qualities and leadership abilities in school and the community
- scientific or literary contributions to the community
- special school or community honors or awards
- community service and school extracurricular activities
- a minimum average of 95 percent or equivalent in the last three years of secondary education
- limited financial resources

Conditions for Maintaining Chancellor's Scholars Award

The Chancellor's Scholars Award is granted for the academic year. Recipients who wish to maintain it for the upcoming year must resubmit an application each year by the above deadline.

To maintain the award for the upcoming year, students must:

- achieve a minimum semester GPA of 3.0 in both the fall and spring semesters
- achieve a minimum cumulative GPA of 3.3
- maintain a full-time student status with a minimum of 15 credits in both the fall and spring semesters
- not be suspended or placed on conduct probation.

Family Tuition Grant

For families with more than one daughter/son enrolled simultaneously in AUS as full-time undergraduates in a degree program, a tuition discount of 25 percent is given to each sibling after the first.

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

To receive the family tuition grant, students must complete an application available from the Office of Financial

Aid and Scholarships. Applications must be received by the end of the first week of classes. Family tuition grants are awarded for the fall and spring semesters only.

Financial Aid

Financial aid is normally disbursed for the fall and/or spring semesters. In addition, AUS offers financial aid in the summer session, provided the student was on financial aid in the spring semester and is registered for credited summer session courses at AUS.

Financial aid normally applies toward students' tuition. Students on financial aid who live on campus in double or sharing rooms for men and sharing rooms for women may be granted partial assistance toward their residential hall fees.

First-time Students

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 financial aid. To be eligible to apply for this aid, students must be admitted and must have paid the seat reservation deposit by the deadline specified on the letter of admission. The amount of aid granted depends on the financial need and academic qualifications of the applicant. Financial aid applications for new students must be submitted to the Office of Financial Aid and Scholarships by July 31 for the fall semester and December 17 for the spring semester.

Enrolled Students

Enrolled full-time students with limited financial resources who have completed a minimum of 12 credits at AUS and who achieve a minimum cumulative GPA of 2.25 may apply for financial aid. The amount of the aid granted depends on the financial need and academic qualifications of the applicant. Financial aid applications for enrolled students must be submitted to the Office of Financial Aid and Scholarships by May 15 for the fall semester and November 25 for the spring semester.

Maintaining Financial Aid

Financial aid is awarded for the

academic year. Students who wish to maintain their financial aid must resubmit an application each year by the above deadlines.

In order to maintain their aid for an upcoming year, students on financial aid must meet the following conditions:

- achieve a minimum cumulative GPA of 2.25
- maintain a full-time student status in both the fall and spring semesters (minimum of 12 credits)
- not be suspended or placed on conduct probation

Scholarships

Athletic Scholarships

Athletic scholarships are offered by the Office of Student Affairs with the aim of providing assistance to AUS student-athletes with limited financial resources who demonstrate athletic excellence and outstanding sports qualities. This program also aims to achieve athletic excellence and a distinguished reputation comparable to the academic prestige of AUS.

Athletic scholarships are granted to eligible student-athletes on a renewable semester basis subject to terms and conditions of the AUS Athletic Scholarship Program. For more information on this scholarship, please contact the Office of Student Affairs.

Dean's List Scholarship

Subject to available budget, students placed on the Dean's List at the end of the fall or spring semesters are eligible for a Dean's List Scholarship, which provides a tuition remission of up to 5 percent. This remission is applicable to the semester immediately following the semester when the student was placed on the Dean's List, provided that the student is receiving no more than 90 percent of student aid and/or scholarship from AUS and other external sponsors. Application forms are not required. The Dean's List Scholarship is awarded during the third or fourth week of classes of the fall and spring semesters only; it is not available in the summer.

Merit Scholarship

First-time students who demonstrate academic excellence by achieving a minimum cumulative average grade

score of 95 percent or its equivalent in the final year of their secondary education may apply for a University Merit Scholarship. The scholarship covers 10 percent of the tuition and is granted by semester. The scholarship may be granted for a summer session provided the conditions for earning it are met at the end of the spring semester.

Scholarship applications must be submitted July 31 for the fall semester and December 17 for the spring semester.

Conditions for Maintaining the University Merit Scholarship

- achieve a minimum semester GPA of 2.5
- achieve a minimum cumulative GPA of 3.0
- maintain a full-time student status (minimum of 12 credits)

Students who are placed on conduct probation at any time during the semester may not be eligible for the award in the following semester.

Petrofac Endowment Scholarship

The Petrofac Endowment Scholarship provides assistance for junior and senior students in the AUS College of Engineering who have limited financial resources and who demonstrate academic excellence and exemplify the hallmark traits that characterize American University of Sharjah—honor, integrity, leadership and service to others.

The scholarship provides up to 50 percent of tuition and is awarded yearly in the fall semester. This scholarship does not cover AUS residential hall fees or summer session courses.

Students applying for this scholarship must hold the "passport nationality" of a country in which Petrofac operates. A list of these is available from the Office of Financial Aid and Scholarships.

Conditions for Maintaining a Petrofac Endowment Scholarship

- achieve a minimum cumulative GPA of 3.25
- maintain a full-time student status (minimum of 12 credits)
- not be suspended or placed on conduct probation

Sheikh Khalifa Scholarship

The Sheikh Khalifa Scholarship, awarded to juniors and seniors, recognizes academic excellence,

leadership potential, service to community, demonstrated talent in the field of study, and participation in extracurricular and university activities.

The Sheikh Khalifa Scholarship is awarded through an annual competition conducted within each college/school. It is granted for up to four consecutive semesters or until graduation requirements are complete, whichever occurs first, provided the continuation conditions are met. This scholarship is not awarded for the summer session.

Conditions for Maintaining the Sheikh Khalifa Scholarship

- achieve a minimum semester GPA of 3.25
- maintain a full-time student status (minimum of 12 credits)
- not be suspended or placed on conduct probation

University of Exeter Scholarship

The University of Exeter Scholarship recognizes academic excellence, community service and leadership potential in students. It covers the tuition fees for one AUS or University of Sharjah graduate enrolled in any of the one-year master's degree programs at the University of Exeter in England. A list of these degree programs can be found at: www.ex.ac.uk/postgraduate/degrees. Applicants for this scholarship should meet the following academic criteria:

- graduate by June of the application academic year
- achieve a cumulative GPA of 3.5

Applications for the University of Exeter Scholarship should be e-mailed to the head of the student's department. Students are encouraged to apply no later than March 1 of each year.

External Sponsorship

Some students are sponsored by government organizations, public institutions or private individuals. These sponsors are sent student 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 information.

OSA



Office of Student Affairs

Vice Chancellor

Moza Al Shehhi

The mission of the Office of Student Affairs (OSA) is to provide state-of-the-art resources 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 many 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.

OSA services and programs support the academic mission of AUS by helping students adjust to university life and smoothing their way toward the successful completion of their educational programs. 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 OSA has four departments: (1) Judicial Affairs; (2) the Advising and Counseling Center, which comprises the following divisions: Career Advising and Placement Services (CAPS), Learning and Counseling Services, and the International Student Exchange Program; (3) Residential Halls; and (4) Student Activities, which comprises the following divisions: Athletics, Student Activities, Community Services and Student Employment. In addition, various committees comprising staff and students offer advisory, advocacy and consulting services. Among others, these include the *Student Handbook* Advisory Committee, the Student Activities Advisory Committee and the Residential Halls Advisory Committee.

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 by Judicial Affairs 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 A233, 254–256.

Student Code of Conduct

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 provided in the *Student Handbook*.

PART I

Rights and Responsibilities

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

AUS expects its students, wherever they are, to adhere to high standards of honor and to conduct themselves in a responsible manner that brings credit to themselves and the university. The following misconduct is subject to disciplinary action:

- Physical abuse of any person, including, but not limited to, assaults and abuse on university premises or at university-sponsored events or functions.
- Physical contact between males and females is strictly prohibited in keeping with the cultural norms of Sharjah and the UAE.
- Inappropriate dress for both males and females is prohibited. This includes tank tops and clothing that is tight, suggestive, provocative, or exposes the waist.
- Alcohol and drug violations as defined by university policy and the laws of Sharjah and the UAE. Possessing or consuming alcoholic beverages is strictly prohibited. This also includes

- possessing, selling, transmitting or using any dangerous drug, controlled substance or drug paraphernalia on university premises or at university-sponsored activities.
- e. Sexual abuse: attempting or making sexual contact, including, but not limited to, inappropriate touching or fondling, against a person's will.
 - f. Conduct that threatens or endangers the health or safety of any person on university premises or at university-sponsored events or functions.
 - g. Theft or unauthorized taking of university property or property of an AUS student, faculty member, staff member or visitor on university premises. This includes knowingly possessing such stolen property.
 - h. Willful, wanton or reckless damage to university premises or property.
 - i. In nonacademic university matters, dishonesty or knowingly furnishing false information.
 - j. Fraud, forgery, alteration or unauthorized use of documents, university records or instruments of identification with the intent to defraud or deceive.
 - k. Possession or sale of fraudulent, forged or altered instruments of identification on university premises or at university-sponsored events or functions.
 - l. 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.
 - m. Tampering with or unauthorized or fraudulent use of campus telephones or access codes or falsely using telephone credit cards. This includes accessing the answering machines or voice mail of any other student, faculty member or staff member on campus.
 - n. Entering or attempting to enter without lawful authority any dwelling, building or facility on university premises against the will of the lawful occupant or of the person lawfully in charge thereof; or, being therein or thereon, without lawful authority to remain and refusing to quit the same on demand of the lawful occupant or of the person lawfully in charge thereof. Entering or utilizing university academic buildings after official university working hours are over without written permission from the dean of that college/school.
 - o. 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.
 - p. Using, possessing, selling or distributing any firearms, fireworks, explosives or weapons, or possessing any object produced as a weapon 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 American University of Sharjah or from any registered organization on campus without the prior approval of the Office of Student Affairs, the Office of Public Affairs and the Office of the Chancellor.
 - 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 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: conduct (physical, verbal, graphic, written or electronic) or intimidation that is sufficiently severe, pervasive or persistent so as to threaten an individual or limit the ability of a student to work, study or participate in an activity.
 - 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 the university policy on the abuse of information technology at www.aus.edu/admin/it/policies/prohibited.php).
 - x. Failure to comply with the direction of university officials acting in performance of their duties.
 - y. Violations of traffic laws, including reckless driving and parking in unauthorized spaces.
 - z. Violations of Sharjah or UAE laws.
 - aa. Willfully failing to comply with the directions of the university security officials acting in performance of their duties.
 - ab. Violating the terms of any disciplinary sanction imposed in accordance with the code.

Residential Halls

The main objective of the Residential Halls Department is to support and complement the mission of the university and its academic programs by creating a comfortable and safe environment that contributes to the success of resident students' educational progress and personal growth. The AUS residential halls offer a unique multicultural environment in which students from different parts of the world can learn from one another.

Because residential hall living is seen as a positive educational experience, students are encouraged to live on campus. Living on campus complements the overall learning experience by fostering independence and tolerance of others in students.

The university offers a variety of rooms at different rates. 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. The Women's Welcome Center, located in front of the women's residential halls, features a hair salon, a TV room/reception area and a mini-mart.

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, the library and laboratories. Furthermore, it gives students convenient access to the many activities that take place during the day and in the evening. 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. 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. Residential halls staff members are available around the clock for the safety and comfort of all residents. Regulations for the residential halls are available in the *Student Handbook* and on the university website.

The residential halls also offer resident students part-time employment opportunities. Students are selected semester-wise for two positions: desk attendant and resident assistant. These jobs provide students with a chance to gain valuable work experience and also develop their communication and leadership skills.

Advising and Counseling Center

The following divisions of the Office of Student Affairs are overseen by the Director of Student Advising and Counseling.

Career Advising and Placement Services

Located on the mezzanine floor of the Main Building, Career Advising and Placement Services (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 the 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 abroad is also available. CAPS has a career resource library and is constantly updating its database of employers in the UAE and Middle East.

International Student Exchange Program

The International Student Exchange Program (ISEP) office is located on the mezzanine floor of the Main Building. The ISEP facilitates exchange programs between universities abroad and AUS. This includes international students coming to AUS to study, as well as AUS students going to study abroad for a semester or a year.

Learning and Counseling Services

For most students, their time at American University of Sharjah represents a significant period of transition. Although change can be exciting, it also requires adjustment, which can sometimes be difficult. Learning and Counseling Services (LCS) offers support services to enhance the success of students. The staff members of LCS are dedicated to assisting students in their pursuit of academic and personal growth, helping students gain a better understanding and appreciation of themselves and 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.

Learning and Counseling Services offers a variety of services to students, as described below. Students may choose to include any member of their family or other significant persons in the process.

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 LCS 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

LCS has extensive self-help resources on many subjects in the form of handouts, books, videos and links on its section of the university website. Topics include coping with stress, depression, sleep disturbance, loneliness, anxiety, eating disorders, grief and loss, substance abuse, relationship building, assertiveness, career 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 LCS with ideas for future workshops.

Consultation Service

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

LCS staff members recognize and respect the diverse backgrounds, experiences, values, beliefs and abilities of every student with whom they interact. Counseling through Learning and Counseling Services 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 2767, 515 2790 or 515 2792, or by visiting the LCS on the first floor of the Student Center (offices A202–204 and A206–208). More information on LCS can be found at www.aus.edu/osa/counseling/.

Division of Student Activities

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

Sports and Athletics

The AUS athletic facilities are available for the benefit of the entire AUS community. The Sports Complex fosters the continuing development of collegiate sports in the UAE through organizing and hosting athletic championships, symposia and training courses. Students, staff members and faculty members are entitled to free participation, regardless of their abilities, in a variety of sports and leisure activities including football, basketball, badminton, handball, volleyball, table tennis, tennis, squash, track and field games, self-defense

sports and other athletic pursuits

The Office of Student Affairs believes that students should have ongoing opportunities to develop their talents through a wide variety of sports. To achieve this goal, full-time and part-time coaches and trainers are available to help students develop team play, sportsmanship and healthy lifestyles. More than 20 activities are available, featuring both team and individual sports and leisure activities, which offer broad-based competitive and instructional programs for both genders.

AUS Sports Complex

The Sports Complex facilities include indoor sports courts (basketball, tennis, squash and volleyball) and multipurpose halls for use in both organized sports and free recreation; a 50-meter swimming pool; saunas; a fitness center with free weights and exercise machines; an exercise hall for aerobics and self-defense events; outdoor courts (tennis, volleyball and basketball); a soccer field; a cricket practice net and ground; and a gymnastics hall. Details on the university's athletic facilities are available in the *Student Handbook* and at www.aus.edu/osa/athletics/.

Student Activities

AUS students are active in governing and shaping campus life. The Student Activities Office, located in the Student Center, plays an important role 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 supervision of the Student Activities Office, students are encouraged to organize many events that offer cultural entertainment to the entire university community. These events include the Global Day festivities, Club Fair, music nights, poetry nights, competitions, the UAE National Day celebration and many more. Visit

www.aus.edu/osa/activities/ for details.

Orientation to Student Life

Prior to the registration period 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, a reception and other relevant activities.

Student Center

The Student Center plays a broad role in the extracurricular life of the university. It houses the Student Activities Office and is also a comfortable and inviting place where students relax. The Student Center contains several meeting rooms, student lounges, a women's lounge, the Student Council office, offices for student organizations, activity rooms, a TV room, multipurpose rooms, the Internet Café, a student courtyard, a full-size eight-lane bowling alley, the Leopard Mini-Mart, a barbershop, a pharmacy, a travel office and numerous food outlets. Students can surrender found items or look for ones lost at the Lost and Found based at the Student Center reception desk.

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 cultural/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 the 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, meeting rooms and a multipurpose room are also available for student organizations' use.

Interest-oriented and ethnic/national clubs represent the diversity of the AUS community's professional and extracurricular interests and cultural backgrounds. They organize numerous professional and cultural activities throughout the academic year and play a vital role in fostering a rich multicultural environment on campus. For a complete listing of student clubs, visit www.aus.edu/osa/activities/clubs_orgs.php.

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

Student Publications

Practical writing experience is available to AUS students through three student publications, the *Leopard*, *Realms* and *Tatra*. Students interested in contributing to or working on these publications should contact Student Activities for further information.

The *Leopard* Newspaper: "A Reason to Roar": The *Leopard* is an official university newspaper and a voice of AUS students. 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.

***Tatra*:** This literary magazine club motivates the Arabic-speaking students of AUS to write poetry and prose in Arabic for inclusion in *Tatra*, which is published in Arabic every spring semester. The club also organizes events and meetings concerning Arabic literature to discuss the latest books published in Arabic, as well as various workshops on Arabic calligraphy and writing

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 have a voice in formulating university priorities and policies. It also provides a structure for greater student involvement on campus. The Vice Chancellor for Student Affairs advises 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. Students may work no more than 15 hours per week (60 hours/month). Students may work for 40 hours per week (160 hours/month) during academic breaks and summer sessions only. Hourly rates vary depending on what kind of job the student is doing (i.e., clerical or computer-related) and on seniority. In addition to working in the university departments and campus

outlets and facilities, students can work voluntarily 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. Further information on all campus employment opportunities is available through the Student Employment Office located in the Student Center (offices A249–251).

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 through charity, awareness and outreach programs. 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 are listed in the Student Affairs section of the university website and in the *Student Handbook*. Students who are interested in learning more about these programs should visit the Community Services Office located in the Student Center (offices A249–251), call 515 2794 or send e-mail to communityservices@aus.edu.

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 the Student Center (offices A249–251), call 515 2794 or send e-mail to disabilityservices@aus.edu.

IEP



Intensive English Program

Head and Director

Deborah Wilson

Faculty

Jenifah Abu-Hassan
Aftab Ahmed
Minoo Asdjodi
Raja Bahloul
Halina Campa
Edward Carlstedt
David Colbert
Leslie Giesen
Milton Gilbertson
Sharon Gilbertson
Hilary Kuris
Richard McClane
Laurial Mehdi
Anne Marie Papadakis
Jane Pringle
Tahani Qadri
Olivia Riordan
Scott Rousseu
Thomas Schmitt
Pelly Shaw
Mark Stevens
Jennifer Vahanian
Angela Waigand
Amanda Ward
Sherry Ward
Krystie Wills

Students, faculty and staff of the Intensive English Program are members of the College of Arts and Sciences.

Since English is the medium of instruction at American University of Sharjah, competence in English is a prerequisite for student success. The mission of the Intensive English Program (IEP) is to increase student language proficiency to a level suitable for study in courses taught in English and to enhance their academic skills to function successfully in their first-year course work.

Note: All AUS policies apply to IEP students except for differences as noted in this section. IEP students are strongly encouraged to become familiar with the Academic Policies and Regulations section of this catalog.

Admission and Placement

Students who achieve an International TOEFL score at a minimum of 32 on the Internet-Based TOEFL (iBT) or 400 on the Institutional Paper-Based TOEFL given at AUS, but below 71 iBT / 530 Institutional TOEFL and who qualify for admission to AUS are eligible to take the IEP Placement Test. Placement in one of the six proficiency levels of the program is based on the IEP Placement Test scores. Students may not choose their level of study in the IEP. A 32 iBT or 400 Institutional TOEFL score is required for admission to IEP.

Note: IEP students may not take any AUS courses outside of IEP.

Program Structure

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. Also, the IEP courses are designed to develop students' academic preparation, independent learning and computer skills while meeting the individual needs of students.

Pedagogical Format

The focus of instruction at the lower levels is on general English. As language proficiency increases, IEP courses become more academic in nature. By the advanced level, course work begins to simulate credit-bearing undergraduate courses. Courses in reading and writing are given at all levels of the program.

Reading

The goals of the reading skills component are twofold: to improve reading comprehension and to increase reading speed. These goals are met through the extended practice of a variety of reading skills within a

diverse range of text forms and genres. Students also gain an understanding of, and an appreciation for, the importance of reading both inside and outside the academic setting.

Writing

The writing component leads students through the various steps of the writing process, from generating and organizing ideas to writing, editing and revising written work. Students develop a range of skills necessary to produce academic texts, from basic sentences to university papers. The emphasis of instruction is 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 is met through practice in interactive listening activities, which focus on understanding spoken English. The emphasis in lower-level courses is on understanding conversations, determining main ideas and details, and comprehending short lectures. The emphasis in higher-level courses is 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 speaking component prepares students to communicate successfully in both the social and academic environments of the university. Improving both fluency and accuracy are the goals of all courses in this area. Instruction is given in how to express an opinion articulately, to agree or disagree effectively and to persuade and argue a point convincingly. The courses help students develop the ability 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. 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 is integrated into all courses in the IEP. In an effort to best serve the needs of the students, vocabulary instruction focuses primarily 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 have become familiar with much of the academic vocabulary necessary for success in their university studies.

Instruction and Evaluation

Instructional Time

Students receive 20 hours of classroom instruction a week.

Methods

All instructors are specially trained and experienced in teaching English across the curriculum. The methods, materials and equipment used are targeted to meet student needs.

Evaluation

Progress tests are administered regularly. Practice tests, quizzes, midterms and final examinations are given to assess progress in the

courses. Promotion to a higher level in the program is determined by course grades and instructor assessment.

Academic Credit

Each level of study in the IEP carries three academic credits. The credits earned are not part of a student's degree requirements. Only the grades of the last two semesters of IEP count toward a student's cumulative grade point average. IEP credits are not transferable.

Attendance

Classes meet Sunday through Thursday. Because of the intensive nature of the program, regular attendance in all courses is expected, and as a matter of AUS policy, students are required to attend 85 percent or more of all IEP courses. A student who misses 15 percent of classes for any IEP course receives an automatic grade of WF and is dropped from the course. If a student misses 15 percent or more of all IEP classes for the semester, he/she will be dismissed from the program.

Absence

No absences are excused. 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 lateness equal one absence.

Progressing through the Program

Students must have a semester GPA of 2.0 (C) or better to be promoted to a higher level in the IEP. Students with a GPA below 2.0 in any semester in the IEP may be required to repeat that level. A student who has a GPA of 2.0 or higher but receives a grade of D or

F in any course may be required to repeat that course at that same level while being promoted to a higher level in all other courses.

Additionally, for promotion to the next level, students must also achieve certain scores on the Written English Test (WET) administered each semester to all students in the IEP. Teacher recommendations are also considered in promotion decisions.

Duration of IEP Study

The length of time required to achieve the admissions TOEFL requirement varies with the linguistic background, prior knowledge, work and study habits, and language aptitude of each student. Students who enter the IEP with TOEFL scores below 38 iBT/425 Institutional TOEFL will most likely require more than two semesters to achieve the TOEFL score required for admission.

Exit from the IEP

Students study English in the IEP until they achieve the TOEFL score required at the time of their admission to matriculate into their chosen major. Students may study in the IEP for a maximum of four semesters (not including the summer session). Students who have not matriculated after four semesters will be dismissed from the IEP.

If the TOEFL score required for admittance to AUS is raised before an IEP student matriculates, the student will be allowed for the first academic year (two regular semesters) after the new higher score is required to matriculate at the lower score required at the time he/she enrolled in the IEP. This applies only to IEP students who are continuously enrolled in the IEP for the two semesters. If a student has not matriculated on the old score within one academic year after the adoption of a new TOEFL score, the student will be required to meet the TOEFL requirement in place at the time of matriculation.

Repeating Courses

Students may not choose to repeat courses in the IEP. Students repeat courses only when required to do so by the IEP.

Academic Probation Policy

IEP students will be placed on academic probation at the end of any semester in which their final IEP grade is below a 2.0 (C), and they may be required to repeat the level. Students on probation must achieve a GPA of 2.0 (C) or higher in their next semester in the IEP. If they do so, they will be removed from academic probation. Failure to do so will result in dismissal from the program.

Course Descriptions

IEP 001 Novice Level (3 credits).

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, although 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.

IEP 006 Transition Level (3 credits).

Prepares students to successfully function in freshman courses. Students practice language and critical thinking skills through academic, content-based courses. Students develop their English language competency and strategies for academic success through the use of readings and assignments from authentic college textbooks. The instruction includes how to synthesize information from a variety of sources and apply this knowledge in written reports and discussions.

CAS



College of Arts and Sciences

Dean

William Heidcamp

Associate Dean

Ibrahim El-Sadek

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, 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 graduate degrees in their chosen fields.

Department of Arabic Studies

Faculty

Kamal Abdel-Malek
Saiyad Ahmad
Wesam Al-Assadi
Muhsin Al-Musawi
Moulouk Berry
Said Faiq
Basil Hatim
Imed Nsiri
Gavin Picken
Olatunbosun Tijani

The mission of the Department of Arabic Studies is to cultivate students' knowledge and understanding of Arabic language and literature, Arab and Islamic studies, and Arabic/English translation and intercultural studies with the aim of preparing its graduates for academic and professional success. For Arabic language and literature (including comparative literature) and Arab and Islamic studies, students will acquire the necessary linguistic, literary, historical and cultural knowledge of Arabic and associated cultural contexts, and develop the ability to reflect critically on these areas. For Arabic/English translation and intercultural studies, students will acquire the knowledge of and the tools for the use of the two languages effectively in a variety of media, genres and contexts that pertain to translation as intercultural communication. Currently, the department offers minor programs in Arabic language and literature and in translation and interpreting. It also houses the graduate program in Arabic/English/Arabic translation and interpreting (see the *AUS Graduate Catalog*).

Minor in Arabic Language and Literature

The minor in Arabic language and literature aims to enhance students' awareness and appreciation of the language, culture and literature of the Arab world. The minor is ideally suited for students in the humanities and social sciences, as well as students in applied sciences and business pursuing research or employment opportunities anywhere in the Arab world. The minor provides for a better understanding of Arabic language and literature in a global context. Furthermore, it meets the increasing regional and global demand for degree-holders proficient in Arabic language and culture.

Students enrolling in the Arabic language and literature minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in Arabic language and literature must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (6 credits)

- ARA 101 or ARA 102 Readings in Arabic Heritage (Arabic or English)
- ARA 200 Arabic as a Second Language II or ARA 210 Composition for Native Speakers of Arabic

Minor Electives (minimum of 12 credits)

Twelve credits of any ARA courses, nine of which must be at the 300 level or above

Minor in English/Arabic Translation and Interpreting

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. 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.

Students enrolling in the English/Arabic translation and interpreting minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in English/Arabic translation and interpreting must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (6 credits)

- TRA 210 Introduction to Translation
- TRA 220 Theoretical and Practical Issues in Translation

Minor Electives

(minimum of 12 credits)

- ENG 320 Intercultural Communication
- ENG 405 Discourse Analysis
- TRA 301 Modern Media Translation
- TRA 303 Interpreting: Focus on the Community
- TRA 394/494 Special Topics in Translation
- TRA 401 Translation Evaluation and History

Department of Biology and Chemistry

Fawwaz Jumean, Head

Faculty

Mohamed Abouleish
Imad Abu-Yousef
Mohammad Al-Sayah
Oussama El-Kadri
Aaron Bartholomew
William Heidcamp
Sofian Kanan
Mustafa Khamis
Sandra Knuteson
Amin Majdalawieh
John Mosbo
Mustafa Musameh
Lucia Pappalardo
Dennis Russell

Bachelor of Science in Chemistry (BSC)

Chemistry is the central science that is involved in almost everything with which we come in contact. Chemists apply the scientific method to study the composition and properties of matter. They are concerned with the essential processes involved in rearrangement of the atoms of substances to produce new products. Since the life processes of all organisms involve chemical changes, chemists play a key role in the development of such fields as medicine, biochemistry and genetic engineering. In other domains, chemistry is essential for the evolving of nanotechnology and the tackling of environmental issues. In general, chemistry offers students an exciting array of intellectual adventures and builds their technical and problem-solving skills.

Career Opportunities

Chemists have the ability to work in a wide range of industries such as the following: agricultural companies, chemical distributors, chemical laboratories, chemical manufacturing plants, chemistry consulting firms, cosmetic companies, food and beverage companies, government, health protection branches, hospital research laboratories, industrial laboratories, mineral and metal industries, oil companies, petroleum refineries, pharmaceutical/biotechnology industries, police

laboratories, pulp and paper industries, quality control laboratories, research centers/institutes, textile manufacturers and waterworks departments.

Degree Requirements

A minimum of 120 credits, including the following, is required:

- a minimum of 44 credits in general education requirements, including a minimum of 12 credits in English language competency, a minimum of 15 credits in humanities and social sciences, a minimum of 3 credits in Arabic heritage, 8 credits in science (CHM 101, PHY 101 and PHY 101L) and 6 credits in mathematics and/or statistics (MTH 103 and STA 201)
- a minimum of 61 credits of major requirements and major electives
- a minimum of 15 credits of free electives
- a minimum CGPA of 2.0

Major Requirements (52 credits)

- CHM 102 General Chemistry II
- CHM 215 Organic Chemistry I
- CHM 216 Organic Chemistry II
- CHM 217 Organic Chemistry Laboratory I
- CHM 218 Organic Chemistry Laboratory II
- CHM 221 Basic Concepts of Inorganic Chemistry
- CHM 241 Quantitative Analysis
- CHM 315 Organic Chemistry III
- CHM 321 Chemistry of Transition Metals
- CHM 330 Physical Chemistry I
- CHM 331 Physical Chemistry II
- CHM 335 Physical Chemistry Laboratory
- CHM 345 Instrumental Analysis
- CHM 350 Introduction to Biochemistry
- ENV 252 Environmental Chemistry
- MTH 104 Calculus II
- MTH 205 Differential Equations
- PHY 102 General Physics II
- PHY 102L General Physics Laboratory II

Major Electives

(minimum of 9 credits)

- CHE 467 Corrosion
- CHM 332 Physical Chemistry III
- CHM 394/494 Special Topics in Chemistry
- CHM 415 Spectroscopy in Organic Chemistry

- CHM 431 Biophysical Chemistry
- CHM 491 Senior Research Project I
- CHM 492 Senior Research Project II
- ENV 352 Environmental Toxicology
- ENV 452 Soil and Water Chemistry
- ENV 453 Environmental Monitoring and Analysis Techniques

Proposed Sequence of Study
Bachelor of Science in Chemistry (BSC)

FIRST YEAR (28 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MTH 103	Calculus I	3	MENG or MTH 001 or 004	GER MST 1 of 2
	ELC XXX	English Language Competency	3		GER ELC 1 of 4
	PHY 101	General Physics I	3	PPT or PHY 001; pre/con MTH 103 and PHY 101L	GER SCI 1 of 2
	PHY 101L	General Physics Laboratory I	1	pre/con PHY 101	GER SCI 1 of 2
	CHM 101	General Chemistry I	4		GER SCI 2 of 2
	Total		14		
Spring	MTH 104	Calculus II	3	MTH 103	MJR
	ELC XXX	English Language Competency	3		GER ELC 2 of 4
	PHY 102	General Physics II	3	PHY 101 and 101L; pre/con PHY 102L	MJR
	PHY 102L	General Physics Laboratory II	1	pre/con PHY 102	MJR
	CHM 102	General Chemistry II	4	CHM 101	MJR
	Total		14		

SECOND YEAR (31 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MTH 205	Differential Equations	3	MTH 104	MJR
	CHM 215	Organic Chemistry I	3	pre/con CHM 102	MJR
	CHM 241	Quantitative Analysis	3	CHM 102	MJR
	ARA XXX	Arabic Heritage	3		GER ARA
	ELC XXX	English Language Competency	3		GER ELC 3 of 4
	Total		15		
Spring	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	CHM 216	Organic Chemistry II	3	CHM 215	MJR
	CHM 217	Organic Chemistry Laboratory I	1	CHM 215	MJR
	CHM 221	Basic Concepts of Inorganic Chemistry	3	CHM 102	MJR
	ELC XXX	English Language Competency	3		GER ELC 4 of 4
	STA 201	Introduction to Statistics for Engineering and Natural Sciences	3	MTH 103 or 111	GER MST 2 of 2
	Total		16		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	FRE XXX	Free Elective	3		FRE 1 of 5
	CHM 345	Instrumental Analysis	3	CHM 102	MJR
	CHM 330	Physical Chemistry I	3	CHM 102 and MTH 104	MJR
	CHM 218	Organic Chemistry Laboratory II	1	CHM 216 and 217	MJR
	ENV 252	Environmental Chemistry	3	CHM 102	MJR
	Total		16		
Spring	CHM 335	Physical Chemistry Laboratory	2	pre/con CHM 331	MJR
	FRE XXX	Free Elective	3		FRE 2 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	CHM 331	Physical Chemistry II	3	CHM 330 or CHE 303	MJR
	MJE XXX	Major Elective	3		MJE 1 of 3
	Total		14		

FOURTH YEAR (31 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	CHM 321	Chemistry of Transition Metals	4	CHM 221	MJR
	MJE XXX	Major Elective	3		FRE 3 of 5
	MJE XXX	Major Elective	3		MJE 2 of 3
	FRE XXX	Free Elective	3		FRE 4 of 5
	Total		16		
Spring	CHM 315	Organic Chemistry III	3	CHM 216	MJR
	MJE XXX	Major Elective	3		MJE 3 of 3
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	FRE XXX	Free Elective	3		FRE 5 of 5
	CHM 350	Introduction to Biochemistry	3	pre/con CHM 216	MJR
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; CRR: Core Requirement; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Bachelor of Science in Environmental Sciences (BSES)

The mission of Environmental Sciences 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 must choose among the following options:

- a concentration in biology and ecosystems
- a concentration in environmental chemistry and analysis
- a double concentration in the two 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 Program at 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. Environmental scientists, biologists, chemists and physicists participate in the instruction of the core and concentration requirements for this major.

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 deal 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 are relevant to both the 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.

Degree Requirements

A minimum of 121 credits, including the following, is required:

- a minimum of 44 credits in general education requirements, including CHM 101 General Chemistry I, CHM 102 General Chemistry II, MTH 103 Calculus I, and STA 201 Introduction to Statistics for Engineering and Natural Sciences
- 30 credits of major requirements
- a minimum of 32 credits of concentration requirements and concentration electives
- a minimum of 15 credits of free electives
- six to eight weeks of full-time, satisfactory internship in environmental sciences with a business or governmental organization
- a minimum CGPA of 2.0

Major Requirements (30 credits)

Basic Mathematics and Sciences (11 credits)

- BIO 101 General Biology I
- MTH 104 Calculus II
- PHY 101 General Physics I
- PHY 101L General Physics Laboratory I

Core Requirements (19 credits)

- CHM 215 Organic Chemistry I
- CHM 217 Organic Chemistry Laboratory I
- CHM 345 Instrumental Analysis

- ENV 201 Fundamentals of Environmental Science
- ENV 311 Environmental Modeling
- ENV 411 Environmental Assessment and Management
- ENV 453 Environmental Monitoring and Analysis Techniques
- ENV 497 Internship in Environmental Science

**Concentration in Environmental Biology and Ecosystems
(minimum of 32 credits)**

*Concentration Requirements
(17 credits)*

- BIO 102 General Biology II

- BIO 260 Genetics
- ENV 251/BIO 251 Environmental Ecology
- ENV 335/BIO 335 Environmental Microbiology
- ENV 361/BIO 361 Evolution and Biodiversity

*Concentration Electives
(minimum of 15 credits)*

- BIO 330 Ecosystems Management
- BIO 394/494 Special Topics in Biology
- CHM 221 Basic Concepts of Inorganic Chemistry
- CHM 241 Quantitative Analysis
- CHM 350 Introduction to Biochemistry

- ENV 252 Environmental Chemistry
- ENV 261 Physical Geography
- ENV 352 Environmental Toxicology
- ENV 394/494 Special Topics in Environmental Sciences
- ENV 421/BIO 421 Aquatic Environments
- ENV 451 Waste Treatment
- ENV 491 Senior Research Project I
- ENV 492 Senior Research Project II
- PHY 105 Physics for Environmental Sciences and PHY 105L Physics for Environmental Sciences Laboratory
- PHY 251 Meteorology
- PHY 301 Energy Sources

Proposed Sequence of Study

Bachelor of Science in Environmental Sciences (BSES)

Concentration: *Environmental Biology and Ecosystems*

FIRST YEAR (28 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MTH 103	Calculus I	3	MENG or MTH 001 or 004	GER MST 1 of 2
	BIO 101	General Biology I	4		MJR
	ELC XXX	English Language Competency	3		GER ELC 1 of 4
	CHM 101	General Chemistry I	4		GER SCI 1 of 2
	Total		14		
Spring	MTH 104	Calculus II	3	MTH 103	MJR
	PHY 101	General Physics I	3	PHY 001 or PPT; pre/con MTH 103 and PHY 101L	MJR
	PHY 101L	General Physics Laboratory I	1	pre/con PHY 101	MJR
	ELC XXX	English Language Competency	3		GER ELC 2 of 4
	CHM 102	General Chemistry II	4	CHM 101	GER SCI 2 of 2
	Total		14		

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	pre/con CHM 102	MJR
	ENV 201	Fundamentals of Environmental Science	3	CHM 102	MJR
	CNE XXX	Concentration Elective	3		CNE 1 of 5
	ELC XXX	English Language Competency	3		GER ELC 3 of 4
	Total		16		
Spring	ENV 251/ BIO 251	Environmental Ecology	3	BIO 102	CNR
	CHM 217	Organic Chemistry Laboratory I	1	CHM 215	MJR
	CNE XXX	Concentration Elective	3		CNE 2 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	ELC XXX	English Language Competency	3		GER ELC 4 of 4
	ARA XXX	Arabic Heritage	3		GER ARA
	Total		16		

THIRD YEAR (31 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	STA 201	Introduction to Statistics for Engineering and Natural Sciences	3	MTH 103 or 111	GER MST 2 of 2
	CNE XXX	Concentration Elective	3		CNE 3 of 5
	HSS XXX	Humanities/Social Sciences	3	junior standing	GER HSS 2 of 5
	BIO 260	Genetics	3	BIO 102	CNR
	ENV 311	Environmental Modeling	3	MTH 104, ENV 201	MJR
	Total		15		
Spring	ENV 361/ BIO 361	Evolution and Biodiversity	3	BIO 260	CNR
	ENV 335/ BIO 335	Environmental Microbiology	4	BIO 101	CNR
	FRE XXX	Free Elective	3		FRE 1 of 5
	CHM 345	Instrumental Analysis	3	CHM 102	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	Total		16		
Summer	ENV 497	Internship in Environmental Science	0	senior standing	MJR

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CNE XXX	Concentration Elective	3		CNE 4 of 5
	ENV 453	Environmental Monitoring and Analysis Techniques	3	STA 201, ENV 201 and CHM 345	MJR
	FRE XXX	Free Elective	3		FRE 2 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	FRE XXX	Free Elective	3		FRE 3 of 5
	Total		15		
Spring	CNE XXX	Concentration Elective	3		CNE 5 of 5
	ENV 411	Environmental Assessment and Management	3	ENV 201	MJR
	FRE XXX	Free Elective	3		FRE 4 of 5
	FRE XXX	Free Elective	3		FRE 5 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; CRR: Core Requirement; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Concentration in Environmental Chemistry and Analysis (minimum of 32 credits)

Concentration Requirements (15 credits)

- CHM 221 Basic Concepts of Inorganic Chemistry
- CHM 241 Quantitative Analysis
- CHM 330 Physical Chemistry I
- ENV 252 Environmental Chemistry
- ENV 451 Waste Treatment

Concentration Electives (minimum of 17 credits)

- CHE 467 Corrosion
- CHM 216 Organic Chemistry II
- CHM 218 Organic Chemistry Laboratory II
- CHM 331 Physical Chemistry II
- CHM 335 Physical Chemistry Laboratory
- CHM 350 Introduction to Biochemistry
- CHM 394/494 Special Topics in Chemistry
- ENV 261 Physical Geography

- ENV 335/BIO 335 Environmental Microbiology
- ENV 352 Environmental Toxicology
- ENV 394/494 Special Topics in Environmental Sciences
- ENV 452 Soil and Water Chemistry
- ENV 491 Senior Research Project I
- ENV 492 Senior Research Project II
- PHY 105 Physics for Environmental Sciences and PHY 105L Laboratory
- PHY 251 Meteorology
- PHY 303 Atmospheric Physics

Proposed Sequence of Study
Bachelor of Science in Environmental Sciences (BSES)
Concentration: *Environmental Chemistry and Analysis*

FIRST YEAR (28 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MTH 103	Calculus I	3	MENG or MTH 001 or 004	GER MST 1 of 2
	BIO 101	General Biology I	4		MJR
	ELC XXX	English Language Competency	3		GER ELC 1 of 4
	CHM 101	General Chemistry I	4		GRE SCI 1 of 2
	Total		14		
Spring	MTH 104	Calculus II	3	MTH 103	MJR
	PHY 101	General Physics I	3	PPT or PHY 001; pre/con MTH 103 and PHY 101L	MJR
	PHY 101L	General Physics Laboratory I	1	pre/con PHY 101	MJR
	ELC XXX	English Language Competency	3		GER ELC 2 of 4
	CHM 102	General Chemistry II	4	CHM 101	GER SCI 2 of 2
	Total		14		

SECOND YEAR (31 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	CHM 215	Organic Chemistry I	3	pre/con CHM 102	MJR
	ENV 201	Fundamentals of Environmental Science	3	CHM 102	MJR
	CNE XXX	Concentration Elective	3		CNE 1 of 6
	ELC XXX	English Language Competency	3		GER ELC 3 of 4
	Total		15		
Spring	CHM 241	Quantitative Analysis	3	CHM 102	CNR
	CNE XXX	Concentration Elective	3		CNE 2 of 6
	CHM 217	Organic Chemistry Lab I	1	CHM 215	MJR
	CHM 221	Basic Concepts of Inorganic Chemistry	3	CHM 102	CNR
	ELC XXX	English Language Competency	3		GER ELC 4 of 4
	ARA XXX	Arabic Heritage	3		GER ARA
	Total		16		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	STA 201	Introduction to Statistics for Engineering and Natural Sciences	3	MTH 103 or MTH 111	GER MST 2 of 2
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	CNE XXX	Concentration Elective	3		CNE 3 of 6
	ENV 311	Environmental Modeling	3	MTH 104, ENV 201	MJR
	Total		15		
Spring	ENV 252	Environmental Chemistry	3	CHM 102	CNR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	CHM 345	Instrumental Analysis	3	CHM 102	MJR
	FRE XXX	Free Elective	3		FRE 1 of 5
	CHM 330	Physical Chemistry I	3	CHM 102, MTH 104	CNR
	Total		15		
Summer	ENG 497	Internship in Environmental Science	0	senior standing	MR

FOURTH YEAR (32 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENV 453	Environmental Monitoring and Analysis Techniques	3	STA 201, CHM 345, ENV 201	MJR
	ENV 451	Waste Treatment	3	ENV 252	CNR
	FRE XXX	Free Elective	3		FRE 2 of 5
	CNE XXX	Concentration Elective	3		CNE 1 of 2
	FRE XXX	Free Elective	3		FRE 3 of 5
	Total		15		
Spring	CNE XXX	Concentration Elective	3		CNE 5 of 6
	ENV 411	Environmental Assessment and Management	3	ENV 252	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	FRE XXX	Free Elective	3		FRE 4 of 5
	CNE XXX	Concentration Elective	2		CNE 6 of 6
	FRE XXX	Free Elective	3		FRE 5 of 5
	Total		17		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; CRR: Core Requirement; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Double Concentration in Biology/ Ecosystems and Environmental Chemistry/Analysis

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

Minor in Biology

A minor in biology trains students in the most important aspects of ecology and genetics, which makes them better qualified to enter professions that require knowledge of living organisms and the environment.

Students enrolling in the biology minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

The following rules apply:

- The minor consists of a minimum of 20 credits, including at least nine credits in courses at or above the 300 level.
- At least nine credits of the 20 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in biology must complete the following courses or their equivalent. All course prerequisites must be satisfied.

The minor is not open to environmental sciences students.

Minor Requirements (8 credits)

- BIO 101 General Biology I
- BIO 102 General Biology II

Minor Electives (minimum of 12 credits)

- BIO 210 Human Anatomy and Physiology for Engineers
- BIO 251/ENV 251 Environmental Ecology
- BIO 260 Genetics
- BIO 330 Ecosystems Management
- BIO 335/ENV 335 Environmental Microbiology

- BIO 361/ENV 361 Evolution and Biodiversity
- BIO 394/494 Special Topics in Biology
- BIO 421/ENV 421 Aquatic Environments
- BIO 461 Desert and Maritime Plants

Minor in Environmental Policy

This interdisciplinary minor draws on the resources and expertise of several departments. Students enrolling in the environmental policy minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in environmental policy must complete the following courses or their equivalent. All course prerequisites must be satisfied.

The minor is not open to environmental sciences students.

Minor Requirements (3 credits)

- CHM 105 Chemistry and the Environment or ENV 100 Principles of Environmental Science

Minor Electives (minimum of 15 credits)

- ECO 404 Economics of Environmental and Natural Resources
- ENV 294/394/494 Special Topics in Environmental Sciences
- ENV 381 Environmental Strategies and Regulations
- ENV 411 Environmental Assessment and Management
- ENV 412 Concepts and Models in

- Environmental Management Systems
 - PHI 309 Ethics and the Environment
 - SOC 302 Environmental Sociology
- Credit cannot be given for both ENV 411 and ENV 412.

Minor in Environmental Sciences

This interdisciplinary minor draws on the resources and expertise of several disciplines. Students enrolling in the environmental sciences minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in environmental sciences have two options: (1) to complete three courses from the minor requirements and three courses from the minor electives or (2) four courses from the minor requirements and two courses from the minor electives. All course prerequisites must be satisfied.

The minor is not open to environmental sciences students.

Minor Requirements (9–12 credits)

- ENV 201 Fundamentals of Environmental Science
- ENV 311 Environmental Modeling
- ENV 411 Environmental Assessment and Management
- ENV 453 Environmental Monitoring and Analysis Techniques

Minor Electives (6–9 credits)

- BIO/ENV 251 Environmental Ecology
- BIO 330 Ecosystems Management
- BIO 335/ENV 335 Environmental Microbiology

- CHE 461 Air Pollution
- CHE 467 Corrosion
- CHM 345 Instrumental Analysis
- ENV 252 Environmental Chemistry
- ENV 352 Environmental Toxicology
- ENV 394/494 Special Topics in Environmental Sciences
- ENV 451 Waste Treatment
- ENV 452 Soil and Water Chemistry
- ENV 491 Senior Research Project I

Department of English

William Haney II, Head

Faculty

Khawlah Ahmed
Naghmana Ali
Ahmad Al-Issa
Fatima Badry
Maher Bahloul
Judith Caesar
Peter Crompton
Marina Dodigovic
Nawar Golley
Cindy Gunn
Nicholas Karavatos
Betty Lanteigne
Laila Noman
Rana Raddawi
Aisha Mohamed Sayidina
Sarah Shono
Rodney Tyson
Mohamed Zayani

Bachelor of Arts in English Language and Literature (BAELL)

The mission of the Department of English is to cultivate an understanding of the English language and its literature that prepares students for academic and professional success.

The department's programs expand students' understanding of the complexities of various cultures and their global interactions, and prepare students for further studies in the arts, humanities or social studies. The Department of English also contributes to the university's general education requirements by offering a range of undergraduate courses.

The goals of the Department of English are to:

- enhance students' oral and written

communication skills

- develop students' ability to use English fluently and accurately
- increase students' English proficiency in a variety of media, genres and contexts
- prepare students to think critically and to view and analyze information objectively as well as subjectively
- develop students' ability to synthesize information from a variety of disciplines in order to foster independent thought and creative ideas.

The Department offers a Bachelor of Arts degree in English with concentrations in language or literature, and minors in education, English language, English literature and women's studies. The department also offers a Master of Arts in TESOL program. Please refer to the AUS graduate studies catalog for details.

The objectives of the BA in English with a concentration in language or literature are to:

- provide a comprehensive knowledge of the structure and use of English
- enable students to understand English within its historical, theoretical and cultural context, without which one cannot fully understand the literature or the society of the present English-speaking world
- teach students the research tools, critical processes and analytical skills necessary for functioning effectively in today's English-based information environment

The language concentration of the BA in English aims to:

- enhance students' proficiency in English
- increase awareness of the relation between language, thought and culture
- develop linguistic and communicative competencies of non-native speakers of English
- explain the history and development of Modern English
- provide an understanding of the interrelationship between society and language
- appreciate the role of pragmatics in language use
- develop a critical approach to linguistic analysis
- realize the power of language in cross-cultural communication

The literature concentration of the BA in English aims to:

- provide an appreciation of the change of ideas from one period to another
- understand the exchange of ideas from one culture to another
- understand the richness and nuances of the English language and British, American and Anglophone literature
- learn the styles and elements of various genres
- learn the basic elements of critical and creative writing
- learn to use the English language as a medium for expression that transcends itself through literature
- explore the philosophical and critical theories that underlie both the understanding and the writing of literature

Admission to the Program

Admission to the program follows the AUS undergraduate admission requirements. Students transferring into the program must have a cumulative GPA of 2.0 or higher.

Students seeking to major in English language and literature must select a concentration in either English language or English literature.

Degree Requirements

A minimum of 120 credits, including the following, is required:

- a minimum of 42 credits of general education requirements, including ENG 203 or ENG 204, MTH 100 and STA 202
- a minimum of 51 credits of major requirements and major electives
- 12 credits of concentration requirements
- a minimum of 15 credits of free electives
- a minimum CGPA of 2.0

Major Requirements (30 credits)

- ENG 210 Introduction to Literature
- ENG 214 Nineteenth Century American Literature
- ENG 215 Contemporary World Literature
- ENG 223 Introduction to Language Study
- ENG 224 English Grammar

- ENG 226 Development of the English Language
- ENG 234 Language in Society
- ENG 300 Introduction to Literary Theory
- ENG 302 Stylistics
- ENG 312 English Poetry and Prose I: Beginnings to 1800

**Major Electives
(minimum of 21 credits)**

Students must complete a minimum of

21 credits from any course in Arabic (ARA), Education (EDU), English (ENG), translation (TRA) and women's studies (WST) at the 300 level and above.

English Language Concentration Requirements (12 credits)

- ENG 331 The Sound Patterns of Language
- ENG 332 The Psychology of Language
- ENG 385 Language and Gender or ENG 401 Advanced English Grammar

- ENG 405 Discourse Analysis or ENG 495 Seminar in English Language

English Literature Concentration Requirements (12 credits)

- ENG 313 English Poetry and Prose II: 1800 to Present or ENG 316 Modern Drama and Beyond
- ENG 410 The American Novel or ENG 421 Early English Novel or ENG 430 Modern British Novel
- ENG 490 Senior Research Project
- ENG 495 Seminar in English Literature

**Proposed Sequence of Study
Bachelor of Arts in English Language and Literature (BAELL)
Concentrations: *Language and Literature***

FIRST YEAR (30 credit hours) — Language and Literature Concentrations					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	MTH 100	Fundamentals of Logic and Geometry	3		GER MST 1 of 2
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	SCI XXX	Science	3		GER SCI 1 of 2
	ARA XXX	Arabic Heritage	3		GER ARA
	Total		15		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	FRE XXX	Free Elective	3		FRE 1 of 5
	SCI XXX	Science	3		GER SCI 2 of 2
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or 101 or 103 or 111	GER MST 2 of 2
	Total		15		

SECOND YEAR (30 credit hours) — Language and Literature Concentrations					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENG 203 or ENG 204	Writing about Literature or Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	ENG 223	Introduction to Language Study	3	WRI 102	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	FRE XXX	Free Elective	3		FRE 2 of 5
	ENG 224	English Grammar	3	WRI 102	MJR
	Total		15		
Spring	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	ENG 210	Introduction to Literature	3	ENG 203 or 204	MJR
	ENG 302	Stylistics	3	ENG 203 or 204	MJR
	ENG 226	Development of the English Language	3	WRI 102	MJR
	ELC XXX	English Language Competency	3		GER ELC 4 of 4
	Total		15		

THIRD YEAR (30 credit hours) — Language Concentration					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENG 214	Nineteenth Century American Literature	3	ENG 203 or 204	MJR
	ENG 234	Language in Society	3	WRI 102	MJR
	ENG 312	English Poetry and Prose I: Beginnings to 1800	3	ENG 203 or 204	MJR
	ENG 215	Contemporary World Literature	3	ENG 203 or 204	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
		Total	15		
Spring	ENG 331	The Sound Patterns of Language	3	ENG 223 or 224	CNR
	ENG 300	Introduction to Literary Theory	3	ENG 202 or 210 or 214 or 215	MJR
	ENG 332	The Psychology of Language	3	ENG 223 or 224	CNR
	MJE XXX	Major Elective	3		MJE 1 of 7
	MJE XXX	Major Elective	3		MJE 2 of 7
		Total	15		

FOURTH YEAR (30 credit hours) — Language Concentration					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENG 405 or ENG 495	Discourse Analysis or Seminar in English Language	3	ENG 223 or 224 or TRA 220/ junior standing	CNR
	MJE XXX	Major Elective	3		MJE 3 of 7
	ENG 385 or ENG 401	Language and Gender or Advanced English Grammar	3	ENG 223 or 224	CNR
	MJE XXX	Major Elective	3		MJE 4 of 7
	FRE XXX	Free Elective	3		FRE 3 of 5
		Total	15		
Spring	MJE XXX	Major Elective	3		MJE 5 of 7
	MJE XXX	Major Elective	3		MJE 6 of 7
	MJE XXX	Major Elective	3		MJE 7 of 7
	FRE XXX	Free Elective	3		FRE 4 of 5
	FRE XXX	Free Elective	3		FRE 5 of 5
		Total	15		

THIRD YEAR (30 credit hours) — Literature Concentration					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENG 214	Nineteenth Century American Literature	3	ENG 203 or 204	MJR
	HSS XXX	Humanities/Social Sciences	3		GRE HSS 5 of 5
	ENG 312	English Poetry and Prose I: Beginnings to 1800	3	ENG 203 or 204	MJR
	ENG 215	Contemporary World Literature	3	ENG 203 or 204	MJR
	MJE XXX	Major Elective	3		MJE 1 of 7
	Total		15		
Spring	ENG 234	Language in Society	3	WRI 102	MJR
	ENG 300	Introduction to Literary Theory	3	ENG 202 or 210 or 214 or 215	MJR
	ENG 313 or ENG 316	English Poetry and Prose II: 1800 to Present or Modern Drama and Beyond	3	ENG 203 or 204	CNR
	MJE XXX	Major Elective	3		MJE 2 of 7
	MJE XXX	Major Elective	3		MJE 3 of 7
	Total		15		

FOURTH YEAR (30 credit hours) — Literature Concentration					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MJE XXX	Major Elective	3		MJE 4 of 7
	ENG 410 or ENG 421 or ENG 430	The American Novel or Early English Novel or Modern British Novel	3	ENG 210 or 214 or 215 or 314/ENG 202 or 210 or 215 or 313/ ENG 202 or 210 or 215	CNR
	MJE XXX	Major Elective	3		MJE 5 of 7
	MJE XXX	Major Elective	3		MJE 6 of 7
	FRE XXX	Free Elective	3		FRE 3 of 5
	Total		15		
Spring	ENG 490	Senior Research Project	3	senior standing	CNR
	ENG 495	Seminar in English Literature	3	junior standing	CNR
	MJE XXX	Major Elective	3		MJE 7 of 7
	FRE XXX	Free Elective	3		FRE 4 of 5
	FRE XXX	Free Elective	3		FRE 5 of 5
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; CRR: Core Requirement; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Minor in Education

Students enrolling in the education minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in education must complete the following courses or their equivalents. All course prerequisites must be satisfied.

Minor Requirements (6 credits)

- EDU 210 Philosophy of Education
- EDU 220 Introduction to Teaching

Minor Electives (minimum of 12 credits)

- EDU 307 Teaching and Learning in an Electronic Environment
- EDU 309 Classroom Discourse
- EDU 319 Teaching and Learning in a Foreign Language
- EDU 325 Methodology and Materials Development
- EDU 329 Curriculum Development
- EDU 394/494 Special Topics in Education
- PSY 302 Developmental Psychology

Minor in English Language

A minor in English language helps students understand the history and structure of English and the relationship between society and language. It also equips students with the necessary tools to compare languages across cultures in a multilingual and multicultural world. Students enrolling in the English language minor should have normally

completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in English language must complete the following courses or their equivalent. All course prerequisites must be satisfied.

This minor is not open to English language and literature students.

Minor Requirements (9 credits)

- ENG 223 Introduction to Language Study
- ENG 224 English Grammar
- ENG 226 Development of the English Language or ENG 234 Language in Society

Minor Electives (minimum of 9 credits)

- ENG 302 Stylistics
- ENG 331 The Sound Patterns of Language
- ENG 332 The Psychology of Language
- ENG 385 Language and Gender
- ENG 394/494 Special Topics in English Language
- ENG 401 Advanced English Grammar
- ENG 405 Discourse Analysis
- ENG 495 Seminar in English Language

Minor in English Literature

A minor in literature increases students' awareness of the complexity and diversity of the literary culture of the English-speaking world and the origins of the literary traditions and beliefs that continue to shape and reflect the global English-speaking community.

Students enrolling in the English literature minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in English literature must complete the following courses or their equivalent. All course prerequisites must be satisfied.

This minor is not open to English language and literature students.

Minor Requirements (6 credits)

- ENG 210 Introduction to Literature
- ENG 215 Contemporary World Literature

Minor Electives (minimum of 12 credits)

Any four courses at or above the 300 level in English literature for a minimum of 12 credits, including ENG 320/MCM 320, ENG 378/MCM 378 and ENG 393/MCM 393.

Minor in Women's Studies

The minor in women's studies aspires to promote an understanding of women's achievements, contributions and experiences in their historical and social contexts. Women's studies courses provide students with opportunities to critically analyze theoretical frameworks related to women but within multicultural and multidisciplinary contexts.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.

- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in women's studies must complete the following courses or their equivalents. All course prerequisites must be satisfied.

Minor Requirements (9 credits)

- HIS 208 Women in History
- WST 240 Introduction to Women's Studies
- WST 250 Women's Voices Across Cultures

Minor Electives (minimum of 9 credits)

In addition to the minor requirements, students must complete three courses selected from any WST course and/or ENG 385 for a minimum of 9 credits.

Department of Fine Arts

Faculty

Lowell (Dwight) Dickerson
Martin Giesen

The College of Arts and Science seeks to develop undergraduate offerings in the fine and performing arts. This initiative will comprise courses in art, drama and music. The drama segment will teach introductory courses in dramatic expression, history and theory of drama and dramaturgy. The music segment will teach introductory and intermediate courses in aural and sight-singing skills, choral ensemble and classical musicology.

Department of International Studies

Faculty

Pia-Kristina Anderson
Pernille Arenfelt
Mark Aveyard
Jeremy Bendik-Keymer
Thomas DeGeorges
Marcello Fiocco
Nada Mourtada-Sabbah
Richard Gassan

Meenaz Kassam
Stephen Keck
Anatoliy Kharkhurin
David Lea
Neema Noori
Mercedes Sheen
Ali Sheikholeslami
Winfred Thompson

Bachelor of Arts in International Studies (BAIS)

Sharjah's history as an important trading center and meeting place of many cultures makes 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, prepares students who are uniquely qualified for positions in international business, international agencies and government service.

Degree Requirements

A minimum of 120 credits, including the following, is required:

- a minimum of 42 credits of general education requirements, including ENG 203 or ENG 204, MTH 100 or MTH 101, and STA 202
- a minimum of 39 credits in major requirements and major electives
- a minimum of 24 credits in concentration requirements and concentration electives
- a minimum of 15 credits of free electives
- a six-week internship in international studies (INS 497)
- a minimum CGPA of 2.0

Students seeking a major in international studies must choose one of the following concentrations:

international relations, international economics, Arab studies in a global context and Western studies.

Major 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 [up to 1500] or HIS 206 World History II [1500 to present]
- HIS 221 History of Science and Technology or
PHI 201 Introduction to Philosophy
- INS 322 Global Political Economy
- INS 497 Internship in International Studies (0 credits)
- POL 201 Introduction to Political Studies
- POL 202 Introduction to International Relations

Students are expected to have completed at least four of the ten core courses, including ECO 201 and ECO 202, by the end of the sophomore year.

Major Electives (minimum of 12 credits)

Students must complete a minimum of 12 credits of major electives in consultation with their advisor. At least nine of these credits must be at the 300 level or above. Electives may be:

- any course listed in the Bachelor of Arts in International Studies curriculum and selected from the following disciplines that is not required in the student's chosen concentration:
 - cultural studies
 - economics
 - education
 - geography
 - heritage management
 - history
 - international studies
 - philosophy
 - political science
 - psychology
 - public administration
 - sociology
 - theme
- any of the following courses:
 - ENG 225 Writing for Business
 - ENG 320/MCM 320 Intercultural Communication
 - ENV 100 Principles of Environmental Science
 - ENV 201 Fundamentals of Environmental Science

- ENV 261 Physical Geography
- ENV 411 Environmental Assessment and Management
- MCM 150 Introduction to Mass Communication Studies
- MCM 225 Theories of Mass Communication
- MCM 227 Principles of Public Relations
- MCM 275 Principles of Journalism
- MCM 300 Mass Communication Research Methods
- MCM 329 Mass Communication and Society
- MCM 360 Crisis and Conflict Management
- MCM 363 Organizational Communication and Leadership
- MCM 371 News Writing
- MCM 374 Feature Writing
- MCM 380 Persuasive Communication
- MCM 461 International Mass Communication
- MCM 463 International Public Relations
- MCM 467 Public Relations for Non-Profit Organizations
- MCM 471 Advanced News Writing

Concentration in International Relations (minimum of 24 credits)

Students who select the international relations concentration will examine the many ways in which the people of different cultures and 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)

- ECO 305 International Trade or ECO 321 Comparative Economic Systems or ECO 333 Islamic Economics
- INS 301 Globalization

- INS 495 Senior Seminar
- POL 302 Law and Diplomacy or POL 305 Public International Law
- POL 304/SOC 304 International Organizations
- POL 307 Wars, Conflicts and Diplomacy

Concentration Electives (minimum of 6 credits)

- ECO 306 International Monetary Economics
- ECO 310 Development Economics
- INS 394/494 Special Topics in International Studies
- INS 400 Ethnic Politics in the Developing World
- INS 413 Political Economy of the Arab World
- INS 414 Political Economy of the Asia Pacific Region
- INS 415 War and Peace in the Middle East
- POL 300 Comparative Politics
- POL 308 American Foreign Policy
- POL 309 The American Political System

Proposed Course Sequence of Study Bachelor of Arts in International Studies Concentration: *International Relations*

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ARA XXX	Arabic Heritage	3		GER ARA
	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	MJR
	MTH 100 or MTH 101	Fundamentals of Logic and Geometry or Mathematics for Business I	3	none/MPT or MTH 002 or SAT II Math 1C test score of 600 and above	GER MST 1 of 2
	SCI XXX	Science	3		GER SCI 1 of 2
	Total		15		
Spring	GEO 201	World Cultural Geography	3	pre/con WRI 102	MJR
	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	MJR
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or 101 or 103 or 111	GER MST 2 of 2
	SCI XXX	Science	3		GER SCI 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	WRI 102	MJR
	ENG 203 or ENG 204	Writing About Literature or Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	HIS 205 or HIS 206	World History I [up to 1500] or World History II [1500 to present]	3	WRI 102	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	Total		15		
Spring	POL 202	Introduction to International Relations	3	POL 201	MJR
	PHI 201 or HIS 221	Introduction to Philosophy or History of Science and Technology	3	WRI 102/ pre/con WRI 102	MJR
	CSC 205 or SOC 201	World Cultures or Introduction to Sociology	3	pre/con WRI 102/ WRI 102	MJR
	ELC XXX	English Language Competency	3		GER ELC 4 of 4
	FRE XXX	Free Elective	3		FRE 1 of 5
	Total		15		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	POL 304/ SOC 304	International Organizations	3	POL 202	CNR
	POL 307	Wars, Conflicts and Diplomacy	3	POL 202	CNR
	ECO 305 or ECO 321 or ECO 333	International Trade or Comparative Economic Systems or Islamic Economics	3	ECO 201 and 202, WRI 102	CNR
	INS 301	Globalization	3	POL 202	CNR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	Total		15		
Spring	POL 302 or POL 305	Law and Diplomacy or Public International Law	3	POL 201/ POL 202	CNR
	INS 322	Global Political Economy	3	POL 202, ECO 201 and 202	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	CNE XXX	Concentration Elective	3		CNE 1 of 2
	Total		15		
Summer	INS 497	Internship in International Studies	0	senior standing	MJR

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

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; CRR: Core Requirement; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Concentration in International Economics (minimum of 24 credits)

The international economics concentration offers students a sound foundation in the principles of economics combined with specialized study in international trade, finance, political economy and economic development. The objective of the program is twofold. First, for terminal degree students, the objective 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

pursue graduate studies, 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 Monetary Economics
- ECO 310 Development Economics
- INS 495 Senior Seminar

Concentration Electives (minimum of 6 credits)

- ECO 315 Economics of the Middle East

- ECO 325 Public Economics
- ECO 326 Economics and the Law
- ECO 351 Introduction to Econometrics
- ECO 404 Economics of Environmental and Natural Resources
- INS 301 Globalization
- INS 394/494 Special Topics in International Studies
- INS 413 Political Economy of the Arab World
- INS 414 Political Economy of the Asia Pacific Region
- POL 302 Law and Diplomacy
- POL 304/SOC 304 International Organizations
- POL 305 Public International Law

Proposed Course Sequence of Study
Bachelor of Arts in International Studies (BAIS)
Concentration: *International Economics*

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ARA XXX	Arabic Heritage	3		GER ARA
	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	MJR
	MTH 100 or MTH 101	Fundamentals of Logic and Geometry or Mathematics for Business I	3	none/MPT or MTH 002 or SAT II Math 1C test with score 600 and above	GER MST 1 of 2
	SCI XXX	Science	3		GER SCI 1 of 2
	Total		15		
Spring	MJE XXX	Major Elective	3		MJE 1 of 4
	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	MJR
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or 101 or 103 or 111	GER MST 2 of 2
	SCI XXX	Science	3		GER SCI 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	WRI 102	MJR
	ENG 203 or ENG 204	Writing about Literature or Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	HIS 205 or HIS 206	World History I [up to 1500] or World History II [1500 to present]	3	WRI 102	MJR
	CSC 205 or SOC 201	World Cultures or Introduction to Sociology	3	pre/con WRI 102/ WRI 102	MJR
	GEO 201	World Cultural Geography	3	pre/con WRI 102	MJR
	Total		15		
Spring	POL 202	Introduction to International Relations	3	POL 201	MJR
	HIS 221 or PHI 201	History of Science and Technology or Introduction to Philosophy	3	pre/con WRI 102/ WRI 102	MJR
	ELC XXX	English Language Competency	3		GER ELC 4 of 4
	FRE XXX	Free Elective	3		FRE 1 of 5
	HSS 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 and 202, WRI 102	CNR
	ECO 305	International Trade	3	ECO 201 and 202, WRI 102	CNR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	CNE XXX	Concentration Elective	3		CNE 1 of 2
	Total		15		
Spring	ECO 301	Intermediate Microeconomics	3	ECO 201 and 202, WRI 102	CNR
	ECO 306	International Monetary Economics	3	ECO 201 and 202, WRI 102	CNR
	ECO 310	Development Economics	3	ECO 201 and 202, WRI 102	CNR
	INS 322	Global Political Economy	3	POL 202, ECO 201 and 202	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	Total		15		
Summer	INS 497	Internship in International Studies	0	senior standing	MJR

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

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; CRR: Core Requirement; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Concentration in Arab Studies in a Global Context (minimum of 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 select this

concentration will be prepared for careers in journalism and the media, diplomacy, government, international business and travel and tourism.

Concentration Requirements (minimum of 18 credits)

- ARA 310 Images of America in Arabic Literature and Film
- CSC 303 Classical Arab/Islamic Culture
- HIS 310 Modern Gulf History
- INS 413 Political Economy of the Arab World

- INS 495 Senior Seminar
- PHI 394/494 Special Topics in Philosophy

Concentration Electives (minimum of 6 credits)

- ARA 405 Literature of the Arabian Gulf
- ENG 315 East Meets West: Colonial and Post-Colonial Encounters
- HIS 307 Modern Palestinian History
- INS 394/494 Special Topics in International Studies

Proposed Course Sequence of Study Bachelor of Arts in International Studies (BAIS) Concentration: *Arab Studies in a Global Context*

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ARA XXX	Arabic Heritage	3		GER ARA
	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	MJR
	MTH 100 or MTH 101	Fundamentals of Logic and Geometry or Mathematics for Business I	3	none/MPT or MTH 002 or SAT II Math 1C test with score 600 and above	GER MST 1 of 2
	SCI XXX	Science	3		GER SCI 1 of 2
	Total		15		
Spring	GEO 201	World Cultural Geography	3	pre/con WRI 102	MJR
	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	MJR
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or 101 or 103 or 111	GER MST 2 of 2
	SCI XXX	Science	3		GER SCI 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	WRI 102	MJR
	CSC 205 or SOC 201	World Cultures or Introduction to Sociology	3	pre/con WRI 102/ WRI 102	MJR
	ENG 203 or ENG 204	Genre Analysis or Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	HIS 205 or HIS 206	World History I [up to 1500] or World History II [1500 to present]	3	WRI 102	MJR
	Total		15		
Spring	POL 202	Introduction to International Relations	3	POL 201	MJR
	ARA 310	Images of America in Arabic Literature and Film	3	WRI 102	CNR
	HIS 310	Modern Gulf History	3	WRI 102 and junior standing	CNR
	PHI 201 or HIS 221	Introduction to Philosophy or History of Science and Technology	3	WRI 102/ pre/con WRI 102	MJR
	ELC XXX	English Language Competency	3		GER ELC 4 of 4
	Total		15		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	PHI 394/494	Special Topics in Philosophy	3	sophomore standing and topic specific/ junior standing and topic specific	CNR
	INS 322	Global Political Economy	3	POL 202, ECO 201 and 202	MJR
	MJE XXX	Major Elective	3		MJE 1 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	FRE XXX	Free Electives	3		FRE 1 of 5
	Total		15		
Spring	CSC 303	Classical Arab/Islamic Culture	3	WRI 102	CNR
	INS 413	Political Economy of the Arab World	3	POL 202, ECO 201 and 202	CNR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	Total		15		
Summer	INS 497	Internship in International Studies	0	senior standing	MJR

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

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; CRR: Core Requirement; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Concentration in Western Studies (minimum of 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 (15 credits)

- ENG 315 East Meets West: Colonial and Post-Colonial Encounters
- INS 301 Globalization
- INS 495 Senior Seminar
- PHI 303 Political Philosophy

- POL 309 The American Political System

Concentration Electives (minimum of 9 credits)

- ECO 305 International Trade
- ECO 306 International Monetary Economics
- INS 394/494 Special Topics in International Studies
- PBA 302 Comparative Public Administration Systems
- POL 302 Law and Diplomacy
- POL 304/SOC 304 International Organizations
- POL 305 Public International Law

Proposed Course Sequence of Study
Bachelor of Arts in International Studies (BAIS)
Concentration: *Western Studies*

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ARA XXX	Arabic Heritage	3		GER ARA
	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	MJR
	MTH 100 or MTH 101	Fundamentals of Logic and Geometry or Mathematics for Business I	3	none/MPT or MTH 002 or SAT II Math 1C test with score 600 and above	GER MST 1 of 2
	SCI XXX	Science	3		GER SCI 1 of 2
	Total		15		
Spring	GEO 201	World Cultural Geography	3	pre/con WRI 102	MJR
	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	MJR
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or 101 or 103 or 111	GER MST 2 of 2
	SCI XXX	Science	3		GER SCI 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	WRI 102	MJR
	ENG 203 or ENG 204	Writing about Literature or Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	HIS 205 or HIS 206	World History I [up to 1500] or World History II [1500 to present]	3	WRI 102	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	Total		15		
Spring	POL 202	Introduction to International Relations	3	POL 201	MJR
	CSC 205 or SOC 201	World Cultures or Introduction to Sociology	3	pre/con WRI 102/ WRI 102	MJR
	PHI 201 or HIS 221	Introduction to Philosophy or History of Science and Technology	3	WRI 102/ pre/con WRI 102	MJR
	FRE XXX	Free Elective	3		FRE 1 of 5
	ELC XXX	English Language Competency	3		GER ELC 4 of 4
	Total		15		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CNE XXX	Concentration Elective	3		CNE 1 of 2
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	POL 309	The American Political System	3	POL 201, and POL 202 or 208	CNR
	ENG 315	East Meets West: Colonial and Post-Colonial Encounters	3	ENG 203 or 204	CNR
	Total		15		
Spring	INS 322	Global Political Economy	3	POL 202, ECO 201 and 202	MJR
	PHI 303/POL 303	Political Philosophy	3	POL 202 or PHI 201	CNR
	INS 301	Globalization	3	POL 202	CNR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	CNE XXX	Concentration Elective	3		CNE 2 of 3
	Total		15		
Summer	INS 497	Internship in International Studies	0	senior standing	MJR

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

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; CRR: Core Requirement; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Minor in American Studies

The minor in American studies seeks to give students a broad understanding of American society, culture and politics. Students completing the minor will have studied both the development and character of the United States and its international impact through courses selected across academic disciplines.

Students enrolling in the American studies minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in American studies must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (9 credits)

- HIS 240 Introduction to American History
- POL 208 Introduction to American Government
- SOC 220 American Society

Minor Electives

(minimum of 9 credits)

- AMS 394/494 Special Topics in American Studies
- ENG 314 Twentieth Century American Literature
- ENG 410 The American Novel
- HIS 311 America and the Middle East
- POL 308 American Foreign Policy
- POL 309 The American Political System

Minor in Governmental Studies

The minor in governmental studies allows students to acquire more specialized training in political studies. It prepares students for graduate work in political science and international relations, as well as in careers in foreign service, international and regional organizations, and public policy making.

Students enrolling in the governmental studies minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in governmental studies minor must complete the following courses or their equivalent. All course prerequisites must be satisfied.

This minor is not open to international studies students.

Minor Requirements (9 credits)

- POL 201 Introduction to Political Studies
- POL 202 Introduction to International Relations
- POL 300 Comparative Politics

Minor Electives (9 credits)

- INS 301 Globalization
- INS 322 Global Political Economy
- INS 495 Senior Seminar
- PHI 303 Political Philosophy
- POL 302 Law and Diplomacy
- POL 304/SOC 304 International Organizations
- POL 305 Public International Law

- POL 307 Wars, Conflicts and Diplomacy
- POL 309 The American Political System

Minor in International Studies

The international studies minor introduces students to the interdisciplinary exploration of social issues at the individual, local, national, international and global levels. Theoretical and applied aspects of citizenship, civil society, governance and the domestic/international interface are explored in a variety of societal and organizational contexts.

Students enrolling in the international studies minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in international studies must complete the following courses or their equivalent. All course prerequisites must be satisfied.

This minor is not open to international studies students.

Minor Requirements (9 credits)

- CSC 205 World Cultures or GEO 201 World Cultural Geography or SOC 201 Introduction to Sociology
- HIS 205 World History I [up to 1500] or HIS 206 World History II [1500 to present] or PHI 201 Introduction to Philosophy
- POL 201 Introduction to Political Studies

Minor Electives (9 credits)

- INS 301 Globalization

- INS 322 Global Political Economy
- INS 495 Senior Seminar
- POL 302 Law and Diplomacy
- POL 304/SOC 304 International Organizations
- POL 305 Public International Law
- POL 307 Wars, Conflicts and Diplomacy

Minor in Philosophy

The philosophy minor develops students' natural reasoning. It also introduces students to the unanswered questions of the Western, Middle Eastern and Eastern traditions of wisdom.

Students enrolling in the philosophy minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in philosophy must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (9 credits)

- PHI 201 Introduction to Philosophy
- PHI 202 Introduction to Islamic Philosophy
- PHI 204 Ethics for Professionals or PHI 206 Ethics and Information Technology or CPM 235 Ethics for Computing and Information Technology

Minor Electives (minimum of 9 credits)

- CSC 402 Qur'anic Studies
- PHI 303 Political Philosophy
- PHI 304 Themes in Western Thought

- PHI 309 Ethics and the Environment
- PHI 394/494 Special Topics in Philosophy
- PSY 305 Cognitive Psychology

Minor in Psychology

The minor in psychology develops students' sense of the psychological processes underlying people's behavior. It also introduces students to the theories and practices of experimental and clinical psychology, which prepares them for graduate work in various fields.

Students enrolling in the psychology minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in psychology must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (9 credits)

- PSY 101 General Psychology
- PSY 102 Social Psychology
- STA 201 Introduction to Statistics for Engineering and Natural Sciences or STA 202 Introduction to Statistics for Social Sciences or QBA 201 Quantitative Business Analysis, or NGN 111 Introduction to Statistical Analysis plus any PSY course

Minor Electives (minimum of 9 credits)

- PSY 301 Abnormal Psychology
- PSY 302 Developmental Psychology
- PSY 303 Health Psychology

- PSY 304 Personality Psychology
- PSY 305 Cognitive Psychology
- PSY 306 Organizational Psychology
- PSY 394/494 Special Topics in Psychology

Department of Mass Communication

Joseph Gibbs, Interim Head

Faculty

Ilhem Allagui
Abeer Al-Najjar
Kim Bigelow
Harris Breslow
Manal Elissawy
Ana Gavassa
Joseph Gibbs
Mahboub Hashem
Don Love
Tina Richardson
Susan Smith
Timothy Walters

Bachelor of Arts in Mass Communication (BAMC)

The Department of Mass Communication offers students the opportunity to specialize in three professional concentrations—advertising, journalism and public relations—as well as the option of a general communication program of study. 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 theoretical, technical, oral and written communication competencies, and best professional practice strategies and lessons.

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 organizations. By receiving a solid grounding in the practical use of qualitative and quantitative methodologies, and skills such as advertising and public relations strategic management, news writing, copy writing and media production, graduates will also be prepared to

enter professional communication settings as varied as advertising and public relations firms, mass media, businesses, government, non-profit organizations, professional associations, healthcare companies and international organizations. The mass communication program prepares students for a comprehensive understanding of the various disciplines contributing to the profession. Moreover, a mass communication degree prepares students for positions requiring interaction with educated native speakers of English.

Concentration Options

Advertising

Students selecting the advertising program of study receive exposure to an integrated marketing communication approach to advertising and strategic communication. A combination of advertising, public relations and marketing courses prepare students for careers as advertising account executives, creative specialists, media planners, media sales representatives and marketing communication researchers.

Journalism

The journalism concentration curriculum prepares students for careers in newspapers, magazines, broadcasting, wire services, special interest publications and online publications. This curriculum offers 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 selecting the public relations program of study receive exposure to a wide range of integrated communication methods and practices as well as extensive examination of theoretical and pragmatic communication knowledge designed

to prepare them for successful strategic management careers in corporate, government and non-profit organizations worldwide. The profession has experienced substantial growth and heightened stature over the past several decades, a global trend that is projected to continue throughout the 21st century.

Admission to the Program

Admission to the program follows the university's undergraduate admission requirements. Students transferring into the program must have a cumulative GPA of 2.0 or higher.

Degree Requirements

A minimum of 120 credits, including the following, is required:

- a minimum of 42 credit hours of general education requirements, including ENG 203 or ENG 204, ENG 208 or MCM 209, MTH 100 and STA 202
- a minimum of 36 credit hours of MCM major requirements and major electives
- a minimum of 27 credit hours of concentration requirements and concentration electives for students selecting a concentration or a minimum of 27 credits hours of general mass communication requirements for students who select the general degree in mass communication
- a minimum of 15 credit hours of free electives
- a minimum of six weeks or 240 hours of on-the-job training (MCM 497 Mass Communication Internship) with a professional firm
- a minimum CGPA of 2.0

Major Requirements (18 credits)

- MCM 150 Introduction to Mass Communication Studies
- MCM 225 Theories of Mass Communication
- MCM 231 Writing for Mass Communication
- MCM 300 Mass Communication Research Methods
- MCM 320/ENG 320 Intercultural Communication

- MCM 321 Mass Communication Law and Ethics
- MCM 497 Mass Communication Internship (0 credit)

Major Electives (minimum of 18 credits)

Students must complete six courses at the 200 level or above from any course in DES, ECO, ENG, INS, MCM, MGT, MKT, MUM, POL, TRA and VIS for a minimum of 18 credits.

Concentration in Advertising (minimum of 27 credits)

Concentration Requirements (21 credits)

- MCM 100 Introduction to Digital Media Design or DES 100 Digital Media in Design
- MCM 227 Principles of Public Relations
- MCM 255 Principles of Advertising
- MCM 351 Advertising Copy and Layout
- MCM 453 Advertising Media Planning
- MCM 455 Advertising Campaigns
- MKT 201 Fundamentals of Marketing

Concentration Electives (minimum of 6 credits)

- MCM 353 Direct Response Advertising
- MCM 394/494 Special Topics in Mass Communication
- MCM 451 Strategic Communication Research
- MCM 454 Case Studies in Advertising
- MCM 463 International Public Relations
- MCM 465 Public Relations Campaigns
- MCM 490 Senior Project
- MCM 496 Independent Study in Mass Communication
- MKT 301 Consumer Behavior
- MKT 302 Marketing Research
- MKT 303 E-Commerce

Concentration in Journalism (minimum of 27 credits)

Concentration Requirements (3 credits)

- MCM 275 Principles of Journalism or MCM 281 Principles of Media Production and Performance

Concentration Electives (minimum of 24 credits)

- MCM 306 Broadcast Journalism

- MCM 307 Film Criticism
- MCM 371 News Writing
- MCM 373 Scriptwriting
- MCM 374 Feature Writing
- MCM 375 Editing for the Print Media
- MCM 377 Photojournalism
- MCM 378/ENG 378 Literature as Film
- MCM 393/ENG 393 Shakespeare on Film
- MCM 394/494 Special Topics in Mass Communication
- MCM 410 Media Producing and Project Management
- MCM 411 Multiple Camera Studio Production
- MCM 450 Critical Analysis of Mass Media
- MCM 461 International Mass Communication
- MCM 470 Writing and Reporting for Broadcast News
- MCM 471 Advanced News Writing
- MCM 472 Editorial and Critical Writing
- MCM 473 Writing for Multimedia
- MCM 475 Writing and Producing for Documentaries
- MCM 491 Print Media Project
- MCM 496 Independent Study in Mass Communication

Concentration in Public Relations (minimum of 27 credits)

Concentration Requirements (18 credits)

- MCM 227 Principles of Public Relations
- MCM 255 Principles of Advertising
- MCM 361 Case Studies in Public Relations
- MCM 369 Public Relations Writing
- MCM 465 Public Relations Campaigns
- MCM 469 Advanced Public Relations Writing

Concentration Electives (minimum of 9 credits)

- INS 301 Globalization
- MCM 100 Introduction to Digital Media Design or
DES 100 Digital Media in Design
- MCM 275 Principles of Journalism
- MCM 329 Mass Communication and Society
- MCM 360 Crisis and Conflict Management
- MCM 363 Organizational Communication and Leadership
- MCM 371 News Writing
- MCM 377 Photojournalism
- MCM 380 Persuasive Communication
- MCM 394/494 Special Topics in Mass Communication

- MCM 401 Public Relations Publications
- MCM 451 Strategic Communication Research
- MCM 455 Advertising Campaigns
- MCM 467 Public Relations for Non-Profit Organizations
- MCM 490 Senior Project
- MCM 496 Independent Study in Mass Communication
- MGT 201 Fundamentals of Management
- MKT 201 Fundamentals of Marketing

General Degree in Mass Communication (minimum of 27 credits)

Students must complete nine courses for a minimum of 27 credits from any of the mass communication (MCM) courses not listed in the major requirements or concentration requirements.

Free Electives (minimum of 15 credits)

Students must complete any five courses for a minimum of 15 credits at the 100 level or above.

Proposed Sequence of Study Bachelor of Arts in Mass Communication (BAMC) General Degree and All Concentrations

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	MTH 100	Fundamentals of Logic and Geometry	3		GER MST 1 of 2
	ARA XXX	Arabic Heritage	3		GER ARA
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	MCM 100 or DES 100 FRE XXX	Introduction to Digital Media Design or Digital Media in Design Free Elective	3		CNR 1 of 7 (for advertising majors only) for all except advertising
	Total		15		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	SCI XXX	Science	3		GER SCI 1 of 2
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or 101 or 103 or 111	GER MST 2 of 2
	Total		15		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENG 203 or ENG 204	Writing About Literature or Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	MCM 150	Introduction to Mass Communication Studies	3	WRI 102	MJR 1 of 7
	SCI XXX	Science	3		GER SCI 2 of 2
	Total		15		
Spring	ENG 208 or MCM 209	Public Speaking or Dramatic Expression	3	ENG 203 or 204 or 231 or MCM 231/ MCM 150	GER ELC 4 of 4
	MCM 225	Theories of Mass Communication	3	MCM 150	MJR 2 of 7
	MCM 231	Writing for Mass Communication	3	MCM 150	MJR 3 of 7
	MCM 255	Principles of Advertising		MCM 100 or DES 100, MCM 150/	CNR 2 of 7 (advertising)
	MCM 227	Principles of Public Relations		MCM 150/	CNR 1 of 6 (PR)
	MCM 275 or MCM 281	Principles of Journalism or Principles of Media Production and Performance	3	MCM 100 or DES 100, MCM 150 and pre/con MCM 231/	CNR 1 of 1 (journalism)
	any of the above	Concentration Elective			CNE 1 of 9 (general)
	MCM 300	Mass Communication Research	3	MCM 150 or 225, and STA 202 or QAN 201 or QBA 201 or NGN 111	MJR 4 of 7
	Total		15		

Proposed Sequence of Study
Bachelor of Arts in Mass Communication (BAMC)
Concentration: Advertising

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MCM 227	Principles of Public Relations	3	MCM 150	CNR 3 of 7
	ENG 320/ MCM 320	Intercultural Communication	3	ENG 203 or ENG 204	MJR 5 of 7
	MCM 321	Mass Communication Law and Ethics	3	MCM 227 or 255 or 275	MJR 6 of 7
	MJE XXX	Major Elective	3		MJE 1 of 6
	FRE XXX	Free Elective	3		FRE 1 of 5
	Total		15		
Spring	MKT 201	Fundamentals of Marketing	3	ECO 201 or 202; pre/con WRI 102	CNR 4 of 7
	MCM 351	Advertising Copy and Layout	3	MCM 255	CNR 5 of 7
	CNE XXX	Concentration Elective	3		CNE 1 of 2
	MJE XXX	Major Elective	3		MJE 2 of 6
	FRE XXX	Free Elective	3		FRE 2 of 5
	Total		15		
Summer	MCM 497	Mass Communication Internship	0	junior standing and consent of department	MJR 7 of 7

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CNE XXX	Concentration Elective	3		CNE 2 of 2
	MCM 453	Advertising Media Planning	3	MCM 255	CNR 6 of 7
	MJE XXX	Major Elective	3		MJE 3 of 6
	MJE XXX	Major Elective	3		MJE 4 of 6
	FRE XXX	Free Elective	3		FRE 3 of 5
	Total		15		
Spring	MCM 455	Advertising Campaigns	3	MCM 351	CNR 7 of 7
	MJE XXX	Major Elective	3		MJE 5 of 6
	MJE XXX	Major Elective	3		MJE 6 of 6
	FRE XXX	Free Elective	3		FRE 4 of 5
	FRE XXX	Free Elective	3		FRE 5 of 5
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; CRR: Core Requirement; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Proposed Sequence of Study
Bachelor of Arts in Mass Communication (BAMC)
Concentration: Journalism

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CNE XXX	Concentration Elective	3		CNE 1 of 8
	ENG 320/ MCM 320	Intercultural Communication	3	ENG 203 or 204	MJR 5 of 7
	MCM 321	Mass Communication Law and Ethics	3	MCM 227 or 255 or 275	MJR 6 of 7
	MJE XXX	Major Elective	3		MJE 1 of 6
	FRE XXX	Free Elective	3		FRE 2 of 5
	Total		15		
Spring	CNE XXX	Concentration Elective	3		CNE 2 of 8
	CNE XXX	Concentration Elective	3		CNE 3 of 8
	CNE XXX	Concentration Elective	3		CNE 4 of 8
	MJE XXX	Major Elective	3		MJE 2 of 6
	FRE XXX	Free Elective	3		FRE 3 of 5
	Total		15		
Summer	MCM 497	Mass Communication Internship	0	junior standing and consent of department	MJR 7 of 7

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CNE XXX	Concentration Elective	3		CNE 5 of 8
	MJE XXX	Major Elective	3		MJE 3 of 6
	MJE XXX	Major Elective	3		MJE 4 of 6
	MJE XXX	Major Elective	3		MJE 5 of 6
	FRE XXX	Free Elective	3		FRE 4 of 5
	Total		15		
Spring	CNE XXX	Concentration Elective	3		CNE 6 of 8
	CNE XXX	Concentration Elective	3		CNE 7 of 8
	CNE XXX	Concentration Elective	3		CNE 8 of 8
	MJE XXX	Major Elective	3		MJE 6 of 6
	FRE XXX	Free Elective	3		FRE 5 of 5
	Total		15		

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Proposed Sequence of Study
Bachelor of Arts in Mass Communication (BAMC)
Concentration: Public Relations

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MCM 255	Principles of Advertising	3	MCM 100 or DES 100, MCM 150	CNR 2 of 6
	ENG 320/ MCM 320	Intercultural Communication	3	ENG 203 or 204	MJR 5 of 7
	MCM 321	Mass Communication Law and Ethics	3	MCM 227 or MCM 255 or MCM 275	MJR 6 of 7
	MJE XXX	Major Elective	3		MJE 1 of 6
	FRE XXX	Free Elective	3		FRE 2 of 5
	Total		15		
Spring	CNE XXX	Concentration Elective	3		CNE 1 of 3
	MCM 361	Case Studies in Public Relations	3	MCM 227	CNR 3 of 6
	MCM 369	Public Relations Writing	3	MCM 227 and 231	CNR 4 of 6
	MJE XXX	Major Elective	3		MJE 2 of 6
	FRE XXX	Free Elective	3		FRE 3 of 5
	Total		15		
Summer	MCM 497	Mass Communication Internship	0	junior standing and consent of department	MJR 7 of 7

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CNE XXX	Concentration Elective	3		CNE 2 of 3
	MCM 465	Public Relations Campaigns	3	MCM 369	CNR 5 of 6
	MJE XXX	Major Elective	3		MJE 3 of 6
	MJE XXX	Major Elective	3		MJE 4 of 6
	FRE XXX	Free Elective	3		FRE 4 of 5
	Total		15		
Spring	MCM 469	Advanced Public Relations Writing	3	MCM 369	CNR 6 of 6
	CNE XXX	Concentration Elective	3		CNE 3 of 3
	MJE XXX	Major Elective	3		MJE 5 of 6
	MJE XXX	Major Elective	3		MJE 6 of 6
	FRE XXX	Free Elective	3		FRE 5 of 5
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; CRR: Core Requirement; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Proposed Sequence of Study
Bachelor of Arts in Mass Communication (BAMC)
General Degree

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CNE XXX	Concentration Elective	3		CNE 2 of 9
	ENG 320/ MCM 320	Intercultural Communication	3	ENG 203 or 204	MJE 5 of 7
	MCM 321	Mass Communication Law and Ethics	3	MCM 227 or 255 or 275	MJE 6 of 7
	MJE XXX	Major Elective	3		MJE 1 of 6
	FRE XXX	Free Elective	3		FRE 2 of 5
	Total		15		
Spring	CNE XXX	Concentration Elective	3		CNE 3 of 9
	CNE XXX	Concentration Elective	3		CNE 4 of 9
	CNE XXX	Concentration Elective	3		CNE 5 of 9
	MJE XXX	Major Elective	3		MJE 2 of 6
	FRE XXX	Free Elective	3		FRE 3 of 5
	Total		15		
Summer	MCM 497	Mass Communication Internship	0	junior standing and consent of department	MJR 7 of 7

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CNE XXX	Concentration Elective	3		CNE 6 of 9
	CNE XXX	Concentration Elective	3		CNE 7 of 9
	CNE XXX	Concentration Elective	3		CNE 8 of 9
	MJE XXX	Major Elective	3		MJE 3 of 6
	FRE XXX	Free Elective	3		FRE 4 of 5
	Total		15		
Spring	CNE XXX	Concentration Elective	3		CNE 9 of 9
	MJE XXX	Major Elective	3		MJE 4 of 6
	MJE XXX	Major Elective	3		MJE 5 of 6
	MJE XXX	Major Elective	3		MJE 6 of 6
	FRE XXX	Free Elective	3		FRE 5 of 5
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; CRR: Core Requirement; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Double Concentration

Students enrolled in the mass communication major may pursue a second concentration. Such students must fulfill the course requirements in both concentration areas. Once the degree requirements are met, any shortage of credits may be fulfilled by free electives. Double-concentration students generally require more than 120 credits to meet graduation requirements.

Minor in Mass Communication

Students enrolling in the mass communication minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in mass communication must complete the following courses or their equivalent. All course prerequisites must be satisfied.

This minor is not open to mass communication students.

Minor Requirements (9 credits)

- MCM 150 Introduction to Mass Communication Studies
- MCM 225 Theories of Mass Communication
- MCM 231 Writing for Mass Communication

Minor Electives (minimum of 9 credits)

Students must complete three courses for a minimum of 9 credits in mass communication at the 300 level or above.

Department of Mathematics and Statistics

Mahmoud Anabtawi, Head

Faculty

Zayid Abdulhadi
 Taher Abualrub
 Marwan Abukhaleel
 Yusuf Abu Muhanna
 Ghada Alobaidi
 Diana Audi
 Ayman Badawi
 Ibrahim El-Sadek
 James Griffin
 Gajath Gwunatillake
 Abdul Hadi (sabbatical Fall 2007)
 Suheil Khoury
 Saadia Khouyibaba
 Ismail Kucuk
 Guillaume Leduc
 Timothy Marshall
 Mujo Mesanovic
 David Radnell
 Ali Sayfy
 Padmapani Seneviratne
 Hana Sulieman
 Luis Wills
 Thomas Wunderli
 Elias Zikkos

Bachelor of Science in Mathematics (BSMTH)

The purpose of the Bachelor of Science in Mathematics program is to expose students to the theoretical foundations of mathematics, to provide them with understanding of the broad outlines of modern mathematics and its applications in a variety of disciplines, to stimulate their interest in research, and to prepare them for future work. Innovative teaching and learning environments provide opportunities for students to develop critical thinking and general problem solving strategies. The Department of Mathematics and Statistics specifically strives to ensure success in finding appropriate employment as well as success in graduate work for those desiring to pursue their formal education.

The Department of Mathematics and Statistics seeks to develop campuswide the level of mathematical skills and quantitative and logical reasoning required for individuals to make informed decisions and excel in their chosen disciplines. It also seeks to develop these same skills in the larger

community. The department aims to provide students with the mathematical ability needed to fulfill future leadership roles.

Program Objectives

The main objective of the program is an in-depth experience in undergraduate mathematics. It will provide the student with:

- a strong background in all of the calculus-based courses, including advanced calculus and differential equations
- the skills needed to successfully produce mathematical proofs on an undergraduate level
- exposure to diverse areas of mathematics, such as analysis, algebra, applied mathematics, discrete mathematics, and probability and statistics
- an understanding of discrete phenomena and digital information environments, as well as rigorous algorithmic foundations and better modeling tools
- the ability to think critically and independently about problems, which will develop in the student an aptitude for mathematical reasoning
- the mathematical and computing skills necessary to describe and solve technical problems that arise in business and industry
- a solid foundation of mathematics courses necessary for possible graduate study

Program Outcomes

After completion of the mathematics program, graduates should:

- demonstrate knowledge and understanding of diverse areas in mathematics such as analysis, algebra, discrete mathematics, and applied mathematics
- be able to construct and communicate effectively valid mathematical arguments
- demonstrate the ability to pursue a graduate degree in mathematics or mathematical sciences
- demonstrate the ability to be future teachers with a solid grounding in the ideas and techniques of mathematics
- be able to apply mathematical analysis

and mathematical skills to problems in other disciplines

- be able to use discrete mathematical concepts in context such as algorithm development, computer programming, networks and other disciplines
- identify and carry out thoughtful approaches to problem solving
- define simple research tasks and carry them out, and assist in more complex research tasks as required for professional work
- be able to formulate a problem in mathematical terms from a description in engineering, physical, chemical, financial or biological language
- demonstrate the ability to adapt to change and remain current in the field and continue to learn new information, skills and concepts
- demonstrate appreciation for the beauty, utility and impact of mathematics and statistics

Admission

Formal admission to the program follows AUS's admission requirements. Students transferring into the program must have a cumulative GPA of 2.0 or higher and permission of the head of the Department of Mathematics and Statistics.

Degree Requirements

A minimum of 122 credits, including the following, is required as follows:

- a minimum of 44 credits of general education requirements
- a minimum of 63 credits of major requirements and major electives
- a minimum of 15 credits of free electives
- a minimum CGPA of 2.0

Major Requirements (33 credits)

- MTH 104 Calculus II
- MTH 203 Calculus III
- MTH 205 Differential Equations
- MTH 213 Discrete Mathematics
- MTH 221 Linear Algebra
- MTH 311 Intermediate Analysis
- MTH 312 Advanced Calculus
- MTH 320 Modern Algebra with Applications

- MTH 343 Numerical Analysis
- MTH 350 Introduction to Probability
- MTH 490 Senior Project

Major Electives (minimum of 30 credits)

Math Electives (minimum of 15 credits)

After consulting with their academic advisors, students should complete a minimum of 15 credit hours, with at least 6 at the 400 level, as major electives from the following list of courses:

- MTH 313 Number Theory and its Applications
- MTH 330 Fundamental Concepts of Geometry
- MTH 351 Methods of Applied Mathematics
- MTH 360/STA 360 Probability and Stochastic Processes
- MTH 382 Linear Programming and Optimization
- MTH 412 Complex Variables
- MTH 418 Graph Theory
- MTH 420 Advanced Modern Algebra
- MTH 431 Dynamical Systems
- MTH 432 Partial Differential Equations
- MTH 494 Special Topics in Mathematics

- MTH 496 Independent Study

Electives in Related Areas (minimum of 15 credits)

Students must also complete a minimum of 15 credit hours at the 200 level or above in areas such as sciences, engineering and computer science, economics and finance with the approval of the advisor.

Free Electives (minimum of 15 credits)

Students must complete a minimum of 15 credit hours of free electives.

Proposed Course Sequence of Study Bachelor of Science Degree in Mathematics (BSMTH)

FIRST YEAR (32 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite	Fulfills
Fall	MTH 103	Calculus I	3	MENG or MTH 001 or 004	GER MST 1 of 2
	PHY/CHM/ BIO/ENV	Science Elective	4		GER SCI 1 of 2
	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	FRE XXX	Free Elective	3		FRE 1 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	Total		16		
Spring	MTH 104	Calculus II	3	MTH 103 or 111	MJR 1 of 11
	PHY/CHM/ BIO/ENV	Science Elective	4		GER SCI 2 of 2
	ARA 101	Reading in Arabic Heritage	3	pre/con WRI 102	GER ARA
	WRI 102	Writing and Reading Across the Curriculum	3	EPT5 or WRI 101	GER ELC 2 of 4
	STA 201	Introduction to Statistics for Engineering and Natural Sciences	3	MTH 103 or 111	GER MST 2 of 2
	Total		16		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite	Fulfills
Fall	MTH 203	Calculus III	3	MTH 104	MJR 2 of 11
	MTH 213	Discrete Mathematics	3	MTH 102 or 103	MJR 3 of 11
	HSS XXX	Humanities/Social Sciences II	3		GER HSS 2 of 5
	ENG 203 or ENG 204	Writing About Literature or Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	MJE XXX	Elective in Related Areas	3		MJE 1 of 10
	Total		15		
Spring	MTH 205	Differential Equations	3	MTH 104	MJR 4 of 11
	MTH 221	Linear Algebra	3	MTH 104	MJR 5 of 11
	MTH XXX	Math Elective I	3		MJE 2 of 10
	ELC XXX	English Language Competency	3		GER ELC 4 of 4
	FRE XXX	Free Elective	3		FRE 2 of 5
	Total		15		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite	Fulfills
Fall	MTH 350	Introduction to Probability	3	STA 201; pre/con MTH 203	MJR 6 of 11
	MTH 311	Intermediate Analysis	3	MTH 203	MJR 7 of 11
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	MTH XXX	Math Elective	3		MJE 3 of 10
	MJE XXX	Elective in Related Areas	3		MJE 4 of 10
	Total		15		
Spring	MTH 343	Numerical Analysis	3	MTH 221	MJR 8 of 11
	MTH 320	Modern Algebra with Applications	3	MTH 221	MJR 9 of 11
	MTH XXX	Math Elective	3		MJE 5 of 10
	MJE XXX	Elective in Related Areas	3		MJE 6 of 10
	FRE XXX	Free Elective	3		FRE 3 of 5
	Total		15		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite	Fulfills
Fall	MTH 312	Advanced Calculus	3	MTH 203	MJR 10 of 11
	MTH XXX	Math Elective	3		MJE 7 of 10
	MJE XXX	Elective in Related Areas	3		MJE 8 of 10
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	FRE XXX	Free Elective	3		FRE 4 of 5
	Total		15		
Spring	MTH 490	Senior Project	3	senior standing and consent of instructor	MJR 11 of 11
	MJE XXX	Elective in Related Areas	3		MJE 9 of 10
	MTH XXX	Math Elective	3		MJE 10 of 10
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	FRE XXX	Free Elective	3		FRE 5 of 5
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; CRR: Core Requirement; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Minor in Applied Computational Mathematics

Students enrolling the applied and computational mathematics minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in applied and computational mathematics must complete the following courses or their equivalent. All course prerequisites must be satisfied.

This minor is not open to students majoring in mathematics.

Minor Requirements (12 credits)

- MTH 205 Differential Equations
- MTH 221 Linear Algebra
- MTH 341 Computational Methods
- MTH 351 Methods of Applied Mathematics

Minor Electives (minimum of 6 credits)

Students must complete two courses for a minimum of six credits in mathematics and/or statistics at the 300 level or above with the approval of the department.

Department of Physics

Hamza Abdelhaq, Head

Faculty

Ali Alnaser
Nidhal Guessoum
Nasser Hamdan
Mohammad Islam
Asad Hasan Jaidi
Tariq Majeed
Said Sakhi
Yousef Salamin

The central aim of the Department of Physics is to provide students of engineering and other applied sciences with a solid grounding in physics, which is essential for progress in their respective fields of study, and to contribute to the Environmental Sciences Program. In addition to courses leading to a minor in physics, the department also offers courses on conceptual physics and astronomy as general science education requirements.

Minor in Physics

Students of science and engineering can enroll in a minor in physics in one of two areas of special emphasis: space physics and the physics of lasers and semiconductors. Interested students must seek the approval of the chair of the Department of Physics. Students enrolling in the physics minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in physics must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (6 credits)

- PHY 106 General Physics III
- PHY 201 Modern Physics

Minor Electives (minimum of 12 credits)

Students must complete 12 credits of electives from the following list of courses. At least nine credits must be at the 300 level or above.

- PHY 106L General Physics III Laboratory

- PHY 201L Modern Physics Laboratory
- PHY 232 Properties of Matter
- PHY 251 Meteorology
- PHY 301 Energy Sources
- PHY 303 Atmospheric Physics
- PHY 305 Modern Optics and Lasers
- PHY 313 Satellites and Space Physics
- PHY 401 Physics of Semiconductors

Department of Writing Studies

Donald Cruickshank, Head

Faculty

Abeer Al-Najjar
Anoud Abusalim
Thomas Alibrandi
Jerald Cumbus
Laila Dahan
Maria Eleftheriou
Neena Gandhi
Bruce Gatenby
Ronald Goodwin
James Henry
Christopher Horger
Mary Anne John
Daniel Kirk
Jessica Lee
Dennis Lewis
Gregory McElwain
Suzan Munday
Polly Palmer-Baghestani
Lynne Ronesi
Anne Shine
Terri Storseth
Abid Vali
Jason Ward

The purpose and goal of the Department of Writing Studies is to provide students with the language and rhetorical foundations needed to be able to write and read successfully in an academic environment.

To acquire these skills, students learn how to read and write paragraphs and essays. Instruction combines reading and writing skills with the grammar, vocabulary and organizational skills necessary to effectively present academic material in the various rhetorical genres of writing. Equipping students with these skills not only provides them with abilities to effectively negotiate academic assignments but also gives them a foundation for effective written communication, a skill that will be valuable to them for the rest of their lives.



CEN



College of Engineering

Dean

Yousef Al-Assaf

Associate Dean

Hany El-Kadi

The College of Engineering offers bachelor of science (BS) 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 College of Engineering graduates are well equipped to face the future. A degree from the AUS College of Engineering 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.

ABET Accreditation

All six undergraduate programs offered by the College of Engineering (CEN) are accredited by ABET. ABET, Inc. (www.abet.org) is the recognized accreditor for college and university programs in applied science, computing, engineering and technology in the United States. ABET is a federation of more than 25 professional and technical societies representing these fields. ABET currently accredits some 2,700 programs at more than 550 colleges and universities and is recognized by the Council for Higher Education Accreditation in Washington, DC.

The six programs in the AUS College of Engineering are the first in the region and the second outside the US to receive this prestigious

accreditation. ABET accreditation demonstrates a continuing commitment to the quality of our programs so that CEN students are ready to practice once they graduate and employers can count on our graduates to meet their needs.

Mission Statement

American University of Sharjah is a dynamic institution of higher education. As such, it offers 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 College of Engineering has the following mission:

The College of Engineering at 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 college'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 College of Engineering offers undergraduate programs in chemical engineering, civil engineering, computer engineering, electrical engineering, mechanical engineering

and computer science. The college's faculty members provide 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 and computer science 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 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, as well as instill in their graduates leadership qualities anchored in moral and ethical principles.

College of Engineering graduates will work in an international and very competitive environment. Graduates must possess English fluency in both written and spoken forms; hence, instruction and interaction between students and faculty members are conducted in English. English fluency is especially critical as more multinational corporations adopt English as the corporate language.

All freshmen pursuing an engineering degree 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 College 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 College 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
- prepare well-educated graduates able to serve in regional and international practice with consideration of multicultural environments
- prepare a BS-level graduate to be successful in graduate studies in a related area
- offer undergraduate and graduate academic programs that are critical to the sustainable development of society and the quality of life in the region
- 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 College 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 their work current computer and software technologies that are relevant to the 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 College 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.

Degree Programs

The College of Engineering offers six bachelor of science degrees, ten minors (aerospace engineering, biomedical engineering, computer engineering, computer game programming, computer science, electrical engineering, engineering management, mechanical engineering, petroleum engineering and software engineering and security) and two master of science degrees (mechatronics engineering and engineering systems management). For details on the graduate programs, please refer to the *AUS Graduate Catalog*. Descriptions of and requirements for the undergraduate degrees are provided below. The computer science degree is described in a section located after the engineering disciplines.

Admission and Degree Requirements

Formal admission to a major at the second-year level in all programs of the College of Engineering requires a cumulative grade point average (CGPA) of 2.0. Students are also expected to have passed the Introduction to Engineering and Computing (NGN 110) course with a minimum grade of C- (1.7). In addition, a minimum grade point average of C (2.0) and a minimum grade of C- (1.7) in at least 15 credit hours from the required freshman-level science and mathematics courses are needed.

Graduation Requirements for the BS 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, including:

- courses that ensure the satisfaction of the AUS general education requirements (minimum of 44 credits)
- major requirements and major electives, which include courses in mathematics, sciences, engineering sciences and engineering design that ensure preparation for professional practice (minimum of 90 credits)
- summer internship or practicum for

at least five weeks after the third year, working in a professional environment

- a minimum of six credits of free electives

To qualify for graduation with the Bachelor of Science in Computer Science degree, students must complete a minimum of 130 credits with a cumulative GPA of 2.0 or better, including:

- a minimum of 48 credits of general education requirements
- 58 credits of major requirements
- a minimum of 12 credits of major electives
- a minimum of 12 credits of free electives
- summer internship or practicum working in a professional environment for at least five weeks after the third year

Bachelor of Science Degrees

The College of Engineering offers a bachelor of science degree in each of the following disciplines:

- chemical engineering (BSCHE)
- civil engineering (BSCE)

- computer engineering (BSCoE)
- electrical engineering (BSEE)
- mechanical engineering (BSME)
- computer science (BSCS)

Each engineering degree program is designed for completion in four years including one summer session (six weeks) of study and 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 BS program. During the final year, a senior design (capstone) project must be completed. All engineering degree students are required to take a comprehensive assessment examination in the capstone senior design course. Practical training in an engineering environment strengthens the student's preparation for engineering practice.

The computer science degree program is designed for completion in four years, including one 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 computer science program. During the final year, a senior design (capstone) project must be completed. Practical training in a computer science professional environment strengthens the student's preparation for professional practice.

Freshman Year in Engineering

The first year, which provides a base in physics, chemistry, engineering and mathematics, is common to all engineering students. Students with acceptable grades can change majors within the College of Engineering with no credit loss during the first year. Other course requirements for subsequent years are listed under individual engineering majors.

COMMON ENGINEERING FRESHMAN YEAR (31 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CHM 101	General Chemistry I	4		GER SCI 1 of 2
	WRI 101	Academic Writing	3	WRI 001 or EPT 4	GER ELC 1 of 4
	MTH 103	Calculus I	3	MTH 001 or MENG or SAT II Math 1C test with score of 600 and above	GER MTH 1 of 2
	PHY 101	General Physics I	3	PHY 001 or PPT; pre/con MTH 103 and PHY 101L	GER SCI 2 of 2
	PHY 101L	General Physics Laboratory I	1	pre/con PHY 101	GER SCI 2 of 2
	NGN 110	Introduction to Engineering and Computing	2	admission to CEN	MJR
	Total		16		
Spring	FRE XXX	Free Elective	3		FRE 1 of 2
	WRI 102	Writing and Reading Across the Curriculum	3	WRI 101 or EPT 5	GER ELC 2 of 4
	MTH 104	Calculus II	3	MTH 103	GER MTH 2 of 2
	PHY 102	General Physics II	3	PHY 101, 101L; pre/con PHY 102L	MJR
	PHY 102L	General Physics Laboratory II	1	pre/con PHY 102	MJR
	NGN 111	Introduction to Statistical Analysis	2	pre/con MTH 103	MJR
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Department of Chemical Engineering

Dana Stevenson-Abouelnasr, Head

Faculty

Nabil Abdel-Jabbar
Ibrahim M. Abu-Reesh
Raafat Alnaizy
Rachid Chebbi
Ghaleb Hussein
Taleb Ibrahim
Ibrahim Kocabas
Kevin Loughlin
Zarook Shareefdeen

Bachelor of Science in Chemical Engineering (BSCHE)

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.

The chemical engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET as well as by the UAE Ministry of Higher Education and Scientific Research.

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 Department of Chemical Engineering 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 chemical engineering student 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

Students must complete a minimum of 140 credits to graduate. After the third year, each student is required to devote at least five 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, materials science, transport phenomena, unit operations and process control.

Students seeking the BSCHE degree must satisfy the following requirements:

General Education Requirements (minimum of 44 credits)

- English language competency requirement: a minimum of 12 credits in 100-level or above writing (WRI)/English (ENG) courses, including ENG 204 and ENG 207
- Arabic heritage requirement: any course listed as an Arabic heritage requirement
- mathematics and/or statistics requirement: MTH 103 and MTH 104
- science requirement: CHM 101, PHY 101 and PHY 101L
- humanities and social sciences requirement: a minimum of 15 credits to be selected from the areas of humanities

and social sciences with at least six credits taken from the humanities area and at least six credits taken from the social sciences area. If the three credits in courses on Arabic 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
- information literacy requirement: satisfied through WRI 102 and ENG 204

Major Requirements (81 credits)

- CHE 205 Principles of Chemical Engineering I
- CHE 206 Principles of Chemical Engineering II
- CHE 215 Fluid Flow
- CHE 230 Materials Science
- CHE 240 Computer Methods in Chemical Engineering
- 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
- CHE 332 Engineering Economy
- CHE 350 Transport Phenomena Laboratory I
- CHE 397 Professional Training in Chemical Engineering
- CHE 412 Separation Processes
- CHE 421 Chemical Process Dynamics and Control
- CHE 432 Process Design Safety and Economics
- CHE 451 Transport Phenomena Laboratory II
- CHE 452 Unit Operations and Control Lab
- CHE 490 Senior Design Project I
- CHE 491 Senior Design Project II
- CHM 102 General Chemistry II
- CHM 215 Organic Chemistry I
- CHM 216 Organic Chemistry II
- CHM 217 Organic Chemistry Laboratory I
- CHM 331 Physical Chemistry II

- ELE 225 Electric Circuits and Devices
- MTH 203 Calculus III
- MTH 205 Differential Equations
- MTH 221 Linear Algebra
- NGN 110 Introduction to Engineering and Computing
- NGN 111 Introduction to Statistical Analysis
- PHY 102 General Physics II
- PHY 102L General Physics Laboratory II

Major Electives (minimum of 9 credits)

Students must complete a minimum of nine credits from any CHE 300- or 400-level courses not listed above. Students may complete one major engineering elective outside chemical engineering from the approved list available in the department.

Free Electives (minimum of 6 credits)

A minimum of six credits from any courses offered at or above the 100 level.

Proposed Course Sequence of Study (Years 2 and Later)

Bachelor of Science in Chemical Engineering (BSCHE)

SECOND YEAR (40 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CHE 205	Principles of Chemical Engineering I	2	NGN 111, CHM 101; pre/con MTH 104	MJR
	CHE 230	Materials Science	3	CHM 101	MJR
	CHM 102	General Chemistry II	4	CHM 101	MJR
	CHM 215	Organic Chemistry I	3	pre/con CHM 102	MJR
	MTH 203	Calculus III	3	MTH 104	MJR
	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	Total		18		
Spring	CHE 206	Principles of Chemical Engineering II	3	CHE 205; pre/con CHM 102	MJR
	CHE 215	Fluid Flow	3	CHE 205, PHY 101, 101L; pre/con MTH 203	MJR
	CHE 240	Computer Methods in Chemical Engineering	3	pre/con CHE 215, MTH 221	MJR
	CHM 216	Organic Chemistry II	3	CHM 215	MJR
	CHM 217	Organic Chemistry Laboratory I	1	CHM 215	MJR
	MTH 221	Linear Algebra	3	MTH 104	MJR
	Total		16		
Summer	MTH 205	Differential Equations	3	MTH 104	MJR
	ENG 207	English for Engineering	3	ENG 204 and junior standing	GER ELC 4 of 4
Total			6		

THIRD YEAR (37 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CHE 303	Chemical Engineering Thermodynamics I	3	CHE 206, MTH 203	MJR
	CHE 307	Heat Transfer	3	CHE 206, 215, MTH 205	MJR
	CHE 329	Mass Transfer	3	pre/con CHE 307	MJR
	ELE 225	Electric Circuits and Devices	3	PHY 102, 102L	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	Total		18		
Spring	CHE 304	Chemical Engineering Thermodynamics II	3	CHE 303	MJR
	CHE 321	Chemical Reaction Engineering	3	CHE 240; pre/con CHE 307, CHM 331	MJR
	CHE 332	Engineering Economy	3	pre/con CHE 412	MJR
	CHE 350	Transport Phenomena Laboratory I	1	NGN 111; pre/con CHE 303, 307	MJR
	CHE 412	Separation Processes	3	CHE 329; pre/con CHE 304	MJR
	CHM 331	Physical Chemistry II	3	CHE 303	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	Total		19		
Summer	CHE 397	Professional Training in Chemical Engineering	0	approval of training coordinator of major	MJR

FOURTH YEAR (32 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CHE 421	Chemical Process Dynamics and Control	3	CHE 240; pre/con CHE 412*	MJR
	CHE 432	Process Design, Safety and Economics	3	CHE 321, 412; pre/con CHE 332*	MJR
	CHE 451	Transport Phenomena Laboratory II	1	CHE 350, 321; pre/con CHE 412*	MJR
	CHE 490	Senior Design Project I	1	pre/con CHE 432	MJR
	MJE XXX	Major Elective	3		MJE 1 of 3
	ARA XXX	Arabic Heritage	3		GER ARA
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	Total		17		
Spring	CHE 452	Unit Operations and Control Lab	1	CHE 350; pre/con CHE 421	MJR
	CHE 491	Senior Design Project II	2	CHE 490; pre/con CHE 421	MJR
	MJE XXX	Major Elective	3		MJE 2 of 3
	MJE XXX	Major Elective	3		MJE 3 of 3
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	FRE XXX	Free Elective	3		FRE 2 of 2
	Total		15		

*These prerequisites will be in effect beginning with the 2008–2009 academic year. Current prerequisites are published in the Course Descriptions section of this catalog.

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Department of Civil Engineering

Sami Tabsh, Head

Faculty

Jamaleldin Abdalla
Akmal Abdelfatah
Ghassan Abu-Lebdeh
Khaled Al-Shibli
Adil Al-Tamimi
Mousa Attom
Mohammad-Reza Banan
Salwa Beheiry
Magdi El-Emam
Sameh El-Sayegh
Rami Hawileh
Hayder Rasheed
Isaac Wait

Bachelor of Science in Civil Engineering (BSCE)

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 program is accredited by the Engineering Accreditation Commission (EAC) of ABET as well as by the UAE Ministry of Higher Education and Scientific Research.

The civil engineering 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 multifaceted problems
- apply 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 multidisciplinary team
- pursue successful employment and lifelong 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 multidisciplinary 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

Degree Requirements

Students must complete a minimum of 140 credits to graduate. After the third year, each student is required to devote at least five 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 the BSCE degree must satisfy the following requirements:

General Education Requirements (44 credits)

- English language competency requirement: a minimum of 12 credits in 100-level or above writing (WRI)/ English (ENG) courses, including ENG 204 and ENG 207
- Arabic heritage requirement: any course listed as an Arabic heritage requirement
- mathematics and/or statistics requirement: MTH 103 and MTH 104
- science requirement: CHM 101, PHY 101 and PHY 101L
- humanities and social sciences requirement: a minimum of 15 credits to be selected from the areas of humanities and social sciences with at least six credits taken from the humanities area and at least six credits taken from

the social sciences area. If the three credits in courses on Arabic 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
- information literacy requirement: satisfied through WRI 102 and ENG 204

Major Requirements (81 credits)

- 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 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 and Water 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 Water Resources Engineering
- CVE 351 Environmental Engineering
- CVE 363 Highway Design
- CVE 367 Project Estimating, Planning and Control
- CVE 397 Professional Training in Civil Engineering
- CVE 490 Civil Engineering Design Project I
- CVE 491 Civil Engineering Design Project II
- MTH 203 Calculus III
- MTH 205 Differential Equations
- MTH 221 Linear Algebra
- NGN 110 Introduction to Engineering and Computing
- NGN 111 Introduction to Statistical Analysis
- PHY 102 General Physics II
- PHY 102L General Physics Laboratory II

Major Electives

(minimum of 9 credits)

- CVE 410 Computer Methods in Structural Analysis and Design
- CVE 411 Structural Concrete Design
- CVE 413 Concrete Bridge Design
- CVE 437 Advanced Concrete Technology
- CVE 442 Advanced Foundation Engineering
- CVE 446 Geotechnical Dam Engineering
- CVE 450 Physical and Chemical Processes in Environmental Engineering
- CVE 456 Traffic Engineering
- CVE 457 Airport Planning and Design
- CVE 463 Construction Management
- CVE 468 Systems Construction Management, Scheduling and Control
- CVE 494 Special Topics in Civil Engineering

Free Electives

(minimum of 6 credits)

A minimum of six credits from any courses offered at or above the 100 level.

Proposed Course Sequence of Study (Years 2 and Later)

Bachelor of Science in Civil Engineering (BSCE)

SECOND YEAR (44 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	CVE 211	Fund. of Graphics and Computer Programming	3	NGN 111	MJR
	CVE 220	Statics	3	PHY 101, 101L	MJR
	CVE 241	Elementary Surveying	3	MTH 104; pre/con CVE 242	MJR
	CVE 242	Field Plane Surveying	1	pre/con CVE 241	MJR
	CVE 267	Civil Engineering Cost Analysis	3	NGN 111	MJR
	MTH 205	Differential Equations	3	MTH 104	MJR
	Total		19		
Spring	CVE 202	Construction Materials Lab	1	pre/con CVE 221	MJR
	CVE 221	Construction Material and Quality Control	3	CHM 101; pre/con CVE 223 and 202	MJR
	CVE 223	Mechanics of Materials	3	CVE 220 or MCE 220 or MCE 224	MJR
	CVE 240	Fluid Mechanics	3	MTH 104, CVE 220	MJR
	CVE 263	Urban Transportation Planning	3	CVE 241, NGN 111	MJR
	MTH 221	Linear Algebra	3	MTH 104	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	Total		19		
Summer	ENG 207	English for Engineering	3	ENG 204 and junior standing	MJR/GER ELC 4 of 4
	HSS XXX	Humanities/Social Science	3		GER HSS 2 of 5
	Total		6		

THIRD YEAR (32 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	pre/con CVE 331	MJR
	CVE 331	Geotechnical Engineering Principles	3	CVE 223; pre/con CVE 303	MJR
	CVE 341	Water Resources Engineering	3	CVE 240, PHY 102 and 102L	MJR
	MTH 203	Calculus III	3	MTH 104	MJR
	Total		13		
Spring	CVE 304	Environmental and Water Engineering Lab	1	pre/con CVE 351	MJR
	CVE 312	Structural Steel Design	3	CVE 301	MJR
	CVE 313	Reinforced Concrete Design	3	CVE 301 and 221	MJR
	CVE 325	Computational Methods	3	CVE 211, MTH 205; pre/con MTH 221	MJR
	CVE 351	Environmental Engineering	3	CHM 101; pre/con CVE 304 and 341	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	Total		19		
Summer	CVE 397	Professional Training in Civil Engineering	0	approval of training coordinator of major	MJR

FOURTH YEAR (33 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	CVE 310	Fundamentals of Structural Dynamics	3	CVE 301, MTH 205	MJR
	CVE 367	Project Estimating, Planning and Control	3	CVE 267	MJR
	CVE 363	Highway Design	3	CVE 263	MJR
	CVE 490	Civil Engineering Design Project I	1	senior standing	MJR
	MJE XXX	Major Elective	3		MJE 1 of 3
	FRE XXX	Free Elective	3		FRE 2 of 2
	Total		16		
Spring	CVE 333	Geotechnical Engineering Design	3	CVE 331	MJR
	CVE 491	Civil Engineering Design Project II	2	CVE 490	MJR
	MJE XXX	Major Elective	3		MJE 2 of 3
	MJE XXX	Major Elective	3		MJE 3 of 3
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	ARA XXX	Arabic Heritage	3		GER ARA
	Total		17		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Department of Computer Engineering

Armin Eberlein, Head

Faculty

Rana Ahmed (on sabbatical 2007–2008)

Abdul-Rahman Al-Ali

Fadi Aloul

Taha Landolsi

Tarik Ozkul

Ghassan Qadah

Assim Sagahyroon

Imran Zuolkernan

Bachelor of Science in Computer Engineering (BSCoE)

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 computer engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET as well as by the UAE Ministry of Higher Education and Scientific Research.

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 multidisciplinary 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 multidisciplinary teams

Degree Requirements

Students must complete a minimum of 140 credits to graduate. After the third year, each student is required to devote at least five 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 BSCoE degree must complete the following requirements:

General Education Requirements (44 credits)

- English language competency requirement: a minimum of 12 credits in 100-level or above writing (WRI)/ English (ENG) courses, including ENG 204 and ENG 207

- Arabic heritage requirement: any course listed as an Arabic heritage requirement
- mathematics and/or statistics requirement: MTH 103 and MTH 104
- science requirement: CHM 101, PHY 101 and PHY 101L
- humanities and social sciences requirement: a minimum of 15 credits to be selected from the areas of humanities and social sciences with at least six credits taken from the humanities area and at least six credits taken from the social sciences area. If the three credits in courses on Arabic 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
- information literacy requirement: satisfied through WRI 102 and ENG 204

Major Requirements (78 credits)

- COE 210 Programming I
- COE 211 Programming II
- COE 221 Digital Systems
- COE 311 Data Structures and Algorithms
- COE 312 Software Design for Engineers
- 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 Engineers
- MTH 205 Differential Equations
- MTH 213 Discrete Mathematics
- MTH 221 Linear Algebra
- NGN 110 Introduction to Engineering and Computing
- NGN 111 Introduction to Statistical Analysis
- PHY 102 General Physics II
- PHY 102L General Physics Laboratory II

Major Electives (minimum of 12 credits)

Four three-credit courses from the approved technical elective courses listed below must be completed. At least three of the four courses should be in computer engineering.

- COE 422 Database Systems
- COE 423 Computer Networks II
- COE 425 Modern Computer Organizations
- COE 427 Internet Computing
- COE 428 VLSI Design
- COE 431 Industrial Computer Systems
- 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 in Computer Engineering
- CMP 341 Computational Methods
- CMP 433 Artificial Intelligence
- CMP 435 Computer Security
- ELE 311 Electromagnetics
- ELE 432 Medical Instrumentation I
- ELE 441 Microelectronic Devices

Free Electives (minimum of 6 credits)

A minimum of six credits of any courses offered at or above the 100 level.

Proposed Course Sequence of Study (Years 2 and Later)

Bachelor of Science in Computer Engineering (BSCoE)

SECOND YEAR (42 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COE 210	Programming I	3	MTH 103	MJR
	COE 221	Digital Systems	4	PHY 102, 102L	MJR
	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	ELE 211	Electric Circuits I	3	PHY 102, 102L	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	MCE 225	Statics and Dynamics for Computer Engineers	2	MTH 104, PHY 101, 101L	MJR
Total			18		
Spring	COE 211	Programming II	3	COE 210	MJR
	COE 331	Microprocessors	4	COE 210 and 221 or CMP 120	MJR
	MTH 205	Differential Equations	3	MTH 104	MJR
	MTH 221	Linear Algebra	3	MTH 104	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	MTH 213	Discrete Mathematics	3	MTH 102 or 103	MJR
Total			19		
Summer	ENG 207	English for Engineering	3	ENG 204 and junior standing	GER ELC 4 of 4
	ELE 241	Electronics I	3	ELE 211; pre/con ELE 241L	MJR
	ELE 241L	Electronics I Lab	1	pre/con ELE 241	MJR
Total			5		

THIRD YEAR (34 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	COE 311	Data Structures and Algorithms	3	COE 211, and MTH 213 or CMP 213	MJR
	COE 370	Communications Networks	3	COE 221 or CMP 210, MTH 104	MJR
	COE 312	Software Design for Engineers	2	COE 211 and 331	MJR
	ELE 323	Signal Processing	3	MTH 205, and ELE 211 or 225	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	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
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	COE 360	Probability and Stochastic Processes	3	NGN 111 or STA 201, and ELE 323 or MTH 351 or pre/con ELE 321	MJR
	Total		18		
Summer	COE 397	Professional Training in Computer Engineering	0	approval of training coordinator of 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 or CMP 232	MJR
	COE 424	Advanced Digital System Design	3	COE 341	MJR
	COE 490	Design Project I	1	senior standing	MJR
	MJE XXX	Major Elective	3		MJE 1 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	Total		16		
Spring	MJE XXX	Major Elective	3		MJE 2 of 4
	COE 491	Design Project II	2	COE 490	MJR
	MJE XXX	Major Elective	3		MJE 3 of 4
	MJE XXX	Major Elective	3		MJE 4 of 4
	ARA XXX	Arabic Heritage	3		GER ARA
	FRE XXX	Free Elective	3		FRE 2 of 2
	Total		17		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Minor in Computer Engineering

Students enrolling in the computer engineering minor should have completed a minimum of 60 credit hours of course work and be in good academic standing.

The following rules apply:

- The minor consists of a minimum of 20 credit hours, including at least 10 credit hours in courses at or above the 300 level in computer engineering.
- At least 10 credits of the minor must be taken in residence at AUS.
- At least seven credits of the 10 credits at or above the 300 level must be taken in residence at AUS.
- Free electives may be taken towards the minor.
- A grade of at least C- in each course and a GPA of at least 2.0 must be earned in the courses taken to satisfy the minor. Students seeking a minor in computer engineering must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (11 credits)

- COE 210 Programming I
- COE 221 Digital Systems
- COE 331 Microprocessors

Minor Electives (minimum of 9 credits)

Depending upon the student's interests in a specific area (option) in computer engineering, the following courses should be completed:

Option 1—Networking

- COE 370 Communication Networks
- COE 371 Computer Networks I
- COE 4XX

Option 2—Hardware

- COE 341 Computer Architecture and Organization
- COE 412 Embedded Systems
- COE 4XX

Option 3—Software (not open to computer science majors)

- COE 211 Programming II
- COE 311 Data Structures and Algorithms
- COE 381 Operating Systems or COE 4XX

Department of Electrical Engineering

Mohamed El-Tarhuni, Head

Faculty

Yousef Al-Assaf
Hasan Al-Nashash
Lutfi Albasha
Khaled Assaleh
Mourad Barkat
Rached Dhaouadi
Ayman El-Hag
Mouncef Gabbouj
Mohamed Hassan
Baquer Mazhari
Duco Willem J. Pulle
Nasser Qaddoumi
Habib-ur Rehman
Aydin Yesildirek

Bachelor of Science in Electrical Engineering (BSEE)

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 program is accredited by the Engineering Accreditation Commission (EAC) of ABET as well as by the UAE Ministry of Higher Education and Scientific Research.

The electrical engineering curriculum is a four-year program leading to a Bachelor of Science in Electrical Engineering (BSEE). 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's 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

Graduates of the electrical engineering program 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

Degree Requirements

Students must complete a minimum of 140 credits to graduate. After the third year, each student is required to devote at least five 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 the BSEE degree must satisfy the following requirements:

General Education Requirements (44 credits)

- English language competency requirement: a minimum of 12 credits in 100-level or above writing (WRI)/English (ENG) courses, including ENG 204 and ENG 207
- Arabic heritage requirement: any course listed as an Arabic heritage requirement
- mathematics and/or statistics requirement: MTH 103 and MTH 104
- science requirement: CHM 101, PHY 101 and PHY 101L
- humanities and social sciences requirement: a minimum of 15 credits to be selected from the areas of humanities and social sciences with at least six credits taken from the humanities area and at least six credits taken from the social sciences area. If the three credits in courses on Arabic 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
- information literacy requirement: satisfied through WRI 102 and ENG 204

Major Requirements (77 credits)

- 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
- NGN 110 Introduction to Engineering and Computing
- NGN 111 Introduction to Statistical Analysis
- MCE 224 Engineering Mechanics—Statics and Dynamics
- MTH 203 Calculus III
- MTH 205 Differential Equations
- MTH 221 Linear Algebra
- PHY 102 General Physics II
- PHY 102L General Physics Laboratory II
- ELE 441 Microelectronic Devices
- ELE 444 Control Systems II
- ELE 451 Wireless Communications
- ELE 452 Digital Communications
- ELE 453 Microwave Engineering
- ELE 454 Antennas and Wave Propagation
- ELE 455 Digital Image Processing
- ELE 457 Satellite Communications
- ELE 458L Communications Systems Lab
- ELE 459 Introduction to Radar Systems
- ELE 471 Digital Control Systems
- ELE 472 Nonlinear Control
- ELE 473 Industrial Instrumentation and Control
- ELE 476L Instrumentation and Control Systems Lab
- ELE 481 Power Systems Protection
- ELE 482 Electric Power Distribution Systems
- ELE 483 Power System Operation
- ELE 484 Control of AC Machines
- ELE 485 Power Electronics
- ELE 486 Electric Drives
- ELE 488L Power Engineering Lab
- ELE 494 Special Topics in Electrical Engineering
- ELE 496 Independent Study in Electrical Engineering

Major Electives (minimum of 13 credits)

A minimum of 13 credits of elective courses, including a one-credit laboratory, from the following approved list of major electives must be completed. Students may complete one major engineering elective outside electrical engineering (ELE) from the approved list available in the department.

- COE 370 Communications Networks
- ELE 426 Imaging Systems
- ELE 432 Medical Instrumentation I
- ELE 433 Medical Instrumentation II
- ELE 439L Medical Electronics Systems Lab

Free Electives

(minimum of 6 credits)

A minimum of six credits of any courses offered at AUS at or above the 100 level.

Proposed Course Sequence of Study (Years 2 and later)
Bachelor of Science in Electrical Engineering (BSEE)

SECOND YEAR (41 credit hours)					
Term	# Course	Course Title	Credit	(Prerequisite(s)	Fulfills
Fall	COE 210	Programming I	3	MTH 103	MJR
	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	ELE 211	Electric Circuits I	3	PHY 102, 102L	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	ELE 212	Electric Circuits II	3	ELE 211, MTH 205	MJR
	ELE 241	Electronics I	3	ELE 211; pre/con ELE 241L	MJR
	ELE 241L	Electronics I Lab	1	pre/con ELE 241	MJR
	ELE 251	Electrical Energy Conversion	3	pre/con ELE 212	MJR
	COE 221	Digital Systems	4	PHY 102, 102L	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	Total		17		
Summer	MCE 224	Engineering Mechanics--Statics and Dynamics	3	MTH 104, PHY 101, 101L	MJR
	ENG 207	English for Engineering	3	ENG 204 and junior standing	GER ELC 4 of 4
	Total		6		

THIRD YEAR (35 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ELE 311	Electromagnetics	3	MTH 203, 205, PHY 102, 102L	MJR
	ELE 321	Signals and Systems	3	ELE 212	MJR
	ELE 341	Electronics II	3	ELE 241	MJR
	ELE 341L	Electronics II Lab	1	pre/con ELE 341	MJR
	ELE 353	Control Systems I	3	ELE 212; pre/con MCE 224 or 225	MJR
	ELE 371	Power Systems Analysis	3	ELE 251, pre/con MTH 221	MJR
	ELE 371L	Electric Machines and Power Systems Lab	1	pre/con ELE 371	MJR
	Total		17		
Spring	ELE 332L	Measurements and Instrumentation Lab	1	ELE 341	MJR
	MJE XXX	Major Elective	3		MJE 1 of 5
	ELE 353L	Control Systems I Lab	1	ELE 353	MJR
	ELE 360	Probability and Stochastic Processes	3	NGN 111 or STA 201, and ELE 323 or MTH 351 or pre/con ELE 321	MJR
	ELE 361	Communications	3	ELE 321 or 323; pre/con ELE 360	MJR
	COE 331	Microprocessors	4	COE 221, and COE 210 or CMP 210	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	Total		18		
Summer	ELE 397	Professional Training in Electrical Engineering	0	approval of training coordinator of 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
	MJE XXX	Major Elective	3		MJE 2 of 5
	MJE XXX	Major Elective	3		MJE 3 of 5
	ELE 490	Electrical Engineering Design Project I	2	senior standing or permission of department	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	Total		18		
Spring	MJE XXX	Major Elective	3		MJE 4 of 5
	MJE XXX	Major Elective Lab	1		MJE 5 of 5
	ELE 491	Electrical Engineering Design Project II	2	ELE 490	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	ARA XXX	Arabic Heritage	3		GER ARA
	FRE XXX	Free Elective	3		FRE 2 of 2
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MJE: Major Elective; MJR: Major Requirement; MPT: Mathematics Placement Test; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Minor in Electrical Engineering

Students enrolling in the electrical engineering minor should have normally completed a minimum of 60 credits of course work and be in good academic standing.

The following rules apply:

- The minor consists of a minimum of 20 credits, including at least 10 credits in courses at or above the 300 level in electrical engineering.
- At least 10 credits of the minor must be taken in residence at AUS.

- At least seven credits of the 10 credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in electrical engineering must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (10 credits)

- ELE 212 Electric Circuits II
- ELE 241 Electronics I
- ELE 241L Electronics I Lab
- ELE 251 Electrical Energy Conversion

Minor Electives (minimum of 10 credits)

- three ELE courses at or above the 300 level with at least three credits in a 400-level ELE course
- any 300-level ELE lab

Department of Mechanical Engineering

Mohammad-Ameen Jarrah, Head

Faculty

Mamoun Abdel-Hafez
Saad Ahmed
Murad Al-Otoum
Ibrahim Deiab
Hany El-Kadi
Ameen El-Sinawi
Mohamed A. Gadalla
Kinda Khalaf
Ahmet Sahin
Sigit Santosa
Murad Shibli
Ahmad Varvani-Farahani
Essam M. Wahba

Bachelor of Science in Mechanical Engineering (BSME)

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.

The mechanical engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET as well as by the UAE Ministry of Higher Education and Scientific Research.

Mechanical engineering provides an excellent broad education for today's technological world. Mechanical engineers model, analyze, test and manufacture engines that power ground as well as aerospace vehicles. They also design, operate and modify 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 BSME curriculum produces high-quality graduates whose work is notable for its breadth and technical excellence. Graduates have the ability to work logically, accurately and efficiently; to gather and use information effectively; and 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 multidisciplinary 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

Degree Requirements

Students must complete a minimum of 140 credits to graduate. After the third year, each student is normally required to devote at least five 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 the capstone course sequence.

Students seeking the BSME degree must satisfy the following requirements:

General Education Requirements (44 credits)

- English language competency requirement: a minimum of 12 credits in 100-level or above writing (WRI)/

English (ENG) courses, including ENG 204 and ENG 207

- Arabic heritage requirement: any course listed as an Arabic heritage requirement
- mathematics and/or statistics requirement: MTH 103 and MTH 104
- science requirement: CHM 101, PHY 101 and PHY 101L
- humanities and social sciences requirement: a minimum of 15 credits to be selected from the areas of humanities and social sciences with at least six credits taken from the humanities area and at least six credits taken from the social sciences area. If the three credits in courses on Arabic 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
- Information literacy requirement: satisfied through WRI 102 and ENG 204

Major Requirements (78 credits)

- ELE 225 Electric Circuits and Devices
- 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
- NGN 110 Introduction to Engineering and Computing
- NGN 111 Introduction to Statistical Analysis
- PHY 102 General Physics II
- PHY 102L General Physics Laboratory II

Major Electives (minimum of 12 credits)

Four technical elective courses (minimum of 12 credits) in the major areas of mechanical engineering must be completed. Two courses (minimum of six credits) should be from the applied mechanics area and two courses (minimum of six credits) should be from the thermofluids area.

Applied Mechanics

- MCE 416 Kinematics and Dynamics of Machinery
- MCE 423 Mechanical Vibrations
- MCE 434 Fundamentals of Computer-

Aided Design and Manufacturing

- MCE 439 Computer Integrated Manufacturing
- MCE 443 Introduction to Engineering Fracture Mechanics
- MCE 464 Introduction to Robotics
- MCE 466 Introduction to Mechatronics
- MCE 473 Applied Finite Element Analysis
- MCE 477 Composite Materials
- MCE 494 Special Topics in Mechanical Engineering
- MCE 496 Independent Study in Mechanical Engineering

Thermofluids

- MCE 445 Energy Systems
- MCE 446 Refrigeration and Air Conditioning
- MCE 447 Internal Combustion Engines
- MCE 450 Energy Conservation and Management
- MCE 473 Applied Finite Elements Analysis
- MCE 487 Turbomachines
- MCE 488 Introduction to Computational Fluid Dynamics
- MCE 494 Special Topics in Mechanical Engineering
- MCE 496 Independent Study in Mechanical Engineering

Free Electives (minimum of 6 credits)

A minimum of six credits of any courses offered at or above the 100 level.

Proposed Sequence of Study (Years 2 and Later)
Bachelor of Science in Mechanical Engineering (BSME)

SECOND YEAR (42 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	MTH 205	Differential Equations	3	MTH 104	MJR
	MCE 215	Engineering Drawing and Workshop	3		MJR
	MCE 220	Statics	3	PHY 101, 101L	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 224	MJR
	MCE 234	Computer Applications in Mechanical Engineering	3		MJR
	MCE 240	Fluid Mechanics	3	MCE 220, MTH 104	MJR
	MCE 241	Thermodynamics I	3	PHY 101, 101L	MJR
	MTH 203	Calculus III	3	MTH 104	MJR
	Total		18		
Summer	ENG 207	English for Engineering	3	ENG 204 and junior standing	GER ELC 4 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	Total		6		

THIRD YEAR (36 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	MTH 221	Linear Algebra	3	MTH 104	MJR
	MCE 321	Mechanical Design I	3	MCE 215 and 223, NGN 111	MJR
	MCE 344	Heat Transfer	3	MCE 240, 241	MJR
	MCE 341	Thermodynamics II	3	MCE 241	MJR
	ELE 225	Electric Circuits and Devices	3	PHY 102, 102L	MJR
	Total		18		
Spring	FRE XXX	Free Elective	3		FRE 2 of 2
	MCE 311	Engineering Measurements	3	MCE 222 and 240, ELE 225	MJR
	MCE 322	Mechanical Design II	3	MCE 321; pre/con MCE 331	MJR
	MCE 325	Computational Methods	3	MTH 205, MCE 234, pre/con MTH 221	MJR
	MCE 328	Dynamic Systems	3	MCE 222 and 234, ELE 225	MJR
	MCE 331	Manufacturing Processes	3	MCE 215, 223, 230	MJR
	Total		18		
Summer	MCE 397	Professional Training in Mechanical Engineering	0	approval of training coordinator of major	MJR

FOURTH YEAR (31 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MCE 410	Control Systems	3	MCE 311, 328	MJR
	MCE 482	Intermediate Fluid Mechanics	3	MCE 240, 241; pre/con MCE 325, MTH 203	MJR
	MJE XXX	Major Elective	3		MJE 1 of 4
	MCE 490	Design Project I	2	senior standing	MJR
	MJE XXX	Major Elective	3		MJE 2 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	Total		17		
Spring	MJE XXX	Major Elective	3		MJE 3 of 4
	MCE 491	Design Project II	2	MCE 490	MJR
	MJE XXX	Major Elective	3		MJE 4 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	ARA XXX	Arabic Heritage	3		GER
	Total		14		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Minor in Mechanical Engineering

Students enrolling in the mechanical engineering minor should have normally completed a minimum of 60 credits of course work 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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.

- Free electives can be taken toward the minor.
- 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 seeking a minor in mechanical engineering must complete the following courses or their equivalent. All course pre-requisites must be satisfied.

Minor Requirements (9 credits)

Student can choose one of the following lists of courses:

Option 1:

- MCE 222 Dynamics or MCE 224 Engineering Mechanics–Statics and Dynamics

- MCE 223 Mechanics of Materials
- MCE 240 Fluid Mechanics or MCE 241 Thermodynamics I

Option 2:

- MCE 223 Mechanics of Materials or MCE 222 Dynamics or MCE 224 Engineering Mechanics–Statics and Dynamics
- MCE 240 Fluid Mechanics
- MCE 241 Thermodynamics I

Minor Electives

(minimum of 9 credits)

Any three mechanical engineering courses at or above the 300 level.

Department of Computer Science

Faculty

Gerassimos Barlas

Joachim Diederich

Khaled El-Fakih (on sabbatical 2007–2008)

Jalal Kawash

Kassem Saleh

Tamer Shanableh

Bachelor of Science in Computer Science (BSCS)

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 computer science program is accredited by the Computing Accreditation Commission (CAC) of ABET as well as by the UAE Ministry of Higher Education and Scientific Research.

The program is designed to meet the growing needs for computer science experts in the rapidly evolving 21st century economy. It provides graduates with a strong computer science base that will enable them to capitalize on 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. A summer internship experience is required.

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

Degree Requirements

Students must complete a minimum of 130 credits to graduate. These should include a minimum of 48 credits of general education requirements, 58 credits of major requirements, a minimum of 12 credits of computer science elective courses and a minimum of 12 credits of free electives. After the third year, each student is normally required to devote at least five weeks to the summer internship prior to graduation. In the last year, each student is required to complete a senior design project.

Students seeking the BS in Computer Science degree must complete the following requirements:

General Education Requirements (minimum of 48 credits)

- English language competency requirement: a minimum of 12 credits in 100-level or above writing (WRI)/English (ENG) courses, including ENG 204 and ENG 207
- Arabic heritage requirement: any course listed as an Arabic heritage requirement
- mathematics and/or statistics requirement: MTH 103 and MTH 104
- science requirement: a minimum of 12 credits from CHM, BIO, ENV or PHY. Two out of the three courses must be in the same area.
- humanities and social sciences requirement: a minimum of 15 credits to be selected from the areas of humanities and social sciences with at least six credits taken from the humanities area and at least six credits taken from the social sciences area. If the three credits in courses on Arabic 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 courses throughout the computer science curriculum
- information literacy requirement: satisfied through WRI 102 and ENG 204

Major Requirements (58 credits)

- 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 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 341/MTH 341 Computational Methods

- CMP 350 Introduction to Software Engineering
- CMP 397 Professional Training in Computer Science
- CMP 416 Internet and Network Computing
- CMP 490 Project in Computer Science I
- CMP 491 Project in Computer Science II
- MTH 221 Linear Algebra
- NGN 110 Introduction to Engineering and Computing
- STA 201 Introduction to Statistics for Engineering and Natural Sciences

Major Electives (minimum of 12 credits)

- CMP 352 Human Computer Interaction
- CMP 394/494 Special Topics in Computer Science
- CMP 412 Introduction to Distributed Systems
- CMP 415 Computer Networks
- CMP 417 Parallel Computing Systems
- CMP 430 Computer Graphics
- CMP 432 Image Processing

- CMP 433 Artificial Intelligence
- CMP 434 Multimedia Compression
- CMP 435 Computer Security
- CMP 437 Introduction to Neural Networks
- CMP 440 Machine Learning
- CMP 450 Object-oriented Software Engineering
- CMP 452 Compiler Construction
- CMP 454 Software Testing and Quality Engineering
- CMP 470 Formal Languages and Computability
- CMP 472 Multimedia Computing
- CMP 473 Game Programming
- COE 370 Communications Networks
- COE 423 Computer Networks II

Free Electives (minimum of 12 credits)

A minimum of 12 credits of any courses offered at or above the 100 level.

Proposed Course Sequence of Study
Bachelor of Science Degree in Computer Science (BSCS)

FIRST YEAR (32 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MTH 103	Calculus I	3	MTH 001 or MPT	GER MTH 1 of 2
	SCI XXX	Science	4		GER SCI 1 of 3
	WRI 101	Academic Writing	3	WRI 001 or EPT 4	GER ELC 1 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	NGN 110	Introduction to Engineering and Computing	2	admission to CEN	MJR
	Total		15		
Spring	MTH 104	Calculus II	3	MTH 103	GER MTH 2 of 2
	SCI XXX	Science	4		GER SCI 2 of 3
	ARA XXX	Arabic Heritage	3		GER ARA
	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	CMP 120	Introduction to Computer Science I	4		MJR
	Total		17		

SECOND YEAR (35 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	MTH 221	Linear Algebra	3	MTH 104	MJR
	CMP 210	Digital Systems	3	CMP 120	MJR
	CMP 211	Digital Systems Laboratory	1	pre/con CMP 210 or COE 221	MJR
	CMP 213/MTH 213	Discrete Structures/Discrete Mathematics	3	MTH 103/MTH 103 or 102	MJR
	CMP 220	Introduction to Computer Science II	3	CMP 120; pre/con MTH 103	MJR
	Total		16		
Spring	FRE XXX	Free Elective	3		FRE 1 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	SCI XXX	Science	4		GER SCI 3 of 3
	STA 201	Introduction to Statistics for Engineering and Natural Sciences	3	MTH 103 or 111	MJR
	CMP 232	Data Structures and Algorithms	3	CMP 220; pre/con CMP 213 or MTH 213	MJR
	CMP 235	Ethics for Computing and Information Technology	3	WRI 102	MJR
	Total		19		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	ENG 207	English for Engineering	3	ENG 204 and junior standing	GER ELC 4 of 4
	CMP 240	Introduction to Computer Systems	3	CMP 210 or COE 221	MJR
	CMP 320	Database Systems	3	CMP 232 or 233 or COE 311	MJR
	CMP 321	Programming Languages Laboratory	3	CMP 232	MJR
	CMP 340	Design and Analysis of Algorithms	3	CMP 232 or COE 311, and STA 201 or NGN 111	MJR
	Total		18		
Spring	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	CMP 310	Introduction to Operating System	3	CMP 232 or COE 311, and CMP 240 or COE 331	MJR
	CMP 341/MTH 341	Computational Methods	3	pre/con MTH 221	MJR
	CMP 350	Introduction to Software Engineering	3	CMP 232 or 233 or COE 311	MJR
	MJE XXX	Major Elective	3		MJE 1 of 4
	Total		15		
Summer	CMP 397	Professional Training in Computer Science		approval of training coordinator of major	MJR

FOURTH YEAR (30 credit hours)					
Term	Course	Course	Credit	Prerequisite(s)	Fulfills
Fall	CMP 416	Internet and Network Computing	3	CMP 310 or COE 381, and CMP 320 or COE 422	MJR
	CMP 490	Project in Computer Science I	3	CMP 350 or COE 420	MJR
	MJE XXX	Major Elective	3		MJE 2 of 4
	MJE XXX	Major Elective	3		MJE 3 of 4
	FRE XXX	Free Elective	3		FRE 2 of 4
	Total		15		
Spring	CMP 491	Project in Computer Science II	3	CMP 490	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	MJE XXX	Major Elective	3		MJE 4 of 4
	FRE XXX	Free Elective	3		FRE 3 of 4
	FRE XXX	Free Elective	3		FRE 4 of 4
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Minor in Computer Science

Students enrolling in the computer science minor should have normally completed a minimum of 60 credits of course work and be in good academic standing. A minor in computer science is open to all AUS students.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in computer science must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (9–12 credits)

- School of Architecture and Design students: CMP 120, CMP 220, CMP 430 and CMP 472
- College of Arts and Sciences students: CMP 220, CMP 232 and CMP 340
- School of Business and Management students: CMP 220, CMP 232 and CMP 340
- College of Engineering students: CMP 321, CMP 340 and CMP 416

Minor Electives (6–9 credits)

Any computer science courses offered at the 300 level or above. Approval of the head of the Department of Computer Science is required.

Minor in Computer Game Programming

The computer game programming minor is designed to help students:

- develop computer games and graphics intensive applications
- develop multimedia applications for mobile devices and the World Wide Web
- learn the latest web technologies

Students enrolling in the minor in computer game programming should have normally completed a minimum of 60 credits of course work and be in good academic standing. A minor in computer game programming is open to all AUS students.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in computer game programming must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (12 credits)

- CMP 232 Data Structures and Algorithms
- CMP 352 Human Computer Interaction
- CMP 472 Multimedia Computing
- CMP 473 Game Programming

Minor Electives (minimum of 6 credits)

- CMP 430 Computer Graphics
- CMP 432 Image Processing
- CMP 433 Artificial Intelligence
- CMP 434 Multimedia Compression
- CMP 440 Machine Learning
- CMP 494 Special Topics in Computer Game Programming
- COE 434 Mobile Computing

Minor in Software Engineering and Security

The software engineering and security minor exposes students to contemporary topics related to both software and security. Students enrolling in the minor in software engineering and security should have normally completed a minimum of 60 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free and major electives can be taken toward the minor.
- 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 seeking a minor in software engineering and security must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (12 credits)

- CMP 233 Introduction to Programming and Data Structures
- CMP 350 Introduction to Software Engineering
- CMP 435 Computer Security
- CMP 454 Software Testing and Quality Engineering

Minor Electives (minimum of 6 credits)

- CMP 352 Human Computer Interaction
- CMP 450 Object-Oriented Software Engineering
- CMP 494 Special Topics in Computer Science

Other Minors Offered by the College of Engineering

Minor in Aerospace Engineering

Saad Ahmed, Coordinator

Aerospace engineering deals with the analysis, design and performance of flight vehicles such as transport and military aircraft, helicopters, missiles and launch vehicles (rockets), and spacecraft such as the space shuttle. Aerospace engineering comprises several disciplines, namely aerodynamics, flight dynamics and control, avionics and navigation, aerospace propulsion, aerospace structures and materials, and aerospace manufacturing among others. Aerospace engineers apply their knowledge and skills to the design of aircraft components (e.g., wings and fuselages), systems (e.g., control systems) or spacecraft components and systems. The AUS minor program focuses on aeronautical engineering.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in aerospace engineering must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (12 credits)

- ARE 350 Introduction to Aerospace Engineering
- ARE 415 Aircraft Stability and Control
- ARE 470 Aircraft Structures
- MCE 482 Intermediate Fluid Mechanics

Minor Electives (minimum of 6 credits)

- ARE 454 Thermal Design Issues for Aerospace Systems
- ARE 475 Aircraft Design
- ARE 486 Compressible Flow
- ARE 494 Special Topics in Aerospace Engineering
- ARE 496 Independent Study in Aerospace Engineering
- MCE 473 Applied Finite Element Analysis
- MCE 477 Composite Materials
- MCE 487 Turbomachines
- MCE 488 Introduction to Computational Fluid Dynamics

Minor in Biomedical Engineering

Hasan Al-Nashash, Coordinator

Biomedical engineering is a multidisciplinary field that combines principles of physics, chemistry and biology with engineering sciences to study and advance knowledge in biology, physiology and human health. A biomedical engineer can develop diagnostic instruments, novel materials, drug delivery systems or informatics, for example. The main objective for a biomedical engineer is to improve the quality of life for patients, and to help in the advancement of health professions.

Students enrolling in the biomedical engineering minor should have normally completed a minimum of 60 credits of course work and be in good academic standing.

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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in

biomedical engineering must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (14 credits)

- BIO 101 General Biology I
- BIO 210 Human Anatomy and Physiology for Engineers
- BME 310 Biomedical Ethics

Two of the following three courses:

- BME 410 Biomedical Systems Modeling I
or CHE 481 Fundamentals of Biomedical Engineering
- BME 420 Biomedical Electronics I
or ELE 432 Medical Instrumentation I
- BME 430 Biomechanics

Minor Electives (minimum of 4 credits)

- BME 411 Biomedical Systems Modeling II
- BME 42 Biomedical Electronics II
- BME 422 Biomedical Imaging
- BME 431 Biomaterials
- BME 432 Biothermofluids
- BME 440 Bioinformatics
- BME 494 Special Topics in Biomedical Engineering
- BME 496 Independent Study in Biomedical Engineering
- COE 412 Embedded Systems
- ELE 455 Digital Image Processing

Minor in Engineering Management

Hazim El-Baz, Coordinator

The engineering management minor provides students the opportunity to learn how to manage major engineering projects. The content of the courses offered in the minor is a unique blend of engineering tools and business management skills.

Students enrolling in the engineering management minor should have normally completed a minimum of 60 credits of course work and be in good academic standing.

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 engineering management.

- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in engineering management must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (12 credits)

- ECO 201 Principles of Microeconomics
- EGM 361 Management for Engineers
- EGM 362 Engineering Project Management
- EGM 364 Engineering Economy (for non-chemical and civil engineering students)
or CHE 332 Engineering Economy
or CVE 267 Civil Engineering Cost Analysis

Minor Electives

(minimum of 6 credits)

- ACC 201 Fundamentals of Financial Accounting
- CHE 470 Waste Management and Control in Chemical Engineering
- COE 420 Software Engineering

- CVE 463 Construction Management
- ECO 202 Principles of Macroeconomics
- EGM 463 Quantitative Engineering Management
- EGM 465 Quality Engineering
- EGM 494 Special Topics in Engineering Management
- ELE 483 Power System Operation
- FIN 201 Fundamentals of Financial Management
- MCE 450 Energy Conservation and Management

Minor in Petroleum Engineering

Rachid Chebbi, Coordinator

Petroleum engineering is a field that develops the means to extract oil and gas from underground reservoirs. The petroleum engineering minor prepares chemical, mechanical and other engineering students for employment in the petroleum production industry. The petroleum engineering minor provides students with knowledge of reservoir engineering, enhanced oil recovery and petroleum drilling operations in addition to production. Students enrolling in the petroleum engineering minor should have normally completed a minimum of 60 credits and be in good academic standing.

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.
- At least nine credits of the 18 credits

required for the minor must be taken in residence at AUS.

- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in petroleum engineering must complete the following courses or their equivalent. All course prerequisites must be satisfied. Students pursuing a minor in petroleum engineering are encouraged to take their summer internship in the petroleum industry.

Minor Requirements (12 credits)

- PET 305 Fundamentals of Petroleum Operations
- PET 365 Petroleum Reservoir Engineering
- PET 375 Petroleum Drilling and Production
- PET 414 Enhanced Oil Recovery

Minor Electives

(minimum of 6 credits)

- CHE 434 Petroleum Refining Processes
- CHE 436 Natural Gas Processing
- CHE 467 Corrosion
- MCE 450 Energy Conservation and Management
- PET 494 Special Topics in Petroleum Engineering



School of Architecture and Design

Dean

Fatih Rifki

Associate Dean

W. Eirik Heintz

The School of Architecture and Design is committed to providing a comprehensive education that will enable its graduates to make significant contributions to the Gulf region and the broader global community through conscientious participation in practice.

All its undergraduate 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. It 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

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 seats in second-year studio majors in architecture, interior design, multimedia design and visual communication is limited to the following:

• architecture	32
• interior design	16
• multimedia design/ visual communication	48

The number of available seats 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, English, writing, 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 personal laptop computer. 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 course work.

Course Selection

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

Studio Supplies

Supply expenses for studio courses are in addition to tuition fees, and lab fees may apply for some courses. However, students are given a limited account for printing and plotting large-format drawings.

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 programs:

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

Foundations Year

David Hewitt, Coordinator

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 a 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 learning. Digital courses are taught using a combination of class lectures and instructional 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
- DES 122 History of Material Culture II
- DES 131 Design Foundations I
- DES 132 Design Foundations II

Design management students must complete DES 100, DES 111, DES 131 and either DES 121 or DES 122. If students choose to complete DES 112, DES 121 and DES 132, these will be considered major electives.

Although some faculty members specialize as foundations professors, 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.

Department of Architecture

Samia Rab, Head

Faculty

Rick Carraway
Mona El-Mousfy
Michelle Grant
Eirik Heintz
George Katodrytis
Thomas Kennedy
Ginger Krieg
Bruce Lonnman
Kevin Mitchell
Ahmed Mokhtar
Nadia Mounajjed
Amer Moustafa
Jay Randle
Fatih Rifki
Mehdi Sabet
William Sarnecky
Kevin Sweet
Alcibiades Tsolakis
Gregor Weiss

Bachelor of Architecture (BArch)

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.

The Bachelor of Architecture (BArch) 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 109 credits of required course work 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 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, DES 112, DES 131, DES 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)
- DES 100 Digital Media in Design
- MTH 111 Mathematics for Architects or its prerequisite (MTH 003), or MTH 103 Calculus I
- at least one course in writing (WRI) at the 100 level or above

- a minimum of 27 undergraduate credit hours (including the above courses)
- a cumulative GPA of 2.3

Formal notification of advancement in the program will be announced by the School of Architecture and Design in mid-June 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 both courses in history of material culture (DES 121 and DES 122) and mathematics (MTH 111, MTH 003 or MTH 103) will advance to the second year. If there are available seats 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
- a minimum major studio average of 2.3 in each year of the architectural design studio sequence (ARC 201 and ARC 202, ARC 301 and ARC 302, ARC 401 and ARC 402)

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 studio average may repeat either studio with the higher grade for that studio averaged with the other studio grade.
- Any studio may be repeated only once.
- 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, is required:

- a minimum of 42 credits of general education requirements (of which six credits double count as major requirements)
- 109 credits of major requirements
- a minimum of 18 credits of approved architecture electives
- a minimum of nine credits of free electives
- 14 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 studio average of 2.3 in the final studio sequence (ARC 505 and either ARC 506 or ARC 592).

General Education Requirements (minimum of 42 credits)

- English language competency requirement (minimum of 12 credits): 100 level or above of English (ENG)/writing (WRI) courses
- Arabic heritage requirement (3 credits)
- mathematics and/or statistics requirement (minimum of 6 credits): MTH 103 or MTH 111 and one other math or statistics course
- science requirement (minimum of 6 credits): PHY 104 and one other science course
- humanities and social sciences requirement (minimum of 15 credits): DES 121, DES 122 and at least six of

the remaining nine credits taken in the social sciences area (DES 121 and DES 122 double count as major requirements)

- computer literacy requirement: satisfied through extensive use of computer resources throughout the architecture curriculum
- information literacy requirement: satisfied through WRI 102

For complete information on general education requirements, please refer to the Graduation Requirements section within the Academic Policies and Regulations section of this catalog.

Major Requirements (109 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 Statics and Mechanics of Materials for Architecture
- ARC 301 Architectural Design Studio III
- ARC 302 Architectural Design Studio IV
- ARC 325 Ideas in Architecture
- ARC 333 Rough Construction Process
- ARC 344 Structural Design for Architects
- ARC 354 Environmental Energies and Building Form
- ARC 364 Introduction to Computer-Aided Drawing
- ARC 397 Internship in Architecture I (6 weeks)
- ARC 401 Architectural Design Studio V
- ARC 402 Architectural Design Studio VI
- ARC 434 Finish Construction Process
- ARC 455 Environmental Control Systems
- ARC 462 Design Management
- ARC 471 Site Planning
- ARC 497 Internship in Architecture II (8 weeks)

- ARC 505 Architectural Design Studio VII
- ARC 506 Architectural Design Studio VIII or ARC 592 Final Project Design
- ARC 561 Construction Management

Internship

To qualify for the Bachelor of Architecture degree, students must fulfill the internship requirements prior to graduation. 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 setting. 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. Students' internships are ultimately evaluated by the internship coordinator with a Pass/Fail grade. Completing the internship requirement is a prerequisite for registering in some studio courses. Architecture students are highly encouraged to complete the internship program during the summers following their third and fourth years, respectively.

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

Final Project Option

Fifth-year architecture students normally complete two studio courses. Students who select the final project option will substitute ARC 592 Final Project Design (6 credits) for the second studio course (ARC 506). In addition, ARC 591 Final Project Research (3 credits) must be completed before ARC 592 and will count as a major elective. The final project option is subject to departmental approval.

Major Electives (minimum of 18 credits)

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

Free Electives (minimum of 9 credits)

Any courses offered at or above the 100 level.

Enrolling in Graduate Courses

Fifth-year architecture students

can register for 500-level graduate courses in urban planning (UPL) and receive credit toward their undergraduate degree. Students pay

the regular undergraduate fee per credit. Graduate UPL courses taken at the undergraduate level cannot be used to fulfill graduate program

requirements, regardless of whether or not these courses were used to meet an undergraduate program requirement.

Proposed Sequence of Study Bachelor of Architecture (BArch)

FIRST YEAR (30/31 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	DES 111	Descriptive Drawing I	3		MJR
	DES 121	History of Material Culture I	3		MJR/GER HSS 1 of 5
	DES 131	Design Foundations I	3		MJR
	MTH 111 or MTH 103	Mathematics for Architects or Calculus I	4/3	MTH 001 or 003 or 004 or MARC or MENG or SAT II Math 1C test score of 600 and above/MTH 001 or 004 or MENG or SAT II Math 1C test score of 600 and above	GER MST 1 of 2
Total			15/16		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	DES 100	Digital Media in Design	3		MJR
	DES 112	Descriptive Drawing II	3	DES 111	MJR
	DES 122	History of Material Culture II	3		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; WRI 101 or 102	MJR
	ARC 213	Analysis and Methods in Architecture	3	pre/con ARC 201 or IDE 201	MJR
	ELC XXX	English Language Competency	3		GER ELC 3 of 4
	PHY 104	Physics for Architects	3	pre/con MTH 101 or 103 or 111	GER SCI 1 of 2
	MJE 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	MJR
	ARC 224	Modern Foundations of Art and Architecture	3	ARC 201 or IDE 201, and WRI 102	MJR
	ARC 232	Survey of Materials and Practices in Construction	3	ARC 201 or IDE 201	MJR
	ELC XXX	English Language Competency	3		GER ELC 4 of 4
	ARC 242	Statics and Mechanics of Materials for Architecture	3	pre/con ARC 201 or IDE 201	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, and PHY 104	MJR
	ARC 325	Ideas in Architecture	3	ARC 224	MJR
	ARC 333	Rough Construction Process	3	ARC 232	MJR
	MJE XXX	Major Elective	3		MJE 2 of 6
	ARA XXX	Arabic Heritage	3		GER ARA
	Total		18		
Spring	ARC 302	Architectural Design Studio IV	6	ARC 213, 301	MJR
	ARC 344	Structural Design for Architects	3	ARC 242	MJR
	ARC 354	Environmental Energies and Building Form	3	pre/con ARC 301	MJR
	ARC 364	Introduction to Computer-Aided Drawing	1	ARC 202 or IDE 202	MJR
	MJE XXX	Major Elective	3		MJE 3 of 6
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	Total		19		
Summer	ARC 397	Internship in Architecture 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, 302	MJR
	ARC 455	Environmental Control Systems	3	ARC 354	MJR
	ARC 471	Site Planning	3	ARC 302	MJR
	MJE XXX	Major Elective	3		MJE 4 of 6
	MTH XXX/ STA XXX	Mathematics/Statistics	3		GER MST 2 of 2
	Total		18		
Spring	ARC 402	Architectural Design Studio VI	6	ARC 325, 333, 397, 401; pre/con ARC 354	MJR
	ARC 434	Finish Construction Process	3	ARC 333	MJR
	ARC 462	Design Management	3	ARC 397 or IDE 397 or DES 397	MJR
	MJE XXX	Major Elective	3		MJE 5 of 6
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	Total		18		
Summer	ARC 497	Internship in Architecture II	0	ARC 402	MJR

FIFTH YEAR (33 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MJE XXX or A RC 591	Major Elective or Final Project Research	3	ARC 344, 402, 434, 455, ARC 462/IDE 462, and consent of department	MJE 6 of 6
	ARC 505	Architectural Design Studio VII	6	ARC 344, 402	MJR
	ARC 561	Construction Management	3	ARC 301 or IDE 301	MJR
	FRE XXX	Free Elective	3		FRE 1 of 3
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	Total		18		
Spring	ARC 506 or ARC 592	Architectural Design Studio VIII or Final Project Design	6	ARC 402, 497/ARC 497, 505, 591 and consent of department	MJR
	SCI XXX	Science	3		GER SCI 2 of 2
	FRE XXX	Free Elective	3		FRE 2 of 3
	FRE XXX	Free Elective	3		FRE 3 of 3
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Minor in Architectural Studies

Students enrolling in the architectural studies minor should have normally completed a minimum of 30 credits of course work and have a CGPA of 2.5 or higher.

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 architecture.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in architectural studies must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (9 credits)

A student must complete nine credits from the following courses:

- 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

Minor Electives (minimum of 9 credits)

Nine credits in architecture courses at the 300 level or above.

Minor in Urban Design

The minor in urban design is offered within the Department of Architecture. Students enrolling in the urban design minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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 architecture.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at

or above the 300 level must be taken in residence at AUS.

- Free electives can be taken toward the minor.
- 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 seeking a minor in urban design must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (12 credits)

- ARC 424 Evolution of Cities
- ARC 505 Architectural Design Studio VII
- ARC 573 Principles of Urban Design

Minor Electives

(minimum of 6 credits)

- ARC 322 Global Issues in Architecture
- ARC 374 Environmentally Sustainable Design
- ARC 471 Site Planning
- ENV 100 Principles of Environmental Science
- PBA 101 Introduction to Public Administration
- PSY 102 Social Psychology
- SOC 380 Urban Sociology
- STA 202 Introduction to Statistics for Social Sciences
- any 500-level urban planning (UPL) course

Bachelor of Interior Design (BID)

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.

The Bachelor of Interior Design (BID) 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 credits comprise the degree program, including a minimum of 85 credits of required course work 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 nine credits of approved interior design electives. The intent is to balance the concern for in-depth professional competence with

the concern for the individual's interest and aptitude. These courses should be selected in consultation with the student's advisor.

The specialized professional curriculum is supported by a minimum of 42 credits of university requirements. Designed to ensure a broad educational foundation, this base is held in common among all graduates of 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, DES 112, DES 131, DES 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)
- DES 100 Digital Media in Design
- MTH 111 Mathematics for Architects or its prerequisite (MTH 003), or MTH 103 Calculus I

- at least one course in writing (WRI) at the 100 level or above
- a minimum of 27 undergraduate credit hours (including the above courses)
- a minimum CGPA of 2.3

Formal notification of advancement in the program will be announced by the School of Architecture and Design in mid-June 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 both courses in history of material culture (DES 121 and DES 122) and mathematics (MTH 111, MTH 003 or MTH 103) 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
- a minimum major studio average of 2.3 in each year of the interior design studio sequence (IDE 201 and IDE 202, IDE 301 and IDE 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 studio average may repeat either studio with the higher grade for that studio averaged with the other studio grade.
- 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.

Degree Requirements

A minimum of 139 credits, including the following, is required:

- a minimum of 42 credits of general education requirements (of which six credits double count as major requirements)
- 85 credits of major requirements
- a minimum of nine credits of approved interior design electives
- a minimum of nine credits of free electives
- six weeks of approved professional training (internship)

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 studio average of 2.3 in the final studio sequence (IDE 405 and either IDE 406 or IDE 492).

General Education Requirements (minimum of 42 credits)

- English language competency requirement (minimum of 12 credits): 100 level or above of English (ENG)/writing (WRI) courses
- Arabic heritage requirement (minimum of 3 credits)
- mathematics and/or statistics requirement (minimum of 6 credits): MTH 103 or MTH 111 and one other math or statistics course
- science requirement (minimum of 6 credits): PHY 104 and one other science
- humanities and social sciences

requirement (minimum of 15 credits): DES 121, DES 122 and at least six of the remaining nine credits taken in the social sciences area (DES 121 and DES 122 double count as major requirements)

- computer literacy requirement: satisfied through extensive use of computer resources throughout the interior design curriculum
- information literacy requirement: satisfied through WRI 102

For complete information on general education requirements, please refer to the Graduation Requirements section within the Academic Policies and Regulations section of this catalog.

Major Requirements (85 credits)

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 Interior Materials
- 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 Basics
- IDE 352 Environmental Control Systems in Interior Design
- IDE 364 Introduction to Computer-Aided Drawing
- IDE 397 Internship in Interior Design (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 of Interior Design degree, students must fulfill the internship requirements prior to graduation. 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. Fulfilling the internship requirement is a prerequisite for registering in some studio courses. Interior design students are highly encouraged to complete the internship program during the summer after completion of their third year of studies.

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

Final Project Option

Fourth-year interior design students normally complete two studio courses. Students who select the final project option will substitute IDE 492 Final Project Design (6 credits) for the second studio course (IDE 406). In addition, IDE 491 Final Project Research (3 credits) must be completed before IDE 492 and will count as a major elective.

The final project option is subject to departmental approval.

Major Electives (minimum of 9 credits)

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

Free Electives (minimum of 9 credits)

Any courses offered at or above the 100 level.

Proposed Sequence of Study Bachelor of Interior Design (BID)

FIRST YEAR (30/31 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	DES 111	Descriptive Drawing I	3		MJR
	DES 121	History of Material Culture I	3		MJR/GER HSS 1 of 5
	DES 131	Design Foundations I	3		MJR
	MTH 111 or MTH 103	Mathematics for Architects or Calculus I	4/3	MTH 001 or 003 or 004 or MARC or MENG or SAT II Math 1C test score of 600 and above/MTH 001 or 004 or MENG or SAT II Math 1C test score of 600 and above	GER MST 1 of 2
Total			15/16		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	DES 100	Digital Media in Design	3		MJR
	DES 112	Descriptive Drawing II	3	DES 111	MJR
	DES 122	History of Material Culture II	3		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, WRI 101 or 102	MJR
	IDE 223	History of Interior Design	3	pre/con ARC 201 or IDE 201	MJR
	IDE 235	Interior Construction	3	pre/con ARC 201 or IDE 201	MJR
	PHY 104	Physics for Architects	3	pre/con MTH 101 or 103 or 111	GER SCI 1 of 2
	ELC XXX	English Language Competency	3		GER ELC 3 of 4
Total			18		
Spring	IDE 202	Architectural and Interior Design Studio II	6	IDE 201	MJR
	IDE 236	Interior Materials	3	IDE 235 or ARC 232	MJR
	IDE 251	Color and Light	3	pre/con PHY 104, and IDE 201 or ARC 201	MJR
	MTH XXX	Mathematics/Statistics	3		GER MST 2 of 2
	ELC XXX	English Language Competency	3		GER ELC 4 of 4
Total			18		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

THIRD YEAR (37 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	IDE 301	Interior Design Studio III	6	IDE 202 or ARC 202, PHY 104	MJR
	IDE 335	Furniture Design Basics	3	IDE 235 or ARC 232	MJR
	IDE 324	Modern Practices in Interior Design	3	IDE 223	MJR
	ARA XXX	Arabic Heritage	3		GER ARA
	SCI XXX	Science	3		GER SCI 2 of 2
	Total		18		
Spring	IDE 302	Interior Design Studio IV	6	IDE 301	MJR
	IDE 352	Environmental Control Systems in Interior Design	3	PHY 104; pre/con IDE 201 or ARC 201	MJR
	IDE 364	Introduction to Computer-Aided Drawing	1	ARC 202 or IDE 202	MJR
	MJE XXX	Major Elective	3		MJE 1 of 3
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	FRE XXX	Free Elective	3		FRE 1 of 3
	Total		19		
Summer	IDE 397	Internship in Interior Design	0	senior standing	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 461	Project Management	3	senior standing	MJR
	MJE XXX or IDE 491	Major Elective or Final Project Research	3	IDE 302, 335, 352 and consent of department	MJE 2 of 3
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	FRE XXX	Free Elective	3		FRE 2 of 3
	Total		18		
Spring	IDE 462	Design Management	3	IDE 397 or ARC 397	MJR
	IDE 406 or IDE 492	Interior Design Studio VI or Final Project Design	6	IDE 397, 405/ IDE 397, 405, 491 and consent of department	MJR
	MJE XXX	Major Elective	3		MJE 3 of 3
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	FRE XXX	Free Elective	3		FRE 3 of 3
	Total		18		

Minor in Interior Design

Students enrolling in the interior design minor should have normally completed a minimum of 30 credits of course work and have a GPA of 2.5 or higher.

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 interior design.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.

- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in interior design must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (9 credits)

A student must complete nine credits

from the following courses:

- IDE 223 History of Interior Design
- IDE 235 Interior Construction
- IDE 236 Interior Materials
- IDE 251 Color and Light
- IDE 335 Furniture Design Basics

Minor Electives (minimum of 9 credits)

Nine credits in IDE courses at the 300 level or above.

Department of Design

Bob Dahm, Interim Head

Faculty

Shoaib Nabi Ahmad

Tarek Al-Ghoussein

Paul Bantey

Amir Berbić

John Botthoff

Zlatan Filipović

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David Hewitt

Masood Khan

Mark Pilkington

Phil Sheil

Tonya Stewart

Jack Swanstrom

Seth Thompson

Bachelor of Science in Design Management (BSDM)

The Bachelor of Science in Design Management (BSDM) 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.

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, as well as to speak fluently the “language” of design. Additionally, course work in the disciplines of business, management and communication prepares students to recruit clients; pitch projects; write copy for print, television and radio; and 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.

Degree Requirements

A minimum of 120 credits, including the following, is required:

- a minimum of 42 credits of general education requirements (of which 12 credits double count as major requirements)
- 60 credits of major requirements
- a minimum of 21 credits of major electives
- 12 credits of free electives
- six weeks of approved professional training (internship)
- a minimum CGPA of 2.0

General Education Requirements

- English language competency requirement (minimum of 12 credits): 100 level or above of English (ENG)/ writing (WRI) courses, including ENG 204 and ENG 225
- Arabic heritage requirement (minimum of 3 credits)
- mathematics and/or statistics requirement (minimum of 6 credits): MTH 101 or MTH 111 and STA 202 or QBA 201
- science requirement (minimum of 6 credits): two science courses
- humanities and social sciences requirement (minimum of 15 credits): DES 121, DES 122, DES 231, ECO 201, ECO 202 (DES 121 or DES 122, DES 231, ECO 201 and ECO 202 double count as major requirements)
- computer literacy requirement: satisfied through extensive use of computer resources throughout the curriculum
- information literacy requirement: satisfied through WRI 102

For complete information on general

education requirements, please refer to the Graduation Requirements section within the Academic Policies and Regulations section of this catalog.

Major Requirements (60 credits)

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

In the School of Architecture and Design (33 credits)

- DES 100 Digital Media in Design
- DES 111 Descriptive Drawing I
- DES 121 History of Material Culture I or DES 122 History of Material Culture II
- DES 131 Design Foundations I
- DES 200 Communication Design
- DES 230 Digital Media in Communication Design
- DES 231 History of Design
- DES 300 Design Project
- DES 397 Internship in Design Management
- DES 462 Design Management
- DES 472 Exhibition Project
- VIS 361 The Design Profession

In the School of Business and Management (27 credits)

- BIS 101 Business Information Systems
- ECO 201 Principles of Microeconomics
- ECO 202 Principles of Macroeconomics
- MGT 201 Fundamentals of Management
- MGT 311 Organizational Behavior
- MGT 315 International Business
- MGT 361 Business Ethics and Social Responsibility
- MIS 201 Fundamentals of Management Information Systems
- MKT 201 Fundamentals of Marketing

Internship

Internship is a requirement for graduation. Arrangements for the internships are normally made with the students in the spring semester of their third year. The internship comprises six weeks of full-time work placement (normally 240 hours) at an approved professional company during the summer of the student's third year. A review of the student's internship journal and feedback from the employer are the basis of passing the internship requirement.

Major Electives (minimum of 21 credits)

Electives in Major Fields (minimum of 15 credits)

Students are required to complete at least two of the five electives in major fields at the 300 level or above, and are strongly advised to take VIS 360 (Critical Discourse in Design). They can also choose to take courses from the following:

- DES 132 Design Foundations II

- DES 494 Special Topics in Design Management
- MCM 150 Introduction to Mass Communication Studies
- MCM 227 Principles of Public Relations

Electives in Related Fields (minimum of 6 credits)

Three of six credits for the electives in related fields must be at the 300 level or above. Students must obtain approval of their advisor before selection of courses in these related

fields:

- ENG 231 Writing for Visual Media
- PSY 101 General Psychology
- PSY 102 Social Psychology
- any course in SA&D
- any course in SBM
- any course in mass communication

Free Electives (minimum of 12 credits)

Any courses offered at or above the 100 level.

Proposed Sequence of Study Bachelor of Science in Design Management (BSDM)

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	DES 111	Descriptive Drawing I	3		MJR
	DES 121 or MJE XXX	History of Material Culture I or Major Elective	3		MJR/MJE/GER HSS 1 of 5 MJE 1 of 7
	DES 131	Design Foundations I	3		MJR
	MTH 101 or MTH 111	Mathematics for Business or Mathematics for Architects	3	MTH 002 or MPT or SAT II Math 1C test score of 600 and above/ MTH 001 or 004 or 003 or MARC or MENG or SAT II Math 1C test score 600 of and above	GER MST 1 of 2
Total			15		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	DES 100	Digital Media in Design	3		MJR
	DES 122 or MJE XXX	History of Material Culture II or Major Elective	3		MJR/MJE/GER HSS 2 of 5 MJE 1 of 7
	MJE XXX	Major Elective	3		MJE 2 of 7
	SCI XXX	Science	3		GER SCI 1 of 2
Total			15		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	STA 202 or QBA 201	Introduction to Statistics for Social Sciences or Quantitative Business Analysis	3	MTH 100 or 101 or 103 or 111/ pre/con MTH 101	GER MST 2 of 2
	BIS 101	Business Information Systems	3	BCT or BIS 001 or DES 100 or MCM 100	MJR
	DES 231	History of Design	3	WRI 102 and second-year standing	MJR/GER HSS 3 of 5
	DES 200	Communication Design	3	DES 100	MJR
Total			15		
Spring	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	MJR/GER HSS 4 of 5
	MGT 201	Fundamentals of Management	3	pre/con WRI 102	MJR
	SCI XXX	Science	3		GER SCI 2 of 2
	MJE XXX	Major Elective	3		MJE 3 of 7
	DES 230	Digital Media in Communication Design	3	DES 100	MJR
Total			15		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MKT 201	Fundamentals of Marketing	3	ECO 201 and WRI 102	MJR
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	MJR/GER HSS 5 of 5
	DES 300	Design Project	3	DES 200	MJR
	RFE XXX	Related Field Elective	3		MJE 4 of 7
	MIS 201	Fundamentals of MIS	3	BIS 101 or NGN 110	MJR
	Total		15		
Spring	MJE XXX	Major Elective	3		MJE 5 of 7
	ENG 225	Writing for Business	3	ENG 203 or 204 and junior standing	GER ELC 4 of 4
	VIS 361	The Design Profession	3	WRI 101 or 102 and VIS 360	MJR
	FRE XXX	Free Elective	3		FRE 1 of 4
	FRE XXX	Free Elective	3		FRE 2 of 4
	Total		15		
Summer	DES 397	Internship in Design Management	0	VIS 361	MJR

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MGT 315	International Business	3	MGT 201, ENG 203 or 204 or 231	MJR
	MGT 361	Business Ethics and Social Responsibility	3	MGT 201; pre/con ENG 203 or 204 or 231	MJR
	DES 462	Design Management	3	pre/con DES 397	MJR
	MJE XXX	Major Elective	3		MJE 6 of 7
	FRE XXX	Free Elective	3		FRE 3 of 4
	Total		15		
Spring	MGT 311	Organizational Behavior	3	MGT 201; pre/con ENG 203 or 204 or 231	MJR
	DES 472	Exhibition Project	3	junior standing	MJR
	ARA XXX	Arabic Heritage	3		GER ARA
	RFE XXX	Related Field Elective	3		MJE 7 of 7
	FRE XXX	Free Elective	3		FRE 4 of 4
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; BCT: Business Computer Placement Test; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Minor in Design Management

Students enrolling in the design management minor should have normally completed a minimum of 30 credits of course work and be in good academic standing. 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.
- At least nine credits of the 18 credits required for the minor must be taken in residence at AUS.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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.

Minor Requirements (18 credits)

Students seeking a minor in design management must complete the following courses or their equivalent. All course prerequisites must be satisfied.

- at least nine credits in SA&D undergraduate courses, including DES 100
- at least nine credits in SBM undergraduate courses, including MGT 201

Bachelor of Science in Multimedia Design (BSMD)

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.

The Bachelor of Science in Multimedia Design (BSMD) requires a minimum of four years (122 credits) of course work, 65 credits of which are required in multimedia-related studies, including sound, video, text, computer graphics and theory courses. The 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 experience (internship) is required of all students; firm/company placement normally occurs in the summer after completion of the third year.

The BSMD is a professional program designed for those who seek careers in modern design and media practice or in preparation of graduate studies. 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.

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 degree program, a student must successfully complete the following requirements. Additional promotion restrictions may also apply.

- all four foundations studio courses (DES 111, DES 112, DES 131, DES 132) with a minimum grade point average (GPA) of C (2.0) in each sequence (design and drawing)
- both courses in history of material culture (DES 121 and DES 122)
- DES 100 Digital Media in Design
- mathematics (MTH XXX) or its prerequisite (MTH 00X)
- at least one course in writing (WRI) at the 100 level or above
- a minimum of 27 undergraduate credit hours (including the above courses)
- a minimum CGPA of 2.0

Formal notification of advancement in the program will be announced by the School of Architecture and Design in mid-June 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 the history of material culture and mathematics courses 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. Student performance is also reviewed after the sixth semester for retention in the program. In order to continue in the major, a combined GPA of C+ (2.3) must be attained in MUM 301 and MUM 302 with a minimum 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 studio average may repeat either studio with the higher grade for that studio averaged with the other studio grade.
- 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.

Degree Requirements

A minimum of 122 credits, including the following, is required:

- a minimum of 42 credits of general education requirements (of which nine credits double count as major requirements)
- 65 credits of major requirements
- a minimum of 15 credits of major electives
- a minimum of nine credits of free electives
- six weeks of approved professional training (internship)
- a minimum CGPA of 2.0

General Education Requirements (minimum of 42 credits)

- English language competency requirement (minimum of 12 credits): 100 level or above of English (ENG)/ writing (WRI) courses, including ENG 204 and ENG 231
- Arabic heritage requirement (minimum of 3 credits)
- mathematics and/or statistics requirement (minimum of 6 credits)
- science requirement (minimum of 6 credits): two science courses
- humanities and social sciences requirement (minimum of 15 credits): DES 121, DES 122, DES 231 and a minimum of six credits in social sciences courses (DES 121, DES 122 and DES 231 double count as major requirements)
- computer literacy requirement: satisfied through extensive use of computer resources throughout the design curriculum
- information literacy requirement: satisfied through WRI 102 and ENG 204

For complete information on general education requirements, please refer to the Graduation Requirements section within the Academic Policies and Regulations section of this catalog.

Major Requirements (65 credits)

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

- DES 231 History of Design
- MUM 301 Design Studio III
- MUM 302 Design Studio IV
- MUM 397 Internship in Multimedia Design
- MUM 401 Design Studio V
- MUM 402 Design Studio VI
- MUM 410.01 Multimedia Design Senior Studio I
- MUM 420 Multimedia Design Senior Studio II
- 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
- VIS 360 Critical Discourse in Design
- VIS 361 The Design Profession

Internship

Internship is a requirement for graduation. Arrangements for the internships are normally made with the students in the spring semester of their third year. The internship comprises six weeks of full-time work placement (normally 240 hours) at an approved professional company during the summer of the student's third year. A review of the student's

internship journal and feedback from the employer are the basis of passing the internship requirement.

Major Electives (minimum of 15 credits)

Students should complete at least four courses from the following list:

- MUM 310 Film Production I
- MUM 312 Film Production II
- MUM 320 Web Design I
- MUM 321 Photojournalism
- MUM 330 Web Design II
- MUM 331 Animation II
- MUM 494 Special Topics in Multimedia Design

Students must take one course from the following list:

- ARC 225 Islamic Art and Architecture
- MUM 411 Film Production III
- MUM 494 Special Topics in Multimedia Design
- MUM 496 Independent Study in Multimedia Design
- VIS 311 Illustration Design
- VIS 312 Illustration Genres
- VIS 320 Printmaking I
- VIS 322 Printmaking II
- VIS 323 Photography for Communication
- VIS 325 Creative Studio Photography
- VIS 494 Special Topics in Visual Communication
- any course in mass communication (MCM)

Free Electives (minimum of 9 credits)

Any courses offered at or above the 100 level.

Proposed Sequence of Study
Bachelor of Science in Multimedia Design (BSMD)

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	DES 111	Descriptive Drawing I	3		MJR
	DES 121	History of Material Culture	3		MJR/GER HSS 1 of 5
	DES 131	Design Foundations I	3		MJR
	DES 100	Digital Media in Design	3		MJR
	Total		15		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	MTH/ STA XXX	Mathematics/Statistics	3		GER MST 1 of 2
	DES 112	Descriptive Drawing II	3	DES 111	MJR
	DES 122	History of Material Culture II	3		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, 121 and 132; MTH XXX; and WRI 101 or 102	MJR
	VIS 221	Photography Basics	3	DES 100, 112, 121, 122 and 132; MTH XXX; and WRI 101 or 102	MJR
	VIS 230	Digital Media in Visual Communication	3	DES 100, 112, 121 and 132; MTH XXX; and WRI 101 or 102	MJR
	DES 231	History of Design	3	WRI 102 and second-year standing	MJR/GER HSS 3 of 5
	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	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	Critical Discourse in Design	3	DES 231	MJR
	SCI XXX	Science	3		GER SCI 1 of 2
	MTH/STA XXX	Mathematics/Statistics	3		GER MST 2 of 2
	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
	MJR XXX	Major Elective	3		MJE 1 of 5
	MJE XXX	Major Elective	3		MJE 2 of 5
	ARA XXX	Arabic Heritage	3		GER ARA
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	Total		15		
Spring	MUM 302	Design Studio IV	3	MUM 301 or VIS 301	MJR
	VIS 361	The Design Profession	3	WRI 101 or 102 and VIS 360	MJR
	MJE XXX	Major Elective	3		MJE 3 of 5
	MJE XXX	Major Elective	3		MJE 4 of 5
	ENG 231	Writing for Visual Media	3	ENG 204 or 203 and junior standing	GER ELC 4 of 4
	Total		15		
Summer	MUM 397	Internship in Multimedia Design	0	VIS 361	MJR

FOURTH YEAR (32 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	MUM 401	Design Studio V	4	MUM 301 or VIS 301	MJR
	MUM 410.01	Multimedia Design Senior Studio I	3	any three from MUM 310, 312, 311, 320, 330, 331, 340; pre/con MUM 401	MJR
	MJE XXX	Major Elective	3		MJE 5 of 5
	FRE XXX	Free Elective	3		FRE 1 of 3
	SCI XXX	Science	3		GER SCI 2 of 2
	Total		16		
Spring	MUM 402	Design Studio VI	4	MUM 401 or VIS 401	MJR
	MUM 420	Multimedia Design Senior Studio II	3	MUM 410.01	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	FRE XXX	Free Elective	3		FRE 2 of 3
	FRE XXX	Free Elective	3		FRE 3 of 3
	Total		16		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Bachelor of Science in Visual Communication (BSVC)

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 design education, visual communication practitioners require an understanding of aesthetic trends, human nature, ethical boundaries and societal needs. Visual communicators aim to inform, persuade and influence behavior through the application of design principals.

The Bachelor of Science in Visual Communication (BSVC) degree program requires a minimum of four years of university studies. The foundations year of visual communication (VisCom) consists of a basic education in applied design, training in computer applications and courses in the history and relevance of design and visual expression. In the following years, elements of design practice 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 BSVC is a professional program. The 122 credits required for the degree comprise 65 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 BSVC is configured to prepare those who seek careers as designers as well as those who

plan to pursue graduate studies in visual communication-related areas. 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.

Advancement in the Program

The number of seats in the visual communication program 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, DES 112, DES 131, DES 132) with a minimum grade point average (GPA) of C (2.0) in each sequence (design and drawing)
- both courses in history of material culture (DES 121 and DES 122)
- DES 100 Digital Media in Design
- Mathematics (MTH XXX) or its prerequisite (MTH 00X)
- at least one course in writing (WRI) at the 100 level or above
- a minimum of 27 undergraduate credits (including the above courses)
- a minimum CGPA of 2.0

Formal notification of advancement in the program will be announced by the School of Architecture and Design in mid-June 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 the history of material culture (DES 121 and DES 122) courses and mathematics course 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 the visual communication program 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. Student performance is also reviewed after the sixth semester for retention in the program. In order to continue in the major, a combined GPA of C+ (2.3) must be attained in VIS 301 and VIS 302 with a minimum 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 studio average may repeat either studio with the higher grade for that studio averaged with the other studio grade.
- 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.

Degree Requirements

A minimum of 122 credits, including the following, are required:

- a minimum of 42 credits of general education requirements (of which nine credits double count as major requirements)

- 65 credits of major requirements
- a minimum of 15 credits of major electives
- a minimum of nine credits of free electives
- six weeks of approved professional training (internship)
- a minimum CGPA of 2.0

General Education Requirements (minimum of 42 credits)

- English language competency requirement (a minimum of 12 credits): 100 level or above of English (ENG)/ writing (WRI) courses, including ENG 204 and ENG 231
- Arabic heritage requirement (a minimum of 3 credits)
- mathematics and/or statistics requirement (a minimum of 6 credits)
- science requirement (a minimum of 6 credits): two science courses
- humanities and social sciences requirement (a minimum of 15 credits): DES 121, DES 122, DES 231 and a minimum of six credits in social sciences courses (DES 121, DES 122 and DES 231 double count as major requirements)
- computer literacy requirement: satisfied through extensive use of computer resources throughout the visual communication curriculum
- information literacy requirement: satisfied through WRI 102 and ENG 204

For complete information on general education requirements, please refer to the Graduation Requirements section within the Academic Policies and Regulations section of this catalog.

Major Requirements (65 credits)

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

- DES 231 History of Design
- 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
- VIS 301 Design Studio III
- VIS 302 Design Studio IV
- VIS 360 Critical Discourse in Design
- VIS 361 The Design Profession
- VIS 397 Internship in Visual Communication
- VIS 401 Design Studio V
- VIS 402 Design Studio VI
- VIS 410 Senior VisCom Studio
- VIS 420 Senior VisCom Portfolio

Internship

Internship is a requirement for graduation. Arrangements for the internships are normally made with the students in the spring semester of their third year. The internship comprises six weeks of full-time work placement (normally 240 hours) at an approved professional company during the summer of the student's third year. A review of the student's internship journal and feedback from the employer are the basis of passing the internship requirement.

Major Electives (minimum of 15 credits)

Students must complete at least four courses for 12 credits from the following list. This must include at least one course from the areas of illustration, printmaking and photography.

Illustration

- VIS 311 Illustration Design
- VIS 312 Illustration Genres

Printmaking

- VIS 320 Printmaking I
- VIS 322 Printmaking II

Photography

- VIS 321 Photojournalism

- VIS 323 Photography for Communication

Students must take one course from the following for a total of three credits:

- ARC 225 Islamic Art and Architecture
- MUM 310 Film Production I
- MUM 320 Web Design I
- MUM 494 Special Topics in Multimedia Design
- VIS 325 Creative Studio Photography
- VIS 494 Special Topics in Visual Communication
- VIS 496 Independent Study in Visual Communication
- any course in mass communication (MCM)

Free Electives (minimum of 9 credits)

Any courses offered at or above the 100 level.

Proposed Sequence of Study
Bachelor of Science in Visual Communication (BSVC)

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	DES 111	Descriptive Drawing I	3		MJR
	DES 121	History of Material Culture I	3		MJR/GER HSS 1 of 5
	DES 131	Design Foundations I	3		MJR
	DES 100	Digital Media in Design	3		MJR
	Total		15		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	DES 112	Descriptive Drawing II	3	DES 111	MJR
	DES 122	History of Material Culture II	3		MJR/GER HSS 2 of 5
	DES 132	Design Foundations II	3	DES 131	MJR
	MTH/STA XXX	Mathematics/Statistics	3		GER MST 1 of 2
	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, 121 and 132; MTH XXX; and WRI 101 or 102	MJR
	VIS 221	Photography Basics	3	DES 100, 112, 121 and 132; MTH XXX; and WRI 101 or 102	MJR
	VIS 230	Digital Media in Visual Communication	3	DES 100, 112, 121 and 132; MTH XXX; and WRI 101 or 102	MJR
	DES 231	History of Design	3	WRI 102 and second-year standing	MJR/GER HSS 3 of 5
	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	Total		15		
Spring	VIS 202	Design Studio II	3	VIS 201, 221, 230	MJR
	VIS 213	Illustration Drawing	3	VIS 201, 221, 230	MJR
	VIS 360	Critical Discourse in Design	3	DES 231	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	MTH/STA XXX	Mathematics/Statistics	3		GER MTH 2 of 2
	Total		15		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	VIS 301	Design Studio III	3	VIS 202, 213, 360	MJR
	MJE XXX	Major Electives (two of the following): VIS 311 Illustration Design or VIS 320 Printmaking I or VIS 321 Photo Journalism	6	pre/con MUM 301 or VIS 301/ pre/con MUM 301 or VIS 301/ pre/con MUM 301 or VIS 301 and VIS 221	MJE 1 and 2 of 5
	ARA XXX	Arabic Heritage	3		GER ARA
	ENG 231	Writing for Visual Media	3	ENG 203 or 204 and junior standing	GER ELC 4 of 4
	Total		15		
Spring	VIS 302	Design Studio IV	3	MUM 301 or VIS 301	MJR
	VIS 361	The Design Profession	3	WRI 101 or 102 and VIS 360	MJR
	MJE XXX	Major Electives (two of the following): VIS 312 Illustration Genres or VIS 322 Printmaking II or VIS 323 Photography for Communication	6	pre/con MUM 301 or VIS 301/ pre/con MUM 301 or VIS 301/ pre/con MUM 301 or VIS 301 and VIS 221	MJE 3 and 4 of 5
	SCI XXX	Science	3		GER SCI 1 of 2
	Total		15		
Summer	VIS 397	Internship in Visual Communication	0	VIS 361	MJR

FOURTH YEAR (32 credit hours)					
Term	Course #	Course Title	Credit	Prerequisite(s)	Fulfills
Fall	VIS 401	Design Studio V	4	MUM 301 or VIS 301	MJR
	VIS 410	Senior VisCom Studio	3	any 4 of VIS 311, 312, 320, 321, 322, 323; pre/con VIS 401	MJR
	MJE XXX	Major Elective			MJE 5 of 5
	SCI XXX	Science	3		GER SCI 2 of 2
	FRE XXX	Free Elective	3		FRE 1 of 3
	Total		16		
Spring	VIS 402	Design Studio VI	4	MUM 401 or VIS 401	MJR
	VIS 420	Senior VisCom Portfolio	3	VIS 410; pre/con VIS 402	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	FRE XXX	Free Elective	3		FRE 2 of 3
	FRE XXX	Free Elective	3		FRE 3 of 3
	Total		16		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; CNE: Concentration Elective; CNR: Concentration Requirement; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; FRE: Free Elective Requirement; GER: General Education Requirement; HSS: Humanities/Social Sciences Requirement; MARC: Architecture Math Placement Test; MENG: Engineering Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: any AUS math placement test; MST: Math and/or Statistics Requirement; PPT: Physics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement



SBM



School of Business and Management

Dean

R. Malcolm Richards

Associate Dean

A. Paul Williams

The School of Business and Management (SBM) 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
- dead 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

Degree Offerings

SBM offers three bachelor of science business programs: the Bachelor of Science in Business Administration (BSBA), the Bachelor of Science in Management Information Systems (BSMIS) and the Bachelor of Science in Finance (BSFIN). It also offers a Bachelor of Arts in Economics (BAE) and a Bachelor of Arts in Public Administration (BAPA).

Bachelor of Science Business Programs

Admission

Admission to the program follows AUS's admission requirements. Students transferring into the program must have a cumulative GPA of 2.0 or higher and permission of the dean.

Due to the quantitative emphasis

of the bachelor of science business programs curriculum, students admitted into the Bachelor of Science in Business Administration (BSBA), Bachelor of Science in Management Information Systems (BSMIS) or Bachelor of Science in Finance (BSFIN) programs are required to take the mathematics, English language and computer literacy placement examinations. Initially, all bachelor of science business program students are enrolled in the BSBA program. Students interested in BSMIS or BSFIN programs are admitted as MIS-intended (MISI) or FIN-intended (FINI) and should apply to the appropriate department head for full admission into the BSMIS or BSFIN programs no later than the first week of May of their sophomore year in SBM. They must complete the Change of Major form obtained from the Office of the Registrar. Upon completion of at least 60 credits of study (excluding Intensive English and preparatory 00X courses), applicants with a cumulative GPA of 2.5 or higher (including all courses taken at AUS for credit) may be admitted to the BSMIS or BSFIN programs.

All BSBA, BSMIS and BSFIN transfer students are required to take MGT 406 Business Policy and Strategy and at least 30 upper-level credits toward their concentration requirements.

Degree Requirements

A minimum of 123 credits is required as follows:

- a minimum of 45 credits of general education requirements
- major requirements
 - 39 credits of business core courses
 - 30 credits of business concentration or major courses
- a minimum of nine credits of free electives
- satisfaction of the internship requirement
- a minimum CGPA of 2.0

Designated Requirements

General Education Requirements (minimum of 45 credits)

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

- ENG 204 Advanced Academic Writing, ENG 208 Public Speaking and ENG 225 Writing for Business satisfy an English language competency requirement
- ECO 201 Principles of Microeconomic and ECO 202 Principles of Macroeconomics satisfy a social sciences requirement
- MTH 101 Math for Business I and MTH 102 Math for Business II satisfy a mathematics requirement

For the remaining general education requirements, students must refer to the Academic Policies and Regulations section of this catalog.

Business Elective (3 credits)

Students must complete any course from accounting (ACC), finance (FIN), management (MGT), management information systems (MIS) or marketing (MKT) at the 300 level or above that is not already used to meet business program requirements.

Free Electives (minimum of 9 credits)

Students must complete minimum of nine credits at the 100 level or above, excluding MTH 100.

Internship

Students in the bachelor of science business programs must complete an internship approved by SBM in their junior or senior year, which will be graded as Pass/Fail. BUS 397 fulfills this requirement.

Computer Policy

To insure active and well-supported student participation in its e-learning programs, SBM requires entering students to purchase and use laptops specified by the university.

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 a calculator.

Supplementary Materials

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

Business Administration Programs

Heads are listed under each concentration.

Bachelor of Science in Business Administration (BSBA)

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 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 six major fields in the bachelor of science business programs: accounting, economics, finance, management, management information systems and marketing. Students who pursue a concentration in economics cannot enroll in a minor in economics. Students may request permission to complete a single area of concentration in accounting in order to complete more accounting courses to qualify for the CPA (Certified Public Accountant) exam. Students accepted into the single-concentration accounting area must take a minimum of eight 300-level and above accounting courses and two advised electives to complete the requirements.

SBM also offers a minor in business administration. The minor in business administration is not open to students in the bachelor of science business programs.

Program Objectives and Outcomes

SBM prepares undergraduate students for careers in business and for further education by providing an American-style curriculum that integrates local and global perspectives. Graduates from the BSBA program are expected to achieve the following objectives:

- *Breadth of knowledge across business functions*
Students will be able to apply the basic principles of financial management, organizational behavior, marketing and distribution in the context of a global economy.
- *Understanding of ethical and social responsibility*
Students will apply concepts and theories of business law, ethics and social responsibility to practical business dilemmas, recognizing the implications of management decisions for the interests of key internal and external stakeholders.
- *Teamwork, interpersonal, communication and leadership skills*
Students will demonstrate competency in teamwork, presentation, writing and leadership skills through participation in group projects involving industry analysis.
- *Critical thinking, analytical and problem-solving skills*
Students will evaluate business situations and critique managerial decisions, using financial statements, statistical tools, and other appropriate methods to organize, analyze and present data.
- *Information and technology skills*
Students will employ the latest concepts in information technology to research, facilitate, analyze and report on all aspects of business operations.
- *Depth of knowledge in a chosen business discipline*
Students will possess in-depth knowledge of a specific business discipline, applying concepts, theories and models appropriate to their field of study.

Major Requirements

Students must complete a minimum of 39 credits in business core requirements, in addition to a minimum of 30 credits from any two of the concentrations listed below:

Business Core Requirements (minimum of 39 credits)

All students in the bachelor of science business programs must complete the following business core courses with a grade of C- or better. Additionally, a business internship is required.

- ACC 201 Fundamentals of Financial Accounting
- ACC 202 Fundamentals of Managerial Accounting
- BIS 101 Business Information Systems
- BLW 301 Business Law
- BUS 397 Business Internship
- 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
- QBA 201 Quantitative Business Analysis
- QBA 202 Operations Management
- Business elective

Concentration in Accounting (15 credits)

Dennis Olson, Head

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

- ACC 301 Intermediate Financial Accounting I

- ACC 302 Intermediate Financial Accounting II
- ACC 303 Cost Accounting
- ACC 305 Income Tax I or ACC 306 Income Tax II
- ACC 410 Auditing

Students selecting a single concentration in accounting must complete an additional five courses in accounting (15 credits) at the 300 level or above including ACC 306 Income Tax II.

Concentration in Economics (15 credits)

Hugo Toledo, Head

This concentration provides students with the theoretical foundation to apply economics to decision making and public policy in business and other organizations. From the common core of the intermediate theory courses in micro- and macroeconomics, students can branch out into several application areas in economics (such as international economics, industrial organization, money and banking, or Islamic economics) or pursue more advanced courses (such as managerial economics, econometrics or the senior economics seminar).

Concentration Requirements

- ECO 301 Intermediate Microeconomics
- ECO 302 Intermediate Macroeconomics
- ECO XXX Economics Elective
- ECO XXX Economics Elective
- ECO XXX Economics Elective

The ECO electives can be any three courses in economics at the 300 level or above with the approval of the advisor.

Concentration in Finance (15 credits)

Dennis Olson, Head

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

- FIN 320 Banking
 - FIN 330 Investments
 - FIN 401 International Finance
 - FIN 450 Case Studies in Corporate Finance
 - FIN XXX Finance Elective
- The FIN elective can be any course in finance at the 300 level or above with the approval of the advisor.

Concentration in Management (15 credits)

Joseph Wallis, Head

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

- MGT 301 Organizational Behavior
- MGT 302 Managing Human Resources
- MGT 380 Project Management
- MGT 403 Entrepreneurship
- MGT XXX Management Elective

The MGT elective can be any course in management at the 300 level or above with the approval of the advisor, excluding MGT 360 and MGT 406.

Concentration in Management Information Systems (15 credits)

Reza Barkhi, Head

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

- MIS 200 Principles of Business Programming
- MIS 301 Fundamentals of Database Management
- MIS 303 Introduction to Systems Analysis
- MIS 304 Applied Systems Design
- MIS XXX Management Information Systems Elective

The MIS elective can be any course in management information systems at the 300 level or above with the approval of the advisor. Additional MIS elective options include the following:

- MGT 380 Project Management
- MIS 203 Software Development for Business Applications

Concentration in Marketing (15 credits)

Joseph Wallis, Head

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

- MKT 301 Consumer Behavior
- MKT 302 Marketing Research
- MKT 401 Marketing Strategy
- MKT XXX Marketing Elective
- MKT XXX Marketing Elective

The MKT electives can be any two courses in marketing at the 300 level or above with the approval of the advisor.

Minor in Business Administration

Students from outside the bachelor of science business programs can enroll in a minor specialization in one of the following areas of concentration: accounting, finance, management, management information systems or marketing. Interested students must seek the approval of the head of the department and should meet with the relevant department head before starting the minor in order to determine specific program requirements. Students enrolling in the business administration minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- At least nine credits of the minor must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in business administration must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Prerequisite Courses

- BIS 101 Business Information Systems (not required for students from engineering and computer science)
- ECO 201 Principles of Microeconomics
- ECO 202 Principles of Macroeconomics
- One of three combinations: MTH 101 and MTH 102, or MTH 100 or MTH 111 and MTH 101, or MTH 103 and MTH 104
- QBA 201 Quantitative Business Analysis or STA 201 Introduction to Statistics for Engineering and Natural Sciences or STA 202 Introduction to Statistics for Social Sciences or NGN

111 Introduction to Statistical Analysis

- WRI 102 Writing and Reading Across the Curriculum

Foundation Courses (9 credits)

- ACC 201 Fundamentals of Financial Accounting
- One course in the area of minor specialization (i.e., FIN 201, MGT 201, MIS 201, MKT 201)
- One course in one of the remaining areas (i.e., FIN 201, MGT 201, MIS 201, MKT 201)
- Students seeking a minor in accounting or finance must complete ACC 201 Fundamentals of Financial Accounting, ACC 202 Fundamentals of Managerial Accounting and FIN 201 Fundamentals of Financial Management as foundation courses.
- Students seeking a minor in MIS must complete both MIS 200 Principles of Business Programming and MIS 201 Fundamentals of Management Information Systems, resulting in up to 21 credits for the minor. Computer science and computer engineering students are exempted from taking MIS 200. Other students who demonstrate the necessary background in programming courses may also be exempted from MIS 200.

Upper Division Courses (minimum of 9 credits)

Students must complete three 300-level or above courses that meet the prerequisite requirements in the minor area.

- The upper division courses in MIS are MIS 301 Fundamentals of Database Management, MIS 303 Introduction to Systems Analysis and any other MIS course at the 300 level or above. Instead of MIS 301, computer science and computer engineering students are required to take any other MIS course at the 300 level or above.
- Students seeking a minor in management must complete MGT 301 Organizational Behavior as one of their 300-level requirements. MGT 360 Business Ethics and Social Responsibility and MGT 406 Business Policy and Strategy cannot be used to fulfill the upper division course requirements.
- Students seeking a minor in marketing must complete MKT 301 Consumer Behavior and MKT 302 Marketing Research as part of the 300-level requirements.

Proposed Sequence of Study
Bachelor of Science in Business Administration (BSBA)
Concentration: Accounting and Finance

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	GER HSS 1 of 5
	MTH 101	Mathematics for Business I	3	MBUS or MTH 002	GER MTH 1 of 2
	BIS 101	Business Information Systems	3	BCT or BIS 001 or DES 100 or MCM 100	CRR
	QBA 201	Quantitative Business Analysis	3	pre/con MTH 101	GER MTH 2 of 2
	Total		15		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	GER HSS 2 of 5
	MTH 102	Mathematics for Business II	3	MTH 101	CRR
	ACC 201	Fundamentals of Financial Accounting	3	pre/con MTH 101 or 103 or 111	CRR
	QBA 202	Operations Management	3	QBA 201 or NGN 111 or STA 201 or 202	CRR
	Total		15		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	ACC 202	Fundamentals of Managerial Accounting	3	ACC 201	CRR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	FIN 201	Fundamentals of Financial Management	3	MTH 102 or 103 or 111, and ACC 201	CRR
	MGT 201	Fundamentals of Management	3	pre/con WRI 102	CRR
	Total		15		
Spring	ENG 208	Public Speaking	3	ENG 203 or 204 or 231 or MCM 231	CRR
	MKT 201	Fundamentals of Marketing	3	ECO 201, WRI 102	CRR
	ARA XXX	Arabic Heritage	3		GER ARA
	FRE XXX	Free Elective	3		FRE 1 of 3
	MIS 201	Fundamentals of Management Information Systems	3	BIS 101 or NGN 110	CRR
	Total		15		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	ENG 225	Writing for Business	3	ENG 203 or 204, junior standing	GER ELC 4 of 4
	CRE XXX	Business Core Elective	3		CRE 1 of 1
	FIN 320	Banking	3	FIN 201, WRI 102; pre/con MIS 201	CNR
	ACC 301	Intermediate Financial Accounting I	3	ACC 202	CNR
	ACC 303	Cost Accounting	3	ACC 202	CNR
	Total		15		
Spring	ACC 302	Intermediate Financial Accounting II	3	ACC 301, FIN 201	CNR
	FIN 330	Investments	3	FIN 201, ACC 202, WRI 102; pre/con MKT 201, MGT 201	CNR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	MGT 360	Business Ethics and Social Responsibility	3	MGT 201, ACC 201, QBA 201; pre/con ENG204	CRR
	SCI XXX	Science	3		GER SCI 1 of 2
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	Total		18		
Summer	BUS 397	Business Internship	0	junior or senior standing	MJR

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	FIN 401	International Finance	3	FIN 330, QBA 202; pre/con FIN 320	CNR
	CNE XXX	Concentration I Elective	3		CNE I 1 of 1
	ACC 410	Auditing	3	ACC 302	CNR
	CNE XXX	Concentration II Elective	3		CNE II 1 of 1
	BLW 301	Business Law	3	ACC 201, ECO 202; pre/con ENG 204 or 208	CRR
	Total		15		
Spring	MGT 406	Business Policy and Strategy	3	MGT 201, MKT 201, MIS 201, FIN 201, ENG 204, business senior standing or permission of department	CRR
	FIN 450	Case Studies in Corporate Finance	3	FIN 330, 320	CNR
	SCI XXX	Science	3		GER SCI 2 of 2
	FRE XXX	Free Elective	3		FRE 2 of 3
	FRE XXX	Free Elective	3		FRE 3 of 3
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; BCT: Business Computer Placement Test; CNE: Concentration Elective; CRR: Core Requirement; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: Mathematics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

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

Proposed Sequence of Study
Bachelor of Science in Business Administration (BSBA)
Concentration: Accounting and MIS

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	GER HSS 1 of 5
	MTH 101	Mathematics for Business I	3	MBUS or MTH 002	GER MTH 1 of 2
	BIS 101	Business Information Systems	3	BCT or BIS 001 or DES 100 or MCM 100	CRR
	QBA 201	Quantitative Business Analysis	3	pre/con MTH 101	GER MTH 2 of 2
	Total		15		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	GER HSS 2 of 5
	MTH 102	Mathematics for Business II	3	MTH 101	CRR
	ACC 201	Fundamentals of Financial Accounting	3	pre/con MTH 101 or 103 or 111	CRR
	QBA 202	Operations Management	3	QBA 201 or NGN 111 or STA 201 or 202	CRR
	Total		15		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	ACC 202	Fundamentals of Managerial Accounting	3	ACC 201	CRR
	MIS 200	Principles of Business Programming	3	MTH 101 or 103 or 111, and BIS 101 or NGN 110	CNR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	FIN 201	Fundamentals of Financial Management	3	MTH 102 or 103 or 111, and ACC 201	CRR
	Total		15		
Spring	MGT 201	Fundamentals of Management	3	pre/con WRI 102	CRR
	MIS 201	Fundamentals of Management Information Systems	3	BIS 101 or NGN 110	CRR
	MKT 201	Fundamentals of Marketing	3	ECO 201, WRI 102	CRR
	ARA XXX	Arabic Heritage	3		GER ARA
	ENG 208	Public Speaking	3	ENG 203 or 204 or 231 or MCM 231	CRR
	Total		15		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	ENG 225	Writing For Business	3	ENG 203 or 204, junior standing	GER ELC 4 of 4
	MIS 301	Fundamentals of Database Management	3	MIS 200, 201, WRI 102	CNR
	MIS 303	Introduction to Systems Analysis	3	MIS 200, 201, WRI 102; pre/con FIN201, MKT 201, MGT 201	CNR
	ACC 301	Intermediate Financial Accounting I	3	ACC 202	CNR
	ACC 303	Cost Accounting	3	ACC 202	CNR
	Total		15		
Spring	ACC 302	Intermediate Financial Accounting II	3	ACC 301, FIN 201	CNR
	CNE XXX	Concentration I Elective	3		CNE I 1 of 1
	MIS 304	Applied Systems Design	3	MIS 301, 303	CNR
	CRE XXX	Business Core Elective	3		CRE 1 of 1
	BLW 301	Business Law	3	ACC 201, ECO 202; pre/con ENG 204 or 208	CRR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	Total		18		
Summer	BUS 397	Business Internship	0	junior or senior standing	MJR

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	CNE XXX	Concentration II Elective	3		CNE II 1 of 1
	MGT 360	Business Ethics and Social Responsibility	3	MGT 201, ACC 201, QBA 201; pre/con ENG 204	CRR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	SCI XXX	Science	3		GER SCI 1 of 2
	FRE XXX	Free Elective	3		FRE 1 of 3
	Total		15		
Spring	MGT 406	Business Policy and Strategy	3	MGT 201, MKT 201, MIS 201, FIN 201, ENG 204, business senior standing or permission of department	CRR
	ACC 410	Auditing	3	ACC 302	CNR
	SCI XXX	Science	3		GER SCI 2 of 2
	FRE XXX	Free Elective	3		FRE 2 of 3
	FRE XXX	Free Elective	3		FRE 3 of 3
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; BCT: Business Computer Placement Test; CNE: Concentration Elective; CRR: Core Requirement; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test;

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Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: Mathematics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

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

Proposed Sequence of Study
Bachelor of Science in Business Administration (BSBA)
Concentration: *Economics and Finance*

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	GER HSS 1 of 5
	MTH 101	Mathematics for Business I	3	MBUS or MTH 002	GER MTH 1 of 2
	BIS 101	Business Information Systems	3	BCT or BIS 001 or DES 100 or MCM 100	CRR
	QBA 201	Quantitative Business Analysis	3	pre/con MTH 101	GER MTH 2 of 2
	Total		15		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	GER HSS 2 of 5
	MTH 102	Mathematics for Business II	3	MTH 101	CRR
	ACC 201	Fundamentals of Financial Accounting	3	pre/con MTH 101 or 103 or 111	CRR
	QBA 202	Operations Management	3	QBA 201 or NGN 111 or STA 201 or 202	CRR
	Total		15		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	ACC 202	Fundamentals of Managerial Accounting	3	ACC 201	CRR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	FIN 201	Fundamentals of Financial Management	3	MTH 102 or 103 or 111, and ACC 201	CRR
	MGT 201	Fundamentals of Management	3	pre/con WRI 102	CRR
	Total		15		
Spring	ENG 208	Public Speaking	3	ENG 203 or 204 or 231 or MCM 231	CRR
	MKT 201	Fundamentals of Marketing	3	ECO 201, WRI 102	CRR
	ARA XXX	Arabic Heritage	3		GER ARA
	ECO 301	Intermediate Microeconomics	3	ECO 201, 202, WRI 102	CNR
	MIS 201	Fundamentals of Management Information Systems	3	BIS 101 or NGN 110	CRR
	Total		15		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	ENG 225	Writing for Business	3	ENG 203 or 204, junior standing	GER ELC 4 of 4
	CRE XXX	Business Core Elective	3		CRE 1 of 1
	FIN 320	Banking	3	FIN 201, WRI 102; pre/con MIS 201	CNR
	ECO 302	Intermediate Macroeconomics	3	ECO 201, 202, WRI 102	CNR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	Total		15		
Spring	CNE XXX	Concentration I Elective	3		CNE I 1 of 2
	FIN 330	Investments	3	FIN 201, ACC 202, WRI 102; pre/con MKT 201, MGT 201	CNR
	BLW 301	Business Law	3	ACC 201, ECO 202; pre/con ENG 204 or 208	CRR
	MGT 360	Business Ethics and Social Responsibility	3	MGT 201, ACC 201, QBA 201; pre/con ENG 204	CRR
	SCI XXX	Science	3		GER SCI 1 of 2
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	Total		18		
Summer	BUS 397	Business Internship	0	junior or senior standing	MJR

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	FIN 401	International Finance	3	FIN 330, QBA 202; pre/con FIN 320	CNR
	CNE XXX	Concentration I Elective	3		CNE I 2 of 2
	CNE XXX	Concentration II Elective	3		CNE II 1 of 2
	FRE XXX	Free Elective	3		FRE 1 of 3
	MGT 406	Business Policy and Strategy	3	MGT 201, MKT 201, MIS 201, FIN 201, ENG 204, senior standing or permission of department	CRR
	Total		15		
Spring	CNE XXX	Concentration II Elective	3		CNE II 2 of 2
	FIN 450	Case Studies in Corporate Finance	3	FIN 330, 320	CNR
	SCI XXX	Science	3		GER SCI 2 of 2
	FRE XXX	Free Elective	3		FRE 2 of 3
	FRE XXX	Free Elective	3		FRE 3 of 3
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; BCT: Business Computer Placement Test; CNE: Concentration Elective; CRR: Core Requirement; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test;

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Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: Mathematics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

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

Proposed Sequence of Study

Bachelor of Science in Business Administration (BSBA)

Concentration: *Marketing and Management*

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	GER HSS 1 of 5
	MTH 101	Math for Business I	3	MBUS or MTH 002	GER MTH 1 of 2
	BIS 101	Business Information Systems	3	BCT or BIS 001 or DES 100 or MCM 100	CRR
	QBA 201	Quantitative Business Analysis	3	pre/con MTH 101	GER MTH 2 of 2
	Total		15		
Spring	ACC 201	Fundamentals of Financial Accounting	3	pre/con MTH 101 or 103 or 111	CRR
	QBA 202	Operations Management	3	QBA 201 or NGN 111 or STA 201 or 202	CRR
	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	GER HSS 2 of 5
	MTH 102	Mathematics for Business II	3	MTH 101	CRR
	Total		15		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	MGT 201	Fundamentals of Management	3	pre/con WRI 102	CRR
	ACC 202	Fundamentals of Managerial Accounting	3	ACC 201	CRR
	MKT 201	Fundamentals of Marketing	3	ECO 201, WRI 102	CRR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	Total		15		
Spring	ENG 208	Public Speaking	3	ENG 203 or 204 or 231 or MCM 231	CRR
	FRE XXX	Free Elective	3		FRE 1 of 3
	FIN 201	Fundamentals of Financial Management	3	MTH 102 or 103 or 111, and ACC 201	CRR
	MIS 201	Fundamentals of MIS	3	BIS 101 or NGN 110	CRR
	ARA XXX	Arabic Heritage	3		GER ARA 1 of 1
	Total		15		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	MKT 301	Consumer Behavior	3	MKT 201	CNR
	MGT 301	Organizational Behavior	3	MGT 201, ACC 201, and QBA 201 or NGN 111 or STA 201 or 202; pre/con ENG 204	CNR
	BLW 301	Business Law	3	ACC 201, ECO 202; pre/con ENG 204 or 208	CRR
	ENG 225	Writing for Business	3	ENG 203 or 204, junior standing	GER ELC 4 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	Total		15		
Spring	MGT 302	Managing Human Resources	3	MGT 201, ACC 201, QBA 201, ENG 204	CNR
	MKT 302	Marketing Research	3	MKT 201, QBA 201 or STA 201 or 202 or NGN 111; pre/con MIS 201	CNR
	MGT 380	Project Management	3	MIS 201, FIN 201, ACC 202, ENG 204; and MGT 301 or MIS 303	CNR
	MGT 360	Business Ethics and Social Responsibility	3	MGT 201, ACC 201, QBA 201; pre/con ENG 204	CRR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	SCI XXX	Science	3		GER SCI 1 of 2
	Total		18		
Summer	BUS 397	Business Internship	0	junior or senior standing	MJR

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	CNE XXX	Concentration I Elective	3		CNE I 1 of 2
	MKT 401	Marketing Strategy	3	MKT 301, 302	CNR
	CNE XXX	Concentration II Elective	3		CNE II 1 of 1
	SCI XXX	Science	3		GER SCI 2 of 2
	CRE XXX	Business Core Elective	3		CRE 1 of 1
Total			15		
Spring	MGT 406	Business Policy and Strategy	3	MGT 201, MKT 201, MIS 201, FIN 201, ENG 204, business senior standing or permission of department	CRR
	MGT 403	Entrepreneurship	3	ENG 204, senior standing or permission of department	CNR
	CNE XXX	Concentration I Elective	3		CNE I 2 of 2
	FRE XXX	Free Elective	3		FRE 2 of 3
	FRE XXX	Free Elective	3		FRE 3 of 3
Total			15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; BCT: Business Computer Placement Test; CNE: Concentration Elective; CRR: Core Requirement; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test;

Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: Mathematics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

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

Department of Accounting and Finance

Dennis Olson, Head

Faculty

Abed Al-Nasser Abdallah
Omneya Abdelsalam
Osamah Al-Khazali
Jörg Bley
Narjess Boubakri
Abdelaziz Chazi
Musa Darayseh (Leave AY 2007-2008)
Zouheir El-Jarkass
Erich Eischen
Gary Eldred
Ashraf Khallaf
Brent McCallum (Leave Fall 2007)
Mohsen Saad
Laura Tuttle
Zaher Zantout
Rabih Zeidan
Taisier Zoubi

Bachelor of Science in Finance (BSFIN)

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 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 Bachelor of Science in Finance degree 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 Bachelor of Science in Finance degree 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 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 Bachelor of Science in Finance degree 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 Program

The Bachelor of Science in Finance degree program has a number of distinctive features that provide AUS graduates with 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 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

Students interested in the BSFIN program are admitted as FIN-intended (FINI) and should apply to the head of the Department of Accounting and Finance for full admission into the BSFIN program no later than the first week of May of their sophomore year in SBM. They must complete the Change of Major form obtained from the Office of the Registrar. Upon

completion of at least 60 credits of study (excluding intensive English and preparatory 00X courses), applicants with a cumulative grade point average of 2.5 or higher (including all courses taken at AUS for credit) may be admitted to the BSFIN program.

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.

Degree Requirements

In addition to university and bachelor of science business core requirements, the following major courses are required for BSFIN students:

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 (minimum of 9 credits)

The FIN electives can be any three courses in finance at the 300 level or above with the approval of the advisor.

A maximum of two of the three electives may be from the following economics courses.

- 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 Banking and Finance
- ECO 351 Introduction to Econometrics

Free Electives (minimum of 9 credits)

Students must complete a minimum of nine credits at the 100 level or above, excluding MTH 100.

Proposed Sequence of Study
Bachelor of Science in Finance (BSFIN)

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	GER HSS 1 of 5
	MTH 101	Mathematics for Business I	3	MBUS or MTH 002	GER MTH 1 of 2
	BIS 101	Business Information Systems	3	BCT or BIS 001	CRR
	QBA 201	Quantitative Business Analysis	3	pre/con MTH 101 or DES 100 or MCM 100	GER MTH 2 of 2
	Total		15		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	GER HSS 2 of 5
	MTH 102	Mathematics for Business II	3	MTH 101	CRR
	ACC 201	Fundamentals of Financial Accounting	3	pre/con MTH 101 or 103 or 111	CRR
	QBA 202	Operations Management	3	QBA 201 or NGN 111 or STA 201 or 202	CRR
	Total		15		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	ACC 202	Fundamentals of Managerial Accounting	3	ACC 201	CRR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	FIN 201	Fundamentals of Financial Management	3	MTH 102 or 103 or 111, and ACC 201	CRR
	MGT 201	Fundamentals of Management	3	pre/con WRI 102	CRR
	Total		15		
Spring	ENG 208	Public Speaking	3	ENG 203 or 204 or 231 or MCM 231	CRR
	MKT 201	Fundamentals of Marketing	3	ECO 201, WRI 102	CRR
	ARA XXX	Arabic Heritage	3		GER ARA
	FIN 310	Analysis of Financial Statements	3	FIN 201, ACC 202	MJR
	MIS 201	Fundamentals of MIS	3	BIS 101 or NGN 110	CRR
	Total		15		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	SCI XXX	Science	3		GER SCI 1 of 2
	FIN 320	Banking	3	FIN 201, WRI 102; pre/con MIS 201	MJR
	FIN 330	Investments	3	FIN 201, ACC 202, WRI 102; pre/con MKT 201, MGT 201	MJR
	ENG 225	Writing for Business	3	ENG 203 or 204, junior standing	GER ELC 4 of 4
	BLW 301	Business Law	3	ACC 201, ECO 202; pre/con ENG 204 or 208	CRR
	Total		15		
Spring	CRE XXX	Business Core Elective	3		CRE 1 of 1
	FIN 402	Futures and Options	3	FIN 330, QBA 202; pre/con FIN 320	MJR
	FIN 440	Asset Valuation	3	FIN 330, pre/con FIN 320	MJR
	SCI XXX	Science	3		GER SCI 2 of 2
	FRE XXX	Free Elective	3		FRE 1 of 3
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	Total		18		
Summer	BUS 397	Business Internship	0	junior or senior standing	MJR

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	FRE XXX	Free Elective	3		FRE 2 of 3
	MJE XXX	Major Elective	3		MJE 1 of 3
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	FIN 401	International Finance	3	FIN 330, QBA 202; pre/con FIN 320	MJR
	MGT 360	Business Ethics and Social Responsibility	3	MGT 201, ACC 201, QBA 201; pre/con ENG 204	CRR
	Total		15		
Spring	MGT 406	Business Policy and Strategy	3	MGT 201, MKT 201, MIS 201, FIN 201, ENG 204, business senior standing or permission of department	CRR
	MJE XXX	Major Elective	3		MJE 2 of 3
	MJE XXX	Major Elective	3		MJE 3 of 3
	FIN 450	Case Studies in Corporate Finance	3	FIN 330, 320	MJR
	FRE XXX	Free Elective	3		FRE 3 of 3
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; BCT: Business Computer Placement Test; CNE: Concentration Elective; CRR: Core Requirement; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test; □ Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: Mathematics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

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

Department of Management Information Systems

Reza Barkhi, Head

Faculty

Frank Campa
Kim Heng Chen
Ananth Chiravuri
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Munir Majdalawieh
Richard Morey
Sofiane Sahraoui
Toufic Sai
Xiaobo Xu

Bachelor of Science in Management Information Systems (BSMIS)

The management information systems (MIS) 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 BSMIS 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 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 graphical user interface (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 entity relationship (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 information systems 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 degree program 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 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

Students interested in the BSMIS program are admitted as MIS-intended

(MISI) and should apply to the head of the Department of Management Information Systems for full admission into the BSMIS program no later than the first week of May of their sophomore year in SBM. They must complete the Change of Major form obtained from the Office of the Registrar. Upon completion of at least 60 credits of study (excluding intensive English and preparatory 00X courses), applicants with a cumulative grade point average of 2.5 or higher (including all courses taken at AUS for credit) may be admitted to the BSMIS program.

Degree Requirements

In addition to university and bachelor of science business core requirements, the following major courses are required for BSMIS students:

Major Requirements (24 credits)

- MIS 200 Principles of Business Programming
- MIS 300 Data Communications and Networking
- MIS 301 Fundamentals of Database Management
- MIS 303 Introduction to Systems Analysis
- MIS 304 Applied Systems Design
- MIS 402 Technology and Knowledge Management
- MIS 404 Internet Business Applications
- MIS 405 Information Systems Strategy

Major Electives (minimum of 6 credits)

The MIS elective can be any two courses in management information systems at the 300 level or above with the approval of the advisor. Additional MIS elective options include the following:

- MGT 380 Project Management
- MIS 203 Software Development for Business Applications

Free Electives (minimum of 9 credits)

Students must complete a minimum of nine credits at the 100 level or above, excluding MTH 100.

Proposed Course Sequence of Study
Bachelor of Science in Management Information Systems (BSMIS)

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	GER HSS 1 of 5
	MTH 101	Mathematics for Business I	3	MBUS or MTH 002	GER MTH 1 of 2
	BIS 101	Business Information Systems	3	BCT or BIS 001 or DES 100 or MCM 100	CRR
	QBA 201	Quantitative Business Analysis	3	pre/con MTH 101	GER MTH 2 of 2
	Total		15		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	GER HSS 2 of 5
	MTH 102	Mathematics for Business II	3	MTH 101	CRR
	ACC 201	Fundamentals of Financial Accounting	3	pre/con MTH 101 or 103 or 111	CRR
	QBA 202	Operations Management	3	QBA 201 or NGN 111 or STA 201 or 202	CRR
	Total		15		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	ACC 202	Fundamentals of Managerial Accounting	3	ACC 201	CRR
	MIS 200	Principles of Business Programming	3	MTH 101 or 103 or 111, and BIS 101 or NGN 110	MJR
	MGT 201	Fundamentals of Management	3	pre/con WRI 102	CRR
	MKT 201	Fundamentals of Marketing	3	ECO 201, WRI 102	CRR
	Total		15		
Spring	MIS 300	Data Communications and Networking	3	MIS 201, WRI 102	MJR
	ENG 208	Public Speaking	3	ENG 203 or 204 or 231 or MCM 231	CRR
	FIN 201	Fundamentals of Financial Management	3	MTH 102 or 103 or 111, and ACC 201	CRR
	MJE XXX	Major Elective	3		MJE 1 of 2
	MIS 201	Fundamentals of Management Information Systems	3	BIS 101 or NGN 110	CRR
	Total		15		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	BLW 301	Business Law	3	ACC 201, ECO 202; pre/con ENG 204 or 208	CRR
	MIS 301	Fundamentals of Database Management	3	MIS 200, 201, WRI 102	MJR
	MIS 303	Introduction to Systems Analysis	3	MIS 200, 201, WRI 102; pre/con FIN 201, MKT 201, MGT 201	MJR
	ENG 225	Writing for Business	3	ENG 203 or 204, junior standing	GER ELC 4 of 4
	Total		15		
Spring	MGT 360	Business Ethics and Social Responsibility	3	MGT 201, ACC 201, QBA 201; pre/con ENG 204	CRR
	MJE XXX	MIS Elective	3		MJE 2 of 2
	MIS 304	Applied Systems Design	3	MIS 301, 303	MJR
	CRE XXX	Business Core Elective	3		CRE 1 of 1
	ARA XXX	Arabic Heritage	3		GER ARA
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	Total		18		
Summer	BUS 397	Business Internship	0	junior or senior standing	MJR

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	MIS 402	Technology and Knowledge Management	3	MIS 301, MGT 360	MJR
	MIS 404	Internet Business Applications	3	MIS 301, 303; pre/con BLW 301	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	SCI XXX	Science	3		GER SCI 1 of 2
	FRE XXX	Free Elective	3		FRE 1 of 3
	Total		15		
Spring	MIS 405	Information Systems Strategy	3	senior standing, MIS 301, 303	MJR
	MGT 406	Business Policy and Strategy	3	MGT 201, MKT 201, MIS 201, FIN 201, ENG 204, business senior standing or permission of department	MJR
	SCI XXX	Science	3		GER SCI 2 of 2
	FRE XXX	Free Elective	3		FRE 2 of 3
	FRE XXX	Free Elective	3		FRE 3 of 3
	Total		15		

Abbreviations: ARA: Arabic Heritage Requirement; con: concurrent; BCT: Business Computer Placement Test; CNE: Concentration Elective; CRR: Core Requirement; CPT: Computer Placement Test; ELC: English Language Competency Requirement; EPT: English Placement Test;

Math Placement Test; MJE: Major Elective; MJR: Major Requirement; MPT: Mathematics Placement Test; pre/con: prerequisite/concurrent; SCI: Science Requirement

Bachelor of Arts Business Programs

SBM offers two bachelor of arts degree programs: economics and public administration. Admission and graduation requirements are specified under each degree description.

Department of Economics

Hugo Toledo, Head

Faculty

Bassam Abu Al-Foul
 Mohammad Arzaghi (Leave AY 2007-2008)
 Hamid Baghestani
 Andy Barnett
 John Chilton
 Daron Djerdjian
 Ismail Genc
 Marina Irimia-Vladu
 Samer Kher
 Jong Kim
 Michael Malcolm
 Peter Mitias
 George Naufal
 Anil Rupasingha
 Antonio Saravia
 Zane Spindler
 Ali Termos
 Joseph Wallis

Bachelor of Arts in Economics (BAE)

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 and make 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 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 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

Admission to the program follows AUS's admission requirements. Students transferring into the program must have a cumulative GPA of 2.3 or higher and permission of the head of the Department of Economics.

Degree Requirements

A minimum of 120 credits is required as follows:

- a minimum of 42 credits of general education requirements
- 27 credits of major requirements
- a minimum of 18 credits of major electives
- a minimum of 21 credits of major electives in related fields
- a minimum of 12 credits of free electives
- a minimum CGPA of 2.0

Note: The major electives in related fields requirement is waived if the student completes a minor outside of economics.

General Education Requirements (minimum of 42 credits)

- MTH 101 Mathematics for Business I or MTH 103 Calculus I or their equivalent, if approved by the Department of Economics
- STA 202 Introduction to Statistics for Social Sciences or QBA 201 Quantitative Business Analysis
- For the remaining general education requirements, students must refer to the Academic Policies and Regulations section of this catalog.

Major Requirements (27 credits)

- BIS 101 Business Information Systems
- 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

Major Electives (minimum of 18 credits)

Students must complete a minimum of 18 credits from economics courses at the 300 level or above not listed under the major requirements above.

Electives in Related Fields (minimum of 21 credits)

Courses may be selected from the fields listed below, subject to approval by the advisor. A student may satisfy part or all of the related course requirements by completing a minor in one of the related fields listed below (a student may not also minor in economics).

- accounting
- computer science
- economics (any course at the 300 level or above)
- finance
- history (any course at the 200 level or above)
- international studies
- management
- management information systems
- marketing
- mathematics (any course other than MTH 100 or MTH 111)
- political science
- psychology
- statistics (any course other than STA 201 or STA 202)
- quantitative business analysis (any course other than QBA 201)

Free Electives (minimum of 12 credits)

Students must complete any 12 credits at the 100 level or above, excluding MTH 100.

Proposed Course Sequence of Study
Bachelor of Arts in Economics (BAE)

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	SCI XXX	Science	3		GER SCI 1 of 2
	BIS 101	Business Information Systems	3	BCT or BIS 001 or DES 100 or MCM 100	MJR
	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	MJR
	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	MTH 101	Mathematics for Business I	3	MBUS or MTH 002	GER MTH 1 of 2
	Total		15		
Spring	RFE XXX	Related Field Elective	3		RFE 1 of 7
	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	MJR
	SCI XXX	Science	3		GER SCI 2 of 2
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or 101 or 103 or 111	GER MTH 2 of 2
	Total		15		

SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	ARA XXX	Arabic Heritage	3		GER ARA
	ECO 302	Intermediate Macroeconomics	3	ECO 201, 202, WRI 102	MJR
	ECO 310	Development Economics	3	ECO 201, 202, WRI 102	MJR
	Total		15		
Spring	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	ENG/WRI XXX	English Language Competency	3		GER ELC 4 of 4
	ECO 301	Intermediate Microeconomics	3	ECO 201, 202, WRI 102	MJR
	ECO 330	Money and Banking	3	ECO 201, 202, WRI 102	MJR
	RFE XXX	Related Field Elective	3		RFE 2 of 7
	Total		15		

THIRD YEAR (33 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	ECO 305	International Trade	3	ECO 201, 202, WRI 102	MJR
	MJE XXX	Major Elective	3		MJE 1 of 6
	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	RFE XXX	Related Field Elective	3		RFE 3 of 7
	Total		15		
Spring	RFE XXX	Related Field Elective	3		RFE 4 of 7
	MJE XXX	Major Elective	3		MJE 2 of 6
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	MJE XXX	Major Elective	3		MJE 3 of 6
	FRE XXX	Free Elective	3		FRE 1 of 4
	Total		15		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	RFE XXX	Related Field Elective	3		RFE 5 of 7
	ECO 495	Senior Seminar in Economics	3	ECO 301, 302, Junior II standing	MJR
	MJE XXX	Major Elective	3		MJE 4 of 6
	RFE XXX	Related Field Elective	3		RFE 6 of 7
	FRE XXX	Free Elective	3		FRE 2 of 4
	Total		15		
Spring	MJE XXX	Major Elective	3		MJE 5 of 6
	MJE XXX	Major Elective	3		MJE 6 of 6
	FRE XXX	Free Elective	3		FRE 3 of 4
	FRE XXX	Free Elective	3		FRE 4 of 4
	RFE XXX	Related Field Elective	3		RFE 7 of 7
	Total		15		

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Minor in Economics

Students enrolling in the economics minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

The following rules apply:

- The minor consists of a minimum of 21 credits including at least 12 credits in courses at or above the 300 level.
- At least nine credits of the 12 credits at or above the 300 level must be taken in

residence at AUS.

- At least nine credits of the minor must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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 seeking a minor in economics must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Minor Requirements (12 credits)

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

Minor Electives (minimum of 9 credits)

Students must complete a minimum of nine credits in economics with a minimum of six credits at the 300 level or above.

Department of Management, Marketing and Public Administration

Joseph Wallis, Head

Faculty

Abdulla Alhemedou
John Allee
Linda Angell
Nicholas Ashill (Spring 2008)
Robert Bateman II
Virginia Bodolica
Jean Boisvert
Tor Brodtkorb
John Forster
Gary Gold
Shaun Goldfinch
James Grant (Leave Fall 2007)
Justin Gressel
Matti Haverila
J. Lade Heaton
Marios Katsioloudes
Sajid Khan
Andrew Klein
Marian Mason
Peter Mason
James Reagan McLauren
Susan Morey
Robert Earl Naumann
Martin Spraggon-Hernandez
Marie Waxin
Allan Paul Williams

Bachelor of Arts in Public Administration (BAPA)

Effective public management creates the environment in which investment and business activity can produce a growing and dynamic economy. Efficient public service delivery also contributes to the quality-of-life enjoyed by private citizens. A degree in public administration provides students with a strong foundation in public management, interpersonal relations, leadership skills and public decision-making processes. The program emphasizes the administrative knowledge and managerial skills required for policy formulation, the acquisition of human and financial resources, the application of sound organizational and management methods, 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 positions in

the public, nonprofit and private sectors. Students majoring in public administration are prepared for careers in local, national, regional, international and nonprofit agencies. Graduates work in areas such as public policy development and analysis, management, human resources, public finance, nonprofit administration and business-government relations.

The mission of the Bachelor of Arts in Public Administration program is to provide students with strong undergraduate training in public management and the administrative sciences built upon an interdisciplinary liberal arts education. This program prepares students to become professional public managers, effective public officials and informed citizens. It enables them to meet the unique challenges of public service in both government and the non-profit sector by providing professional training in the key subdisciplines of public administration. Students with a degree in public administration are also well prepared to pursue graduate study at internationally recognized universities offering programs in public administration, policy, law, business or other related fields.

Students will learn managerial, political and legal theories, together with the processes that fulfill legislative, executive and judicial mandates to provide regulatory and service functions for a changing society. The public administration program brings together training in public management, organizational theories and leadership, human resource management, public finance, decision making, policy evaluation, political science, regulation and public sector ethics.

The minor in public administration provides an understanding of public sector management to complement the requirements of such disciplines as economics, engineering, finance and mass communication.

Program Objectives

Public administration students learn to think creatively about some of the most important policy and

management concerns facing the world today. 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, nonprofit or private sectors, or in international and diplomatic service
- stress integrity and personal ethics by reinforcing a vision of public service and the responsibilities of leadership and good citizenship
- ensure that each student has an opportunity to develop a specific functional competence within the field, so that he or she can make an meaningful contribution early in a career
- recruit, retain and develop a highly qualified faculty that makes student learning its first priority
- involve faculty members 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, communication skills, 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 communicate effectively about public issues. Listed below are examples of skill sets and competencies that students earning the Bachelor of Arts in Public Administration will take to their careers:

- public management processes, including public budgeting and human resources or personnel systems
- organizational design processes and behavior
- political, legal and ethical concepts related to issues in public service
- quantitative and qualitative analysis techniques
- policy analysis and program evaluation
- Ability to view public administration

issues in wider cultural, political, historical and global contexts, drawing on a foundation in the liberal arts

- ability to use computer applications in decision making
- analytical techniques to apply methodologies, identify and analyze key issues, and make sound judgments based on data and effective problem solving

Distinctive Features of the Program

The Bachelor of Arts in Public Administration is unique in its delivery of an American model of undergraduate education in public administration. Its interdisciplinary approach draws on political science, economics and philosophy, in addition to courses from business and management. The faculty is deeply committed to teaching students effective administration by sharpening their analytical skills, refining their ability to research topics, and improving their ability to convey findings in written and oral presentations. The program encourages team projects and interaction with public, private and non-governmental organizations.

Although not required, most students take advantage of the opportunity to complete an internship with a public organization. This program allows participants to apply the lessons learned in their course work and offers a chance to experience first-hand the challenges faced by working administrators as they attempt to serve a public with competing demands and priorities.

The mission is achieved with the help of a dedicated, qualified faculty actively pursuing applied research and providing consulting services to governments, businesses, NGOs and international organizations, enabling professors to bring new initiatives and practices into the classroom.

Admission

Admission to the program follows AUS's admission requirements. Students transferring into the program must have a cumulative GPA of 2.0 or higher and permission of the

department head.

Degree Requirements

A minimum of 120 credits is required, including:

- a minimum of 42 credit of general education requirements
- 42 credits of major requirements
- a minimum of 12 credits of major electives
- a minimum of 15 credits in related fields
- a minimum of nine credits of free electives

General Education Requirements (minimum of 42 credits)

- MTH 101 Mathematics for Business I or MTH 102 Mathematics for Business II
- STA 202 Introduction to Statistics for Social Sciences
- For the remaining general education requirements, students must refer to the Academic Policies and Regulations section of this catalog.

Major Requirements (42 credits)

- ACC 201 Fundamentals of Financial Accounting
- BIS 101 Business Information Systems
- ECO 201 Principles of Microeconomics
- ECO 202 Principles of Macroeconomics
- ECO 325 Public Economics
- ECO 345 Public Choice
- PBA 101 Introduction to Public Administration
- PBA 201 Public Management or MGT 201 Fundamentals of Management
- PBA 301 Organizational Behavior or MGT 301 Organizational Behavior
- PBA 304 Public Budgeting
- PBA 306 Human Resources Management in Public Organizations
- PBA 495 Seminar in Public Administration
- PHI 204 Ethics for Professionals
- POL 201 Introduction to Political Studies

Major Electives (minimum of 12 credits)

Students will work with an advisor to select a series of courses leading to in-depth knowledge in a specific emphasis, such as public finance, human resource management, public economics, etc. Courses include those offered in the School of Business and Management at the 300 level or above not included in the major

requirements. Approval of the advisor is required. Six of the 12 credits must be at the 300 level or above.

Electives in Related Field (minimum of 15 credits)

Students take courses in related fields to develop an appreciation for other disciplines and perspectives. Six of the credits used to meet this requirement must be at the 200 level or above. Courses may be selected from the related fields listed below, subject to approval by the advisor. A student may satisfy part or all of this requirement by completing a minor in one of the following fields related to public administration, but will require approval from the department head for courses outside of the related fields listed.

- cultural studies
- environmental science
- engineering management
- geography
- history
- international studies
- mass communication
- mathematics
- political science
- psychology
- sociology
- statistics
- courses offered in the School of Business and Management at the 200 level or above

Free Electives (minimum of 9 credits)

Students must complete a minimum of nine credits at the 100 level or above, excluding MTH 100.

Minor in International Business

This minor is designed to provide interested students with the tools, theory and practical knowledge required to function in an international business environment and to prepare students for an entry-level position at a multinational corporation. Emphasis is on essential international business knowledge, supplemented by courses from other disciplines such as economics and international relations.

In addition to the course requirements listed below, 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.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- At least nine credits of the minor must be taken in residence at AUS.
- Free electives can be taken toward the minor.
- 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.

Minor Requirements (9 credits)

- ECO 305 International Trade
- MGT 305 International Business
- MGT 306 Cross-Cultural Management

Minor Electives (minimum of 9 credits)

One of the following courses:

- ACC 420 International Accounting Standards
- ECO 321 Comparative Economic Systems
- FIN 401 International Finance
- MKT 309 International Marketing
- QBA 311 Logistics Management

Plus any two of the following not already taken:

- ACC 420 International Accounting Standards
- ECO 310 Development Economics

- ECO 315 Economics of the Middle East
- ECO 321 Comparative Economic Systems
- ECO 394 Special Topics in Economics (by approval)
- FIN 401 International Finance
- MGT 394 Special Topics in Management (by approval)
- MIS 404 Internet Business Applications
- MKT 309 International Marketing
- QBA 311 Logistics Management

Minor in Public Administration

Students enrolling in the public administration minor should have normally completed a minimum of 30 credits of course work and be in good academic standing.

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.
- At least six credits of the nine credits at or above the 300 level must be taken in residence at AUS.
- At least nine credits of the minor must be taken in residence at AUS.
- Free electives can be taken toward the minor.

- 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 seeking a minor in public administration must complete the following courses or their equivalent. All course prerequisites must be satisfied.

Prerequisite Courses

- BIS 101 Business Information Systems (not required for students from engineering or computer science)
- ECO 201 Principles of Microeconomics
- ECO 202 Principles of Macroeconomics
- MTH 101 or MTH 102 or MTH 103 or MTH 104 or MTH 111

Foundation Courses (12 credits)

- ECO 325 Public Economics
- PBA 101 Introduction to Public Administration
- PBA 201 Public Management or MGT 201 Fundamentals of Management
- PBA 306 Human Resources Management in Public Organizations

Upper Division Courses (minimum of 6 credits)

Students must complete two additional PBA courses with a minimum of three credits at the 300 level or above.

Proposed Course Sequence of Study Bachelor of Arts in Public Administration (BAPA)

FIRST YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	MTH 101	Mathematics for Business I	3	MBUS or MTH 002	GER MTH 1 of 2
	WRI 101	Academic Writing	3	EPT 4 or WRI 001	GER ELC 1 of 4
	PBA 101	Introduction to Public Administration	3		MJR
	BIS 101	Business Information Systems	3	BCT or BIS 001 or DES 100 or MCM 100	MJR
	ECO 201	Principles of Microeconomics	3	EPT 4 or WRI 001	MJR
Total			15		
Spring	WRI 102	Writing and Reading Across the Curriculum	3	EPT 5 or WRI 101	GER ELC 2 of 4
	ARA XXX	Arabic Heritage	3		GER ARA
	STA 202	Introduction to Statistics for Social Sciences	3	MTH 100 or 101 or 103 or 111	GER MTH 2 of 2
	SCI XXX	Science	3		GER SCI 1 of 2
	ECO 202	Principles of Macroeconomics	3	EPT 4 or WRI 001	MJR
Total			15		

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SECOND YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	ENG 204	Advanced Academic Writing	3	WRI 102	GER ELC 3 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 1 of 5
	ACC 201	Fundamentals of Financial Accounting	3	pre/con MTH 101 or 103 or 111	MJR
	PHI 204	Ethics for Professionals	3	WRI 102	MJR
	PBA 306	Human Resources Mgt. in Public Org.	3	PBA 101, WRI 102	MJR
	Total		15		
Spring	POL 201	Introduction to Political Studies	3	WRI 102	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 2 of 5
	PBA 201 or MGT 201	Public Management or Fundamentals of Management	3	PBA 101, WRI 102/ pre/con WRI 102	MJR
	PBA 304	Public Budgeting	3	PBA 101, WRI 102, ACC 201 and BIS 101	MJR
	ENG/WRI XXX	English Language Competency	3		GER ELC 4 of 4
	Total		15		

THIRD YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	HSS XXX	Humanities/Social Sciences	3		GER HSS 3 of 5
	MJE XXX	Major Elective	3		MJE 1 of 4
	PBA 301 or MGT 301	Organizational Behavior	3	PBA 101, WRI 102/MGT 201 and ACC 201, QBA 201 or NGN 111 or STA 201 or 202; pre/con ENG 204	MJR
	ECO 325	Public Economics	3	ECO 201, 202, WRI 102	MJR
	SCI XXX	Science	3		GER SCI 2 of 2
	Total		15		
Spring	MJE XXX	Major Elective	3		MJE 2 of 4
	RFE XXX	Related Field Elective	3		RFE 1 of 5
	ECO 345	Public Choice	3	ECO 201, 202, WRI 102	MJR
	HSS XXX	Humanities/Social Sciences	3		GER HSS 4 of 5
	FRE XXX	Free Elective	3		FRE 1 of 3
	Total		15		

FOURTH YEAR (30 credit hours)					
Term	Course #	Course Title	Credits	Prerequisite(s)	Fulfills
Fall	MJE XXX	Major Elective	3		MJE 3 of 4
	HSS XXX	Humanities/Social Sciences	3		GER HSS 5 of 5
	RFE XXX	Related Field Elective	3		RFE 2 of 5
	RFE XXX	Related Field Elective	3		RFE 3 of 5
	FRE XXX	Free Elective	3		FRE 2 of 3
	Total		15		
Spring	MJE XXX	Major Elective	3		MJE 4 of 4
	RFE XXX	Related Field Elective	3		RFE 4 of 5
	RFE XXX	Related Field Elective	3		RFE 5 of 5
	PBA 495	Seminar in Public Administration	3	senior standing in PBA	MJR
	FRE XXX	Free Elective	3		FRE 3 of 3
	Total		15		

AUS



College of Arts and Sciences

ARA Arabic

Arabic Language

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. Does not satisfy the Arabic heritage requirement.

ARA 200 Arabic as a Second Language II (3-0-3). Builds upon the language skills developed in ARA 104 to further extend students' knowledge and proficiency in modern Arabic. Does not satisfy the Arabic heritage requirement. Prerequisite: ARA 104 or permission of the instructor.

ARA 210 Composition for Native Speakers of Arabic (3-0-3). (Formerly ARA 103). 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. Takes a historical look at styles of composition in Arabic.

ARA 220 Composition for Non-Native Speakers of Arabic (3-0-3). Aims to develop the writing skills of non-native speakers of Arabic. Develops themes such as letter writing and gives attention to the development of different styles in modern and contemporary Arabic writings. Prerequisite/concurrent: ARA 200.

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 focus for this course. Prerequisite: ARA 200. Does not satisfy the Arabic heritage requirement.

ARA 309 Business Arabic (3-0-3). Develops students' abilities in reading and writing Arabic-language business documents and proposals. Teaches

Arabic speaking and listening skills necessary for effective communication in the business world. Prerequisite: ARA 200 or ARA 210. Does not satisfy the Arabic heritage requirement.

ARA 314 Media Arabic (3-0-3). Teaches and practices the language skills necessary to comprehend and contribute to a wide range of Arabic-language media. Prerequisite: ARA 200 or ARA 210. Does not satisfy the Arabic heritage requirement.

ARA 340 The Social Context of Arabic (3-0-3). (In English). Discusses language issues in the Arab world by relating language to national identity. Identifies and characterizes sociopolitical problems related to the development of Modern Standard Arabic in the Arab world today and how they affect language planning, literacy development and evolution of MSA. Prerequisite: ENG 203 or ENG 204.

ARA 404 Working with MSA Texts (3-0-3). Builds on the earlier Arabic courses using materials that are more advanced. Modern Standard Arabic texts (political, economic and social) will be used to develop further the grammatical structures and the four skills practiced in earlier courses. The course will cover advanced language competency and skills such as skimming, summarizing, paraphrasing and extended writing. Prerequisite: permission of advisor. Does not satisfy the Arabic heritage requirement. Prerequisite: ARA 200 or ARA 210.

Arabic Literature

ARA 101 and 102 Readings in Arabic Heritage (3-0-3). (In Arabic and English). Surveys 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. Prerequisite/concurrent for ARA 101 in English: WRI 102.

ARA 201 Arabic Literature in Translation (3-0-3). (In English).

Provides a detailed study of genre and theme in Arabic literature with special emphasis on the modern period. Prerequisite: WRI 102.

ARA 202 Arab-Islamic History and the History of Arabic Literature (3-0-3). (In English). 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. Prerequisite: WRI 102.

ARA 206 Modern Arabic Prose (3-0-3). (In Arabic). Surveys the renaissance of Arabic prose from the 19th century to the present. Probes and examines in the modern Arabic novel, short story, play and autobiography. The rise of these fundamentally Western literary forms in the Arab world as a result of the "Nahda." Prerequisite: ARA 101.

ARA 207 Arabic Drama (3-0-3). (In Arabic). 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. Prerequisite: ARA 101.

ARA 213 Contemporary Arabic Literature (3-0-3). (In Arabic). Surveys modern and postmodern Arabic fiction, drama, poetry and criticism. Themes include love, death, exile, and social and political concerns. Examines the nexus between literary works and contemporary Arab life. Prerequisite: ARA 101.

ARA 302 Arab Identity and Thought (3-0-3). (Formerly CSC 302). (In English). Examines representative writings by Arab authors dealing with Arab identity formation in relation to or in opposition to other nations and cultures. WRI 102

ARA 303 Classical Arab/Islamic Culture (3-0-3). (Cross-listed as CSC 303) (In English). 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 has made. Prerequisite: WRI 102.

ARA 304 Modern Arabic Poetry (3-0-3). (In Arabic). Surveys the renaissance of Arabic poetry from the 19th century to the present. Prerequisite: ARA 101.

ARA 310 Images of America in Arabic Literature and Film (3-0-3). (In English). 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 the 1890s to present. Prerequisite: WRI 102.

ARA 312 Modern Arabic Literature: Prose and Poetry (3-0-3). (In Arabic). Surveys the renaissance (Nahda) of Arabic literature from the early 20th century to the present. Illustrates contemporary literary trends such as neo-classicism, romanticism and modernism through the study of selected novels, short stories, drama and poetry. Prerequisite: ARA 101.

ARA 401 Literary Criticism from the Arab Perspective (3-0-3). (In Arabic). Surveys the history of literary criticism in Arabic literature from the classical period to the present. Prerequisite: ARA 210.

ARA 405 Literature of the Arabian Gulf (3-0-3). (Formerly ARA 305) (In Arabic). Examines the contribution of literary figures in the Arabian Gulf, especially those of the United Arab Emirates, to Arabic literature in general. Prerequisite: ARA 210.

BIO Biology

BIO 101 General Biology I (3-3-4). Covers the molecular basis of life, the carbon atom, cells, organelles, plant and animal physiology, genetics, speciation, evolution, the origins of life and bacteriology. Designed to give students an in-depth study of biology that will prepare them for a profession in biology. Lab/Tech fee rate A applies.

BIO 102 General Biology II (3-3-4). Covers plant and animal diversity, animal evolution, plant and animal form and function, body systems, animal behavior, ecology and conservation biology. Designed to give students an in-depth study of organism biology that will prepare them for a profession in biology. Prerequisite: BIO 101. Lab/Tech fee rate A applies.

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 210 Human Anatomy and Physiology for Engineers (3-0-3). Provides a basic foundation in human anatomy and physiology with an emphasis on the normal functions of the major human organ systems. Current literature on some human diseases resulting from dysfunction is also discussed. Prerequisite: BIO 101.

BIO 251 Environmental Ecology (2-3-3). (Cross-listed as ENV 251). Deals with the general principles of ecology with an emphasis on desert ecology and conservation. Students will learn from case studies that illustrate important ecological principles. Laboratory exercises emphasize basic field ecology techniques, experimental design, data collection, modeling and analysis. Two professional quality written reports are required. Prerequisite: BIO 102. Lab/Tech fee rate A applies.

BIO 260 Genetics (3-0-3). Covers the general principles of genetics from Mendelian to modern molecular genetics, including genetic engineering, the human genome project and genetics in medicine, agriculture 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.

BIO 330 Ecosystems Management (3-0-3). (Formerly BIO 230). Focuses on the policies of ecosystems management from a scientific and

natural approach. Special attention will be given to current research and case studies of organism adaptations and roles in specific habitats and adverse environments, and to formulate approaches and policies most suitable for the management of natural, restored and artificial ecosystems. Management practices will be reviewed in light of current scientific and sociobiological understanding of biodiversity, conservation and sustainability. Prerequisite: ENV 251 or BIO 251.

BIO 335 Environmental Microbiology (3-3-4). (Cross-listed as ENV 335). Covers the biology of microorganisms (viruses, bacteria, fungi and helminthes). It emphasizes the role they play in our lives in the environment, pathology, industry, bioremediation and health. Students will learn sterile techniques, how to culture and identify bacteria and how to control them in clinical, personal and environmental settings. Prerequisite: BIO 101. Lab/Tech fee rate A applies.

BIO 361 Evolution and Biodiversity (3-0-3). (Cross-listed as ENV 361). Introduces principles of evolution as applied to all organisms. Covers the origins of life, the history of evolution, biogeography, population genetics, speciation, phylogenetic analysis, human evolution and applications to current problems in agriculture, species conservation, population dynamics and the effects of environmental change. Prerequisite: BIO 260.

BIO 421 Aquatic Environments (2-3-3). (Cross-listed as ENV 421). Focuses on interactions between biological, chemical and physical processes in marine environments. Strong emphasis is placed on marine ecology and local fauna of the Gulf region. Topics include marine physics and chemistry and their importance to marine biology, oceanic plankton and nekton, deep-water biology, coastal habitats, energy flow, fisheries and marine conservation issues. Prerequisite: ENV 251 or BIO 251. Lab/Tech fee rate A applies.

BIO 461 Desert and Maritime Plants (3-0-3). Gives students a good working knowledge of the desert and maritime plants that are unique to the United Arab

Emirates. Also familiarizes them with the proper taxonomy and identification of species, as well as provides knowledge about the environment in which they grow. Emphasis will be on the adaptations of plant species to the special stresses plants encounter in the hot, dry and often salty environments found in this region. Prerequisite: BIO 251 or ENV 251.

CHM Chemistry

CHM 101 General Chemistry I (3-3-4). 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. Laboratory experiments illustrate principles discussed in the course. Lab/Tech fee rate A applies.

CHM 102 General Chemistry II (3-3-4). Covers the solid state and crystallography, the liquid state and phase diagrams, properties of solutions, including colligative and chemical properties; reaction kinetics, 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. Lab/Tech fee rate A applies.

CHM 103 Chemistry and Everyday Life (3-0-3). Introduces the fundamental principles of chemistry and the role of chemistry in everyday activities. Topics include chemistry of the nucleus and the atomic bomb, acids and bases, petroleum products, environmental chemistry, perfumes, cosmetics, soaps and detergents, chemistry in the kitchen, food additives and food coloring, pesticides, toxins and poisons, chemistry of the mind, forensic chemistry and DNA finger printing. Not open to science or engineering students.

CHM 105 Chemistry and the Environment (3-0-3). Covers topics related to 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 and demonstrations. 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, SN1, SN2, E1 and E2 mechanisms. Prerequisite/concurrent: CHM 102.

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 217 Organic Chemistry Laboratory I (0-4-1). (Formerly CHM 215L). Includes experiments on purification, separation and identification techniques. It also includes synthesis of various organic compounds. Prerequisite: CHM 215. Lab/Tech fee rate A applies.

CHM 218 Organic Chemistry Laboratory II (0-4-1). (Formerly CHM 216L). Includes experiments related to the theoretical principles and synthetic methods of modern organic chemistry. Prerequisites: CHM 216 and CHM 217. Lab/Tech fee rate A applies.

CHM 221 Basic Concepts of Inorganic Chemistry (3-0-3). Introduces basic concepts of inorganic chemistry. Covers atomic structure and the periodic table; molecular models, Lewis structure, electron pair repulsion model, hybridization and its use in explaining molecular properties; symmetry, point groups, electronic transitions and molecular vibrations; and molecular orbital theory of homonuclear

and heteronuclear diatomic molecules and some triatomic molecules. Includes applications of inorganic compounds in environmental systems. Prerequisite: CHM 102.

CHM 241 Quantitative Analysis (2-3-3). Introduces the basic theories underlying analytical methods of chemical analysis. 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 315 Organic Chemistry III (3-0-3). Covers chemistry and reactions of β -dicarbonyl compounds, neighboring group effects, phenols, aryl halides, electrocyclic and cycloaddition reactions, thiols, reactions and synthesis of heterocyclic amines, alkaloids, carbohydrates, lipids, amino acids and proteins. Prerequisite: CHM 216.

CHM 321 Chemistry of Transition Metals (3-3-4). Covers principles and applications of transition metal chemistry. Topics include coordination chemistry, group theory, organometallic reaction mechanisms, electrochemistry, photochemistry, bioinorganic chemistry, catalysis and applications to organic synthesis. In the practical part, typical inorganic complexes of some non-transition and transition elements are prepared and characterized using physical methods and spectroscopic techniques. Prerequisite: CHM 221. Lab/Tech fee rate A applies.

CHM 330 Physical Chemistry I (3-0-3). (Formerly CHM 231). 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 331 Physical Chemistry II (3-0-3). Covers kinetics, electrochemistry, surface chemistry and transport properties. In kinetics, the 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 330 or CHE 303.

CHM 332 Physical Chemistry III (3-0-3). Comprises three parts: quantum mechanics (structure of the atom, simple quantum mechanical systems, H-atom, harmonic oscillator and angular momentum); chemical spectroscopy (atomic spectrum, IR spectroscopy and electronic spectra of molecules); and statistical mechanics (Maxwell's distribution, partition and thermodynamic functions). Prerequisite: CHM 331.

CHM 335 Physical Chemistry Laboratory (1-5-2). Comprises individually performed experiments. Topics in this advanced laboratory include 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. Lab/Tech fee rate B applies.

CHM 345 Instrumental Analysis (2-3-3). (Formerly CHM 445). Introduces modern instrumental methods of analysis utilized by scientists, environmentalists and engineers. Provides an understanding of the principles, laws and operation of modern instrumentation, including 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. Lab/Tech fee rate B applies.

CHM 350 Introduction to Biochemistry (3-0-3). Introduces the fundamental principles of biochemistry. Covers nucleotides and the structure of nucleic acids; protein structure and function; carbohydrates; lipids and the structure of biological membranes; enzymatic catalysis and regulations; the metabolism of carbohydrates, lipids, and amino acids; photosynthesis; and citric acid cycle. Prerequisite/concurrent: CHM 216.

CHM 415 Spectroscopy in Organic Chemistry (3-0-3). Deals with modern methods of structure determination employing spectroscopic techniques and stereochemistry. Topics include infrared spectroscopy of organic functional groups; nuclear magnetic spectroscopy (NMR) (chemical shifts, coupling constants, first and second order spectra, two-dimensional spectroscopic methods); ultraviolet spectroscopy, its origin and applications to different chromophores; mass spectrometry (spectrum generation, interpretation and fragmentation patterns of various classes of organic compounds); and solving combined structure problems. Prerequisite: CHM 216.

CHM 431 Biophysical Chemistry (3-0-3). Deals with the physical chemistry of biological and biochemical molecules. Covers applications of chemical potential to membranes; multiple equilibria in biochemical systems; binding of small molecules and ions to macromolecules; cooperative phenomena; types of molecular weights; transport process (diffusion, sedimentation, viscosity, and electrophoresis); polarography; light scattering; enzyme kinetics and pharmacokinetics; the physical chemistry of nucleic acids; the relation between structure and function of biological macromolecules; and conformational transitions. Prerequisite: CHM 331.

CHM 491 Senior Research Project I (0-6-3). Requires students to select a chemistry problem for independent research project. Upon approval of the department, the student begins with a literature search then follows up with laboratory studies. The results are then presented in a seminar as well as thesis form. Lab/Tech fee rate B applies. Prerequisite: senior standing.

CHM 492 Senior Research Project II (0-6-3). Continuation of CHM 491. Requires students to select a new or related chemistry problem for independent research project. Upon approval of the department, the student begins with a literature search then follows up with laboratory studies. The results are then presented in a seminar as well as thesis form. Lab/Tech fee rate B applies. Prerequisite: senior standing.

CSC Cultural Studies

CSC 201 Western Cultural Studies I (3-0-3). Introduces the student to the basic doctrines and concepts of Western civilization. Covers reading material from the Renaissance to modern times, focusing on selections from the great books that have made Western civilization what it is. Deals with readings that cover theology, politics, science and literature. Prerequisite: WRI 102.

CSC 202 Western Cultural Studies II (3-0-3). Continues the introduction of students to the basic doctrines and concepts of Western civilization. Covers reading material from modern and contemporary authors focusing on selections from the great books that have made Western civilization what it is. Deals with readings that cover theology, politics and literature. Prerequisite: WRI 102.

CSC 205 World Cultures (3-0-3). Explores the varied cultures of the world. Helps students acquire an appreciation for the critical importance of societal culture as a tool of human survival. 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: WRI 102.

CSC 303 Classical Arab/Islamic Culture (3-0-3). (Cross-listed as ARA 303). 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. Prerequisite: WRI 102.

CSC 402 Qur'anic Studies (3-0-3). (Formerly ARA 402). Examines select issues studied in 'Ulum al-Qur'an. Compares sacred texts of other religions. Basic understanding of Qur'anic script is necessary. Prerequisites: ARA 101, and ENG 203 or ENG 204.

EDU Education

EDU 210 Philosophy of Education (3-0-3). Focuses on the aims and purposes of education and traces the development of education and the concept of schooling from Plato and Confucius to contemporary educational thinkers. Gives special attention to issues of current educational concern including gender and educational values. Prerequisite: WRI 102.

EDU 220 Introduction to Teaching (3-0-3). Introduces students to the basic issues important to the teaching profession. Covers effective teaching practices such as planning, classroom organization, behavior management and use of technology in the classroom. Explores other issues in teaching, including motivation, leadership, and multicultural and international education. Prerequisite: WRI 102.

EDU 307 Teaching and Learning in an Electronic Environment (3-0-3). Focuses on the prominent research and best practices trends in content and language learning, as well as the social and individual factors that affect teaching processes in an electronic environment. Explores how research and best practices in the area of e-learning can be utilized in different classroom situations. Prerequisite: EDU 210 or EDU 220.

EDU 309 Classroom Discourse (3-0-3). Focuses on patterns of language used by students and teachers in a variety of classrooms. Examines how these patterns can affect the equality or inequality of students' educational and learning opportunities. Analyzes discourse from the perspective of teaching practitioners in different professional settings. Prerequisite: EDU 210 or EDU 220.

EDU 319 Teaching and Learning in a Foreign Language (3-0-3). Discusses various theoretical models dealing with teaching in a foreign language to children and adolescents. Examines the processes involved when reading and learning in a foreign language as well as effective instructional strategies based on current research in the field. Prerequisite: EDU 210 or EDU 220.

EDU 325 Methodology and Materials Development (3-0-3). Introduces students to pedagogical approaches, techniques and methodologies that can be useful in various educational settings. Offers students the opportunity to evaluate and adapt commercially available textbooks as well as to create their own discipline-specific teaching materials. Prerequisite: EDU 210 or EDU 220.

EDU 329 Curriculum Development (3-0-3). Introduces students to the basic principles of effective assessment and course design. Covers evaluating learner centered/communicative curriculum, setting goals and objectives, analyzing resources, writing syllabi and conducting students' needs analyses. Prerequisite: EDU 210 or EDU 220.

ENG English English Language

ENG 203 Writing about Literature (3-0-3). (Formerly COM 203). Builds upon the skills acquired in WRI 102 to develop further students' critical thinking and academic writing competencies. Requires students to read short stories, poetry and drama and produce a research paper using analytical and critical skills in response to literary texts. Prerequisite: WRI 102.

ENG 204 Advanced Academic Writing (3-0-3). (Formerly COM 204). Builds upon the skills acquired in WRI 102 to develop further students' critical thinking and academic writing competencies. Requires students to 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: WRI 102.

ENG 207 English for Engineering (3-0-3). (Formerly COM 207). 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. Prerequisites: ENG 204 and junior standing.

ENG 208 Public Speaking (3-0-3). (Formerly COM 208). Introduces students to the art of public speaking, debate and argument. Helps students gain confidence as public speakers by learning the techniques of making effective presentations and by gaining extensive practice in public speaking. Prerequisite: ENG 203 or ENG 204 or ENG 231 or MCM 231.

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. Covers grammar and appropriate usage, oral vs. written language, formal vs. informal language, standard vs. non-standard languages, language universals and language typology. Prerequisite: WRI 102.

ENG 224 English Grammar (3-0-3). Focuses on the fundamental rules of English grammar as they relate to sentence structure and function. Explores different systems of analysis, including an introduction to the analysis of texts. Prerequisite: WRI 102.

ENG 225 Writing for Business (3-0-3). (Formerly COM 225). 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. Prerequisites: ENG 203 or ENG 204 and junior standing.

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. Emphasizes linguistic change in English throughout its history. Prerequisite: WRI 102.

ENG 231 Writing for Visual Media (3-0-3). (Formerly COM 231). Introduces students to existing and emerging communication technology and examines its impact on the communication process. Prepares students to manage the process of designing documents, from the planning stage through final production. Helps students learn basic rhetorical principles and apply them by writing articles, stories and advertising copy.

Prerequisites: ENG 203 or ENG 204 and junior standing.

ENG 234 Language in Society (3-0-3). Introduces the student to the sociolinguistic approach to language. Focuses on how language structure and language use are interrelated and also examines variables responsible for language variation within a speech community. Explores definitions of language, dialect, diglossia and multilingualism. Prerequisite: WRI 102.

ENG 302 Stylistics (3-0-3). Examines the essential concepts and techniques of literary stylistics. Uses selected literary texts to illustrate and explain a variety of English language structures. Prerequisite: ENG 203 or ENG 204.

ENG 320 Intercultural Communication (3-0-3). (Formerly COM 220; cross-listed as MCM 320). Provides an overview of world cultural literacy and shows how cultures influence communication. Helps students acquire broad knowledge about the interrelation of the humanities, music, mythology, art, theatre, history and science. Prerequisite: ENG 203 or ENG 204.

ENG 331 The Sound Patterns of Language (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. Examines inflectional and derivational rules in language and word formation processes. Prerequisite: ENG 223 or ENG 224.

ENG 332 The Psychology of Language (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 or ENG 224.

ENG 385 Language and Gender (3-0-3). Examines the reasons behind the differences in men's and women's talk. Explores how categories of language influence one's belief about one's self and others and the ways in

which gendered language use relates to power and dominance in society. Prerequisite: ENG 223 or ENG 224.

ENG 401 Advanced English Grammar (3-0-3). (Cross-listed as ELT 501). Provides an intensive investigation into contemporary English sentence structure, function and meaning. Analyzes how structure types and sentence relationships are realized in various texts and genres. Discusses issues relative to descriptive/prescriptive approaches to language. Prerequisite: ENG 223 or ENG 224.

ENG 405 Discourse Analysis (3-0-3). Looks at the interpretation of meaning situated beyond the level of the sentence. Examines the role of notions such as background knowledge, cohesion and coherence in texts and conversational interaction in order to achieve a better understanding of how language works as a communication medium. Prerequisite: ENG 223 or ENG 224 or TRA 220.

ENG 495 Seminar in English (3-0-3). Focuses on various topics in English language or English literature. Prerequisite: junior standing.

English Literature

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. Focuses primarily on accessible modern and contemporary work. Designed for non-majors who need to fulfill their English language competency requirement or humanities requirement as well as for English majors. Prerequisite: ENG 203 or ENG 204.

ENG 214 Nineteenth Century American Literature (3-0-3). Examines American literature from the colonial period to 1900, concentrating on the philosophical, social and political issues that shaped the styles and ideas of such writers as Franklin, Poe, Emerson, Thoreau, Dickinson, Whitman and Twain. Prerequisite: ENG 203 or ENG 204.

ENG 215 Contemporary World

Literature (3-0-3). Introduces students to contemporary literary movements such as postmodernism, magic realism, feminism, regionalism and postmodernism. Studies the works of major international writers such as Grass, Calvino, Kundera, Allende, Mahfouz, Mimouni and Soyenko. Works studied will be written in or translated into English. Prerequisite: ENG 203 or ENG 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: ENG 202 or ENG 210 or ENG 214 or ENG 215.

ENG 301 Creative Writing (3-0-3). (Formerly ENG 201). Introduces the basic elements of writing and evaluating poetry, fiction and creative non-fiction. Requires students to submit at least 20 pages of material suitable for inclusion in the student literary magazine. Prerequisite: ENG 203 or ENG 204.

ENG 303 Shakespeare's Plays (3-0-3). Examines works by Shakespeare. Covers Shakespeare's histories, romances, comedies and tragedies within the context of the politics, history and culture of his time. Prerequisite: ENG 203 or ENG 204.

ENG 312 English Poetry and Prose I: Beginnings to 1800 (3-0-3). (Formerly ENG 202). 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: ENG 203 or ENG 204.

ENG 313 English Poetry and Prose II: 1800 to Present (3-0-3). (Formerly ENG 213). 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: ENG 203 or ENG 204.

ENG 314 Twentieth Century American Literature (3-0-3). Examines American literature from

1900 to the present, concentrating on the philosophical, social and political issues that shaped the work of writers. Discusses the changing form and content of American fiction, drama, poetry and essay, as well as relevant literary theories. Prerequisite: ENG 203 or ENG 204.

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. Prerequisite: ENG 203 or ENG 204.

ENG 316 Modern Drama and Beyond (3-0-3). (Formerly ENG 216). 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. Prerequisite: ENG 203 or ENG 204.

ENG 378 Literature as Film (3-0-3). (Cross-listed as MCM 378). Uses literary works and their cinematic adaptations to introduce students to film theory ideas and their parallel techniques in literature. Prerequisite: ENG 203 or ENG 204.

ENG 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. Prerequisite: ENG 203 or ENG 204.

ENG 410 The American Novel (3-0-3). (Formerly ENG 309). 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, postmodernism and magic realism, with particular emphasis on how American novelists adapted these styles to suit their own society and culture. Prerequisite: ENG 210 or ENG 214 or ENG 215 or ENG 314.

ENG 421 Early English Novel (3-0-3). (Formerly ENG 420). 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. Prerequisite: ENG 202 or ENG 210 or ENG 215 or ENG 313.

ENG 430 Modern British Novel (3-0-3). (Formerly ENG 313). Examines trends in the 20th century British novel, including such literary movements as realism, modernism and postmodernism. Prerequisite: ENG 202 or ENG 210 or ENG 215.

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 or creative work on this writer or movement or in response to a specific literary problem. Prerequisite: senior standing.

ENG 495 Seminar in English (3-0-3). Focuses on various topics in English language or English literature. Prerequisite: junior standing.

ENV Environmental Science

ENV 100 Principles of Environmental Science (3-0-3). Introduces the basic principles of environmental science. Explores the scientific method, structure of matter, energy principles, ecological concepts, organisms' interactions, communities and ecosystems, population dynamics, energy sources, biodiversity, human activities and the environment, managed ecosystems, water management, air quality and solid waste management. Not open to engineering and science students.

ENV 201 Fundamentals of Environmental Science (3-0-3). (Formerly ENV 101). Combines ideas and information from chemical, physical and biological disciplines. Helps students acquire knowledge on how nature works and how environmental systems are interconnected. Employs scientific laws, principles and concepts to help understand environmental and resource problems and their possible

solutions. Makes connections between natural systems and environmental issues using different physical science perspectives. Presents information that will ultimately be related to real-world environmental problems. Prerequisite: CHM 102.

ENV 251 Environmental Ecology (2-3-3). (Cross-listed as BIO 251). Deals with the general principles of ecology with an emphasis on desert ecology and conservation. Features case studies that illustrate important ecological principles. Uses laboratory exercises to emphasize basic field ecology techniques, experimental design, data collection, modeling and analysis. Requires students to complete two professional-quality written reports. Prerequisite: BIO 102. Lab/Tech fee rate A applies.

ENV 252 Environmental Chemistry (3-0-3). Investigates in detail the interaction between natural systems and human activity. Emphasizes the following topics: 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. Explores local and regional pollution problems in detail. Prerequisite: CHM 102.

ENV 261 Physical Geography (3-0-3). Covers the physical aspects of the geographic environment. Includes topics such as 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 or CHM 101.

ENV 311 Environmental Modeling (3-0-3). Deals with the study, collection, evaluation and interpretation of data and the modeling and analysis of urban and environmental problems. Includes topics such as population, pollution, mass transportation systems and climate modeling. Prerequisites: MTH 104 and ENV 201.

ENV 335 Environmental

Microbiology (3-3-4). (Cross-listed as BIO 335). 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. Teaches students sterile techniques, how to culture and identify bacteria, and how to control them in clinical, personal and environmental settings. Prerequisite: BIO 101. Lab/Tech fee rate A applies.

ENV 352 Environmental Toxicology (3-0-3). Combines principles of chemistry, biochemistry, biology and environmental science. Discusses the basic principles of environmental toxicology, including toxicant fate, bioavailability, and biochemistry; dose-response relationships, toxicity testing, and species sensitivity distributions; and individual, population and community effects. Covers briefly principles of risk assessment and risk management of toxicants. Prerequisites: CHM 215 and ENV 201.

ENV 361 Evolution and Biodiversity (3-0-3). (Cross-listed as BIO 361). Introduces principles of evolution as applied to all organisms. Covers the origins of life, the history of evolution, biogeography, population genetics, speciation, phylogenetic analysis, human evolution and applications to current problems in agriculture, species conservation, population dynamics and the effects of environmental change. Prerequisite: BIO 260.

ENV 381 Environmental Strategies and Regulations (3-0-3). Reviews the historical development of environmental awareness that led to the present day of law and order in environmental protection. Compares major environmental regulations relevant to resource conservation, pollution prevention and mitigation, and human health care. Critically analyzes issues of environmental strategies in the GCC. Includes the preparation of individual case studies relevant to environmental strategies and regulations enforcement. Prerequisites: ENV 100 or ENV 201, and junior standing.

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. Explores the general physiology of organisms and then looks at the cellular and metabolic pathway levels. Allows students to gain 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. Lab/Tech fee rate B applies.

ENV 411 Environmental Assessment and Management (3-0-3). Deals with the impact of human activities on the ecosystem. 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. Discusses ethical and legal dimensions of a number of environmental problems. Emphasizes local and regional issues. Students cannot obtain credit for both ENV 411 and ENV 412. Prerequisite: ENV 201.

ENV 412 Concepts and Models in Environmental Management Systems (3-0-3). Introduces modern tools of environmental management. Presents various models of environmental management systems and explores their application in the UAE and GCC countries. Discusses the elements of decision making in environmental management heading to resource conservation and pollution prevention and mitigation. Discusses ethical and legal dimensions of a number of environmental problems with emphasis on regional case studies. Students cannot obtain credit for both ENV 411 and ENV 412. Prerequisites: ENV 100 and junior standing.

ENV 421 Aquatic Environments (2-3-3). (Cross-listed as BIO 421). Focuses on interactions between biological, chemical and physical processes in marine environments. Places strong emphasis on marine ecology and local fauna of the Gulf region. Includes topics such as marine physics and chemistry and their importance to marine biology, oceanic plankton and nekton, deep water biology, coastal habitats, energy flow,

fisheries and marine conservation issues. Prerequisite: ENV 251 or BIO 251. Lab/Tech fee rate A applies.

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). Deals with the development of soil/water chemistry. Includes modern analysis methods for humic substances, minerals, particulates and pollutants in the soil. Covers topics such as mineralogy, soil solution, ion exchange/sorption, water acidity, wetlands and redox processes in aerobic soils and nitrogen transformations. Prerequisite: ENV 252.

ENV 453 Environmental Monitoring and Analysis Techniques (2-3-3). Provides students with an extensive understanding of sampling, storage, preservation and analytical techniques critical in obtaining quality data for environmental monitoring of pollutants in each component of the environment. Stresses the interrelationship of these components and their importance to ecosystems along with the difficulties in environmental sampling. Provides standard methods for the examination of environmental samples and applies them in practical application for all compartments of the environment. Includes field trips to collect samples for characterization of water and soil quality in local areas. Prerequisites: ENV 201, CHM 345 and STA 201. Lab/Tech fee rate B applies.

ENV 491 Senior Research Project I (0-6-3). Requires student to select 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. Prerequisite: senior standing.

ENV 492 Senior Research Project II (0-6-3). Continuation of ENV 491. Requires student to select 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.

ENV 497 Internship in Environmental Science (0-0-0). Requires applied work in environmental aspects with a government, municipal or private organization. Prerequisite: senior standing.

FRN French

FRN 101 French Language and Culture I (3-0-3). Introduces the students to French language and culture in the areas of reading, writing, listening and speaking skills within the most advanced technological e-learning tools. Equips students with basic linguistic skills and cultural knowledge to face the challenges of today's globalized work market.

FRN 102 French Language and Culture II (3-0-3). Continuation of FRN 101. Develops further students' skills in the areas of reading, writing, listening and speaking within the most advanced technological e-learning tools. Equips students with basic linguistic skills and cultural knowledge to face the challenges of today's globalized work market. Prerequisite: FRN 101.

GEO Geography

GEO 201 World Cultural Geography (3-0-3). Provides a broad survey of the cultural geography of the world. Addresses cultural systems, agriculture and natural resources, urbanization, industrialization, development and political geography, among other topics. Prerequisite/concurrent: WRI 102.

HIS

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. 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: WRI 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. Devotes particular attention to the Arab and Islamic world and Western Europe. Prerequisite: WRI 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 the world by the European powers and the United States (i.e., colonialism and imperialism); political and social revolutions, including wars of national liberation against colonial regimes; and changes in technology. Prerequisite: WRI 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. Aims to examine the lives, achievements, contributions and position of women historically, as well as 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: WRI 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. Helps students become aware of how history and literature intersect and

History

of the similarities and differences in historical and literary writing. Readings include works of fiction and non-fiction such as novels, short stories, memoirs, biographies and autobiographies. Prerequisite: WRI 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. Covers topics such as 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. Touches upon diverse areas such as the histories of astronomy, nuclear energy, chemistry and forensics, as well as life and environmental sciences. Prerequisite/concurrent: WRI 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. Investigates the reasons why different groups and individuals chose to either resist or collaborate in the Second World War and the Algerian War of Independence. Uses films, original documents, novels and academic writing to study the history of moral behavior in war, the role of Islam in colonial struggles, and the ways in which Western and Islamic forms of history are constructed in Europe and North Africa. 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: WRI 102.

HIS 240 Introduction to American History (3-0-3). Surveys the history of North America with a particular emphasis on the United States of America from the first European settlements to the present day. Covers interactions with Native Americans, slavery, the foundation of government, the Civil War and its aftermath, immigration, the emergence of the US as an industrial power, the US' role as an international power in the 20th century, social movements including those for civil and women's rights, the Cold War and its consequences, and the

present situation of the US in the world. Prerequisite: WRI 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. Focuses primarily on the origins and key aspects of the Arab-Israeli conflict. Prerequisites: WRI 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. 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 in the first half of the course. Surveys the individual histories of the six Gulf Arab states in the second half of the course. Prerequisites: WRI 102 and junior standing.

HIS 311 America and the Middle East (3-0-3). Traces the connections between the United States and the Arab and Persian world from the first official contacts between the "Barbary Pirates" and the Jefferson Administration to the present. Studies a wide variety of material, from politics, immigration and war to art, literature and film. Requires a research paper on the topic of the student's choice as a key component of the course. Prerequisite: HIS 206 or HIS 220.

INS International Studies

INS 290 Research Practicum I (3-0-3). Involves faculty-supervised student projects in special topics of current interest. Both oral and written presentations on the topics are required from students. Graded as P/F. Prerequisite: WRI 102.

INS 291 Research Practicum II (1 to 3 credits). Continuation of INS 290. Involves faculty-supervised student projects in special topics of current interest. Both oral and written presentations on the topics are

required from students. Graded as P/F. Prerequisite: WRI 102.

INS 301 Globalization (3-0-3). (Formerly POL 301). Examines the process of globalization, which is well underway at all levels of society with socio-political impacts on all cultures. Introduces the globalization of economic systems, multinational organizations, technological, consumerism and worldwide communication systems. Prerequisite: POL 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. 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. Prerequisites: POL 202, ECO 201 and ECO 202.

INS 400 Ethnic Politics in the Developing World (3-0-3). Examines the historical origins and contemporary dynamics of ethnic politics in the developing world. Surveys different theoretical approaches to the study of ethnic conflict, as well as the impact of colonialism on ethnic identities, and the legacy of decolonization on nationalist movements in the developing world. Examines a number of post-independence challenges faced by multiethnic states through the use of case studies. Prerequisite: POL 202.

INS 413 Political Economy of the Arab World (3-0-3). Surveys the political economic trajectories of selected states in the Arab world, paying special attention to the politics, societies and ideological currents of the Eastern (Mashreq) Arab world. Explores themes

such as the process of post-colonial state formation, the rise of Arab nationalism and other forms of proto-nationalisms, variations in regime consolidation and state-society relations, the institutional structures of authoritarianism, the challenges of economic restructuring and political liberalization, and the Islamist challenge. Prerequisites: POL 202, ECO 201 and ECO 202.

INS 414 Political Economy of the Asia Pacific Region (3-0-3). (Formerly INS 314). 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. Places special emphasis upon the efforts of regional cooperation organizations and lessons to be gleaned by the states of Southwest Asia and the Middle East. Prerequisites: ECO 201 and ECO 202, and POL 300 or POL 304 or INS 301 or INS 322.

INS 415 War and Peace in the Middle East (3-0-3). Examines inter-state conflict, and efforts to negotiate peace in the Middle East. Gives special attention to the interaction between the Arab-Israeli conflict, regional rivalries, the policies of the main international powers, and domestic politics in shaping regional dynamics. Some of the topics covered include the Arab-Israeli Wars, the different Gulf Wars and the Arab-Israeli peace process. Prerequisite: POL 202.

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. Requires students to write a major research paper on the seminar topic. Prerequisite: senior standing. Restricted to international studies students.

INS 497 Internship in International Studies (0-0-0). Involves applied work in international studies with businesses, a government organization or private agencies. Admission to the class must be approved by the student's advisor. Prerequisite: senior standing.

MCM Mass Communication

MCM 100 Introduction to Digital Media Design (3-0-3). Introduces students to digital media as part of developing practical communication skills. 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. Introduces students 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. Lab/Tech fee rate A applies.

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. Discusses comparisons and relationships between visual arts, music, and oral, written and technological media. Gives students broad background knowledge on art, myth, music and the forces that helped foster their development. Prerequisite/concurrent: WRI 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: WRI 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. Covers topics such as 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 will help develop students' analytical and interpretive skills. Discusses a variety of techniques and concepts. Prerequisite/concurrent: WRI 102. Lab/Tech fee rate A applies.

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. Covers topics such as the development of new technologies and techniques, as well as approaches that helped make film a distinct art form. Discusses comparison with other art forms and the use of frame and image to convey emotional content, along with concepts such as montage, genre, auteur and mise-en-scène. Prerequisite/concurrent: WRI 102. Lab/Tech fee rate A applies.

MCM 209 Dramatic Expression (3-0-3). Gives students an opportunity to perform publicly in a variety of formats, including poetry reading, acting, miming and singing. Prerequisite: MCM 150.

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: MCM 150.

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 functions of management, planning, research and communication. Explores the theoretical and practical applications of public relations in contemporary society. Prerequisite: MCM 150.

MCM 231 Writing for Mass Communication (3-0-3). Introduces students to existing and emerging communication technologies, and examines their impact on the communication process. Prepares students to manage the process of designing documents, from planning stages through final production. Explores basic principles and applications through the writing of news stories, press releases and advertising copy. Prerequisite: MCM 150.

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. Examines the structure of advertising messages,

how they are adapted to specific audiences, and the social settings in which they occur. Explores issues of Internet advertising and e-commerce. Prerequisite/concurrent: MCM 100 or DES 100, and MCM 150. Lab/Tech fee rate A applies.

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. Discusses the history of journalism, from the penny press, yellow journalism and muckraking to modern responsible journalism and tabloid journalism. Discusses a variety of legal and ethical journalistic concerns. Covers writing techniques for newspapers, radio and television broadcast news. Prerequisites: MCM 100 or DES 100, and MCM 150; prerequisite/concurrent: MCM 231.

MCM 281 Principles of Media Production and Performance (3-0-3). Surveys a variety of media production and performance techniques. Presents media elements, such as concept development, writing, supervision, performance, scheduling and execution of a variety of media formats. Discusses background information on the history of specific media, media theory and aesthetics. Prerequisite/concurrent: MCM 231. Lab/Tech fee rate B applies.

MCM 300 Mass Communication Research Methods (3-0-3). (Formerly MCM 280). Introduces students to social science research methods within a mass communication context. Emphasizes the scientific method and surveys basic concepts of theoretical and empirical research. Covers a variety of methodologies, elementary statistics and criteria for adequate research. Prerequisites: MCM 150 or MCM 225, and STA 202 or QAN 201 or QBA 201 or NGN 111.

MCM 306 Broadcast Journalism (3-0-3). Introduces students to the basic principles of broadcast journalism as it occurs in radio, TV and online (webcasting). Includes discussions of technological, ethical and legal issues affecting broadcast news, as well as lab/studio practice in writing and producing broadcast reels. Prerequisites: MCM 275 and MCM 281. Lab/Tech fee rate B applies.

MCM 307 Film Criticism (3-0-3).

(Formerly MCM 277). Introduces students to film genres and formulas (film noir, polyphonic narrative, comedy, romance, verities, etc.) and to critical approaches with which to analyze the cinematic text. Requires students to explore, discuss, research and write about films as well as screenplay texts, using such theoretical approaches as semiotics and structuralism, feminist, psychoanalytic, formalist and social criticism. Prerequisite: MCM 231.

MCM 320 Intercultural

Communication (3-0-3). (Formerly MCM 220) (Cross-listed as ENG 320). Provides an overview of world cultural literacy and shows how cultures influence communication. Helps students acquire a broad knowledge about the interrelation of the humanities, music, mythology, art, theater, history and science. Prerequisite: ENG 203 or ENG 204.

MCM 321 Mass Communication

Law and Ethics (3-0-3). Examines global legal issues affecting mass communication practices in advertising, journalism and public relations. Introduces students to professional ethical theory and decision making, and corporate social responsibility. Prerequisite: MCM 227 or MCM 255 or MCM 275.

MCM 329 Mass Communication and Society (3-0-3).

(Formerly MCM 229). Provides students with an overview of the effect of media on culture and society. Explores how media reflect and mold culture. Examines the role the media play in creating "the global village." Examines how the audience uses and is used by various media outlets and how that use affects the perception of various cultures. Prerequisite: MCM 225.

MCM 351 Advertising Copy and

Layout (3-0-3). Explores issues, strategies, theories and practices in writing and editing advertising messages. Teaches the technical aspects of advertising: writing advertising copy and designing effective layouts based on clients' strategies, and elements of reproduction mechanicals.

Teaches students how to embrace new technologies and design parameters to produce effective advertising. Considers audience differentiation, media strategy and creative strategy. Emphasizes persuasive and attention-getting techniques. Prerequisite: MCM 255. Lab/Tech fee rate A applies.

MCM 353 Direct Response

Advertising (3-0-3). Introduces students to marketing communication that achieves an action-oriented objective as a result of the advertising message sent through a number of media, including telemarketing, direct mail and point-of-purchase. Prerequisite: MCM 255. Lab/Tech fee rate A applies.

MCM 360 Crisis and Conflict

Management (3-0-3). Provides practical insights into ways communication professionals recognize and manage organizational crisis and conflict, and ways of planning, executing and evaluating damage control mechanisms. Prerequisite: MCM 227 or MCM 255 or MCM 275.

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 227 or MCM 255 or MCM 275.

MCM 369 Public Relations Writing

(3-0-3). (Formerly MCM 269). Introduces students to the essentials of how to prepare and present written material for use in the practice of public relations. Teaches students the techniques needed for creating effective written communication at a standard generally expected of persons entering into the practice of public relations.

Prerequisites: MCM 227 and MCM 231.

MCM 371 News Writing (3-0-3).

Builds students' expertise in the writing of news for newspapers and magazines. Gives students concentrated practice in the methods of research, interviewing, writing, marketing and publishing of articles, and in the skills required in the production of newspapers. Prerequisite: MCM 275.

MCM 373 Scriptwriting (3-0-3).

Teaches students the craft of writing for the electronic media. Explores 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. Course work consists of practice in research, interviewing, production planning and budgeting, the treatment, writing for picture and writing for talent (i.e., actors, narrators). Prerequisite: MCM 231.

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. Emphasizes narrative, descriptive, analytic and storytelling skills. Includes one-on-one instructor-student conferences that stress story-building and revision techniques. Prerequisite: MCM 231 or MCM 275.

MCM 375 Editing for the Print Media

(3-0-3). Provides students with practical exposure to skills in preparing and editing manuscripts for publications. Emphasizes a number of editing styles and employs appropriate editing symbols. Prerequisite: MCM 275.

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. Requires access to a digital or 35mm camera. Prerequisite: MCM 227 or MCM 255 or MCM 275. Lab/Tech fee rate A applies.

MCM 378 Literature as Film

(3-0-3). (Cross-listed as ENG 378).

Introduces students 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. Focuses on the attempts to translate literary classics to the medium of film, and evaluates reasons for success and/or failure of these attempts. Prerequisite/concurrent: ENG 203 or ENG 204.

MCM 380 Persuasive Communication (3-0-3). Teaches students a comprehensive and critical treatment of theory and research in persuasion. Discusses 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. Prerequisite: MCM 227 or MCM 255 or MCM 275.

MCM 393 Shakespeare on Film (3-0-3). (Cross-listed as ENG 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: ENG 203 or ENG 204.

MCM 401 Public Relations Publications (3-0-3). (Formerly MCM 301). Introduces students to producing and editing techniques for public relations for a variety of publications, including brochures, business reports, newsletters, corporate videos, etc. Builds students' proficiency in the art of copy preparation, typography, graphic design, layout and desktop publishing. Prerequisite: MCM 369.

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. Focuses on project management as well as discussions on audience/marketing and advertising revenue. Covers broadcast management, scheduling and budgeting. Prerequisite: MCM 281. Lab/Tech fee rate B applies.

MCM 411 Multiple Camera Studio Production (3-0-3). Introduces

students to multiple camera and studio production techniques. Emphasizes practical knowledge of basic video and cinema production techniques from the viewpoint of the producer. Requires students to develop and write multiple camera scripts in a variety of formats such as live news, game show and drama. Focuses on a variety of producing skills regarding supervision of crew and talent. Prerequisite: MCM 281 or MUM 310 or VIS 310. Lab/Tech fee rate B applies.

MCM 421 Advanced Dramatic Expression (3-0-3). Builds on the skills learned in MCM 209 Dramatic Expression. Focuses on developing acting and presentational techniques for television and film. 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: MCM 209.

MCM 450 Critical Analysis of Mass Media (3-0-3). Examines the uses of critical theory and specific methodological approaches in the study of mass media. Considers sources of influence in society and the implications of media production and consumption. Prerequisite: MCM 227 or MCM 255 or MCM 275.

MCM 451 Strategic Communication Research (3-0-3). Expands on basic knowledge and skills introduced in MCM 300 and principles courses to prepare students to use relevant research methods essential to strategic contributions in advertising and public relations campaigns. Emphasizes designing and developing research projects. Prerequisites: MCM 227 or MCM 255, and MCM 300.

MCM 453 Advertising Media Planning (3-0-3). Examines media planning, buying and sales as performed by advertising agencies, clients and media. Teaches students to evaluate and select advertising media for various market situations. Examines target audience, media characteristics and data sources. Prerequisite: MCM 255. Lab/Tech fee rate A applies.

MCM 454 Case Studies in Advertising (3-0-3). Exposes students to major

issues in advertising, with a focus on the characteristics of successful ad campaigns. Examines international and cross-cultural problems in advertising within and across industry, government and institutions. Prerequisite: MCM 255.

MCM 455 Advertising Campaigns (3-0-3). Requires students to collaborate on a semester-long project that includes the conception, research, development and execution of real-life advertising campaigns. Emphasizes advanced copywriting and layout and production concerns for print, broadcast and new media. Requires students to organize, manage and perform all functions: soliciting business, conducting market and consumer research, contacting clients, writing plans, creating advertising campaigns, evaluating media and preparing campaign evaluations for community service agencies. Prerequisite: MCM 351. Lab/Tech fee rate A applies.

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. Prerequisite: MCM 227 or MCM 255 or MCM 275.

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). Functions as a full-service public relations firm, requiring students to embark on a semester-long PR project that uses all the relevant skills gained in other MCM courses. Prerequisite: MCM 369.

MCM 467 Public Relations for Non-Profit Organizations (3-0-3). Explores fund-raising techniques, alumni relations and foundation management. Prerequisite: MCM 227.

MCM 469 Advanced Public Relations Writing (3-0-3). Offers advanced public relations students experience in the wide range of writing styles and applications that are essential for students to successfully begin their professional career. Focuses on understanding and mastering action-oriented communication methods and best professional practices. Provides both a conceptual framework and in-depth training in advanced techniques. Prerequisite: MCM 369.

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. Prerequisites: MCM 231 and MCM 281. Lab/Tech fee rate B applies.

MCM 471 Advanced News Writing (3-0-3). (Formerly MCM 372). Teaches students how to write carefully researched stories, using writing, reporting and interviewing skills acquired in previous classes. Emphasizes immersion or in-depth reporting; students spend a great deal of time with a subject to develop skills in storytelling and organization. Prerequisite: MCM 275.

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 275.

MCM 473 Writing for Multimedia (3-0-3). Offers advanced students hands-on experience with writing and producing shorter-form texts for electronic media. Studies comparative perspectives of writing for radio, television, Internet and CD-ROM texts. Covers generating ideas, writing proposals, research and development of topics, planning and employing the stylistic conventions of professional

writers in the field. Teaches the distinctive competencies of writing for each medium and of working from concepts to actual productions. Prerequisites: MCM 231 and MCM 281.

MCM 475 Writing and Producing for Documentaries (3-0-3).

Exposes students to representative documentaries with regard to history, form, technique, trends and audience objectives. Examines different formats used in documentary production and the concepts used in transforming research efforts into production of a full half-hour program. 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. Prerequisites: MCM 231. Lab/Tech fee rate A applies.

MCM 490 Senior Project (3-0-3). Requires faculty-supervised student projects in special topics of current interest. Requires both oral and written presentations on the topics. Prerequisites: junior II standing and approval of instructor.

MCM 491 Print Media Project (3-0-3). (Formerly MCM 477). Requires students to conceptualize, write, develop, manage and produce a multimedia campaign using a variety of forms (e.g., 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 275.

MCM 497 Mass Communication Internship (0-0-0). 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. Students are expected to find their own placement for this requirement. Graded as Pass/Fail. Prerequisites: junior standing and consent of the department.

MTH Mathematics

MTH 001 Preparatory Mathematics for Engineers (3-2-4). Preparatory for MTH 103 Calculus I. Emphasizes the basic skills and techniques of algebra and trigonometry. Explores real and complex numbers, basic arithmetic, equations and inequalities, study of functions, polynomial and rational functions, exponential and logarithmic function, trigonometric functions and introduction to limits. Prerequisite: Engineering 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 function and their graphs, trigonometric functions of real numbers and angles, analytic trigonometry and introduction to limits. Prerequisite: Engineering 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. Includes the following topics: 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, science and School of Business and Management 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. Emphasizes techniques and applications. Not open to science or engineering students. Prerequisite: MTH 002 or any AUS 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. Emphasizes 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, approximations, theory of integration with applications including areas, volumes, lengths, moments, center of mass and work. Includes a computer laboratory component. Prerequisite: MTH 001 or MTH 004 or Engineering Math Placement Test or SAT II Math 1C test with score 600 and above. Lab/Tech fee rate A applies.

MTH 104 Calculus II (3-1-3). Covers transcendental functions, exponential and logarithmic functions, and trigonometric functions; techniques of integration, indeterminate forms; infinite series, Taylor series, power series, Taylor series, parameterized curves, polar coordinates, integration in polar coordinates, and complex numbers. Includes a computer laboratory component. Prerequisite: MTH 103. Lab/Tech fee rate A applies.

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. Includes a computer laboratory component. Prerequisite: MTH 001 or MTH 004 or MTH 003 or Architecture Math Placement Test or Engineering Math Placement Test or SAT II Math 1C test with score 600 and above. Restricted to architecture and interior design students. Lab/Tech fee rate A applies.

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. Includes a computer laboratory component. Prerequisite: MTH 104. Lab/Tech fee rate A applies.

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 propositional 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).

Covers 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 304 Theory of Interest and

Life Insurance (3-0-3). Covers a formal framework to interest theory including description and valuation

of bounds annuities (due, immediate, increasing, decreasing), life tables and population problems, life annuities (due, immediate, temporary, deferred, increasing, decreasing) with basic pension application, life insurance (pure endowment, term insurance, deferred insurance, n-year endowment insurance, varying), net single premium, annual premium and reserves. Prerequisite: MTH 102 or MTH 103.

MTH 311 Intermediate Analysis

(3-0-3). Covers sets and the real number system, functions, mathematical induction, sequences and series, limits and continuity, uniform continuity, basic topology of the real number system, differentiation, Riemann integration, sequences and series of functions, and uniform convergence. Prerequisite: MTH 203.

MTH 312 Advanced Calculus (3-0-3).

Provides an in-depth study of vector calculus including vector fields, Stieltjes integrals, the theory of integration of functions of two and three variables, divergence and Stokes' theorems, the inverse and implicit function theorems, as well as an introduction to the basic topology of Euclidean space, continuity and differentiation vector valued functions including linear operators on Euclidean space, and curves and surfaces. Prerequisite: MTH 203.

MTH 313 Number Theory and

its Applications (3-0-3). Covers the Euclidean algorithm, linear congruencies and the Chinese Remainder Theorem, Fermat's Little Theorem, quadratic residues and quadratic reciprocity, Pythagorean triples and sums of squares. Includes applications in communication, public key cryptography, computer arithmetic, random number generators and music. Prerequisite: MTH 213.

MTH 320 Modern Algebra with

Applications (3-0-3). Covers Boolean algebra, groups, subgroups, cyclic groups, Lagrange's theorem, quotient groups, direct product of finite groups, rings, polynomial rings, fields, and in particular, finite fields, circuits, machines, coding and decoding. Prerequisite: MTH 221.

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, convolution codes, encoding and decoding. Prerequisite/concurrent: MTH 221.

MTH 330 Fundamental Concepts of Geometry (3-0-3). Describes elementary theory in foundations of geometry and logical systems, and basic theory in the fields of Euclidean, non-Euclidean and synthetic coordinate projective geometry, including homogeneous coordinates. Prerequisite: MTH 103 or MTH 111.

MTH 341 Computational Methods (3-0-3). (Cross-listed as 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. Lab/Tech fee rate A applies.

MTH 343 Numerical Analysis I (3-0-3). Introduces numerical approximation techniques including topics such as error analysis, root finding, interpolation, function approximations, numerical differentiation, numerical integration and numerical solutions of initial value problems. Prerequisite: MTH 221.

MTH 350 Introduction to Probability (3-0-3). Introduces probability spaces, axioms of probability, combinatorial counting techniques for discrete probability spaces, conditional probability and independent events; random variables, univariate and multivariate probability density functions expectation; variance and higher moments and moment generating functions. Prerequisite: STA 201; prerequisite/concurrent MTH 203.

MTH 351 Methods of Applied Mathematics (3-0-3). Introduces a broad range of mathematical tools used to solve scientific and engineering problems. Includes the following topics: Fourier analysis, integral transforms, calculus of variation, special functions

and coordinate systems. Discusses applications problems, including mechanical structures, electrical circuits, fluid mechanics, continuum mechanics and geometry. Prerequisite: MTH 205.

MTH 360 Probability and Stochastic Processes (3-0-3). (Cross-listed as COE 360, ELE 360 and STA 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 or STA 201, and ELE 323 or MTH 351 or prerequisite/concurrent: ELE 321.

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. Provides examples from various disciplines. 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 problem. Prerequisite: MTH 203.

MTH 418 Graph Theory (3-0-3). Covers graphs and sub graphs, connected and disconnected graphs, matrices, trees and girth, planar and nonplanar graphs, graph embeddings, connectivity and edge connectivity, Hamiltonian graphs, matching, factorization and coverings, networks and applications to science and engineering. Prerequisite: MTH 213 or CMP 213.

MTH 420 Advanced Modern Algebra (3-0-3). Introduces group homomorphisms and isomorphism, classification of Abelian finite groups, Sylow theorems, ring homomorphisms, factorization of polynomials, unique factorization domains, field extensions and, in particular, cyclotomic field extensions and Galois's theory. Prerequisite: MTH 320.

MTH 431 Dynamical Systems (3-0-3). Examines the second order differential equations in phase plane, linear systems and exponential operators, canonical forms, stability of equilibria. Lyapunov functions, autonomous systems, the existence of periodic solutions and applications to various fields. Prerequisite: MTH 221 and MTH 205.

MTH 432 Partial Differential Equations (3-0-3). Covers mathematical formulations and solutions of partial differential equations of physical problems, includes the wave, heat and Laplace's equation. The mathematical tools include Fourier transform, Fourier series and Laplace transform. Prerequisite: MTH 205.

MTH 443 Numerical Analysis II (3-0-3). Introduces techniques and concepts of numerical analysis. Includes the following topics: direct and iterative methods for solving linear systems, and numerical methods for non-linear system of equations, initial and boundary value problems and partial differential equations. Prerequisite: MTH 341 or MTH 343.

MTH 490 Senior Project (0-6-3). Provides individualized study in which a student conducts research on a topic not specifically covered in other courses under the supervision of a faculty member with expertise in that area. Normally restricted to honors mathematics students. Prerequisite: senior standing and consent of instructor.

PHI Philosophy

PHI 201 Introduction to Philosophy (3-0-3). Introduces basic questions, ideas and methods of philosophy. Discusses philosophers selected from various historical periods. Encourages and teaches students to develop a philosophical mind. Prerequisite: WRI 102.

PHI 202 Introduction to Islamic Philosophy (3-0-3). Surveys the major philosophers in Islam, focusing on religious doctrines interacting with philosophical traditions. Discusses the relationship between Islamic and Western philosophy. Prerequisite: WRI 102.

PHI 204 Ethics for Professionals (3-0-3). Examines the ethical character of professional life. Develops a background for ethical judgment, and awareness of one's own viewpoint. Both historical sources and contemporary case studies may be used. Prerequisite: WRI 102. Not open to computer science students.

PHI 206 Ethics and Information Technology (3-0-3). Examines the ethical questions raised by our life with information technology. Develops a background for ethical judgment, and awareness of one's own viewpoint. Both historical sources and contemporary case studies may be used. Prerequisite: WRI 102.

PHI 303 Political Philosophy (3-0-3). Introduces the fundamental questions of how a polity should be structured. Emphasizes the justifications for fundamental decisions in shaping political orders. Both historical and contemporary readings apply. Prerequisite: POL 202 or PHI 201.

PHI 304 Themes in Western Thought (3-0-3). Explores selected themes from the history of Western thought with relevance in the present. Makes clear how ideas shape culture and inform life far into the future. Emphasizes the relationship between Western thought and the students' lives. Prerequisite: ENG 203 or ENG 204.

PHI 309 Ethics and the Environment (3-0-3). Explores the philosophical dimensions of how we are related to the environment. Studies why, or whether, life on Earth should be respected. Reflects on the philosophy of nature. Prerequisite: ENG 203 or ENG 204.

PHY Physics

PHY 001 Preparatory Physics (3-0-3). Provides students with problem-solving skills and development using algebra, trigonometry, and calculus through the study of elements of kinematics (motion in one and two dimensions) and dynamics (Newton's laws, momentum, work and energy). Required for science and engineering students with an insufficient background in physics.

PHY 100 Conceptual Physics (3-0-3). Gives non-science and non-engineering majors an understanding of the basic concepts of physics without complex mathematics. Emphasizes conceptual understanding of physical phenomena, firmly grounded in the scientific methods. Covers simple elements of mechanics, waves and light, electricity and magnetism, atoms and nuclei. Prerequisite/concurrent: MTH 001 or MTH 002 or MTH 003 or MTH 004 or MTH 100 or any AUS math placement test. Not open to engineering and science students.

PHY 101 General Physics I (3-0-3). Introduces the fundamental principles, laws and concepts of mechanics to students of science and engineering. 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). Prerequisite: PHY 001 or PHY Placement Test; prerequisite/concurrent: MTH 103 and PHY 101L.

PHY 101L General Physics Laboratory I (0-3-1). Provides the students with the opportunity to perform experiments that demonstrate the principles and laws of mechanics. Includes experiments on kinematics; Newton's laws of motion with friction and other forces; work and energy; conservation of momentum; rigid body rotational inertia; torque; static equilibrium; and simple harmonic motion. Prerequisite/ concurrent: PHY 101. Lab/Tech Fee rate A applies.

PHY 102 General Physics II (3-0-3). Builds upon 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. Prerequisites: PHY 101 and PHY 101L; prerequisite/concurrent: PHY 102L.

PHY 102L General Physics Laboratory II (0-3-1). Trains students how to use new equipment and perform experiments with it that demonstrate their understanding of the basics of electricity and magnetism. Experiments include charge of the electron, electric field mapping, Ohm's law, Wheatstone bridge, power transfer, Kirchhoff's rules, RC circuit, force on a current-carrying wire in a magnetic field, magnetic field due to a circular loop, and the charge-to-mass ratio of the electron. Prerequisite/concurrent: PHY 102. Lab/Tech Fee rate A applies.

PHY 103 Astronomy (3-0-3). Presents a broad view of descriptive astronomy without complex mathematics. Introduces and familiarizes the students with basic astronomical facts and phenomena that one can observe, study and explain using scientific methods. 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). Teaches selected set of algebra-based topics in physics to students of architecture. Topics covered include: 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. Not open for students who have taken PHY 101.

PHY 105 Physics for Environmental Sciences (3-0-3). Introduces environmental science majors to the basic concepts of physics as they apply to environmental problems. Covers 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. Considers some specific applications in the general areas of energy processes. Restricted to environmental science students. Prerequisites: PHY 101 and PHY 101L.

PHY 105L Physics for Environmental Sciences Laboratory (0-3-1). Provides students with the opportunity to perform experiments that demonstrate the principles and laws underlying phenomena in environmental physics. Includes experiments on fluid mechanics (buoyancy, Archimedes' principle and viscosity), electricity and magnetism (electron charge, the charge to mass ratio e/m of the electron, and magnetic force on a current-carrying conductor), light and optics (prism spectrometer and Young's double-slit) and modern physics (the photoelectric effect and radioactivity). Prerequisite(s)/concurrent: PHY 105. Lab/Tech Fee rate A applies.

PHY 106 General Physics III (3-0-3). Covers fluid mechanics (pressure, buoyant force, the continuity equation and Bernoulli's equation), basics of oscillatory motion (simple harmonic motion and damped and forced oscillations), mechanical waves (waves on a string, sound waves, the Doppler effect, standing waves, resonance and beats), thermodynamics (temperature, heat and heat engines, the laws of thermodynamics and the kinetic theory of gases), and light and optics (laws of geometric optics, image formation and basics of interference). Prerequisites: PHY 101 and PHY 101L.

PHY 106L General Physics III Laboratory (0-3-1). Comprises a selected set of experiments illustrating the principles, laws and concepts discussed in PHY 106. Includes experiments on fluid mechanics (buoyant force and viscosity), oscillatory motion (simple pendulum and the mass-spring system), mechanical waves (speed of sound), thermodynamics (specific heat and thermal expansion of metals) and optics (laws of reflection, Snell's law, the spherical mirror and lens-maker's equations and Young's double-slit experiment). Prerequisite/concurrent: PHY 106. Lab/Tech Fee rate A applies.

PHY 201 Modern Physics (3-0-3). Deals with special relativity, introductory quantum mechanics, nuclear physics, elements of solid state and semi-conductor physics. Recommended for engineering majors, particularly electrical and computer engineering. Prerequisites: PHY 102 and PHY 102L, or PHY 105 and PHY 105L.

PHY 201L Modern Physics Laboratory (0-3-1). Provides students with the chance to perform experiments that demonstrate the ideas of 20th century physics. Includes e/m ratio of the electron, the photoelectric effect, Frank-Hertz experiment, spectrometer, fluorescence of a luminous screen by x-rays, Young's double slit and light interference, X-ray diffraction (Bragg Reflection), hall effect, the wave model of light vs. the quantum model (h/e) experiment, and absorption of Beta and Gamma rays. Prerequisite/concurrent: PHY 201. Lab/Tech Fee rate A applies.

PHY 232 Properties of Matter (3-0-3). Provides a thorough and technical overview of the physical properties of matter to students with a background in basic physics. Includes the following topics: states of matter, classes of materials, atomic bonding, structural properties of matter, X-ray diffraction, experimental diffraction methods (simulation), imperfections in solids, atom movements and diffusion, mechanical properties of matter and electrical properties of matter. Prerequisites: PHY 102 and PHY 102L.

PHY 251 Meteorology (3-0-3). Deals with general weather phenomena and overviews the physical processes involved including atmospheric pressure, laws of thermodynamics, general air circulation, atmospheric moisture, energy, laws and phenomena of radiation, and heat transfer. Covers violent phenomena (storms and hurricanes) and important current event topics (meteorological control, weather forecasting, air quality and pollution, global warming and the El Nino oscillation phenomenon). Required for environmental physics majors but also very useful to other environmental science majors and engineering students. Prerequisites: PHY 101 and PHY 101L.

PHY 301 Energy Sources (3-0-3). Examines energy from a physics perspective. Examines present and future alternative energy sources, including hydroelectric, nuclear, solar, geothermal and tidal energy. Investigates the problems caused by each energy source and the issue of sustainability. Recommended for environmental science majors and engineering students. Prerequisites: PHY 102 and PHY 102L, or PHY 105 and PHY 105L.

PHY 303 Atmospheric Physics (3-0-3). Deals with applications of thermodynamics, radiation theory, optics and mechanics to atmospheric phenomena: composition, origin and structure; atmospheric processes; extra-tropical synoptic scale disturbances; cloud microphysical processes; radiation transfer and trapping; energy balance; and atmospheric dynamics. Prerequisites: PHY 105 and PHY 105L, or PHY 106 and PHY 106L.

PHY 304 Issues in Environmental Physics (3-0-3). Examines current environmental issues from a physical perspective, including nuclear waste disposal and contamination, nuclear radiation and shielding, electromagnetic radiation and its effects, ozone depletion and global warming. Prerequisites: PHY 102 and PHY 102L, or PHY 105 and PHY 105L.

PHY 305 Modern Optics and Lasers (3-0-3). Provides a modern introduction of ray and wave optics and laser physics to students with a background in modern physics and electricity and magnetism. Covers the propagation of light (waves, phase and group velocities, and the Doppler Effect), the vectorial nature of light (electromagnetic fields, the Poynting vector, polarization, reflection and refraction), coherence and interference, optical spectra and light amplification (stimulated emission, population inversion and lasers). Prerequisite: PHY 201.

PHY 313 Satellites and Space Physics (3-0-3). Covers topics that prepare and allow the student to understand the latest developments, discoveries and trends in space science and technology. Emphasizes the relevance

and application of various physical principles and laws (mechanics for orbits and electromagnetism for communication, signal detection and processing, energetics, and image processing for remote sensing, etc.) Focuses on practical applications and tools in this field. Prerequisites: PHY 102, PHY 102L and PHY 103.

PHY 401 Physics of Semiconductors (3-0-3). Covers the basics of semiconductor devices. Provides a general introduction to semiconductors (crystal structures, crystal symmetry, crystal growth techniques), carrier modeling (band structures, effective masses, density of states, carrier distribution, and carrier concentration), carrier action (mobility, resistivity, band bending, diffusion, recombination), pn junction diodes (build-in potential, step-junctions, boundary value solution using Poisson's equations, I-V characteristics) and optoelectronic devices (solar cells and LEDs). Designed for students with a thorough understanding of general physics and some exposure to quantum phenomena. Prerequisite: PHY 201.

POL Political Science

POL 201 Introduction to Political Studies (3-0-3). Introduces the science of politics and examines the nature of government and public policymaking. Focuses on the processes of government, including public administration, foreign policy and international relations. Prerequisite: WRI 102.

POL 202 Introduction to International Relations (3-0-3). Aims to acquaint students with the main stages of the evolution of international relations as a discipline since 1945, which can be seen as an ongoing debate about the explanatory value of one particular theory—Realism. Gives a profound introduction to theories of international relations as well as a theory-based introduction to foreign policy analysis. Analyzes the different schools of international relations theory as well as their respective critiques. Prerequisite: POL 201.

POL 208 Introduction to American Government (3-0-3). Surveys American government and examines the essential elements of the US political system. Covers such areas as the Constitution, Congress, the presidency, the judiciary, and the electoral system. Discusses the nature of American democracy and examines such topics as federalism, culture, public opinion, political parties, interest groups, elections, and the media. Prerequisite: WRI 102.

POL 300 Comparative Politics (3-0-3). Introduces students to key themes, theories and debates in comparative politics. Examines these topics either in the context of the developed or the developing world, depending on the instructor's choice. Provides students with an overview of the historical, political, economic and ideational dynamics that have shaped the states and societies of the developed and developing worlds. Prerequisite: POL 202.

POL 302 Law and Diplomacy (3-0-3). Introduces students to the core concepts of the law and legal philosophy and explores the relationship between the law and political dynamics. Explores the changing functions of the state and how they were manifest in law and diplomacy. Also introduces students to the concept of the diplomatic and consular law, and its sources and scope. Prerequisite: POL 201.

POL 304 International Organizations (3-0-3). (Cross-listed as SOC 304). Introduces the structure and function of international organizations and their role in economic, political, military, cultural or humanitarian relations among nation-states. Selected organizations such as the United Nations, NATO, OPEC and the WTO are examples. Prerequisite: POL 202.

POL 305 Public International Law (3-0-3). Examines substantive international law, including the Law of the Seas, crimes against humanity, environmental law, the Geneva accords, international treaties, regional treaties, the Charter of the United Nations and trade agreements. Analyzes selected legal institutions such as the International Court of Justice in The

Hague and other tribunals dealing with international disputes. Prerequisite: POL 202.

POL 307 Wars, Conflicts and Diplomacy (3-0-3). Introduces the causes of war and other levels of violent international conflict, and the efforts that nations and international organizations make to avoid them. Includes an examination of the techniques of diplomacy that have been utilized, historically speaking, in these attempts to avoid wars and violent conflicts. Emphasizes concepts of national self-interest, realpolitik, just and unjust wars, non-interference with internal sovereign issues and nuclear weapons issues. Analyzes case studies of specific wars and considers various theories for controlling potential future flare-ups and real international conflict situations. Prerequisite: POL 202.

POL 308 American Foreign Policy (3-0-3). Examines the evolution and impact of American foreign policy. Studies the major issues in past and current US foreign policy, with a focus on the historic debates that have shaped American international conduct and their relevance to today's politics. Studies the processes of American foreign policy and examines the various factors in both the domestic and international contexts that have shaped and currently shape foreign policy initiatives. Gives particular attention to the sources of basic American policies during the past half century, along with a focus on the various theoretical approaches to explanation. Examines the pressing issues of today, particularly those pertaining to the Middle East and the West. Prerequisites: POL 201, and POL 202 or POL 208.

POL 309 The American Political System (3-0-3). Aims to provide students with an understanding of the nature of the American political system, its constitutional framework, its principles and practice. Focuses on the constitutional system of separated powers and checks and balances, and examines the dynamics of American politics, the interaction between its various political actors, and the relationships between the institutions of the presidency, congress and

courts as “rivals for power.” Provides students with a better appreciation of the workings of the American political system and the issues that are essential to American political life. Prerequisites: POL 201, and POL 202 or POL 208.

PSY Psychology

PSY 101 General Psychology (3-0-3). Explores topics such as research methods, the nature of psychological phenomena, physiological bases of behavior, life-span development, altered states of consciousness, sensation, perception, learning, conditioning, memory, language, thinking, motivation, emotion, personality, individual differences, conflict and stress, abnormal behavior, therapeutic techniques and social psychology. Prerequisite: WRI 102.

PSY 102 Social Psychology (3-0-3). Introduces the scientific study of social behavior and social influences on behavior. Focuses on the study of how our behaviors, thoughts and emotions are affected by the real or imagined presence of other people. Presents theories and research on such topics as attitude change and persuasion, stereotypes and prejudice, conformity and obedience to authority, altruism, conflict, interpersonal attraction and friendship. Prerequisite: WRI 102.

PSY 301 Abnormal Psychology (3-0-3). Covers different theoretical approaches and empirical studies of causes, symptoms and treatment of abnormal behavior; problems and advantages of creating a classification scheme for abnormal behavior; the major diagnostic categories and review of the more common patterns of abnormal behavior; and how such disorders arise from subtle interactions between organic or psychological predisposition. Prerequisite: PSY 101.

PSY 302 Developmental Psychology (3-0-3). Examines the biological, psychological and sociocultural determinants of human development from conception until death. Gives special attention to adolescent development with regards to identity,

parent-adolescent relationships, values, sexuality, career development, psychopathology, substance abuse, delinquency and alienation. Prerequisite: PSY 101 or PSY 102.

PSY 303 Health Psychology (3-0-3). Takes a multi-disciplinary approach (psychology, sociology, anthropology and biology) to present the current research and controversies to explore the mind-body connection: how psychological and behavioral factors influence health and illness and how illness impacts the psyche. Prerequisite: PSY 101 or PSY 102.

PSY 304 Personality Psychology (3-0-3). Provides students with a comprehensive overview of the role of personality in psychology. Develops and engages the critical thinking skills that are characteristic of behavioral scientists. Examines contemporary theories and explores the critique of social constructionists. Demonstrates the understanding of human behavior, drawing on phenomenology and personal construct theory. Prerequisite: PSY 101 or PSY 102.

PSY 305 Cognitive Psychology (3-0-3). Provides students with a comprehensive overview of the role of cognition in psychology. Develops and engages the critical thinking skills that are characteristic of behavioral scientists. Explores the basics of cognitive psychology through the coverage of cognitive neuroscience, attention and consciousness, perception, memory, knowledge representation, language, problem solving and creativity, decision making and reasoning, cognitive development and intelligence. Prerequisite: PSY 101 or PSY 102.

PSY 306 Organizational Psychology (3-0-3). (Formerly PSY 205). Develops and engages the critical thinking skills that are characteristic of behavioral scientists. Demonstrates the theories and application of psychology in the workplace with the following topics: psychology at work, establishing a strong workforce, social organization, and solving human problems of work. Prerequisite: PSY 101 or PSY 102.

SOC

Sociology

SOC 201 Introduction to Sociology (3-0-3). Surveys the discipline and provides a foundation for other sociology courses. Introduces some of the major concepts, theories and research findings of sociology. Considers topics such as education, race and ethnicity, organizations, the mass media, poverty and social deviance. Prerequisite: WRI 102.

SOC 220 American Society (3-0-3). Examines how American society is shaped by such social forces as race, class and gender. Considers additional topics such as immigration past and present, social movements, citizenship and democracy, and social control and deviance. Prerequisite: WRI 102.

SOC 302 Environmental Sociology (3-0-3). (Formerly SOC 202). Examines how societies adapt to and transform their physical environment. Considers topics such as sustainable development, environmentalism as a social movement, public policy and urban sprawl. Prerequisite: WRI 102.

SOC 304 International Organizations (3-0-3). (Cross-listed as POL 304). Introduces the structure and function of international organizations and their role in economic, political, military, cultural or humanitarian relations among nation-states. Considers selected organizations such as the United Nations, NATO, OPEC and the WTO. Prerequisite: POL 202.

SOC 380 Urban Sociology (3-0-3). Explores changing urban life in different cultural, social and historical settings. Examines both classic and contemporary debates within urban sociology. Considers topics such as social segregation, urban planning, homelessness, urban development and public service delivery. Prerequisite: WRI 102.

STA

Statistics

STA 201 Introduction to Statistics for Engineering and Natural Sciences (3-1-3). Explores descriptive statistics,

probability distributions, experimental design and sampling, estimation, hypothesis testing, analysis of variance, regression analysis and correlation, analysis of categorical data and the use of statistical computer software. Prerequisite: MTH 103 or MTH 111. Not open to SBM students in BS and BSBA degree programs. Lab/Tech fee rate A applies.

STA 202 Introduction to Statistics for Social Sciences (3-1-3). Introduces acquisition and development of statistical methods that are commonly used in social sciences. Covers techniques for classification of data, descriptive statistics, probability distributions, sampling techniques, estimation, hypothesis testing, analysis of variance, categorical data analysis, simple regression and correlation, and the use of statistical computer software. Prerequisite: MTH 100 or MTH 101 or MTH 103 or MTH 111. Not open to SBM students in BSBA degree programs. Lab/Tech fee rate A applies.

STA 360 Probability and Stochastic Processes (3-0-3). (Cross-listed as COE 360, ELE 360 and 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 or STA 201, and ELE 323 or MTH 351 or prerequisite/concurrent: ELE 321.

STA 361 Probability and Statistics (3-0-3). Covers random variables and their probability distributions, moments and generating functions, random vectors, some special distributions, limit theorems, sample moments and their distributions, and the theory of point estimation. Prerequisites: MTH 104 and STA 201.

and reevaluates the literary, cultural and scientific developments of that time. In the first semester, students learn about the historical, literary, linguistic, artistic and architectural products of Al Andalus. Satisfies the Arabic heritage requirement. Prerequisite: junior standing.

THM 302 Arabs and the West: The Andalusian Symbiosis II (3-0-3).

Examines the channels through which philosophical, religious, scientific and technological knowledge, in Muslim Spain was produced and transmitted. Ends with a reevaluation of the Andalusian legacy to the Arab World and the West. Satisfies the Arabic heritage requirement. Prerequisite: junior standing.

THM 310 Social Science Analysis of Environmental Issues I (3-0-3).

Provides students with a broad overview of social science issues related to the use of environmental and natural resources. 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 economy systems in determining environmental quality. Prerequisite: junior standing.

THM 311 Social Science Analysis of Environmental Issues II (3-0-3).

Uses the analytical tools and background studied in THM 310 to address specific environmental and natural resource problems. Addresses the environmental problems of global climate change, acid rain, ozone depletion, solid waste disposal, water resources, energy resources, fisheries, forests and biodiversity, among others. Prerequisite: THM 310.

approach, supported by text analysis (both in the pre-translation phase and in subsequent editing and evaluation). Practical tasks will involve translation into and out of English and Arabic. Prerequisite/concurrent: WRI 101.

TRA 220 Theoretical and Practical Issues in Translation (3-0-3).

(Formerly TRA 201). Views translation practice as seen in the light of various theories and models of translation. Invokes theories informed by modern linguistics, cultural studies and literary criticism with the aim of sensitizing the translator to the intricacies of the task. Assesses and examines at various levels of language organization (word level, sentence level, text level, pragmatics, etc.) the key notion of "equivalence." Examines issues such as the translation of metaphor and idiomatic expressions, dealing with meaningful repetition and biased translation shifts. Prerequisite: WRI 102.

TRA 301 Modern Media Translation (3-0-3).

Focuses on those modes and situations that relate to the translation of the print media. Includes the processing and translation of advertisements, news reports, magazine articles, public relations and promotional literature, and publicity materials within a framework of media translation studies. Prerequisite: TRA 210 or TRA 220, or MCM 150 and ARA 101.

TRA 303 Interpreting: Focus on the Community (3-0-3).

(Formerly TRA 203). Introduces interpreting and distinguishes this skill from translation. Prepares students for interpreting through nurturing the ability to understand and analyze a message in the source language and convey it in the target language in a straightforward and clear manner. Develops the basic skills of liaison interpreting, with special emphasis on community interpreting (doctor-patient, court, official transactions, etc.) Prerequisite: TRA 210. Lab/Tech fee rate B applies.

TRA 401 Translation Evaluation and History (3-0-3).

Explores the conceptual map of translation studies and reflects on important points in the history of translation. Emphasizes both Western and Eastern translation traditions and the role of translation in

THM

Theme

THM 301 Arabs and the West: The Andalusian Symbiosis I (3-0-3).

Introduces students to the cultural symbiosis between Arabs and Europeans during the eight centuries of Arab/Muslim rule in Spain. Examines

TRA Translation and Interpreting

TRA 210 Introduction to Translation (3-0-3).

(Formerly TRA 101). Aims to familiarize students with the field of translation and the skills necessary to work as successful translators. Emphasizes a problem-solving

the development of culture and identity. Introduces translation evaluation, and develops rigorous assessments schemes. Prerequisite: TRA 210.

WST Women's Studies

WST 240 Introduction to Women's Studies (3-0-3). Provides an introduction to women's studies, its perspectives and its interdisciplinary nature. Emphasizes feminist analysis and critical thought as a way of making knowledge. Draws on history, literature, popular culture and the arts to analyze the forces that shape women's lives and examine women's position in culture and society. Prerequisite: WRI 102.

WST 250 Women's Voices Across Cultures (3-0-3). Examines debates surrounding the genre of autobiographical writing by women across cultures. Considers the aspirations, frustrations and achievements of women as documented in their own words. Explores the ways in which language and representation in various cultures shape subjectivity, challenge and redefine the boundaries of the autonomous self. Prerequisite: WRI 102.

WRI Writing Studies

WRI 001 Fundamentals of Academic Discourse (5-0-3). (Formerly COM 001). Introduces students to basic strategies for university success with particular emphasis on reading and writing skills. Aids students in developing goal setting, time management and study skills while reading and responding to university texts. Helps students become familiar with the conventions of academic writing through reading and writing activities. Includes contextualized grammar instruction. Prerequisite: EPT score less than 4.

WRI 101 Academic Writing (3-0-3). (Formerly COM 101). Challenges students to recognize, understand and produce academic writing. Requires students to practice strategies for reading academic material by responding to texts in both formal and informal writing assignments and classroom discussion. Helps students enhance their writing skills through use of the writing process, and develop the necessary grammar and mechanical skills for written English proficiency through contextualized grammar instruction. Prerequisite: EPT score of 4 or WRI 001.

WRI 102 Writing and Reading Across the Curriculum (3-0-3). (Formerly COM 102). Focuses on the development of active reading, critical thinking and analytical writing. Requires students to practice critical reading strategies by engaging with challenging and academically diverse texts and responding through formal and informal critical evaluations. Helps students develop their academic writing skills by identifying and fulfilling the requirements of supporting an academic thesis, as well as address issues of grammar and mechanics within the context of their writing. Introduces students to basic research techniques. Prerequisite: EPT score of 5 or WRI 101.

WRI 221 Peer Tutoring in Writing (3-0-3). (Formerly WRI 29401). Focuses on issues and theories of writing and peer-collaboration as they relate to peer tutoring in writing. Involves readings and class discussion that help students think critically about writing and the teaching and tutoring of writing. Explores the views of different writers towards their craft, writers as individuals, issues of writing in a second language, and the role of "talking" in writing. Prepares students for the second part of the course in which they prepare for possible roles as Writing Center Tutors or Writing Fellows. Focuses largely on "hands-on" learning as students observe writing

center tutorials, experience teaching each others, and comment on sample papers. Prerequisite/concurrent: ENG 203 or ENG 204.

Independent Study Courses

Independent Study (1 to 4 credits). Involves investigation under faculty supervision beyond what is offered in existing courses. Cannot be repeated more than once. Prerequisites: junior standing and consent of the instructor. Independent study courses are numbered as 396 or 496 courses. The three-letter course prefix reflects the field of study of the course (e.g., independent study courses in Arabic are coded as ARA 396 or ARA 496).

Students are allowed to take one independent study. A second independent study could be approved by the student's associate dean for graduate purposes only.

Special Topics Courses

Special Topics (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. Prerequisites: topic specific. Lab/tech fee may apply.

Special topic courses are numbered as 294, 394 or 494 courses. The three-letter course prefix reflects the field of study of the course. Special topics courses at the 300 level require sophomore standing or above; 400-level special topic courses are restricted to junior standing and above. Descriptions of particular special topics courses are made available in the college/school offering the course during registration.

College of Engineering

ASE Aerospace Engineering

ASE 350 Introduction to Aerospace Engineering (3-0-3). Gives an overview of aerospace engineering, airplane and the atmosphere. Examines the basic aerodynamics; airfoils and wings; lift and drag; aerodynamics moments, circulation, boundary layers, and skin friction. Covers the performance of aircrafts: level flight, climb, range, endurance, takeoff and landing. Introduces stability and control, structures and materials, principles of propulsion of flight vehicles and space flight. Prerequisites: MCE 222, MCE 223, MCE 240, MCE 241 or MCE 300.

ASE 415 Aircraft Stability and Control (3-0-3). Covers reference frames, equations of motion for a rigid body, forces and moments, trim, linearization, dynamic response characteristics for aircrafts and spacecrafts. Includes aircraft stability derivatives, static longitudinal and lateral stability, handling qualities, phugoid, short period, spiral, roll subsidence, Dutch roll modes and the corresponding transfer functions. Prerequisite: ASE 350.

ASE 454 Thermal Design Issues for Aerospace Systems (3-0-3). Deals with processes, systems, instruments and equipment for aerospace systems. Emphasizes issues of energy conversion and thermal design. Includes the following topics: thermodynamic concepts and heat transfer processes for aerospace systems, the space environment, influence of gravity on heat transfer, power generation for space systems (energy sources, solar cell arrays, energy storage), thermal control (analysis techniques, design procedures, active versus passive design, heating and refrigeration) and environmental effects. Prerequisite: ASE 350.

ASE 470 Aircraft Structures (3-0-3). Examines the characteristics of aircraft structures and materials;

stress strain relationships in two and three dimensions; torsion, bending and flexural shear in thin-walled sections; buckling and fatigue analysis of thin wall structures; analysis of composite laminates; introduction to aeroelasticity and energy methods. Prerequisite: ASE 350.

ASE 475 Aircraft Design (3-0-3). Covers the theory, background and methods of aircraft design. Integrates aerodynamics, structure, propulsion, flight dynamics and control in the design of aircrafts. Prerequisite: ASE 415, ASE 470 and MCE 482.

ASE 486 Compressible Flow (3-0-3). Applies basic thermodynamics and fluid mechanics equations to model the flow phenomena of compressible fluids. Includes the following topics: reversible flow, flow with heat transfer, flow with friction, normal and oblique shock waves, diffuser and nozzle flow. Prerequisite: ASE 350.

BME Biomedical Engineering

BME 310 Biomedical Ethics (1-0-1). Applies ethical principles and decision-making processes to selected problems in medicine, health care and biotechnology. Gives special attention to end-of-life choices, reproductive rights and technologies, organ transplantation, research ethics, genetic engineering and allocation of scarce resources. Focuses on social, legal, economic and scientific issues in ethical decisions in medicine. Prerequisite: BIO 210.

BME 410 Biomedical Systems Modeling I (3-0-3). Introduces and applies engineering principles including biomechanics, fluid mechanics, heat transfer, chemical reaction kinetics and materials science to model physiological systems and solve medical problems. Prerequisite/concurrent: BIO 210.

BME 411 Biomedical Systems Modeling II (3-0-3). Applies principles of kinetics and mass transfer to model

physiological systems including pharmacokinetics, membrane transport, renal filtration and gas exchange to design medical devices. Prerequisite/concurrent: BME 410.

BME 420 Biomedical Electronics I (3-0-3). Covers biomedical sensors and instrumentation, biopotential electrode, chemical and clinical biosensors, bioelectric phenomena, the electrocardiograph, the electroencephalograph, blood pressure and cardiac output measurements, and electrical safety. Prerequisite: ELE 225 or ELE 341.

BME 421 Biomedical Electronics II (3-0-3). Covers pulmonary system measurements, blood gas analysis, clinical laboratory instrumentation, biomedical optics and lasers, and therapeutic and prosthetic devices and systems. Prerequisite: BME 420.

BME 422 Biomedical Imaging (3-0-3). Covers imaging techniques, including ultrasound imaging, x-ray imaging, computerized tomography, magnetic resonance imaging, microwave imaging, thermal imaging and nuclear imaging. Covers the following for each of the addressed imaging techniques: radiation propagation and interaction with materials, generation and detection, and image construction and reconstruction. Covers radiation protection. Prerequisite: ELE 225 or ELE 341.

BME 430 Biomechanics (3-0-3). Covers electromyography (EMG), analysis of forces in static biological systems, fundamentals of biomechanics of human movement using mechanical modeling techniques, energy and power in human activity, and application of stress and strain analysis to biological tissues. Prerequisite: MCE 222 or MCE 224 or MCE 225 or CHE 230.

BME 431 Biomaterials (3-0-3). Provides an overview of materials used in biomedical applications, both internal and external to the human body. Covers structure and properties of biomaterials in addition to material performance in hostile environments. Prerequisite: BME 410 or BME 430.

BME 432 Biothermofluids (3-0-3). Discusses the fluid and thermodynamics principles underlying the operation of physiological systems, including the heart and circulatory system and the lungs and pulmonary system. Prerequisite: BME 410 or BME 430.

BME 440 Bioinformatics (3-0-3). Discusses elementary topics in bioinformatics. Includes the basics of molecular genetics, the biological aspects of bioinformatics, data searches, algorithms for pairwise alignments and substitution patterns. Prerequisites: BIO 210, and ELE 360 or COE 360.

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 and NGN 111; 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 215 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: PHY 101, PHY 101L and CHE 205; prerequisite/concurrent: MTH 203.

CHE 230 Materials Science (2-3-3). Introduces 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 engineering materials. Prerequisite: CHM 101. Lab/Tech fee rate B applies.

CHE 240 Computer Methods in Chemical Engineering (2-2-3). Covers the use of modern computational techniques and software to solve chemical engineering problems. Numerical techniques include: solution of linear and nonlinear algebraic equations; ordinary and partial differential equations; and numerical integration and differentiation. Introduces chemical process simulation. Prerequisite/concurrent: CHE 215 and MTH 221. Lab/Tech fee rate A applies.

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: MTH 203 and CHE 206.

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. Prerequisites: CHE 206, CHE 215 and MTH 205.

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 240; prerequisite/concurrent: CHE 307 and CHM 331.

CHE 329 Mass Transfer (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 307.

CHE 332 Engineering Economy (3-0-3). Covers topics in finance and economics involved in the design of chemical processes and equipment; time value of money, depreciation, profitability, evaluation of alternatives, replacement and capital analysis. Prerequisite/concurrent: CHE 412.

CHE 350 Transport Phenomena Laboratory I (0-3-1). Covers experiments in fluid flow, heat transfer, and thermodynamic measurement and analysis of devices. Includes experimental design, safety, and report writing. Prerequisites: NGN 111. Prerequisite/concurrent: CHE 307 and CHE 303. Lab/Tech fee rate B applies.

CHE 397 Professional Training in Chemical Engineering (0-0-0). Requires normally 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 fee applies.

CHE 412 Separation Processes (3-0-3). Examines application of mass transfer principles to the design of multi-stage systems and countercurrent differential contacting operations. Prerequisite: CHE 329; prerequisite/concurrent: CHE 304.

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. Lab/Tech fee rate A applies.

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. Includes the following topics: process safety, pollution prevention and waste minimization, plant economics and cost estimation. Prerequisite: CHE 321; prerequisite/concurrent: CHE 430.

CHE 434 Petroleum Refining Processes (2-2-3). Presents an overview of petroleum refining processes. Includes the following topics: introduction to petroleum, its origins and composition, basic principles of refining, the effect of feedstock on refinery design, selection of refinery units, design of major equipment and refinery economics. Prerequisite: CHM 215; prerequisite/concurrent: CHE 412 and CHE 430. Lab/Tech fee rate B applies.

CHE 436 Natural Gas Processing (3-0-3). Provides basic and applied knowledge in natural gas processing. Includes the following topics: characterization of natural gas and its products, phase behavior of natural gas, water-hydrocarbon phase behavior, prevention of hydrate formation, gas sweetening, gas dehydration using glycol, gas dehydration using solid desiccants, natural gas liquids recovery, sulfur recovery and design and sizing of equipment. Prerequisite/concurrent: CHE 432.

CHE 451 Transport Phenomena Laboratory II (0-3-1). Covers hands-on lab experiments illustrating the application of chemical engineering principles and calculations: mass transfer equipment, reaction kinetics and reactor design. Includes experimental design, safety and report writing. Prerequisites: CHE 321 and CHE 350; prerequisite/concurrent: CHE 412. Lab/Tech fee rate B applies.

CHE 452 Unit Operations and Control Lab (0-3-1). Covers laboratory experiments illustrating various applications of chemical engineering principles and calculations in process control and physical and chemical separation. Includes experimental design, safety and report writing. Prerequisite: CHE 350; prerequisite/concurrent: CHE 421. Lab/Tech fee rate B applies.

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. Prerequisite/concurrent: CHE 412.

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. Lab/Tech fee rate B applies.

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. Lab/Tech fee rate B applies.

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/concurrent: CHE 412.

CHE 472 Water and Wastewater Treatment Design (2-2-3). Covers design and selection of biological, physical and chemical processes used in water and wastewater treatment, disposal of treated effluent, water quality, and industrial wastewater characterization. Prerequisite/

concurrent: CHE 329. Lab/Tech fee rate B applies.

CHE 481 Fundamentals of Biomedical Engineering (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 215 and CHE 307.

CHE 483 Oil and Gas Chemical Processes (2-2-3). Studies chemical processes in the oil and gas industry. Includes the following topics: 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. Lab/Tech fee rate B applies.

CHE 490 Senior Design Project I (0-3-1). Requires a supervised design project of defined chemical engineering significance. Includes data collection, analysis, calculation, design and presentation of the work in a detailed technical report. Students must present and defend their project in oral presentations. 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 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.

CMP Computer Science

CMP 110 Visual Basic (2-2-3). Introduces programming using Visual Basic. Includes the following topics: event-driven programming concepts, GUI design (using forms, labels, textboxes, buttons, listboxes, etc.), functions and procedures, and arrays. Emphasizes writing database applications using a relational DBMS. Not open to junior and senior students in computer science or computer

engineering. Lab/Tech fee rate A applies.

CMP 120 Introduction to Computer Science I (3-2-4). Covers problem-solving strategies and algorithm design. Includes fundamental programming constructs: data types, variables, operators, expressions and statements, decision and iteration control structures, and modules. Covers fundamental data structures (arrays, records and self-referential structures), pointers and dynamic memory allocation, recursion and file IO. Explores basic principles of software engineering: stepwise refinement, modularity, documentation and testing. Lab work uses the C programming language. Lab/Tech fee rate A applies.

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. Lab/Tech fee rate A applies.

CMP 211 Digital Systems Laboratory (0-2-1). Includes experiments and laboratory work to support CMP 210. Prerequisite/concurrent: CMP 210 or COE 221. Lab/Tech fee rate B applies.

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 (2-3-3). Covers object-oriented programming concepts: objects, classes, methods and attributes, method overloading and overriding, and inheritance. Explores abstraction principles (interfaces, information hiding and encapsulation), exception, event handling and multithreading. Lab work uses the Java programming language. Prerequisite: CMP 120; prerequisite/concurrent: MTH 103. Lab/Tech fee rate A applies.

CMP 232 Data Structures and Algorithms (3-1-3). Covers abstract

data types, linked lists, stacks, queues, trees and graphs. Introduces the complexity of algorithms and data structures. Covers searching and sorting, and basic graph algorithms. Lab work uses the C and/or Java programming language. Prerequisite: CMP 220; prerequisite/concurrent: CMP 213 or MTH 213.

CMP 233 Introduction to Programming and Data Structures (2-3-3). Introduces programming using an object-oriented language like Python or Java. Covers basic data structures and their applications; and elementary data structures: lists, stacks, queues and trees. Not open to computer science or computer engineering students. Lab/Tech fee rate A applies.

CMP 235 Ethics for Computing and Information Technology (3-0-3). (Equivalent to PHI 206). Examines ethical theory and applied ethics for computing and information technology. Includes some history of the computer and information technology and discussion of their utilitarian and social value. Offers in-depth discussion of professionalism and its meaning; professionalism and ethical codes; the Association for Computing Machinery code of ethics; 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. Prepares the student to understand both the potential of the computer to promote social good as well as its potential for ethical misconduct. Prerequisite: WRI 102.

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 CMP 233 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. Lab/Tech fee rate A applies.

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 as 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. Lab/Tech fee rate A applies.

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. Requires students to complete a substantial software project. Prerequisite: CMP 232 or CMP 233 or COE 311.

CMP 352 Human Computer Interaction (3-0-3). Examines human behavior in relation to user interface design. Analyzes the conceptual models formed by users and evaluates user interface design. Examines multimedia interfaces; usability engineering; user interface design; and project organization. Studies interface representation and user-centered prototyping tools. Examines a number of case studies. Requires a project. Prerequisite(s): CMP 232 or CMP 233 or COE 311.

CMP 397 Professional Training in Computer Science (0-0-0). Requires normally 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.

CMP 412 Introduction to Distributed Systems (3-0-3). (Equivalent to COE 433). Covers the principles and practices underlying the design of distributed systems. Includes the following topics: concurrency, mutual exclusion, clock synchronization, logical time, election, consensus, global snapshot, resource allocation, consistency models and fault tolerance. 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. Includes the following topics: 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 (3-1-3). 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 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 or COE 211.

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 or CMP 233 or COE 311, and STA 201 or NGN 111, and MTH 221.

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 Multimedia Compression (3-0-3). Covers the theory and applications of multimedia compression; presents information theory and its applications to compression; introduces lossless compression algorithms, such as statistical and dictionary based techniques; applies scalar and vector quantization to image and video compression; covers predictive coding and frequency domain transformations; and introduces international compression standards such as JPEG and MPEG. Prerequisite: MTH 221, and STA 201 or NGN 111, and CMP 232 or CMP 233 or COE 311.

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/concurrent: CMP 350 or COE 420.

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 440 Machine Learning (3-0-3). Covers methods and techniques within the field of machine learning to solve problems, both theoretical and practical. Provides an understanding of machine learning and introduces techniques such as decision tree learning and support vector machines that have found applicability in industry. Provides a theoretical and applied understanding of the field that enables the student to solve specific problems and to perform machine learning experiments successfully. Prerequisite: CMP 232 or CMP 233 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. Requires students to complete a substantial object-oriented software project. 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 COE 420.

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 232 or CMP 233 or COE 311; prerequisite/concurrent: CMP 350 or COE 420.

CMP 470 Formal Languages and Computability (3-0-3). Introduces theoretical computer science. Includes the following topics: 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 core techniques and algorithms used in 2D and 3D games. Discusses a typical game architecture, and data structures and algorithms used in managing game data. Gives an overview of the 3D pipeline, shading, texture mapping and particle systems. Uses a high-level procedural language for real-time shading, a typical example being Cg. Requires students to make a game. Prerequisite: CMP 232 or CMP 233 or COE 311.

CMP 490 Project in Computer Science I (1-6-3). Includes faculty-supervised student projects on special topics of current interest. Requires students to give both oral and written presentations on the topics. Prerequisites: senior standing, and CMP 350 or COE 420.

CMP 491 Project in Computer Science II (0-9-3). Continues the work of CMP 490. Prerequisite: CMP 490.

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, file I/O, declaration and initializations of arrays and strings, pointers and function arguments. Includes lab and programming assignments. Prerequisite: MTH 103. Not open to computer science students. Lab/Tech fee rate A applies.

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. Lab/Tech fee rate A applies.

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. Prerequisites: PHY 102 and PHY 102L. Lab/Tech fee rate A applies.

COE 311 Data Structures and Algorithms (3-1-3). Examines the analysis, design and implementation of abstract data types/data structures and their algorithms. Includes the following topics: recursion, 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, searching and sorting algorithms and graph algorithms. Includes substantial programming assignments. Prerequisites: COE 211, and MTH 213 or CMP 213.

COE 312 Software Design for Engineers (1-3-2). Covers basic software design patterns; implementation of communication interfaces including reading and writing, serial, parallel, synchronous and asynchronous streams and sockets; implementation of graphical user interfaces including menus, dialogs, windows, call-back functions and simple event-driven programming. Provides an overview of device drivers, persistence storage techniques and software component technologies. Prerequisites: COE 211 and COE 331.

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. Lab/Tech fee rate B applies.

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; DSP processor architectures; 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 or STA 201, and ELE 323 or MTH 351 or prerequisite/concurrent ELE 321.

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, Local Area Network (LAN) systems, Ethernet, token ring, interconnection devices and the Internet. Prerequisites: MTH 104, and COE 221 or CMP 210.

COE 371 Computer Networks I (2-3-3). Covers high-speed LANs, wireless LANs, Transmission Control Protocol/ Internetworking Protocol, routing protocols, and WAN Networks [frame relay and Asynchronous Transfer Mode (ATM)]. Prerequisite: COE 370. Lab/Tech fee rate B applies.

COE 381 Operating Systems (3-1-3). (Equivalent to CMP 310). Covers introduction to operating systems, process management, process scheduling, interprocess communications, memory management techniques, virtual memory, I/O management, deadlock avoidance, file system design, socket programming, and security issues. Includes examples of commonly used operating systems (e.g., Windows and UNIX). Prerequisites: COE 311 or CMP 232, and COE 331 or CMP 240.

COE 397 Professional Training in Computer Engineering (0-0-0). Requires normally 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 fee applies.

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. Includes class projects. Prerequisites: COE 331 and ELE 241. Lab/Tech fee rate B applies.

COE 420 Software Engineering I (3-1-3). (Equivalent to CMP 350). Introduces the basic principles and practices of software engineering. Emphasizes the different phases of the software development process and quality issues. Includes the following topics: 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 422 Database Systems (3-1-3). (Equivalent to CMP 320). Introduces the basic principles of database management systems; data models, including conceptual and logical models; translation between data models; query languages; normalization of relations; and database application development. Prerequisite: COE 311 or CMP 232 or CMP 233.

COE 423 Computer Networks II (3-0-3). Examines the latest developments in computer networking and communications technologies. Includes the following topics: high-speed networks, optical networks, network security, and performance modeling and simulation in computer networks. Prerequisites: COE 371 and COE 360.

COE 424 Advanced Digital System Design (3-1-3). Covers advanced digital design techniques, structured design methods for advanced digital design, case studies of complex digital circuits, hardware description languages (HDL) and PLD implementations, reliable design and testing techniques. 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. Covers Internet protocols that support a variety of applications, including file transfer, client-server computing, peer-to-peer computing, and Internet messaging and web syndication. Covers front, middle and back-end technologies for non-trivial Internet applications. Introduces service-oriented architectures and web services and the semantic Internet. Includes an Internet programming project. Prerequisites: COE 312 and COE 371.

COE 428 VLSI Design (3-0-3). Covers CMOS technology, layout rules and techniques, CMOS logic and circuit design, circuit characterization and performance estimation, and design methodologies and tools. Prerequisites: COE 221 or CMP 210, and ELE 241.

COE 431 Industrial Computer Systems (3-1-3). 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 434 Mobile Computing (3-0-3). Introduces students to the challenging field of mobile computing. Includes the following topics: wireless communications and networks, 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. 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.

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. Prerequisite/concurrent: CVE 221. Lab/Tech fee rate B applies.

CVE 211 Fundamentals of Graphics and Computer Programming (2-3-3).

Covers graphical communication including lettering, drawing equipment and techniques. Includes the following topics: 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. Lab/Tech fee rate A applies.

CVE 220 Statics (3-1-3). 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. Prerequisites: PHY 101 and PHY 101L.

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: CHM 101; prerequisite/concurrent: CVE 223 and CVE 202.

CVE 223 Mechanics of Materials

(3-1-3). 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 220 or MCE 224.

CVE 240 Fluid Mechanics (2-3-3).

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, Bernoulli'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. Lab/Tech fee rate B applies.

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; prerequisite/concurrent: 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. Prerequisite/concurrent: CVE 241. Lab/Tech fee rate B applies.

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 (3-0-3). 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; replacement and retention decisions; selection from independent projects; inflation; cost estimating fundamentals; parametric cost estimating; depreciation methods; breakeven analysis; benefit cost analysis; sensitivity analysis and decision making under risk. Prerequisite: NGN 111.

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. Utilizes 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. Prerequisite/concurrent: CVE 331. Lab/Tech fee rate B applies.

CVE 304 Environmental and Water Engineering Lab (0-3-1). Includes experiments in environmental engineering, hydraulic engineering and surface and ground water hydrology. Includes sampling, physical, chemical and bacteriological analysis of water and wastewater. Utilizes 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. Prerequisite/concurrent: CVE 351. Lab/Tech fee rate B applies.

CVE 310 Fundamentals of Structural Dynamics (3-0-3). Examines fundamental concepts of kinematics and kinetics of rigid body motion. Introduces earthquake nature, causes and effects; types of dynamic forces and the basic concepts of structural

dynamics; equations of motion of single degree of freedom systems, free and forced vibration; response to earthquake loading. 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 (3-0-3). 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. Prerequisites: MTH 205 and CVE 211; 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. Includes the following topics: 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; prerequisite/concurrent: 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 Water Resources Engineering (3-0-3). Introduces flow of water through pipes and channels, over the ground surface, and through the subsurface. Covers incompressible flow in pipes, methods of energy loss computations, pumps, steady flow in pipe networks, and design of pipe networks using computer applications. Includes open channel hydraulics, design of water supply canals, bridge and culvert hydraulics, and open channel flow modeling. Introduces surface hydrology including runoff modeling. Covers subsurface flow and wells hydraulics. Includes team projects, and analysis and design using computer software. Prerequisites: CVE 240, PHY 102 and PHY 102L.

CVE 351 Environmental Engineering (3-0-3). Covers materials balance, reaction kinetics and reactor theory. Introduces water quality parameters, modeling, and source assessment; and planning and design of water and wastewater treatment methods and unit operations. Includes physical, chemical and biological phenomenon governing water and wastewater treatment steps; air quality standards and air quality treatment and control;

solid waste planning and management; and hazardous waste treatment and management. Prerequisite: CHM 101; prerequisite/concurrent: CVE 341 and CVE 304.

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 397 Professional Training

(0-0-0). Requires normally 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 fee applies.

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 413 Concrete Bridges Design (3-0-3).

Covers design of highway bridges; history, classification and aesthetics of bridge structures; design philosophy; loading, girder distribution factors; and load combinations; design of concrete deck slab; design of reinforced concrete T-beam and box girders bridges; and design of piers, bearings and abutments. Introduces pre-stressed concrete bridges. Prerequisites: 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 CVE 202.

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 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 450 Physical and Chemical

Processes in Environmental Engineering (3-0-3). Covers fundamental physical and chemical processes as applied within environmental engineering, including water treatment, wastewater treatment, air pollution control, and water quality management. Topics include: reactor theory, mixing, gravity separation, centrifugation, adsorption, Ion exchange, disinfection kinetics, acid/base chemistry, neutralization, precipitation and corrosion. Prerequisites: 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 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 367.

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 (0-6-2). Continues the work of CVE 490. Prerequisite: CVE 490.

EGM Engineering Management

EGM 361 Management for Engineers (3-0-3). Focuses on engineers as managers. Includes the following topics: nature and functions of organizations; the tools of engineering management; engineering organizational models, including cluster and matrix organization; leadership; teamwork and creativity; personnel management; finance; communication skills; and ethical and professional standards. Introduces total quality management. Includes case studies. Prerequisites: WRI 102 and NGN 110.

EGM 362 Engineering Project Management (3-0-3). Covers projects in engineering organizations. Includes the following topics: project initiation; effective project management; project life cycle, planning and scheduling; resourcing; cost estimating; and project monitoring and control. Introduces computer packages. Includes case studies. Prerequisites: ECO 201 and NGN 110.

EGM 364 Engineering Economy (3-0-3). (Formerly EGM 464). Explores the economics concepts and theories of planning. Covers the bases and methods of economic analysis of engineering projects and the application of these principles in understanding economic activity of private and public engineering companies at various micro- and macroeconomic levels. Prerequisites: ECO 201, and NGN 111 or STA 201. Not open to civil or chemical engineering students.

EGM 463 Quantitative Engineering Management (3-0-3). Explores models in operational management. Includes linear programming (formulation of linear programming models and standard forms); principles of the simplex method; dual simplex method; nonlinear programming problems; and

the use of linear and nonlinear problem solvers with applications in various engineering fields including network analysis, resource allocation and transportation. Prerequisite: NGN 111 or STA 201.

EGM 465 Quality Engineering (3-0-3). Covers control charts and diagrams (types, construction, application and implementation), including control charts for variables and attributes. Includes acceptance sampling (lot by lot acceptance sampling by attributes, acceptance sampling plans and standards), quality costs, quality improvement and implementation of the quality control system. Prerequisite: NGN 111 or STA 201.

ELE Electrical Engineering

ELE 211 Electric Circuits I (2-3-3). Examines physical concepts and mathematical analysis of electric circuits. Includes DC, transient and sinusoidal steady state analysis of circuits. Includes laboratory experiments and use of Pspice and MATLAB. Prerequisites: PHY 102 and PHY 102L. Lab/Tech fee rate B applies.

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. Prerequisites: ELE 211 and MTH 205. Lab/Tech fee rate B applies.

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. Prerequisites: PHY 102 and PHY 102L. Not open to electrical engineering or computer engineering majors. Lab/Tech fee rate B applies.

ELE 241 Electronics I (3-0-3). Reviews semiconductor physics. Covers PN junction; diode circuits; special diodes; bipolar junction transistor (BJT);

biasing, small signal analysis and design of BJT amplifiers; MOSFET transistor; biasing, simple current mirror; small signal analysis and design of MOSFET amplifiers; optoelectronic devices; and digital electronics. Prerequisite: ELE 211; prerequisite/concurrent ELE 241L.

ELE 241L Electronics I Lab (0-3-1). Laboratory to accompany ELE 241. Prerequisite/concurrent ELE 241. Lab/Tech fee rate B applies.

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, 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, PHY 102 and PHY 102L.

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.

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. Lab/Tech fee rate B applies.

ELE 341 Electronics II (3-0-3). Covers differential pair, operational amplifiers, power amplifiers, review of Bode Plots, 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. Lab/Tech fee rate B applies.

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. Prerequisite: ELE 212; prerequisite/concurrent: MCE 224 or MCE 225. Lab/Tech Fee Rate A applies.

ELE 353L Control Systems I Lab (0-3-1). Laboratory to accompany ELE 353. Prerequisite: ELE 353. Lab/Tech fee rate B applies.

ELE 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 or STA 201, and ELE 323 or MTH 351 or prerequisite/concurrent: ELE 321.

ELE 361 Communications (3-0-3). Reviews Fourier series and Fourier transform. Includes the following topics: 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 or ELE 323; prerequisite/concurrent: ELE 360.

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. Lab/Tech fee rate B applies.

ELE 371L Electric Machines and Power Systems Lab (0-3-1). Laboratory to accompany ELE 371. Prerequisite/concurrent: ELE 371.

ELE 397 Professional Training in Electrical Engineering (0-0-0). Requires normally 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 fee applies.

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). Covers imaging techniques, including ultrasound imaging, convention X-Ray imaging, computerized tomography, magnetic resonance imaging, microwave imaging, thermal imaging, nuclear imaging, and other imaging techniques. Covers the following for each of the addressed imaging techniques: radiation propagation and interaction with materials, generation and detection, and image construction and reconstruction. Covers 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. Lab/Tech fee rate B applies.

ELE 441 Microelectronic Devices (3-0-3). Covers conceptual and functional description of the physics, characteristics 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. 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 beam width 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 representation and fundamentals of digital images. Also includes image enhancement, image restoration, image compression, image segmentation and color representation. Prerequisite/concurrent: ELE 424.

ELE 457 Satellite Communications (3-0-3). Explores the technical and economical aspects of satellite communication. Includes the following topics: 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 and transmission parameter measurements, and real-time DSP programming and applications. Prerequisites: ELE 311 and ELE 361. Lab/Tech Fee Rate B applies.

ELE 459 Introduction to Radar Systems (3-0-3). Explores the nature of radars. Includes the following topics: 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. Lab/Tech fee rate B applies.

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. Includes the following topics: 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. Includes the following topics: 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. Prerequisites: ELE 371 and ELE 371L. Lab/Tech fee rate B applies.

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 and permission of department.

ELE 491 Electrical Engineering Design Project II (0-6-2). Continues the work of ELE 490. Prerequisite: ELE 490.

GMP Computer Game Programming

GMP 494 Special Topics in Game Programming (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: junior standing and topic specific. Lab/tech fee may apply.

MCE 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. Lab/Tech fee rate B applies.

MCE 220 Statics (3-1-3). 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. Prerequisites: PHY 101 and PHY 101L.

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. Includes the following topics: 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). 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, PHY 101 and PHY 101L. 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, PHY 101 and PHY 101L. Not open to mechanical engineering, civil engineering or electrical engineering majors.

MCE 230 Materials Science (2-3-3). 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 engineering materials. Prerequisite: CHM 101. Lab/Tech fee rate B applies.

MCE 234 Computer Applications in Mechanical Engineering (2-3-3). Introduces structured programming and software suite for mechanical engineering applications using MATLAB; Nastran and SimMechanics demonstrations. Introduces computer hardware; and use of software and hardware in the design and simulation of mechanical systems. Lab/Tech fee rate A applies.

MCE 240 Fluid Mechanics (2-3-3). 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 equations, and Bernoulli's equation; velocity and flow rate measurements; dimensional analysis and modeling; frictional losses in pipes and introduction to fluid dynamic forces on immersed bodies. Prerequisites: MTH 104 and MCE 220. Lab/Tech fee rate B applies.

MCE 241 Thermodynamics I (3-1-3). Covers basic concepts of thermodynamics, properties of matter, processes and cycles, energy transfer, first law of thermodynamics for closed systems and control volumes, second law of thermodynamics, entropy and availability analyses, applications on engineering devices, basics of vapor power and gas power cycles. Prerequisites: PHY 101 and PHY 101L.

MCE 300 Introduction to Mechanical Systems (3-0-3). Covers the rigid body dynamics as well as the concept of stress and strain under different types of loading. Introduces the fundamental concepts and basic equations of fluid mechanics and thermodynamics. Prerequisite: MCE 220 or MCE 224 or MCE 225. Not open to mechanical engineering majors.

MCE 311 Engineering Measurements (2-3-3). Examines basic concepts of measuring methods; static and dynamic characteristics of signals; types of errors; assessing and presenting experimental data; uncertainty analysis; measurement system behavior; sampling; analog devices and measurements; digital devices and data acquisition; and selection and use of temperature, pressure, fluid flow, force, stress, strain, torque and power instrumentation. Includes lab experiments and demonstrations. Prerequisites: ELE 225, MCE 222 and MCE 240. Lab/Tech fee rate B applies.

MCE 321 Mechanical Design I (3-0-3). Explores stresses and deflection of engineering members; statistical considerations in design; steady and variable loading; design of screws, fasteners and nonpermanent joints; and welded joints. Prerequisites: MCE 215, MCE 223 and NGN 111.

MCE 322 Mechanical Design II (3-0-3). Covers mechanical springs; design of clutches, brakes and couplings; power transmission equipment (shafts, axles and spindles); flexible mechanical elements (flat and V-belts, wire ropes and chains); rolling and journal bearings; spur, helical, bevel and worm gears; and utilization of commercial computer-aided design software. A design project is required. Prerequisite: MCE 321. Prerequisite/concurrent: MCE 331

MCE 325 Computational Methods (3-0-3). Covers basic concepts of computational methods; errors, accuracy and precision; numerical solutions of non-linear equations; direct and iterative methods for solving systems of linear algebraic equations; numerical differentiation and integration; interpolation, approximation and curve fitting; numerical solutions of ordinary and partial differential equations; and applications of computational methods using computers. Prerequisite: MTH 205 and MCE 234; prerequisite/concurrent: MTH 221.

MCE 328 Dynamic Systems (3-0-3). Covers modeling, analysis and measurement of mechanical damped and undamped, forced and free vibrations in single and multiple degree-of-freedom dynamic systems. Emphasizes the processes of energy storage and dissipation and addresses and analogous elements when modeling different dynamic systems. Introduces basic concepts in system theory such as system state and stability. Includes elements of frequency response, Fourier and Laplace transform techniques, and total response from partial fraction expansion. Prerequisites: MCE 222, MCE 234 and ELE 225.

MCE 331 Manufacturing Processes (2-3-3). Introduces fundamentals of manufacturing processes including casting, forming, welding and machining operations. Students are grouped in teams to conduct hands-on experiments in the manufacturing laboratory. Prerequisites: MCE 215, MCE 223 and MCE 230. Lab/Tech fee rate B applies.

MCE 341 Thermodynamics II (2-3-3). Covers energy system analysis including modified power cycles, refrigeration cycles and air conditioning processes; thermodynamic relations and development of thermodynamic properties; thermodynamics of non-reacting and reacting mixtures, chemical reaction and phase equilibrium. Includes lab experiments and demonstrations. Prerequisite: MCE 241. Lab/Tech fee rate B applies.

MCE 344 Heat Transfer (2-3-3). Covers mechanisms of heat transfer, steady-state conduction solution in

various geometries, electric network analogy, fins, numerical methods in heat transfer, transient conduction, internal and external forced and natural convection with applications to heat exchangers, and fundamentals of thermal radiation. Prerequisites: MCE 240 and MCE 241. Lab/Tech fee rate B applies.

MCE 397 Professional Training in Mechanical Engineering (0-0-0). Requires normally 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 fee applies.

MCE 410 Control Systems (2-3-3). Covers state variable models, feedback control system characteristics, performance and stability of feedback control systems, root-locus method, stability in the frequency domain and design of feedback control systems. Introduces control system design in the state space domain and digital control. Includes lab experiments and demonstrations. Prerequisites: MCE 311 and MCE 328. Lab/Tech fee rate B applies.

MCE 416 Kinematics and Dynamics of Machinery (3-0-3). Explores kinematics and dynamic analysis and synthesis of linkages (displacement, velocity, acceleration and force analysis), cam-follower, gear train systems, balancing of rotating systems, dynamics of reciprocating engines and vibration signatures in machinery. Prerequisite: MCE 328.

MCE 423 Mechanical Vibrations (3-0-3). Provides a review of systems with single degree of freedom damped and undamped free vibrations and forced vibrations. Includes modeling of multi-degree-of-freedom systems via Lagrange's equations; modal summation method for response predictions; vibration isolation and vibration measuring instruments; tuned mass vibration absorber; viscous, Coulomb and hysteresis damping; and vibration of continuous systems. Introduces experimental modal analysis. Prerequisite: MCE 328.

MCE 434 Fundamentals of Computer-Aided Design and Manufacturing (2-3-3). Introduces computer-aided design (CAD) and computer-aided manufacturing (CAM) technologies. Includes the following topics: the role of CAD/geometric modeling, parametric representation of curves and surfaces, viewing transformations, finite element analysis and optimization techniques, computer numerical control (CNC), part programming, and introduction to rapid prototyping. Prerequisites: MCE 234 and MCE 331. Lab/Tech fee rate B applies.

MCE 439 Computer Integrated Manufacturing (3-0-3). Covers fundamentals and principles associated with computer integrated manufacturing (CIM). Topics include: computer-aided process planning (CAPP), production planning and control, programming principles of numerical controlled and computer numerical controlled systems, manufacturing systems design, manufacturing cells and flexible manufacturing systems. Prerequisite: MCE 234 and MCE 331.

MCE 443 Introduction to Engineering Fracture Mechanics (3-0-3). Examines Griffith criterion, mechanisms of fracture and crack growth, elastic crack-tip stress field, plane stress and plane strain, R-curve and J-integral, determination of stress intensity factors and elastic-plastic fracture mechanics. Introduces fatigue crack propagation. Covers the application of fracture mechanics to practical problems. Prerequisites: MCE 230 and MCE 321.

MCE 445 Energy Systems (3-0-3). Covers types of power plants, thermodynamics of power plants, combined power plants, systems components, design parameters, plant evaluation, efficiency calculations methods, modifications to improve system performance, cogeneration plants, thermodynamics and economics of cogeneration plants, system equipment, practical schemes of cogeneration plants, power plant economics, power plant planning, design concepts, power plant control, burner management and environmental impact of power plants. Prerequisites:

MCE 341 and MCE 344.

MCE 446 Refrigeration and Air Conditioning (2-3-3). Introduces ventilation, air conditioning and refrigeration; classification of air conditioning systems; applied psychrometrics, design conditions, design of conventional and non-conventional systems; human thermal comfort and indoor air quality; load estimating fundamentals; heating and cooling loads calculations; vapor compression refrigeration cycles; refrigeration equipment and systems; energy estimation methods; air distribution systems and duct design; and system selection and design. Includes lab experiments and demonstrations. Prerequisites: MCE 341 and MCE 344. Lab/Tech fee rate B applies.

MCE 447 Internal Combustion Engines (2-3-3). Covers fundamental principles of engine operation and applications, engine classifications, engine design and operating parameters, engine cycles, thermo-chemistry and fuels, air and fuel induction systems, fluid motion within combustion chambers, combustion in spark ignition engines, combustion in compression ignition engines, exhaust system, engine emission and air pollution, methods of emission control, engine friction and lubrication, and engine operating characteristics. Introduces modeling of real engine flow and combustion processes, as well as new trends in internal combustion engines. Includes lab experiments and demonstrations. Prerequisite: MCE 341. Lab/Tech fee rate B applies.

MCE 450 Energy Conservation and Management (3-0-3). Analyzes energy systems, including fossil fuels, steam, cogeneration, waste heat recovery, refrigeration and air conditioning systems; total energy management; energy management organization and approach; energy conservation in electrical load; lighting, building envelop, and insulation; economic energy analysis; energy auditing; monitoring and targeting; technical approaches and analyses; control; and energy management systems. Prerequisite: MCE 341.

MCE 464 Introduction to Robotics (3-0-3). Gives an overview of robotics, robot coordinate systems, and direct and inverse kinematics. Introduces manipulator dynamics and force control and compliance. Includes robot sensors and control strategies, and requirement of digital control of robots. Prerequisites: MCE 311 and MCE 328.

MCE 466 Introduction to Mechatronics (2-3-3). Introduces the application of microprocessors and digital electronics to the design and application of control systems embedded in smart products. Covers sensors, actuators, software, system hardware and interfacing for mechanical engineering applications, as well as smart product design. Prerequisites: MCE 311 and MCE 328. Lab/Tech fee rate B applies.

MCE 473 Applied Finite Element Analysis (2-3-3). Introduces Finite Element Method (FEM) and its application in different mechanical engineering problems. Includes theoretical and computational basics of finite element method, element formulation and assembly of global matrices. Uses commercial software to solve various engineering problems. Applications include solid mechanics, 2-D steady state heat conduction and fluid problems. Prerequisite: MCE 321; prerequisite/concurrent: MCE 328 and MCE 344. Lab/Tech fee rate B applies.

MCE 477 Composite Materials (3-0-3). Examines advanced composite materials and applications. Covers stress-strain relationship for an orthotropic lamina, laminate analysis, static strength of laminates, analysis of laminated beams, introduction to micro-mechanical analysis of laminae, design applications and computer program applications. Prerequisites: MCE 230, MCE 321 and MTH 221.

MCE 482 Intermediate Fluid Mechanics (3-0-3). Covers basic equations of fluid mechanics; differential relations of fluid flow, Navier-Stokes equations and solution of simple flows; viscous flow, Von Karman integral method, boundary layer equations with applications; potential flow, stream function, velocity potential, plane flow past closed-body shapes,

fundamentals of compressible fluid flow, isentropic flow, normal shock waves and supersonic nozzles; and friction and heat interaction (Fanno and Rayleigh flows). Introduces computational fluid dynamics and use of commercial CFD software. Prerequisites: MCE 240 and MCE 241; prerequisite/concurrent: MCE 325 and MTH 203.

MCE 487 Turbomachines (2-3-3). Explores classification of turbomachines, dimensional analysis and model testing; basic equations of fluid mechanics and Euler's theory; incompressible flow turbomachines (centrifugal and axial flow pumps), system matching, performance characteristics and cavitation; hydraulic turbines; compressible flow turbomachines (centrifugal and axial flow compressors), reaction ratio, stage loading, stage efficiency, surge and choking limits; and axial flow gas turbines. Prerequisites: MCE 240 and MCE 241. Lab/Tech fee rate B applies.

MCE 488 Introduction to Computational Fluid Dynamics (CFD) (2-3-3). Explores discretization techniques and solution algorithms; finite difference solutions to classical model equations pertinent to wave phenomena, diffusion phenomena, or equilibrium, boundary and initial conditions and stability considerations, application into equations of fluid mechanics and heat transfer, using software packages in solving CFD problems. Prerequisites: MCE 240 and MCE 325.

MCE 490 Design Project I (1-3-2). Includes an open-ended, in-depth design project of mechanical engineering significance that includes the design, manufacturing and testing of a complete system of current interest to mechanical engineering. Students work under close supervision of one or more faculty members in a team environment. Students are required to present their findings at the end of the project in the form of a seminar and in a formal written report. The project outcomes must demonstrate that students have attained the level of competency needed for entry in the mechanical engineering profession. Emphasizes engineering ethics and communication skills.

Prerequisite: senior standing.

MCE 491 Design Project II (0-6-2). Continues the work of MCE 490. Prerequisite: MCE 490.

NGN Engineering

NGN 110 Introduction to Engineering and Computing (1-2-2). Examines common concepts in the engineering and computer science disciplines at AUS. Introduces word processing and spreadsheet software, team concepts, the roles and responsibilities of engineers and computer scientists, problem solving, principles of the design process, written and oral communication, professional ethics and sketching. Includes selected laboratories in different disciplines. Requires a design project meeting desired objectives in a team environment. Prerequisite: admission to the College of Engineering.

NGN 111 Introduction to Statistical Analysis (2-0-2). Covers descriptive statistics, graphical and numerical representation of information, measures of location and variation, elementary probability theory, and discrete and continuous probability models. Introduces statistical inference (estimation and hypothesis testing). Includes simple regression and correlation, designing experiments and use of statistical software. Presents examples from the engineering and related disciplines. Prerequisite/concurrent: MTH 103.

PET Petroleum Engineering

PET 305 Fundamentals of Petroleum Operations (3-0-3). Introduces operations in petroleum production and recovery. Includes the following topics: petrogeology, chemical, physical and thermodynamic properties of oil and natural gas, material balance equations and reserve estimates. Prerequisites: MTH 203 and CHM 101, and CHE 215 or MCE 240 or CVE 240.

PET 365 Petroleum Reservoir Engineering (3-0-3). Explores concepts in petroleum reservoir engineering.

Includes the following topics: reservoir rock and fluid properties, basic reservoir mechanics, low Reynolds number flow in porous media, and single- and multiphase flow through porous media. Prerequisites: PET 305 and MTH 205.

PET 375 Petroleum Drilling and Production (3-0-3). Covers production techniques of petroleum wells. Includes the following topics: drilling and completion methods, vertical lift, gas lift, valve and string design, casing string design, sucker rod pumping. Prerequisites: PET 305.

PET 414 Enhanced Oil Recovery (3-0-3). Covers methods to enhance recovery of petroleum from reservoirs. Includes the following topics: steam injection, in-situ combustion and miscible displacement by various fluids including carbon dioxide, high-pressure gas, liquefied petroleum gas, micellar solutions and alcohols. Prerequisites: PET 365.

Independent Study Courses

Independent Study (1 to 4 credits).

Involves investigation under faculty supervision beyond what is offered in existing courses. Cannot be repeated more than once. Prerequisites: junior standing and consent of the instructor.

Independent study courses are numbered as 396 or 496 courses. The three-letter course prefix reflects the field of study of the course (e.g., independent study courses in chemical engineering are coded as CHE 396 or CHE 496).

Students are allowed to take one independent study. A second independent study could be approved by the student's associate dean for graduate purposes only.

Special Topics Courses

Special Topics (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. Prerequisites: topic specific. Lab/tech fee may apply.

Special topic courses are numbered as 294, 394 or 494 courses. The three-letter course prefix reflects the field of study of the course. Special topics courses at the 300 level require sophomore standing or above; 400-level special topic courses are restricted to junior standing and above. Descriptions of particular special topics courses are made available in the college/school offering the course during registration.

School of Architecture

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, WRI 101 or WRI 102 and MTH 003 or MTH 111 or MTH 103. Lab/tech fee rate B applies.

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. Lab/tech fee rate B applies.

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. Prerequisite/concurrent: ARC 201 or IDE 201.

ARC 215 Descriptive Geometry (4-0-3). Introduces concepts and practices of the precise description of form in space. Includes systematic treatment of projection systems, including orthographic, oblique and perspective projections. Instruction and

assignments involve both traditional and digital design media. Course format includes lectures and supervised applications. Prerequisite/concurrent: ARC 201 or IDE 201. Lab/tech fee rate A applies.

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. Prerequisites: WRI 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: WRI 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. Uses 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). (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; prerequisite/concurrent: ARC 201 or IDE 201. Lab/tech fee rate A applies.

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, multilevel, 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. Covers freehand color drawing techniques using markers, color pencils and watercolors. Prerequisite/concurrent: ARC 201 or IDE 201.

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. Prerequisite/concurrent: ARC 201 or IDE 201. Lab/tech fee rate B applies.

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. Lab/tech fee rate A applies.

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 Process (3-0-3). (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. Discusses the basics of producing construction drawings. Prerequisite: ARC 232.

ARC 344 Structural Design for Architects (3-1-3). (Formerly ARC 342). Covers classification of structural elements and systems. Includes analysis and behavior of structural elements and systems (simple beams, comprehensive members, continuous beams, frames, plates, membranes and shells); the relationship between 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 foundations. Prerequisite: ARC 242. Lab/tech fee rate A applies.

ARC 354 Environmental Energies and Building Form (3-0-3). (Formerly ARC 351). Studies the physical phenomena that make climate (rain, humidity, temperature, wind, sun, etc.) influence buildings. Covers 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. Discusses examples of how these phenomena are used in building design. Prerequisite: PHY 104; prerequisite/concurrent: ARC 301.

ARC 364 Introduction to Computer-Aided Drawing (0-2-1). (Cross-listed as IDE 364). (May test out of course). Provides training for mainstream CAD applications using the Windows operating system. Develops basic familiarity and proficiency with applications commonly encountered during professional training. Graded as P/F. Prerequisite: ARC 202 or IDE 202. Lab/tech fee rate B applies.

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. Lab/tech fee rate B applies.

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. Introduces AutoCAD on PCs running the Windows NT operating system. Extends the topics introduced in ARC 365 to include detailed treatment of tool palettes and inter-platform compatibility. Prerequisite: ARC 201 or IDE 201. Lab/tech fee rate B applies.

ARC 374 Environmentally Sustainable Design (4-0-3). (Cross-listed as IDE 374). Develops a greater focus on holistic and sustainable approaches to design. Covers issues such as demand and supply of energy and water and the generation of waste. Reiterates the principles of reduce, reuse and recycle. Predominant emphasis is on practical strategies directly applicable in design. Material is presented as lectures and seminars, supplemented with readings. Prerequisite/concurrent: PHY 104 or PHY 100 or PHY 101.

ARC 397 Internship in Architecture I (0-0-0). Requires a minimum of six weeks of approved professional experience. Requires students to document the work undertaken in a formal report submitted to the department by the beginning of the following term. Graded as P/F. Registration fee applies. 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.

ARC 402 Architectural Design Studio VI (12-0-6). Comprises a 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 397 and ARC 401; prerequisite /concurrent ARC 354.

ARC 424 Evolution of Cities (3-0-3). Introduces the origin, growth and development of cities throughout

the history. Examines the various socioeconomic, 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 Process (3-0-3). (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, including stairs, doors, windows, partitions, ceilings, floors, claddings and joints. Discusses 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. Emphasizes the use of computer technology in drawing production and information coordination. Prerequisite: ARC 301 or IDE 301.

ARC 455 Environmental Control Systems (3-0-3). (Formerly ARC 452). Presents the basic principles for the selection and the design of the main environmental control systems in buildings, including 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: senior standing.

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. Gives attention 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. Applies 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. Lab/tech fee rate B applies.

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). Features 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 497 Internship in Architecture II (0-0-0). Requires a minimum of eight weeks of on-the-job experience with an approved professional firm. Requires students to document the work undertaken in a formal report submitted to the department by mid-semester of the following term. Graded as P/F. Registration fee applies. 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: studio specific.

ARC 505 Architectural Design Studio VII (12-0-6). Requires research-directed investigation involving architecture and urban design. Prerequisites: ARC 402 and ARC 344.

ARC 506 Architectural Design Studio VIII (12-0-6). Research-directed design studio based on a topic 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 402 and ARC 497.

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). 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. Prerequisite: ARC 301 or IDE 301.

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. Provides an overview of 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. Prerequisites/concurrent: ARC 402 and CGPA of 2.5 or above.

ARC 591 Final Project Research (6-0-3). Requires students to 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, ARC 462 or IDE 462; ARC 402, ARC 434, ARC 455; and consent of the department.

ARC 592 Final Project Design (12-0-6). Requires 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). 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. Introduces students to the integrated use of software appropriate for word processing, document layout, spreadsheets, communication, research, drawing and modeling. Restricted to SA&D and MCM majors. Lab/tech fee rate A applies.

DES 111 Descriptive Drawing I (6-0-3). Introduces students to the fundamental principles of observational and analytical drawing. Explores various representational and analytical approaches 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). Further introduces the student to the principles of drawing. Emphasizes 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. Prerequisite: DES 111. Restricted to SA&D students.

DES 121 History of Material Culture I (3-0-3). Examines the artistic material culture of humanity through architecture, monuments, sculpture and painting. Explores the technological, religious and social forces that shaped these works. 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). 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). 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). 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. Explores various representational strategies, methods, materials and techniques 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. Builds on students' knowledge of the principles, techniques and critical skills developed in Introductory Painting, as well as introduces 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. Emphasizes technique, craft and development of proper studio working habits, studio safety and the development of accurate printing skills

and printing consistency. Requires students to work on monochrome and polychrome projects using single and multiple matrixes. Students learn the essentials of color printing and how to build color through CMYK methods. Restricted to SA&D students.

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. Not open to multimedia design and visual communication students. Lab/tech fee rate A applies.

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. Further explores and enhances the student's knowledge of analytical and observational drawing skills through intensive studio-based practice. Prerequisites: DES 111 and 112.

DES 230 Digital Media in Communication Design (6-0-3). Continuation of DES 100. Builds on the development and skills associated with digital design. Helps students gain a more complete understanding of how digital media is used in electronic design, through working with the latest in industry-specific hardware and software, and learn the capabilities available to communication designers. Emphasizes the creation, preparation and presentation of finished digital media projects. Prerequisite: DES 100. Not open to multimedia design and visual communication students. Lab/tech fee rate A applies.

DES 231 History of Design (3-0-3). Explores topics in the history

of design and visual communication. Introduces recognized schools of design philosophy and/or practice. Explores the relationship between design and culture. Prerequisites: WRI 102 and second-year standing.

DES 300 Design Project (6-0-3). Further develops a practical understanding of designing for a purpose. Requires students to define a project that concludes with a presentation to a virtual client and an evaluation of the success of the project. Prerequisite: DES 200. Not open to multimedia design and visual communication students.

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. Develops skills 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. Lab/tech fee rate A applies. Not open to multimedia design and visual communication students.

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. Not open to multimedia design and visual communication students. Lab/tech fee rate A applies.

DES 397 Internship in Design Management (0-0-0). Requires a minimum of six weeks of approved professional experience. Requires students to document the work undertaken in a formal report submitted

to the department by the beginning of the following term. Graded as P/F. Registration fee applies. 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: senior standing.

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. Gives attention to the processes and skills required in establishing an independent architecture or design office. Prerequisite/concurrent: DES 397.

DES 472 Exhibition Project (3-0-3). Introduces students to a keynote project. Involves the real planning and exhibition of the final portfolios produced by the senior visual communication and multimedia students to the professional design community. Provides experience in producing and designing exhibitions. Utilizes design management skills in developing a project that relies on a working timeline and organization. Prerequisite: junior standing.

DES 493 Study Abroad (1 to 3 credits). Features 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, ARC 202 or IDE 202 or MUM 202 or VIS 202.

DES 498 Studio Abroad (3 to 6 credits). Provides studio activities conducted in regional and international sites promoting a global-oriented approach to design. Prerequisite: studio specific.

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. Pays specific attention to the art and architecture of the United Arab Emirates. Prerequisite: WRI 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. Examines the development of contemporary artistic and architectural expression. Prerequisite: WRI 102.

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.

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, WRI 101 or WRI 102 and MTH 003 or MTH 111 or MTH 103. Lab/tech fee rate B applies.

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. Lab/tech fee rate B applies.

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. Prerequisite/concurrent: IDE 201 or ARC 201.

IDE 235 Interior Construction (4-0-3). (Formerly IDE 204). Covers basic interior detailing, millwork and cabinetry elements, which must be developed and coordinated to construct interior space. Detailing, technical drawings, specifications and scheduling are therefore integral to design development. Prerequisite/concurrent: IDE 201 or ARC 201.

IDE 236 Interior Materials (4-0-3). Introduces interior finish materials by examining their perceptual attributes and visual and tactile qualities, along with their technical and practical applications. 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/concurrent: 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. 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. Prerequisites/concurrent: PHY 104, and IDE 201 or ARC 201.

IDE 301 Interior Design Studio III (12-0-6). Focuses on advanced spatial concepts relevant to contemporary practices in the field. Investigates the role of precedents and analogue spaces in generating conceptual ideas. Examines the expressive potential of interior elements (floor, wall, stairs, openings, etc.) and materials. Develops an understanding of the relationship between interior elements, materials and the architectural shell. Explores various design scales with a specific focus on how resolved technical details can express formal ideas. Prerequisites: PHY 104, and ARC 202 or IDE 202.

IDE 302 Interior Design Studio IV (12-0-6). Continues the intent and purpose of IDE 301. Emphasizes the development of programming strategies within a defined cultural context. Concentrates on the phenomenological aspects of interior environments and explores the spatial and perceptual implications of artificial lighting and materials. Explores the conceptual and spatial implications of furniture layout, selection and design. Prerequisite: IDE 301.

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. Covers freehand color drawing techniques using markers, color pencils and watercolors. Prerequisite/concurrent: ARC 201 or IDE 201.

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. Explores 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. Lab/tech fee rate B applies.

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. Provides a link between historical, theoretical and practical experience. Defines the elements of form, function and aesthetic by exploring experimental concepts and adopting alternative ways of thinking about the objects that surround us. Applies furniture models built to scale, or other presentation techniques, 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. Presents systems as they influence one another and as they constrain interior space planning and design. Prerequisite: PHY 104. Prerequisite/concurrent: ARC 201 or IDE 201. Lab/tech fee rate A applies.

IDE 364 Introduction to Computer-Aided Drawing (0-2-1). (Cross-listed as ARC 364). Provides training for mainstream CAD applications using the Windows operating system. Develops basic familiarities and proficiency with applications commonly encountered during professional training. Graded as P/F. Prerequisite: ARC 202 or IDE 202. Lab/tech fee rate B applies.

IDE 365 Computer-Aided Design (4-0-3). (Cross-listed as ARC 365).

Systematically introduces computer-aided architectural design. Discussion and training focus 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. Lab/tech fee rate B applies.

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 focus 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. Introduces AutoCAD on PCs running the Windows NT operating system. Extends topics introduced in IDE 365 to include detailed treatment of tool palettes and inter-platform compatibility. Prerequisite: ARC 201 or IDE 201. Lab/tech fee rate B applies.

IDE 374 Environmentally Sustainable Design (4-0-3). (Cross-listed as ARC 374). Develops a greater focus on holistic and sustainable approaches to design. Covers issues such as demand and supply of energy and water, and the generation of waste. Reiterates principles of reduce, reuse and recycle. Predominant emphasis is on practical strategies directly applicable in design. Material is presented as lectures and seminars, supplemented with readings. Prerequisite/concurrent: PHY 104 or PHY 100 or PHY 101.

IDE 397 Internship in Interior Design (0-0-0). Requires a minimum of six weeks of on-the-job experience with an approved professional firm. Requires students to document the work undertaken in a formal report submitted to the department by mid-semester of the following term. Graded as P/F. Registration fee applies. Prerequisite: senior standing.

IDE 405 Interior Design Studio V (12-0-6). Requires a 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 focusing 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). Continues the work 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: senior standing.

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. Gives attention 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. Lab/tech fee rate B applies.

IDE 491 Final Project Research (6-0-3). (Formerly IDE 401). Requires students to 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). Requires 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). Features 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 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). Requires students to apply a variety of methods and strategies to explore the relationship between visual form and content. Prerequisites: VIS 202, VIS 213 and VIS 360.

MUM 302 Design Studio IV (6-0-3). (Cross-listed as VIS 302). Explores the use of typography as an expressive visual vehicle through experimentation, applied with a range of media and methods. Prerequisites: MUM 301 or VIS 301.

MUM 310 Film Production I (6-0-3). (Formerly MUM 210). Introduces the process, development and production of film projects. Provides "hands-on" experience including production planning, pre-visualization, story boarding and location production. Screenings of significant films provide a historical context for the production process. Prerequisite/concurrent: MUM 301 or VIS 301. Lab/tech fee rate A applies.

MUM 312 Film Production II (6-0-3). (Formerly MUM 211). Continuation of MUM 310. Includes project-based studies in film development, production and non-linear computer-based post-production. Screenings of significant films provide a technical and critical context for the production process. Prerequisite: MUM 310. Lab/tech fee rate A applies.

MUM 320 Web Design I (6-0-3). Explores web design through examination of developments in digital media and Internet enabling technologies. Introduces communication design practices for the World Wide Web. Considers information design, navigation plans and elements of interactivity in designing web pages. Requires students to design, author and edit web pages to create a coherent website. Prerequisites: VIS 202 and VIS 213; prerequisite/concurrent: MUM 301 or VIS 301. Lab/tech fee rate A applies.

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. Prerequisites/concurrent: VIS 221, and MUM 301 or VIS 301.

MUM 330 Web Design II (6-0-3). Explores the process of web design from proposal to production through the fusion of content and interactivity. Studies dynamic web environments through the exploration of interactive authoring tools. Focuses on the tools and techniques of website development and management. Prerequisite/concurrent: MUM 320. Lab/tech fee rate A applies.

MUM 331 Animation II (6-0-3). Builds on the techniques learned in Animation I. Addresses strategies in animation and modeling: texture mapping, physics, dynamics, lighting and rendering for contemporary professional output. Prerequisite: permission of the instructor. Lab/tech fee rate A applies.

MUM 397 Internship in Multimedia Design (0-0-0). Requires a minimum of six weeks of on-the-job experience with an approved professional firm. Requires students to document the work undertaken in a formal report submitted to the department by mid-semester of the following term. Graded as P/F. Registration fee applies. Prerequisite: VIS 361.

MUM 401 Design Studio V (6-0-4). (Cross-listed as VIS 401). Requires students, through a series of hypothetical design projects, to present and critically evaluate their progress within the context of contemporary expectations. Prerequisite: MUM 301 or VIS 301.

MUM 402 Design Studio VI (6-0-4). (Cross-listed as VIS 402). Comprises self-directed senior design projects developed in consultation with faculty. Requires students to produce a portfolio of previous work in addition to their senior project. Prerequisite: MUM 401 or VIS 401.

MUM 410.01 Multimedia Design Senior Studio I (6-0-3). Addresses strategies and techniques for advanced two- and three-dimensional creation in a time-based media environment. Focuses on composing multiple visual and audio components. Prerequisites: any three of the following: MUM 310, MUM 311, MUM 312, MUM 320, MUM 330, MUM 331, MUM 340; prerequisite/concurrent: MUM 401. Lab/tech fee rate A applies.

MUM 411 Film Production III (6-0-3). Offers advanced studies in film development, production and non-linear computer-based post-production for third- and fourth-year students. Screenings of significant films provide a technical and critical context for the production process. Prerequisite: MUM 310 or MUM 312.

MUM 412 Documentary Film Production (6-0-3). Establishes the fundamentals of documentary film production. Requires students' involvement in both production and editing, as well as in studying documentary works that exemplify the theory and practice of this genre. Prerequisites: MCM 100, MUM 310 or MCM 281, and junior standing. Lab/tech fee rate A applies.

MUM 420 Multimedia Design Senior Studio II (6-0-3). Emphasizes the production of cohesive and comprehensive multimedia works through the integration of multiple threads of narrative content. Students work individually or in groups to accomplish both development and production tasks in a capstone studio experience. Prerequisite: MUM 410.01.

MUM 493 Study Abroad (1 to 3 credits). Features 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 498 Studio Abroad (3 to 6 credits). Provides studio activities conducted in regional and international sites promoting a global-oriented approach to design. Prerequisites: studio specific.

VIS Visual Communication

VIS 201 Design Studio I (6-0-3). Builds upon the foundation experience. Introduces formal elements and principles of design as they relate to letterform and image making. Prerequisites: DES 100, DES 112, DES 121, DES 132, MTH XXX, and WRI 101 or WRI 102. Lab/tech fee rate A applies.

VIS 202 Design Studio II (6-0-3). Engages the formal elements and principles of design in a process-based environment that transforms ideas and concepts into visual communication. Prerequisites: VIS 201, VIS 221 and VIS 230. Lab/tech fee rate A applies.

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. Lab/tech fee rate A applies.

VIS 221 Photography Basics (6-0-3). Introduces basic photographic skills of camera controls and photographic practices through the use of digital technology. Explores topics related to the history and theory of photographic practice. Prerequisites: DES 100, DES 112, DES 121, DES 132, MTH XXX, and WRI 101 or WRI 102. Lab/tech fee rate B applies.

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. Introduces layout and desktop publishing. Class discussion encourages students to explore various design concepts. Emphasizes the creation, preparation and printing of finished designs and an interactive design portfolio. Prerequisites: DES 100,

DES 112, DES 121, DES 132, MTH XXX, and WRI 101 or WRI 102. Lab/tech fee rate A applies.

VIS 301 Design Studio III (6-0-3). (Cross-listed as MUM 301). Requires students to apply a variety of methods and strategies to explore the relationship between visual form and content. Prerequisites: VIS 202, VIS 213 and VIS 360.

VIS 302 Design Studio IV (6-0-3). (Cross-listed as MUM 302). Explores the use of typography as an expressive visual vehicle through experimentation, applied with a range of media and methods. Prerequisite: MUM 301 or VIS 301.

VIS 311 Illustration Design (6-0-3). Introduces students to various techniques of idea generation by focusing upon illustration as a means of conveying ideas and concepts. Encourages students to arrive at visual equivalents to written and/or oral texts in the contexts of the history of design and illustration. 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 Printmaking I (6-0-3). (Formerly VIS 222). Introduces a variety of techniques in traditional and alternative printmaking methods, including, but not limited to, intaglio, linocuts, monoprints, collographs, photoetching, stamping, relief and alternative methods. Investigates traditional mechanical reproductive processes as well as a basic history and theory of the graphic arts. Considers issues surrounding the mechanical reproduction of images using digital media to create a global visual culture. Prerequisite/concurrent: MUM 301 or VIS 301. Lab/tech fee rate B applies.

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 investigates subject matter through the development of the photographic essay. Prerequisite: VIS 221; prerequisite/concurrent MUM 301 or VIS 301.

VIS 322 Printmaking II (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. Explores media, technologies and ideologies that include the information technologies, digital and analog photography, and many other methods and media of mechanical reproduction. Examines the role of the reproduced image in the economy and material culture and manipulation of meaning through image production and reproduction. Prerequisite/concurrent: MUM 301 or VIS 301. Lab/tech fee rate B applies.

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. Covers a wide range of historic and contemporary techniques and processes, such as polarization, non-silver methods, toning and digital media. Prerequisite: VIS 221; prerequisite/concurrent: MUM 301 or VIS 301. Lab/tech fee rate B applies.

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. Lab/tech fee rate B applies.

VIS 360 Critical Discourse in Design

(3-0-3). Examines the relationship between intention and interpretation. Reviews the application of graphic language in visual media. Requires research on topics related to design communication. Complements studio-based design courses by exploring

design considerations and practice from a theoretical perspective. Prerequisite: DES 231. Open only to SA&D students.

VIS 361 The Design Profession

(3-0-3). Deals with issues of working in design-related fields, including professional practice, intellectual property, employability, freelancing and working within a cultural context. Imparts knowledge of the region's design industry, through research and field trip documentation. Prepares students for their summer internship. Prerequisites: WRI 101 or WRI 102 and VIS 360.

VIS 397 Internship in Visual

Communication (0-0-0). Requires a minimum of six weeks of on-the-job experience with an approved professional firm. Requires students to document the work undertaken in a formal report submitted to the department by mid-semester of the following term. Graded as P/F. Registration fee applies. Prerequisite: VIS 361.

VIS 401 Design Studio V (6-0-4).

(Cross-listed as MUM 401). Requires students, through a series of hypothetical design projects, to present and critically evaluate their progress within the context of contemporary expectations. Prerequisite: MUM 301 or VIS 301.

VIS 402 Design Studio VI (6-0-4).

(Cross-listed as MUM 402). Comprises self-directed senior design projects developed in consultation with faculty. Requires students to produce a portfolio of previous work in addition to their senior project. Prerequisite: MUM 401 or VIS 401.

VIS 410 Senior VisCom Studio (6-0-3).

Bases project work on a synthesis and selection of the students' experience in third-year major electives. Emphasizes critical assessment and the advancement of an individual aesthetic as applied skills. Prerequisites: any four of the following: VIS 311, VIS 312, VIS 320, VIS 321, VIS 322, VIS 323; prerequisite/concurrent: VIS 401.

VIS 420 Senior VisCom Portfolio

(6-0-3). Builds upon VIS 410. Requires students to refine their image-based skills through formal and critical analysis toward individual expression. Allows students to produce work for their exit portfolios. Prerequisite: VIS 410; prerequisite/concurrent: VIS 402.

VIS 493 Study Abroad (1 to 3 credits).

Features 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 498 Studio Abroad (1 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.

Independent Study Courses

Independent Study (1 to 4 credits).

Involves investigation under faculty supervision beyond what is offered in existing courses. Cannot be repeated more than once. Prerequisites: junior standing and consent of the instructor.

Independent study courses are numbered as 396 or 496 courses. The three-letter course prefix reflects the field of study of the course (e.g., independent study courses in architecture are coded as ARC 396 or ARC 496).

Students are allowed to take one independent study. A second independent study could be approved by the student's associate dean for graduate purposes only.

Special Topics Courses

Special Topics (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. Prerequisites: topic specific. Lab/tech fee may apply.

Special topic courses are numbered as 294, 394 or 494 courses. The three-letter course prefix reflects the field of study of the course. Special topics courses at the 300 level require sophomore standing or above; 400-level special topic courses are restricted to junior standing and above. Descriptions of particular special topics courses are made available in the college/school offering the course during registration.

School of Business and Management

ACC Accounting

ACC 201 Fundamentals of Financial Accounting (3-0-3). Introduces the principles and concepts underlying financial statements. Includes an introduction to the accounting profession, control, concepts, business entities and all elements of basic financial statements. The additional sessions consist of discussion and application of the principles and concepts of the course. Prerequisite/concurrent: MTH 101 or MTH 103 or MTH 111.

ACC 202 Fundamentals of Managerial Accounting (3-0-3). Introduces the principles and concepts underlying managerial accounting. Course includes an introduction to management accounting information and cost accounting. Prerequisite: ACC 201.

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. Includes financial statement analysis, income measurement, valuation of assets and equities, and generally accepted accounting principles. Prerequisite: ACC 202.

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.

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. Prerequisite: ACC 202.

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. Prerequisite: ACC 301.

ACC 306 Income Tax II (3-0-3). Introduces the US federal income tax system as it applies to corporations, partnerships, estates and trusts. 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 305.

ACC 310 Analysis of Financial Statements (3-0-3). (Cross-listed with FIN 310). 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: ACC 202 and FIN 201.

ACC 394 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. Restricted to students in accounting and finance. Prerequisites: sophomore standing and topic specific. Lab/Tech fee may apply.

ACC 401 Advanced Financial Accounting (3-0-3). Covers theory and practices of accounting for partnerships, business combinations and consolidated financial statements, and advanced topics in financial accounting. Prerequisite: ACC 302.

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. Includes the following topics: e-business, computer hardware and software issues, accounting cycles, systems development, computer crime, auditing, and expert systems. Prerequisite: ACC 301. Lab/Tech Fee Rate A applies.

ACC 410 Auditing (3-0-3). (Formerly ACC 304). Studies auditing theory, generally accepted auditing standards, audit procedures, audit reports and the responsibilities and ethics of the auditing profession. Includes the following topics: risk, evidence, internal controls, sampling, audit testing, subsequent events, professional liability, reporting statutory provisions, compilation and review services, and reporting under government auditing standards. Prerequisite: ACC 302.

ACC 413 Introduction to Accounting in Government and Not-for-Profit Organizations (3-0-3). Introduces students to accounting practices and fund management planning and financial control, and the usefulness of accounting data for evaluating program inputs and outcomes. Prerequisite/concurrent: ACC 202 and senior standing.

ACC 420 International Accounting Standards (3-0-3). Introduces the students to comparative global business; international accounting systems; harmonization of accounting standards; international financial reporting and disclosure issues; international financial statement analysis; and international auditing, tax, and management accounting issues. Prerequisite: ACC 301.

BIS Business Information Systems

BIS 001 Software Applications for Business (3-0-3). Introduces students to popular application software. Covers three types of applications: HTML editing and web development, spreadsheets and DBMS. Provides students with the essential computer literacy skills needed in higher-level courses. Lab/Tech Fee Rate A applies.

BIS 101 Business Information Systems (3-0-3). Applies knowledge accumulated by students in BIS 001 to solve basic business problems. Requires students to 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 MCM 100 or Business Computer Placement Test. Lab/Tech Fee Rate A applies.

BLW Business Legal Issues

BLW 301 Business Law (3-0-3). Examines business legal issues such as legal concepts, philosophy and functions of court systems. Surveys contracts, sales, agents, legal forms of business and the regulation of businesses. Focuses on US law but also considers international and global legal perspectives. Prerequisites: ACC 201 and ECO 202; prerequisite/concurrent: ENG 204 or ENG 208.

BUS 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 multinational 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 397 Business Internship (0-0-0). Requires a minimum of six weeks (240 hours) of on-the-job experience with an approved organization. Work undertaken must be documented in a formal report as required by the School of Business and Management. Prerequisite: junior or senior standing. Registration fee applies.

ECO 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: EPT 4 or WRI 001.

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: EPT 4 or WRI 001.

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 WRI 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 WRI 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 WRI 102.

ECO 306 International Monetary Economics (3-0-3). Starts with basics of international capital flows, exchange rate determination, and the analysis of the international monetary system. 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 WRI 102.

ECO 310 Development Economics (3-0-3). Studies the economic transformation of developing countries. 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 WRI 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 WRI 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 WRI 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 WRI 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 modern social economies present today. Prerequisites: ECO 201, ECO 202 and WRI 102.

ECO 325 Public Economics (3-0-3). Examines the microeconomic theory as a framework for understanding the problems of public managers. Considers 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. Prerequisites: ECO 201, ECO 202 and WRI 102.

ECO 326 Economics and the Law (3-0-3). Examines property rights, contract rights and liability rules. Analyzes both efficiency and fairness. For efficiency, emphasis is placed upon the incentive effects that legal rulings create for economic behavior in the future. Analyzes fairness mostly in terms of the effects that legal rulings have upon the distribution of wealth. Prerequisites: ECO 201, ECO 202 and WRI 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 WRI 102.

ECO 330 Money and Banking (3-0-3). Examines the role of money and credit in the economy. Includes the following topics: 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 WRI 102.

ECO 333 Islamic Economics (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 WRI 102.

ECO 334 Islamic Banking and Finance (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. Explores current and future challenges to Islamic

finance in an integrated world economy. Prerequisites: ECO 201, ECO 202 and WRI 102.

ECO 345 Public Choice (3-0-3). (Formerly Economics of Collective Decision-Making). Explores a range of economic theories that contribute to an understanding of the scope and limits of collective decision making in a mixed economy. Includes welfare economics, transactions costs and the new institutional economics. They are used to identify issues where collective decision making is intrinsic and to offer insight into the design and assessment of such decision-making processes. Prerequisites: ECO 201, ECO 202 and WRI 102.

ECO 351 Introduction to Econometrics (3-0-3). Reviews the theory of statistics and statistical techniques. Emphasizes the application of statistical models to economics. Covers regression analysis and estimation of economic models, including violations of the basic assumptions of the regression model, dummy variables, analysis of variance, cross section and time series data analysis, and index numbers. Prerequisites: ECO 201, ECO 202, WRI 102 and any one of QBA 201, NGN 111, STA 201 or STA 202.

ECO 360 Economics of Multinational Corporations (3-0-3). Examines the origin and development of multinational firms, recent trends and facts concerning the flow of foreign direct investment and the effect of the activities of multinational corporations on both parent and host countries. Prerequisite: ECO 201, ECO 202 and WRI 102.

ECO 401 Managerial Economics (3-0-3). Managerial decision making is considered from the perspective of the economic theory of the firm. Integrates the traditional topics in the theory of the firm, production, cost, and price with finance and the internationalization of firms, product markets, financial markets and production. Prerequisite: ECO 301.

ECO 404 Economics of Environmental and Natural Resources (3-0-3). Deals with the economic issues that arise in the use of

environmental resources. Begins with an economic analysis of the contention that markets fail to adequately control environmental pollution. Addresses alternative policy mechanisms that have been proposed for control on environmental pollution. Covers topics such as water and air pollution, global climate change, temperate and tropical forest management, fisheries, biodiversity and habitat preservation. Prerequisites: ECO 201, ECO 202 and WRI 102.

ECO 410 Urban and Regional Economics (3-0-3). Analyzes the economics of the location and growth of urban and regional areas with emphasis on public policy issues. Includes discussion of land-use patterns, measurements and change in regional economic activity, and urban problems such as transportation, housing, poverty and crime. Prerequisite: ECO 301.

ECO 412 Monetary Economics (3-0-3). Emphasizes an intermediate to advanced treatment of topics related to money, banking, monetary theory and monetary policy in the context of fully specified monetary economies with microeconomic foundations. Prerequisites: ECO 301 and ECO 302.

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 Junior II standing.

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: MTH 102 or MTH 103 or MTH 111, and ACC 201.

FIN 304 Real Estate Investing (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 WRI 102; prerequisite/concurrent: QBA 202.

FIN 306 Wealth Management for Individuals (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 WRI 102.

FIN 310 Analysis of Financial Statements (3-0-3). (Cross-listed with ACC 310). 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 and ACC 202.

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 WRI 102; prerequisite/concurrent: MIS 201.

FIN 330 Investments (3-0-3). Covers investment objectives, mechanics of buying and selling financial assets, and portfolio management. Focuses on risk versus return in investment theory, but students also construct and manage real-time hypothetical investment portfolios. Prerequisites: FIN 201, ACC 202 and WRI 102; prerequisite/ concurrent: MKT 201 and MGT 201.

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 330 and QBA 202; prerequisite/concurrent: FIN 320.

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 330 and QBA 202; prerequisite/concurrent: FIN 320.

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 330 and QBA 202.

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.

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 330; prerequisite/concurrent: FIN 320.

FIN 450 Case Studies in Corporate Finance (3-0-3). Emphasizes the case study approach to intermediate financial management (corporate finance). Includes the following topics: capital budgeting, corporate governance, mergers, capital structure, dividend policy and short-term financial management. Prerequisites: FIN 330 and FIN 320.

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. Includes the following topics: plans, goals, decision making, change, motivation, human resources, ethics and social responsibility, groups and teams, organization design, leadership and control. Prerequisite/concurrent: WRI 102.

MGT 301 Organizational Behavior (3-0-3). (Cross-listed with MGT 311). 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 QBA 201 or NGN 111 or STA 201 or STA 202; prerequisite/concurrent: ENG 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. Includes the following topics: manpower planning, recruitment and selection, policy and procedures, performance appraisal, compensation and benefits, training, safety and industrial relations. Prerequisites: MGT 201, ACC 201, QBA 201 and ENG 204.

MGT 303 Management and Leadership Development (3-0-3). Focuses on the necessary skills and abilities of the successful leader and manager. Introduces students to these success factors and challenges them to both assess and develop their own managerial and leadership skills throughout the course. Prerequisites: MGT 201, FIN 201, ACC 202 and ENG 204.

MGT 305 International Business (3-0-3). (Cross-listed with MGT 315).

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 ENG 204.

MGT 306 Cross-Cultural Management (3-0-3). Introduces students to culture as an important variable in international management and examines its impact on organizations, strategy, negotiations, management of human capital, leadership, team building and ethics. Applies a metaphor approach to explore key differences among cultures and examines their relevance for international management practice. Prerequisites: MGT 301 or MGT 311, and MGT 305 or MGT 315.

MGT 310 Fundamentals of Family Business (3-0-3). Introduces students to the unique challenges faced by family businesses and the potential solutions to these issues. Examines the characteristics that define family businesses and the potential risks and benefits these bring to family businesses in the UAE. Discusses issues such as family dynamics, generational gaps, leadership, the role of non-family members, governance and succession planning. Prerequisites: MGT 201, ACC 201 and QBA 201; prerequisite/concurrent: ENG 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: ENG 203 or ENG 204 or ENG 231. Not open to SBM students.

MGT 312 Negotiation and Conflict Management (3-0-3). Examines conflict as a management issue in business organizations and explores

techniques and methods for reaching effective agreements. Employs case studies, role playing and other experiential learning tools to develop analytical problem solving abilities and enhance conflict resolution skills. Prerequisites: MGT 301 or MGT 311, and MGT 360 or MGT 361.

MGT 313 Managing Change and Innovation (3-0-3). Explores the importance of innovation to business success and considers current trends in technology, society, consumer expectations and the workforce. Examines strategies for enabling innovation and overcoming obstacles to change. Presents the concept of a learning organization in the context of transformational leadership. Prerequisites: MGT 303, and MGT 301 or MGT 311.

MGT 314 Management Intervention and Consultation (3-0-3). Introduces the management consulting industry and explores key activities associated with the consulting process. Considers the consultant as an advisor and change agent. Examines topics such as problem analysis, proposal development, project initiation, management of expectations, reputation and expertise, and knowledge transfer. Prerequisites: MGT 301 or MGT 311, and MGT 360 or MGT 361.

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 ENG 203 or ENG 204 or ENG 231. Not open to SBM students.

MGT 360 Business Ethics and Social Responsibility (3-0-3). (Cross-listed with MGT 361). 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 20, ACC 201 and QBA 201; prerequisite/concurrent: ENG 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. Uses cases and projects to examine these issues, with special attention to local applications as well as the global perspective. Prerequisites: MGT 201; prerequisite/concurrent: ENG 203 or ENG 204 or ENG 231. 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. Includes the following topics: project selection and evaluation, dynamics, motivation and evaluation of team members, scheduling, budgeting and closure. Prerequisites: MIS 201, FIN 201, ACC 202 and ENG 204; and MGT 301 or MIS 303.

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: ENG 204, and university senior standing or by permission of department.

MGT 406 Business Policy and Strategy (3-0-3). Applies the functional knowledge acquired in previous coursework to the analysis of strategic-level business problems and decisions. Uses business cases extensively to highlight the diversity and complexity of organizational environments and systems. Includes the following topics: 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 ENG 204; or by permission of department.

MIS Management Information Systems

MIS 200 Principles of Business Programming (3-0-3). Introduces students to the logic of business processing independently of any programming language. Teaches students to extract program specifications from business narratives or business process descriptions. Uses flowcharts, decision tables, decision trees, use cases and structured English to document program specifications, which can easily be translated into any programming language. Prerequisites: MTH 101 or MTH 103 or MTH 111, and BIS 101 or NGN 110.

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. Includes the following topics: 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. Provides a technology update in hardware and software basics, database management and telecommunications. Prerequisite: BIS 101 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. Illustrates various aspects of visual programming languages, as well as testing and debugging, in laboratory sessions. Prerequisites: MIS 200 and MIS 201. Lab/Tech fee rate A applies.

MIS 300 Data Communications and Networking (3-0-3). Provides a basic understanding of the technical and management aspects of business data communications and networking. Includes the following topics: telecommunications services, technology and policy; standards 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 WRI 102.

MIS 301 Fundamentals of Database Management (3-0-3). Covers information as an organizational resource. 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 WRI 102. Lab/Tech fee rate A applies.

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 or PL/SQL 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 and QBA 201. Lab/Tech fee rate A applies.

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. Covers methods for structured analysis and design. Addresses data structures, definitions and normalization. Emphasizes gaining the ability to use the various tools associated with systems analysis. Prerequisites: MIS 200, MIS 201 and WRI 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. 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. Emphasizes project teamwork. Prerequisites: MIS 301 and MIS 303. Lab/Tech fee rate A applies.

MIS 402 Technology and Knowledge Management (3-0-3). Explores the theoretical foundation of technology and knowledge management and its value to the organization. Examines the nature of technological change, innovation and intellectual capital, and the valuation of an organization's knowledge assets. Prerequisites: MIS 301 and MGT 360. Lab/Tech fee rate A applies.

MIS 404 Internet Business Applications (3-0-3). Examines how the Internet and the World Wide Web are used for marketing and business purposes. Studies 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. Lab/Tech fee rate A applies.

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. Covers emerging issues such as e-government and cyber ethics. Prerequisites: MIS 301, MIS 303 and senior standing.

MIS 406 Information Systems Auditing and Control (3-0-3).

Introduces the general concepts of information systems auditing, security and control. Aims to provide skills in systems auditing in functional areas within the organization where information technology is predominantly used. Introduces the use of information systems audit software, where the practical nature of the subject will be developed through its use. Uses cases and job simulation throughout the course. Builds on knowledge and skills students acquired in prior IS courses and prepares students adequately for CISA certification. Prerequisites: MIS 301 and MIS 303. Lab/Tech fee rate A applies.

MKT Marketing

MKT 201 Fundamentals of

Marketing (3-0-3). Introduces the concept of making marketing decisions in business and non-profit organizations within the global context. Devotes particular attention 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 WRI 102.

MKT 301 Consumer Behavior

(3-0-3). Studies marketing, psychology, sociology and cultural anthropology to determine motivations for product purchases. Uses a multimedia approach to illustrate the use of behavioral science theory to create new products and promotional campaigns. Prerequisites: MKT 201.

MKT 302 Marketing Research

(3-0-3). Examines research tools students can use to help make marketing decisions. Teaches students 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, QBA 201 or STA 202 or STA 201 or NGN 111; 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. Studies well-established US and UAE companies that have established a marketing presence on the Internet. Includes projects such as 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 WRI 102.

MKT 304 Sales Management (3-0-3).

Introduces professional sales force management. Develops 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 WRI 102.

MKT 305 Retail Management (3-0-3).

Explores the management of large and small retail institutions. Includes the following topics: buying, merchandising, pricing, promotion, inventory management, customer service, control and location selection. Prerequisites: MKT 201, FIN 201, ACC 202 and WRI 102.

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 WRI 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 WRI 102.

MKT 365 Services Marketing

(3-0-3). Examines service-related issues, practice and strategy in business organizations. Includes the following topics: marketing analysis of service quality, service gaps, consumer expectations, service delivery strategies and customer relationship management. Builds on marketing concepts from other courses and applies them specifically to service industry settings. Prerequisites: MKT 301 and MKT 302.

MKT 366 Sports Marketing (3-0-3).

Builds knowledge, skills and practical understanding of the nature, contexts and dynamics of sports marketing. Uses critical analysis to incorporate decision making and action in sports business as they relate to general marketing theories and practice. Encourages students to apply the leading-edge methods of sports marketing to sport as a business. Exposes students to the application of theories on the local growth and development of the sports marketing industry. Prerequisite: MKT 302.

MKT 401 Marketing Strategy

(3-0-3). Analyzes current marketing management issues. Requires students to develop a marketing plan for an outside organization, analyze case studies and participate in computer simulation exercises. Prerequisites: MKT 301 and MKT 302.

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.

PBA 201 Public Management (3-0-3).

Introduces students to the contemporary techniques of management and leadership in public organizations. Analyzes problems of public agencies, nonprofit organizations and others. Focuses on how to cope with the challenges, internal and external, that the top level of management faces. Prerequisites: PBA 101 and WRI 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 WRI 102.

PBA 302 Comparative Public Administrative Systems (3-0-3).

Examines governmental administrative systems in Europe, North America, the Arab world, Asia and Africa. Emphasizes a comparative analysis of industrialized nations with nations of the Third World. Prerequisites: PBA 101 and WRI 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, WRI 102, ACC 201 and BIS 101.

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 WRI 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 WRI 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 WRI 102.

PBA 311 Nonprofit Organization Management (3-0-3). Covers concepts of management and organizational development that are appropriate to the nonprofit sector. Emphasizes the development of people skills, a volunteer workforce, fundraising, goal setting, motivation and communication techniques. Prerequisites: PBA 101 and WRI 102.

PBA 315 Women in Public Management (3-0-3).

(Formerly PBA 204). Examines and analyzes the emerging role of women in management positions in government, business and nonprofit organizations. Explores the unique problems and challenges that may be related to gender, including building effective management, teamwork and esprit de corps in the context of a diverse workforce. Prerequisites: PBA 101 and WRI 102.

PBA 316 Intergovernmental Relations (3-0-3).

(Formerly PBA 205). 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 WRI 102.

PBA 317 Urban Management (3-0-3).

(Formerly PBA 210). 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. Examines race, gender and ethnicity, as well as policy on education, crime, social welfare and economic development. Prerequisites: PBA 101 and WRI 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 WRI 102.

PBA 407 Local 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 WRI 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 WRI 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 WRI 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 WRI 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 WRI 102.

PBA 495 Seminar in Public Administration (3-0-3).

Synthesizes and contextualizes elements of the public administration curriculum to prepare students for a career in public management. Elements include expertise and bureaucratic power, administration and the law, ethics, business-government relations, economics, public policy and the role of public employees. Prerequisites: senior standing in PBA.

PBA 497 Internship in a Public Organization (3 to 6 credits).

Requires a minimum of six weeks (240 hours) of on-the-job experience with an approved government agency, a nonprofit organization or a private firm. Emphasizes administrative-level, hands-on experience that benefits the agency and the student. Requires students to submit a written report, a daily journal and an agency supervisor's evaluation. Graded as Pass/Fail. Prerequisite: senior standing and the approval of the department.

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. Includes the following topics: descriptive statistics, probability distributions, estimation and hypothesis testing, correlation, and simple and multiple linear regression. Prerequisite/concurrent: 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. Includes the following topics: operations strategy, forecasting, capacity planning, location decisions, production planning, materials management, productivity management and quality management. Prerequisite: QBA 201 or NGN 111 or STA 201 or STA 202.

QBA 310 Management of the Supply Chain (3-0-3). Demonstrates the strategic importance of the supply chain and gives students an appreciation for the overall reach of SCM. Synthesizes supply chain management principles to deliver cost-effective customer service through the integration of functional areas including marketing, accounting/finance and purchasing. Examines supply chain performance metrics,

introduces the analysis of supply chain finance and takes a closer look at the creating and managing supplier and the role of purchasing. Considers issues such as demand management, aggregate planning, total quality management, Just-in-Time and inventory management. Students who have taken MIS 410 may not take this course for credit. Prerequisite: QBA 202.

QBA 311 Logistics Management

(3-0-3). Extends student understanding of planning, organizing, operating and controlling supply chains utilizing principles of logistics management. Brings together principles of logistics and supply chain management to deliver cost-effective customer service through the integration of transportation, inventory, warehousing, facility location, packaging and materials handling. Examines supply chain performance metrics, supply chain finance, "inbound" (purchasing and materials management) and "outbound" (demand management and customer service) logistics, inventory management, warehousing, transportation systems, SCM and preliminary concepts in logistics network design. Prerequisite: QBA 310.

Independent Study Courses

Independent Study (1 to 4 credits).

Involves investigation under faculty supervision beyond what is offered in existing courses. Cannot be repeated more than once. Prerequisites: junior standing and consent of the instructor.

Independent study courses are numbered as 396 or 496 courses. The three-letter course prefix reflects the field of study of the course (e.g., independent study courses in accounting are coded as ACC 396 or ACC 496).

Students are allowed to take one independent study. A second independent study could be approved by the student's associate dean for graduate purposes only.

Special Topics Courses

Special Topics (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. Prerequisites: topic specific. Lab/Tech fee may apply.

Special topic courses are numbered as 294, 394 or 494 courses. The three-letter course prefix reflects the field of study of the course. Special topics courses at the 300 level require sophomore standing or above; 400-level special topic courses are restricted to junior standing and above. Descriptions of particular special topics courses are made available in the college/school offering the course during registration.

Full-Time Faculty

A

- Abdalla, Jamaleldin**, PhD, University of California at Berkeley, 1989; Professor in Civil Engineering and Director, CEN Graduate Programs
- Abdallah, Abed Al-Nasser**, PhD, University of Lancaster, 2004; Assistant Professor in Accounting and Finance
- Abdelfatah, Akmal**, PhD, University of Texas at Austin, 1999; Assistant Professor in Civil Engineering
- Abdel-Hafez, Mamoun**, PhD, University of California at Los Angeles, 2003; Assistant Professor in Mechanical Engineering
- Abdelhaq, Hamza**, PhD, Massachusetts Institute of Technology, 1989; Professor in Physics and Head, Department of Physics
- Abdel-Jabbar, Nabil**, PhD, University of Michigan, 1996; Associate Professor in Chemical Engineering
- Abdel-Malek, Kamal**, PhD, McGill University, 1992; Associate Professor in Arabic Studies
- Abdelsalam, Omneya**, PhD, Heriot-Watt University, 1999; Associate Professor in Accounting and Finance
- AbdulHadi, Zayid**, PhD, Université Laval, 1987; Associate Professor in Mathematics and Statistics
- Abusalim, Anoud**, MA, Southern Illinois University, Carbondale, Instructor in Writing Studies
- Abouleish, Mohamed Yehia**, PhD, Tennessee Technological University, 2003; Assistant Professor in Biology and Chemistry
- Abu Al-Foul, Bassam**, PhD, University of Utah, 1994; Associate Professor in Economics
- Abualrub, Taher**, PhD, University of Iowa, 1998; Associate Professor in Mathematics and Statistics (on sabbatical Fall 2007)
- Abu-Hassan, Jenifah**, MS, Drake University, 1989; Senior Instructor in Intensive English
- Abukhaled, Marwan**, PhD, Texas Tech University, 1995; Associate Professor in Mathematics and Statistics
- Abu-Lebdeh, Ghassan**, PhD, University of Illinois at Urban-Champaign, 1999; Assistant Professor in Civil Engineering
- Abu-Muhanna, Yusuf**, PhD, State University of New York at Albany, 1979; Professor in Mathematics and Statistics
- Abu-Yousef, Imad**, PhD, McGill University, 1996; Associate Professor in Biology and Chemistry
- Ahmad, Saiyad**, PhD, Princeton University, 2000; Assistant Professor in Arabic Studies
- Ahmad, Shoaib Nabi**, MID, Rhode Island School of Design, 1991; Associate Professor in Design
- Ahmed, Aftab**, MA, University of London, 1997; Instructor in Intensive English
- Ahmed, Khawlah**, PhD, State University of New York at Buffalo, 1998; Assistant Professor in English
- Ahmed, Rana**, PhD, Duke University, 1991; Associate Professor in Computer Engineering (on sabbatical AY 2007-2008)
- Ahmed, Saad**, PhD, Georgia Institute of Technology, 1981; Professor in Mechanical Engineering
- Al-Ali, Abdul Rahman**, PhD, Vanderbilt University, 1990; Professor in Computer Engineering
- Al-Assadi, Wesam**, MA, American University of Sharjah, 2004; Instructor in Arabic Studies
- Al-Assaf, Yousef**, PhD, Oxford University, 1988; Professor in Electrical Engineering and Dean, School of Engineering
- Albasha, Lufti**, PhD, The University of Leeds, 1995; Assistant Professor in Electrical Engineering
- Al-Ghoussein, Tarek**, MA, University of New Mexico, 1989; Associate Professor in Design
- Ali, Naghmana**, PhD, University of Toronto, 2004; Assistant Professor in English
- Alibrandi, Thomas**, DEd, University of San Francisco, 1999; Assistant Professor in Writing Studies
- Al-Issa, Ahmad**, PhD, Indiana University of Pennsylvania, 1998; Associate Professor in English and Director, Faculty Development Center
- Al-Kattan, Ibrahim**, PhD, Tennessee Technical University, 1994; Associate Professor in Engineering Systems Management
- Al-Khazali, Osamah**, PhD, University of Memphis, 1997; Associate Professor in Accounting and Finance
- Allagui, Ilhem**, PhD, University of Montreal, 2001; Assistant Professor in Mass Communication
- Allee, John**, PhD, George Washington University, 2000; Senior Lecturer in Management, Marketing and Public Administration
- Al-Musawi, Muhsin**, PhD, Dalhousie University, 1978; Professor in Arabic Studies
- Alnaizy, Raafat**, PhD, Texas A&M University, 1999; Assistant Professor in Chemical Engineering
- Al-Najjar, Abeer**, PhD, University of Edinburg, 2003; Assistant Professor in Mass Communication
- Alnaser, Ali Sami**, PhD, Western Michigan University, 2002; Assistant Professor in Physics
- Al-Nashash, Hasan**, PhD, Kent University, 1988; Professor in Electrical Engineering
- Alobaidi, Ghada**, PhD, University of Western Ontario, 2000; Assistant Professor in Mathematics and Statistics
- Aloul, Fadi**, PhD, University of Michigan, 2003; Assistant Professor in Computer Engineering
- Al-Sayah, Mohamed**, PhD, University of Alberta, 2002; Assistant Professor in Biology and Chemistry
- Al-Shibli, Khalid**, PhD, University of Colorado, 1995; Associate Professor in Civil Engineering
- Al-Tamimi, Adil**, PhD, Strathclyde University, 1990; Associate Professor in Civil Engineering, and Director, Institute of Material Systems
- Anabtawi, Mahmoud**, PhD, University of Texas, 1998; Associate Professor in Mathematics and Statistics and Head, Department of Mathematics and Statistics
- Anderson, Pia-Kristina**, PhD, University of California at Berkeley, 2001; Assistant Professor in International Studies and Director, Student Advising and Counseling
- Angell, Linda**, DBA, Boston University, 1996; Associate Professor in Management, Marketing and Public Administration
- Arenfeldt, Pernille**, PhD, European University Institute, 2006; Assistant Professor in International Studies
- Arzaghi, Mohammad**, PhD, Brown University, 2005; Assistant Professor in Economics (on leave AY 2007-2008)
- Asdjodi, Minoo**, MA, University of Arizona, 1992; Instructor in Intensive English
- Ashell, Nicholas**, PhD, University of Bradford, 2004; Associate Professor in Management, Marketing and Public Administration; (Spring 2008)
- Assaleh, Khaled**, PhD, Rutgers University, 1993; Associate Professor in Electrical Engineering
- Audi, Diana**, MSc, American University of Beirut, 2005; Instructor in Mathematics and Statistics
- Aveyard, Mark**, MA, Florida State University, 2003; Instructor in International Studies

B

Badawi, Ayman, PhD, University of North Texas, 1993; Professor in Mathematics and Statistics

Badry, Fatima, PhD, University of California at Berkeley, 1983; Professor in English and Director, Graduate Program in TESOL

Baghestani, Hamid, PhD, University of Colorado, 1982; Professor in Economics

Bahloul, Maher, PhD, Cornell University, 1994; Assistant Professor in English

Bahloul, Raja, MA, Cornell University, 1994; Senior Instructor in Intensive English

Bantey, Paul, MFA, Whitecliffe College of Arts and Design, 2005; Assistant Professor in Design

Barkat, Mourad, PhD, Syracuse University, 1987; Professor in Electrical Engineering

Barkhi, Reza, PhD, Ohio State University, 1995; Associate Professor in Management Information Systems and Head, Department of Management Information Systems

Barlas, Gerassimos, PhD, National Technical University, Athens, 1996; Associate Professor in Computer Science

Barnett, Andy, PhD, University of Virginia, 1978; Professor in Economics

Bartholomew, Aaron, PhD, College of William and Mary, 2001; Assistant Professor in Biology and Chemistry

Bateman II, Robert, PhD, University of Utah, 2004; Assistant Professor in Management, Marketing and Public Administration

Beheiry, Salwa, PhD, University of Texas at Austin, 2005; Assistant Professor in Civil Engineering

Bendik-Keymer, Jeremy, PhD, University of Chicago, 2003; Assistant Professor in International Studies

Berbić, Amir, MFA, The School of the Art Institute of Chicago, 2004; Assistant Professor in Design

Berry, Moulouk, PhD, University of Michigan, 2002; Assistant Professor in Arabic Studies

Bigelow, Kim, MFA, Northwestern University, 1983; Assistant Professor in Mass Communication

Bley, Jörg, PhD, Florida Atlantic University, 2000; Associate Professor in Accounting and Finance

Bodolica, Virginia, PhD, HEC Montreal Business School, 2006; Assistant Professor in Management, Marketing and Public Administration

Boisvert, Jean, PhD, Macquarie Graduate School of Management, 2007; Assistant

Professor in Management, Marketing and Public Administration

Botthoff, John, MID, Pratt Institute, 1980; Lecturer in Design

Boubakri, Narjess, PhD, Université Laval, 2000; Associate Professor in Accounting and Finance

Breslow, Harris, PhD, University of Illinois, Champaign-Urbana, 1995; Assistant Professor in Mass Communication

Brodtkorb, Tor, LLB, McGill University, 2000; Assistant Professor in Management, Marketing and Public Administration

C

Caesar, Judith, PhD, Case Western Reserve University, 1976; Professor in English

Campa, Frank, MBA, Baylor University, 1997; Instructor in Management Information Systems

Campa, Halina, MAT, University of Washington, 2004; Instructor in Intensive English

Carlstedt, Edward, MA, University of Leicester, 2000; Instructor in Intensive English

Chan, Anthony, PhD, York University, 1980; Associate Professor in Mass Communication (Spring 2008)

Chazi, Abdelaziz, PhD, University of North Texas, 2004; Assistant Professor in Accounting and Finance

Chebbi, Rachid, PhD, Colorado School of Mines, 1991; Professor in Chemical Engineering

Chen, Kim Heng, PhD, Washington State University, 2002; Assistant Professor in Management Information Systems

Chilton, John, PhD, Brown University, 1989; Assistant Professor in Economics

Chiravuri, Ananth, PhD, University of Wisconsin, Milwaukee; Assistant Professor in Management Information Systems

Colbert, David, MA, New Mexico State University, 1997; Senior Instructor in Intensive English

Crompton, Peter, PhD, Lancaster University, 2003; Assistant Professor in English

Cruikshank, Donald, PhD, University of Illinois at Urbana-Champaign, 1984; Senior Lecturer in Writing Studies and Head, Department of Writing Studies

Cumbus, Jerald, MA, University of North Florida, 1992; Instructor in Writing Studies and Director, Academic Achievement Center

D

Daghfous, Abdelkader, PhD, Pennsylvania State University, 1997; Associate Professor in Management Information Systems

Dahan, Laila, MA, American University of Sharjah, 2005; Instructor in Writing Studies

Dahm, Carl Bob, MA, Syracuse University, 1998; Assistant Professor in Design and Interim Head, Department of Design

Darayseh, Musa, PhD, University of Nebraska-Lincoln, 1990; Professor in Accounting and Finance (on leave AY 2007-2008)

DeGeorges, Thomas, PhD, Harvard University, 2006; Assistant Professor in International Studies

Deiab, Ibrahim, PhD, McMaster University, 2003; Assistant Professor in Mechanical Engineering

Dhaouadi, Rached, PhD, University of Minnesota, 1990; Associate Professor in Electrical Engineering and Coordinator, Mechatronics Engineering Program and Mechatronics Center

Diederich, Joachim, PhD, Bielefeld University, 1985; Professor in Computer Science

Djeredjian, Daron, PhD, Syracuse University, 2004; Assistant Professor in Economics

Dodigovic, Marina, PhD, University of Bremen, 1995; Assistant Professor in English

E

Eberlein, Armin, PhD, University of Wales, 1998; Associate Professor in Computer Engineering and Head, Department of Computer Engineering

Eischen, Erich, LL.M., University of Denver, 2006; Assistant Professor in Accounting and Finance

El-Baz, Hazim, PhD, University of Missouri, Rolla, 1991; Associate Professor in Engineering Systems Management and Director, Engineering Outreach Program

Eldred, Gary, PhD, University of Illinois, 1973; Associate Professor in Accounting and Finance

Eleftheriou, Maria, MA, McGill University, 2002; Instructor in Writing Studies

Ellsawy, Manal, PhD, Helwan University, 2003; Assistant Professor in Mass Communication

El-Emam, Magdi, PhD, Queen's University, 2003; Assistant Professor in Civil Engineering

El-Fakih, Khaled, PhD, University of Ottawa, 2002; Assistant Professor in Computer Science (on sabbatical AY 2007-2008)

El-Hag, Ayman, PhD, University of Waterloo, 2004; Assistant Professor in Electrical Engineering

El-Jarkass, Zouheir, CFA, Association of Investment Management and Research, 1995; Senior Instructor in Accounting and Finance

El-Kadi, Hany, PhD, University of Alberta, 1993; Associate Professor in Mechanical Engineering, Associate Dean, School of Engineering

El-Kadri, Oussama, PhD, Wayne State University, 2006; Assistant Professor in Biology and Chemistry

El-Mousfy, Mona, MArch, Georgia Institute of Technology, 1983; Assistant Professor in Architecture

El-Sadek, Ibrahim, PhD, University of California at Santa Barbara, 1983; Professor in Mathematics and Statistics and Associate Dean, College of Arts and Sciences

El-Sayegh, Sameh, PhD, Texas A&M University, 1998; Assistant Professor in Civil Engineering

El-Sinawi, Ameen, PhD, University of Dayton, 1999; Associate Professor in Mechanical Engineering

El-Tarhuni, Mohamed, PhD, Carleton University, 1997; Associate Professor in Electrical Engineering and Head, Department of Electrical Engineering

F

Faiq, Said, PhD, Salford University, 1991; Professor in Arabic Studies and Director, Graduate Program in Translation and Interpreting

Ferguson, Erik, PhD, University of Southern California, 1988; Assistant Professor in Urban Planning

Filipović, Zlatan, MFA, Alfred University, 2001; Assistant Professor in Design

Fiocco, Marcello, PhD, University of California at Santa Barbara, 2002; Assistant Professor in International Studies

Forster, John, PhD, McMaster University, 2001; Associate Professor in Management, Marketing and Public Administration

G

Gadalla, Mohamed, PhD, University of Alabama, 1988; Associate Professor in Mechanical Engineering

Gandhi, Neena, PhD, University of Delhi, 2006; Assistant Professor in Writing Studies

Gassan, Richard, PhD, University of Massachusetts, 2002; Assistant Professor in International Studies

Gatenby, Bruce, PhD, University of Arizona, 1992; Assistant Professor in Writing Studies

Gavassa, Ana, MBA, Troy University, 1999; Instructor in Mass Communication

Genc, Ismail, PhD, Texas A&M University, 1999; Associate Professor in Economics

Gibbs, Joseph, PhD, Boston University, 1994; Associate Professor in Mass Communication, and Interim Head, Department of Mass Communication

Giesen, Leslie, MA, School for International Training, 2001; Senior Instructor in Intensive English

Giesen, Martin, PhD, Heidelberg University, 1973; Professor in Fine Arts

Gilbertson, Milton, MEd, McGill University, 1991; Senior Instructor in Intensive English

Gilbertson, Sharon, MEd, McGill University, 1993; Senior Instructor in Intensive English

Gold, Gary, JD, Indiana University, 1991; Associate Professor in Management, Marketing and Public Administration

Goldfinch, Shaun, PhD, University of Melbourne, 1999; Associate Professor in Management, Marketing and Public Administration

Golley, Nawar, PhD, Nottingham University, 1994; Associate Professor in English

Goodwin, Ronald, PhD, Indiana University of Pennsylvania, 2005; Assistant Professor in Writing Studies

Gorla, Narasimhaiah, PhD, University of Iowa, 1986; Professor in Management Information Systems

Grant, James, DBA, Mississippi State University, 1978; Professor in Management, Marketing and Public Administration (on leave Fall 2007)

Grant, Michelle, MArch, Cranbrook Academy of Art, 2005; Assistant Professor in Architecture

Grant, Roderick, MFA, Rhode Island School of Design, 2005; Assistant Professor in Design

Gressel, Justin, PhD, Purdue University, 2006; Assistant Professor in Management, Marketing and Public Administration

Griffin, James, PhD, University of London, 2004; Assistant Professor in Mathematics and Statistics

Guessoum, Nidhal, PhD, University of California at San Diego, 1988; Associate Professor in Physics

Gumus, Mehmet, PhD, University of Waterloo, 2006; Assistant Professor in Management Information Systems

Gunatillake, Gajath, PhD, Purdue University, 2005; Assistant Professor in Mathematics and Statistics

Gunn, Cindy, PhD, University of Bath, 2001; Associate Professor in English

H

Hamdan, Nasser, PhD, Middle East Technical University, 1993; Professor in Physics

Haney II, William, PhD, University of California at Davis, 1984; Professor in English and Head, Department of English

Hariga, Moncer, PhD, Cornell University, 1989; Professor in Engineering Systems Management and Coordinator, Engineering Systems Management Program

Hashem, Mahboub, PhD, Florida State University, 1984; Professor in Mass Communication

Hassan, Mohamed, PhD, University of Arizona, 2005; Assistant Professor in Electrical Engineering

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Heaton, J. Lade, JD, University of Utah, 1972; Senior Lecturer in Management, Marketing and Public Administration

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Heintz, W. Eirik, MArch, Harvard University, 1994; Associate Professor in Architecture and Associate Dean, School of Architecture and Design

Henry, James, MA, Cleveland State University, 1997; Instructor in Writing Studies

Hewitt, David, MFA, Cornell University, 1979; Associate Professor in Design and Coordinator, Foundations Program and Admissions

Horger, Christopher, MA, University of Arizona, 1992; Senior Instructor in Writing Studies

Hussein, Ghaleb, PhD, Brigham Young University, 2001; Assistant Professor in Chemical Engineering

I

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Islam, Mohammad, PhD, Columbia University, 2003; Assistant Professor in Physics

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Jaidi, Asad Hasan, PhD, University of Kansas, 1993; Associate Professor in Physics

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John, Mary Anne, MA, University of Calcutta, 1993; Instructor in Writing Studies

Jumean, Fawwaz, PhD, City University of New York, 1973; Professor in Biology and Chemistry and Head, Department of Biology and Chemistry

K

Kanan, Sofian, PhD, University of Maine, 2000; Associate Professor in Biology and Chemistry

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Karavatos, Nicholas, CELTA, St. Giles University, 1999; Assistant Professor in English

Kassam, Meenaz, PhD, University of Toronto, 1996; Assistant Professor in International Studies

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Katsioloudes, Marios, PhD, University of Pennsylvania, 1990; Professor in Management, Marketing and Public Administration

Kawash, Jalal, PhD, University of Calgary, 2000; Assistant Professor in Computer Science

Keck, Stephen, DPhil, University of Oxford, 1992; Associate Professor in International Studies

Kennedy, Thomas, MLA, Cornell University, 1991; Assistant Professor in Architecture

Khalaf, Kinda, PhD, Ohio State University, 1997; Assistant Professor in Mechanical Engineering

Khallaf, Ashraf, PhD, Florida Atlantic

University, 2004; Assistant Professor in Accounting and Finance

Khamis, Mustafa, PhD, University of California at Davis, 1985; Associate Professor in Biology and Chemistry

Khan, Masood, MS, Colorado State University, 1991; Instructor in Design

Khan, Sajid, PhD, University of Manchester, 2001; Assistant Professor in Management, Marketing and Public Administration

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Khawaja, Ali, MBA, American University of Sharjah, 2004; Instructor in Management Information Systems

Kherfi, Samer, PhD, Simon Fraser University, 2002; Assistant Professor in Economics

Khoury, Suheil, PhD, Michigan State University, 1994; Associate Professor in Mathematics and Statistics

Khouyibaba, Saadia, PhD, Laval University, 1997; Instructor in Mathematics and Statistics

Kim, Jong, PhD, Emory University, 2005; Assistant Professor in Economics

Kirk, Daniel, MA, University of Sunderland, 2002; Instructor in Writing Studies

Klein, Andrew, PhD, University of Illinois at Chicago, 2003; Assistant Professor in Management, Marketing and Public Administration

Knuteson, Sandra, PhD, Clemson University, 2004; Assistant Professor in Biology and Chemistry

Kocbas, Ibrahim, PhD, The Leland Stanford Junior University, 1990; Associate Professor in Chemical Engineering

Krieg, Ginger, MArch, Cranbrook Academy of Art, 2005; Assistant Professor in Architecture

Kucuk, Ismail, PhD, University of Utah, 2001; Assistant Professor in Mathematics and Statistics

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L

Landolsi, Taha, PhD, University of Texas at Dallas, 1999; Assistant Professor in Computer Engineering

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Lea, David, PhD, University of Ottawa, 1990; Professor in International Studies

Leduc, Guillaume, PhD, Carleton University, 1995; Assistant Professor in Mathematics and Statistics

Lee, Jessica, MA, San Francisco State University, 2005; Instructor in Writing Studies

Lewis, Dennis, MA, University of Toronto, 1995; Senior Instructor in Writing Studies

Lonnman, Bruce, MAUD, Cornell University, 1986; Associate Professor in Architecture

Loughlin, Kevin, PhD, University of New Brunswick, 1970; Associate Professor in Chemical Engineering

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M

Majdalawieh, Amin, PhD, Dalhousie University, 2006; Assistant Professor in Biology and Chemistry

Majdalawieh, Munir, PhD, George Mason University, 2006; Assistant Professor in Management Information Systems

Majeed, Tariq, PhD, York University, 1991; Assistant Professor in Physics

Malcolm, Michael, MS, University of Wisconsin-Madison, 2005; Instructor in Economics

Marshall, Timothy, PhD, University of Auckland, 1995; Assistant Professor in Mathematics and Statistics

Mason, Peter, MBA, Marshall University, 1977; Instructor in Management, Marketing and Public Administration

McCallum, Brent, MS, American University, Washington, DC, 1993; Assistant Professor in Accounting and Finance (on leave Fall 2007)

McClane, Richard, MA, University of Utah, 1997; Senior Instructor in Intensive English

McElwain, Gregory, MA, University of New Mexico, 1990; Instructor in Writing Studies

McLaurin, J. Reagan, PhD, Memphis State University, 1994; Associate Professor in Management, Marketing and Public Administration

Mehdi, Laurial, MA, State University of New York, 1984; Instructor in Intensive English

Mesanovic, Mujo, MS, Syracuse University, 2006; Instructor in Mathematics and Statistics

Mitchell, Kevin, MArch, University of Washington, 1996; Associate Professor in Architecture and Director, Graduate and Undergraduate Programs

Mitias, Peter, PhD, Louisiana State University, 1997; Associate Professor in Economics and Director, SBM Graduate Programs

Mohamed-Sayidina, Aisha, PhD, University of Exeter, 1993; Assistant Professor in English

Mokhtar, Ahmed, PhD, Concordia University, 1998; Associate Professor in Architecture

Morey, Susan, PhD, Virginia Commonwealth University, 2002; Assistant Professor in Management, Marketing and Public Administration

Mosbo, John, PhD, Iowa State University, 1973; Professor in Biology and Chemistry and Vice Chancellor for Academic Affairs

Mourtada-Sabbah, Nada, PhD, University of Pantheon-Assas (Paris II), 1997; Associate Professor in International Studies and Assistant to the Chancellor for Development and Alumni Affairs

Moustafa, Amer, PhD, University of Southern California, 1999; Associate Professor in Architecture

Munday, Susan, MPhil, University of Glasgow, 2002; Instructor in Writing Studies

Musameh, Mustafa, PhD, New Mexico State University, 2006; Assistant Professor in Biology and Chemistry

N

Naufal, George, BA, The American University of Beirut, 2001; Instructor in Economics

Naumann, R. Earl, PhD, Arizona State University, 1981; Professor in Management, Marketing and Public Administration

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Nsiri, Imed, MA, Indiana University, 2000; Instructor in Arabic Studies

O

Olson, Dennis, PhD, University of Wyoming, 1982; Professor in Accounting and Finance and Head, Department of Accounting and Finance

Ozkul, Tarik, PhD, Florida Institute of Technology, 1988; Associate Professor in Computer Engineering

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Pappalardo, Lucia, PhD, Syracuse University, 1998; Assistant Professor in Biology and Chemistry

Picken, Gavin, PhD, The University of Leeds, 2005; Assistant Professor in Arabic Studies

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Qadah, Ghassan, PhD, University of Michigan, 1983; Associate Professor in Computer Engineering

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Randle, Jay, MArch, North Carolina State University, 1971; Professor in Architecture

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Richards, R. Malcolm, PhD, University of Michigan, 1974; Professor in Accounting and Finance and Dean, School of Business and Management

Richardson, Tina, MA, University of Oregon, 2003; Instructor in Mass Communication

Rifki, Fatih, PhD, University of North Carolina at Chapel Hill, 1998; Professor in Architecture and Dean, School of Architecture and Design

Riordan, Olivia, MEd, Temple University, 2001; Instructor in Intensive English

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Rousseu, Scott, MEd, University of Southern Queensland, 2003; Instructor in Intensive English

Rupasingha, Anil, PhD, Texas A&M University, 1997; Assistant Professor in Economics

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Sakhi, Said, PhD, University of Montreal, 1994; Associate Professor in Physics

Salamin, Yousef, PhD, University of Colorado, 1987; Professor in Physics

Saleh, Kassem, PhD, University of Ottawa, 1991; Professor in Computer Science

Santosa, Sigit, PhD, Massachusetts Institute of Technology, 1999; Assistant Professor in Mechanical Engineering

Saravia, Antonio, PhD, Arizona State University, 2003; Assistant Professor in Economics

Sarnecky, William, MArch, University of New Mexico, 1999; Assistant Professor in Architecture

Schmitt, Thomas, MA, City University of New York, 2000; Senior Instructor in Intensive English

Seneviratne, Padmapani, MS, Clemson University, 2003; Instructor in Mathematics and Statistics

Shanableh, Tamer, PhD, University of Essex, 2001; Assistant Professor in Computer Science

Shareefdeen, Zarook, PhD, New Jersey Institute of Technology, 1994; Assistant Professor in Chemical Engineering

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Sheikholeslami, Ali, PhD, University of California at Los Angeles, 1975; Professor in International Studies

Sheil, Phil, MFA, University of Calgary, 1995; Associate Professor in Design

Shine, Anne, PGDip, Massey University, 1999; Senior Instructor in Writing Studies

Shono, Sarah, PhD, University of Texas at Austin, 2004; Assistant Professor in English

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Spindler, Zane, PhD, Michigan State University, 1968; Professor in Economics

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Stevens, Mark, MA, Iowa State University, 1991; Instructor in Intensive English

Stevenson-Abouelnasr, Dana, PhD, Georgia Institute of Technology, 1984; Associate Professor in Chemical Engineering and Head, Department of Chemical Engineering

Stewart, Tonya, MFA, Cranbrook Academy of Arts, 2005; Assistant Professor in Design

Storseth, Terri, PhD, University of Washington, 1997; Assistant Professor in Writing Studies

Suliman, Hana, PhD, Queen's University, 1998; Assistant Professor in Mathematics and Statistics

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Sweet, Kevin, MArch, Columbia University, 2003; Assistant Professor in Architecture

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Thompson, Winfred, PhD, University of

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Tijani, Olatunbosun, PhD, University of Edinburgh, 2005; Assistant Professor in Arabic Studies

Toledo, Hugo, PhD, Auburn University, 1999; Associate Professor in Economics and Head, Economics

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Tyson, Rodney, PhD, University of Arizona, 1994; Associate Professor in English

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W

Wahba, Essam, PhD, University of California, 2004; Assistant Professor in Mechanical Engineering

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Wait, Isaac, PhD, Purdue University, 2005; Assistant Professor in Civil Engineering

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Weiss, Gregor, MArch, University of California at Berkeley, 1984; Associate Professor in Architecture

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Wills, Krystie, MA, Michigan State University, 1994; Senior Instructor in Intensive English

Wills, Luis, PhD, University of Hawaii, 2005; Assistant Professor in Mathematics and Statistics

Wilson, Deborah, MA, School for International Training, 1981; Senior Instructor in Intensive English, Head and Director, Intensive English Program

Wunderli, Thomas, PhD, University of Florida, 2003; Assistant Professor in Mathematics and Statistics

X

Xu, Xiaobo, PhD, University of Mississippi, 2005; Assistant Professor in Management Information Systems

Y

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Z

Zantout, Zaher, PhD, Drexel University, 1990; Associate Professor in Accounting and Finance

Zayani, Mohamed, PhD, Indiana University, 1996; Associate Professor in English

Zeidan, Rabih, MS, University of Houston-Clear-Lake, 1987; Assistant Professor in Accounting and Finance

Zikkos, Elias, PhD, University of Cyprus, 2005; Assistant Professor in Mathematics and Statistics

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Zuolkernan, Imran, PhD, University of Minnesota, 1991; Assistant Professor in Computer Engineering

A

Absence 43, also see Attendance/Lateness/Withdrawal, Courses
 Academic
 Achievement, see Advancement/Student Transcripts/Transcript Center 8
 Advisor(s) 17, also see Academic Achievement Center/Advisor/Registration Procedures
 Appeals, see Academic Offenses/Student Petitions and Appeals
 Calendar ix, x
 Dishonesty 28, also see Student Academic Integrity Code/Adjudication of Academic Offenses
 Dismissal, see Dismissal
 Good Standing xi, also see Good Standing
 Integrity Code, see Student Academic Integrity Code/Violations, Academic
 Load, see Course Load/Load
 Offenses, Adjudication 28
 Orientation, see Orientation
 Policies, also see Petitions
 Regulations 17
 University 16
 Probation xi, also see Probation
 Programs, see Bachelor/Degree Offerings/Programs
 Regulations, see Academic Policies/also see Orientation/Petitions
 Standing x, 23, 27, also see Standing
 Transcript, see Student Transcripts/Transcript
 Year x, also see Year
 Accreditation
 ABET 88
 Licensure 4
 Also see Transfer Admission
 Add and Drop x, 19, also see Course Audit/Registration/Schedule(s)
 Adjudication
 Academic Offenses 28
 Process 29
 Issues, other 29
 Admission(s) x
 Deferral, see Admission, Offer
 Deposit 14, also see Financial Aid
 Documents 13
 Early 13
 IEP 42, also see Admission Requirements, Minimum
 Non-Degree 14, also see Non-Degree
 Offer 14
 Office 12
 Regular 13
 Deadlines 13
 Requirements
 Minimum 12
 Program 14
 Study Abroad 14, also see Study Abroad
 Transfer Student 13
 Deadlines 14
 Also see Transfer
 Transient Student 13, also see Transient Student
 Visiting Student 14, also see Visiting Student
 Also see Calendar, Academic/Certificates/Readmission/Reinstatement
 Advancement 118, 123, 130, 134
 Advisor x, also see Academic Advisors/Add and Drop/Major, Double, Declaration
 Advising and Counseling Center 38
 Aid
 Financial 33
 Scholarships 33
 Student 16, 33
 Also see Fees/Scholarships/Sponsorship/Tuition
 Alumni x
 Affairs, Office 9
 Also see Attestation
 Appeal, also see Petitions
 Academic Related Issues 24
 Grade 24
 Notifications and Appeals 30
 Student Petitions and Appeals 24
 Application for Graduation 27, also see Graduation Procedures
 Arab Studies in a Global Context, Concentration 68
 Arabic
 Heritage Requirement 25, also see Requirements, General Education
 Language 168
 Language and Literature, Minor 22, 46
 Literature 168
 Studies, Department 46
 Also see Concentrations/English/Arabic Translation and Interpreting/Offering(s), Minor
 Architecture
 Bachelor 117
 Department 117

Design, School 21, 22, 116, 208
 Facilities 8
 Also see Admission, Requirements, Program/Architectural Studies, Minor/
 Placement Tests
 Arts and Sciences
 College 21, 22, 46, 168
 Also see Admission, Requirements, Program/Intensive English Program
 Athletic(s)
 Recreation 6, also see Services, On-Campus
 Scholarships 34
 Sports 39
 Also see Extracurricular/ Student Activities
 Attendance
 Course Information 20
 IEP 43
 Lateness 20
 Also see Absence/Lateness
 Attestation
 Degrees and Transcripts 27
 Audit(ing), see Registration
 Course x , 18
 Degree x
 Also see Part-time Student
 Award
 Chancellor's Scholars 33
 Also see Aid/Fees/Scholarships/Sponsorship/Tuition

B

Bachelor
 Architecture 21, 117
 Arts
 Business Programs 159
 Economics 21, 159
 English Language and Literature 21, 57
 International Studies 21, 62
 Mass Communication 21, 74
 Public Administration 21, 163
 Degree x
 Interior Design 21,123
 Science
 Business Administration 21, 141
 Business Programs 140
 Chemical Engineering 21, 91
 Chemistry 21, 47
 Civil Engineering 21, 94
 Computer Engineering 21, 97
 Computer Science 21, 108
 Degrees 90
 Design Management 21, 127
 Electrical Engineering 21, 100
 Environmental Sciences 21, 50
 Finance 21, 151
 Management Information Systems 21, 155
 Mathematics 21, 82
 Mechanical Engineering 21, 104
 Multimedia Design 21, 130
 Visual Communication 21, 134
 Also see Degree Offerings
 Banking Services 6, also see Campus Cash Program
 Barber Shop, see Personal Services
 Beauty Salon, see Personal Services
 Biology 169
 Also see Concentration/Department/Minor/Requirement(s), Science/Science Laboratories
 Bookstore 6
 Buildings
 Academic and Administrative, see Campus Complex/Campus Map/Student Code of Conduct(II-n)
 Business 219
 Administration
 Bachelor of Science 21, 141
 Minor 143
 Programs 141
 Information Systems 218
 International, Minor 164
 Legal Issues 219
 Management, School 21, 22, 140, 218, also see Admission, Requirements, Program/Placement Tests

C
 Calculator Policy 141
 Calendar
 Academic ix, x
 Year x
 Campus
 Cash Program 6
 Complex 4

Map xiii
 Career Advising and Placement Services 38
 Catalog 24
 Year x
 Center(s)
 Academic Achievement 8
 Advising and Counseling 38
 AUS Writing 8
 Copy 6
 Mechatronics 9
 Research 9
 Student 39
 University Health 7
 Certificate(s)
 Enrollment 16
 Requirements 14
 Secondary School 12
 Chancellor Scholars Award 33, also see Aid/Scholarships/Sponsorship
 Change
 Concentration, see Concentrations
 Graduation Requirements, see Catalog
 Major 21
 Minor, see Minors, Declaration
 Personal Data, see Student Privacy Rights
 Status, see Status
 Class
 Schedule xi, 20
 Standing x, 23
 Also see Attendance/Calendar, Academic/Registration/Withdrawal
 Code of Conduct 36
 College
 Arts and Sciences 46, 168, also see Arts and Sciences
 Engineering 88, 190, also see Engineering
 Also see School
 Commencement Exercises, Participation in 27, also see Calendar/Graduation Procedures
 Community Services 40
 Computer
 Engineering, Minor 22, 100
 Game Programming, Minor 22, 112
 Learning Resources 8
 Literacy 25, also see General Education Requirements
 Policy 141
 Requirements 116
 Science 192
 Bachelor of Science 21, 108
 Department 108
 Minor 22, 112
 Also see Placement Tests
 Computing Laboratories, Engineering 8
 Concentrations x, 22
 Arab Studies in a Global Context 68
 Accounting 142
 Advertising 75
 Biology/Ecosystems and Environmental Chemistry/Analysis 56
 English Language 58
 English Literature 58
 Environmental Biology and Ecosystems 51
 Environmental Chemistry and Analysis 53
 Economics 142
 Finance 142
 International Economics 65
 Journalism 75
 Management 142
 Marketing 143
 Management Information Systems 142
 Public Relations 75, 76
 Western Studies 70
 Consultation Services 39
 Copy Center 6
 Copyright Violations 28, also see Academic Integrity Code
 Co-requisite x, also see Course Information
 Counseling
 Advising, Center 38
 Individual 38
 Learning and, Services 38
 Course(s) x
 Audit x, 18, also see Registration/Part-time Student
 Descriptions 44, 167
 Descriptions and Syllabi 20
 Elective x
 Free Elective 26
 Information and Attendance 20
 Load x
 Freshman 19
 Also see Load

Preparatory xi, 15
 Prerequisite xi, 20
 Prerequisite/Concurrent xi
 Repeating 23, 44
 Required xi
 Withdrawal 19
 Also see Academic Advisor/Attendance/Registration/Transfer/Withdrawal
 Credit x
 Academic 43
 Transfer xi
 Cultural Studies 171, also see Requirements, Humanities
 Cumulative Grade Point Average (CGPA) 23, also see Grade Point Average

D

Dean's List 24
 Scholarship 34
 Also see Honors
 Degree(s)
 Attestation 27
 Audit x
 Bachelor's x
 Conferral 27
 Names 27
 Offerings 21, also see Bachelor/Offerings
 Requirements, see Bachelor
 Also see Accreditation and Licensure/Minors, Declaration/Graduation Requirements/Matriculation/Non-Degree/Preparatory Courses/Required Courses/Transfer Credit
 Department
 Accounting and Finance 151
 Arabic Studies 46
 Architecture 117
 Biology and Chemistry 47
 Chemical Engineering 91
 Civil Engineering 94
 Computer Engineering 97
 Computer Science 108
 Design 127
 Economics 159
 Electrical Engineering 100
 English 57
 Fine Arts 62
 International Studies 62
 Management, Marketing and Public Administration 163
 Management Information Systems 155
 Mathematics and Statistics 82
 Mass Communication 74
 Mechanical Engineering 104
 Media and Printing 6
 Physics 85
 Public Relations 7
 Writing Studies 85
 Dining Services 6
 Diploma see Attestation/Certificates, Secondary School/Honors,
 Disabilities, Applicants 14, also see Community Services
 Dishonesty, see Academic Integrity Code/Academic Violations
 Dismissal x
 Suspension 30
 Also see Academic Probation Policy/Academic Standing/Penalties
 Duration of Study, see Time Limit

E

Education 172, also see General Education Requirements/Health Education/
 Minor/Requirement(s), Humanities/Requirement(s), Social Sciences
 Endowment Scholarship, Petrofac 34
 Engineering 206
 Aerospace 190
 Minor 22, 113
 Biomedical 190
 Minor 22, 113
 Chemical 191
 Bachelor of Science 21, 91
 Department 91
 Civil 197
 Bachelor of Science 21, 94
 Department 94
 College 21, 22, 88, 190, also see Petrofac Endowment Scholarship
 Computer 195
 Bachelor of Science 21, 97
 Department 97
 Minor 22, 100
 Computing Laboratories 8
 Electrical 200
 Bachelor of Science 21, 100
 Department 100
 Minor 22, 103

Freshman Year 90
 Management 200
 Minor 22, 113
 Mechanical 203
 Bachelor of Science 21, 104
 Department 104
 Minor 22, 107
 Petroleum 206
 Minor 22, 114
 Software, Security and, Minor 22, 112
 Also see Accreditation/Placement Tests
 Enrollment, Certificates 16, also see Registrar, Office
 Emergency Numbers xii
 Evaluation 43
 Examinations 22
 Common x
 Dishonesty in 28
 Make-Up 23
 Also see Calendar, Academic/Evaluation/Placement Tests
 Exchange Program, see International Students
 Exit from IEP 43
 Extracurricular x, also see Athletic(s)

F

Facilities
 Architecture and Design 8
 Also see Resources
 Falsification, see Academic Integrity Code/Academic Violations
 Family Tuition Grant 33
 Fee(s) x
 Application, see Admission, Documents
 Deposits 32, also see Admission Deposit
 Health Insurance 32
 Internship, see Internships
 Lab/Technology 32
 Late Fees and Fines 33
 Late Registration 32
 Payment 33
 Reinstatement 32, also see Reinstatement
 Student Activity 32
 Student Housing 32
 Supplemental, see Overload Students
 Transfer Evaluation, see Admission, Transfer Student
 Tuition 18, 32
 Also see Aid/Scholarships/Sponsorship/Transcripts and Certificates/Tuition/Withdrawal
 Financial
 Aid 33, also see Aid/Scholarships/Sponsorship
 Resources
 Also see Fees/Tuition
 Fines, Late Fees 33
 Food Outlets, see Dining Services
 Foundation Year 117
 Free Electives 26
 Freshman, see Class Standing
 Course Load 19
 Year, Engineering 90
 Full-Time Students 19, also see Load

G

General Education Requirements x, 25
 Gifts and Memorabilia 6
 Good Standing 23
 Academic xi
 Grade Point Average/GPA xi, 23
 Cumulative 23
 Semester 23
 Grade(s)
 Appeal 24
 Incomplete 23
 Points xi
 System (Grading) 22
 Also see Audit, Course/IEP/Repeating Courses
 Grades and Academic Standing 22
 Graduation
 Application 27
 Requirements 24
 Residence Requirements 26, also see Time Limit
 Procedures 27
 Grant(s)
 Family Tuition 33, also see Aid/Fees/Scholarships/Sponsorship/Tuition
 Research 9

H
 Health

Center, University 7
 Education Programs 7
 Insurance Plans 7
 Also see Pharmacy
 Honors
 Awards 24
 Graduation 24, 27
 Also see Dean's List

I
 I.D. Card xi, also see Campus Cash Program/Public Relations Department
 Inappropriate Collaboration 28, also see Academic Integrity Code
 Inappropriate Proxy 28, also see Academic Integrity Code
 Information Technology 6
 Institute
 Materials Systems 9
 Urban and Regional Planning and Design 10
 Integrity Code, see Academic Integrity Code
 Intensive English Program (IEP) 42
 International
 Business, Minor 164
 Student(s)
 Exchange Program 38
 Office 6
 Internship(s) 26
 Interpreting Laboratory 10

J
 Judicial Affairs 36

L
 Laboratories/Laboratory
 Engineering and Computing 8
 Interpreting 10
 Mass Communication 9
 Science 10
 Lateness 43
 Attendance 20
 Also see Absence/Attendance
 Laundry, see Personal Services
 Learning and Counseling Services 38
 Leopard Newspaper 40
 Library 8
 Load, also see Overload/Placement on Academic Probation
 Course x
 Freshman 19
 Student 19
 Lost and Found 6

M
 Mail, Post Office 7
 Major xi,
 Change 21
 Declaration 21
 Double 21
 Declaration 21
 Requirements 26
 Electives 47
 Offerings, see Bachelor/Offerings, Degree
 Requirements 26, also see Bachelor
 Materials Systems, Institute 9
 Matriculation xi
 See Exit from IEP
 Mechatronics Center 9
 Media and Printing Department 6
 Merit Scholarship 34
 Mini-Mart 6
 Minor(s) ix,
 Declaration 22
 Offerings 22
 Requirements 26
 Aerospace Engineering 22, 113
 American Studies 22, 73
 Applied Computational Mathematics 22, 85
 Arabic Language and Literature 22, 46
 Architectural Studies 22, 122
 Biology 22, 56
 Biomedical Engineering 22, 113
 Business Administration 22, 143
 Computer Engineering 22, 100
 Computer Game Programming 22, 112
 Computer Science 22, 112
 Design Management 22, 130
 Economics 22, 162
 Education 22, 61

Electrical Engineering 22, 103
 Engineering Management 22, 113
 English/Arabic Translation and Interpreting 22, 46
 English Language 22, 61
 English Literature 22, 61
 Environmental Policy 22, 56
 Environmental Sciences 22, 56
 Governmental Studies 22, 73
 Interior Design 22, 126
 International Business 22, 164
 International Studies 22, 73
 Mass Communication 22, 81
 Mechanical Engineering 22, 107
 Petroleum Engineering 22, 114
 Philosophy 22, 74
 Physics 22, 85
 Psychology 22, 74
 Public Administration 22, 165
 Software Engineering and Security 22, 112
 Urban Design 22, 122
 Women's Studies 22, 61

N

Non-degree

Admission 14
 Registration 17
 Student xi
 To Degree 21

Notifications and Appeals 30, also see Offenses

O

Observatory, Earthquake 9
 Offenses, Adjudication of Academic 28
 Offerings
 Course, see Schedule, Course; also see Catalog
 Degree 21, also see Bachelor
 Major, see Bachelor
 Minor(s) 22, also see Minor

Office

Admissions 12
 Alumni Affairs 9
 International Students 6
 Post 7
 Registrar 16
 Student Affairs 36
 Travel 7

On-Campus Services 6

Orientation, also see Academic Calendar

Program 17
 Student Life 39

Overload Students 19, also see Load

P

Payment, Tuition and Fees 33
 Parking and Transportation 7
 Part-Time Students 19, also see Load/Tuition and Fees
 Penalties 29, also see Offenses
 Personal Services 7
 Petition(s) xi, 24, also see Reinstatement/Student Petitions and Appeals/
 Withdrawal from Courses
 Petrofac Endowment Scholarship 34
 Pharmacy 7
 Placement Test(s) xi, 15
 Plagiarism 28, also see Academic Integrity Code
 Policies, see Academic Policies
 Post Office and Mail 7
 Preparatory Courses xi, 15, also see Free Electives/Quality Points
 Prerequisite(s) xi
 Course 20
 Prerequisite/Concurrent xi
 Also see Co-requisite/Course Information and Attendance
 Privacy Rights, Student 16
 Probation xi
 Academic xi
 Placement on 23
 Removal 24
 IEP 24
 Also see Academic Achievement Center/Academic Standing/Dismissal/
 Reinstatement/Scholarships and Aid/Transfer Student Admission
 Programs(s)
 Admission Requirements 14
 Business
 Bachelor of Science 140
 Bachelor of Arts 159
 Degree 89
 Health Education 7
 Intensive English 42

International Student Exchange 38

Offered 117

Orientation 17

Also see Accreditation and Licensure/Community Services/Degree Offerings/
 Library/Minor Offerings/Non-degree Admission/Sports and Athletics

Public Relations Department 7

Publications, Student 40

Q

Quality Points 23, also see Grade Point Average

R

Readmission, see Reinstatement

Also see Dismissal, Suspension

Realms Magazine 40

Record(s),

Academic, see Student Transcripts/Transcript

Attendance, see Attendance and Lateness

Custody 16

Disciplinary Actions 30

Educational x

Permanent, see Conferral of Degrees/Notifications and Appeals/Penalties/

Student 16, also see Student Privacy Rights

Also see Office of the Registrar

Refunds, see Fee(s)/Withdrawal

Registrar, Office 16

Registration xi, 17

Non-Degree Student 17, see also Non-Degree

Procedures 17

Study Abroad 17, also see Study Abroad

Transfer Student 17, also see Transfer

Transient Student 17, also see Transient Student

Visiting Student 17

Also see Academic Calendar/Auditing Courses/Fees/Reinstatement/Summer
 Courses/Tuition

Regulations, see Academic Policies and Regulations/Parking and Transportation/
 University Academic Policies

Reinstatement 20

Fee 32

Also see Readmission

Repeating Courses 23, 44

Requirement(s)

Academic Standing 27

Arabic Heritage 25

Certificate 14

Concentration, see Concentrations

Computer Literacy 25

Core, see Bachelor

Degree, see Bachelor

Double Major 26

English Language Competency 25

General Education x, 25

Graduation 24

Graduation Residence 26, also see Time Limit

Humanities 26

Residence 26, also see Time Limit

Social Sciences 26

Major 26, also see Bachelor

Mathematics and/or Statistics 25

Minimum Admission 12

Minors 26, also see Minors

Program Admission 14

Science 25

TOEFL, see Exit from IEP/Minimum Admission Requirements

Also see Free Electives/Scholarships and Aid

Research

Centers 9

Also see Earthquake Observatory/Institute of Materials Systems/

Institute of Urban and Regional Planning and Design/Mechatronics Center

Grants 9

Responsible Conduct 9, 236

Also see Library

Residence xi

Requirement 26, also see Time Limit

Residential Halls 37

Resources

Computer Learning 8

Financial, see Aid/Scholarship/Sponsorship

Self-Help 38, also see Services, Learning and Counseling

University 8

S

Safety 7

Schedule(s)

Class xi, 20,

Examinations, see Examinations

Refund, see Withdrawal, University
 Student xi
 Also see Add and Drop/Academic Advisors/External Sponsorship/Parking and Transportation/Registration
 Scholarships 34
 Aid 16, 33
 Athletic 34
 Dean's List 34
 Merit 34
 Petrofac Endowment 34
 Sheikh Khalifa 34
 University of Exeter 34
 Also see Fees/Sponsorship/Tuition
 School
 Architecture and Design 116, 208 also see Architecture
 Business and Management 140, 218, also see Business
 Also see College
 Science Laboratories 10
 Security 7
 Semester xi
 Course Load, see Course Load
 Exchange Program, see Study Abroad/International Student
 Grade Point Average 23, also see Academic Standing/Dean's List
 Also see Academic Calendar/Academic Year/Term
 Services
 Consultation 39
 Community 40
 Dining 6
 Learning and Counseling 38
 On-Campus 6
 Sheikh Khalifa Scholarship 34
 Space Availability 116
 Sponsorship, External 34, also see Aid/Fees/Scholarships/Tuition
 Sports
 Athletics 39
 Complex 39
 Also see Student Activities
 Standing
 Academic 23, 27, also see Probation Policy
 Grades 22
 Advanced, see Admission Requirements, Program
 Class x, 23
 Good xi, 23
 Status
 Audit for For-Credit, see Auditing Courses
 Non-Degree to Degree 21
 Student(s)
 Academic
 Integrity Code 27, also see Adjudication of Academic Offenses
 Load 19, also see Load
 Accounts, see Tuition, Payment
 Activities 39
 Aid 33, also see Scholarships and Aid
 Center 39
 Clubs, see Student Organizations
 Code of Conduct 36
 Community Services, see Community Services
 Council 40
 Course Load 19, also see Load
 Disabilities, see Community Services
 Employment 40
 Full-Time x, 19, also see Student Course Load
 International 6
 Life, Orientation 39
 Non-Degree xi, also see Non-Degree
 Organizations 39
 Overload 19
 Part-Time 19, also see Student Course Load
 Petitions and Appeals 24, also see Appeal/Academic Offenses/Petitions
 Privacy Rights 16
 Publications 40
 Records 16, also see Records
 Regular xi, also see Full-Time Student
 Rights and Responsibility, see Student Academic Integrity Code/Student Code of Conduct
 Transcripts 16, also see Transcript
 Transfer
 Admission 13
 Registration 17
 Also see Transfer
 Transient 13, 17
 Visiting xi, 14, 17,
 Studio(s)
 Mass Communication Laboratories 9
 Also see Architecture and Design, School
 Study Abroad

Admission 14,
 Registration 17
 Summer Courses Outside AUS 18
 Suspension
 Dismissal 30
 Also see Dismissal
 Syllabi, Course Description 20

T

Tatra Magazine 40
 Telephone Directory xii
 Term xi, also see Semester
 Terminology, University x
 Test(s), Placement xi, 15
 Time Limit
 IEP 30
 Duration of Study 24
 TOEFL Requirement, see Requirement(s), Minimum Admission/Exit from IEP
 Transcript xi
 Certificates 16
 Student 16
 Transfer
 Admission 13
 Deadlines 14
 Credit xi
 Non-Degree to Degree 21
 Registration 17
 Transient Student
 Admission 13,
 Registration 17,
 Transportation, see Parking and Transportation
 Travel Office 7
 Tuition
 Family 33, also see Aid/Scholarships/Sponsorship
 Fees 18, 32
 Payment 33
 Also see Fees

U

University
 Administrators vii
 Exeter, Scholarship 34
 Health Center 7
 Mission Statement 2
 Policies, academic 16, also see Academic Policies and Regulations
 Resources 8
 Terminology x

V

Violations
 Academic Definition 28
 Copyright 28
 Traffic, see Public Relations Department
 Also see Adjudication of Academic Offenses/Security/Student Academic Integrity Code
 Visiting Student xi
 Admission 14
 Registration 17

W

Withdrawal xi
 Courses 19
 University 19
 Writing Center, AUS 8

Y

Year
 Academic x
 Calendar, see Admission Requirements, Minimum/ Dismissal, Suspension
 Catalog x, also see Catalog
 Foundations 117, also see Advancement
 Freshman Year in Engineering 90
 Also see Class Standing/Time Limit, Duration of Study