

American University of Sharjah







American University of Sharjah

GRADUATE



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# Chancellor's Message

I am delighted to welcome students, faculty members and staff to AUS for the academic year 2009–2010. Through the enthusiasm, energy and hard work of many past and current students, faculty members, staff and alumni, AUS has in a very short time gained a position of widely recognized academic prominence in the United Arab Emirates and beyond. As chancellor, I am gratified by our university's fine academic reputation. I also feel a tremendous optimism about our future. As much as we have already achieved, AUS's best years still lie ahead.

All involved with AUS have found it to be a remarkable place. With its highquality and internationally accredited academic programs; its unique blend of local, regional and international cultures; and its diverse mix of students, faculty members and staff the university's campus provides an extraordinary intellectual and social environment. We at AUS pride ourselves on the high-quality education that our students receive. Our graduates are known for their excellent professional competencies, their energy and dynamism, and for the impressive analytical and communication skills that they display as they establish their careers here in the UAE or elsewhere in the world. Our alumni are still young, but already many have achieved admirable levels of personal success.

When he founded AUS in 1997, His Highness Sheikh Dr. Sultan Bin Mohammad Al Qassimi, Member of the Supreme Council, Ruler of Sharjah and President of American University of Sharjah, delineated its core values as follows:

- 1. Science and education must regain their rightful place in the advancement of our society and in shaping the lives of our children.
- 2. The purpose of higher education is to reshape the minds of our youth in order for them to address personal and social challenges using the scientific method.
- 3. AUS must be a center of research for solving the problems faced by society.
- 4. AUS will have the autonomy and freedom needed to flourish as an independent university.
- 5. AUS must be organically linked with the economic, cultural and industrial sectors of society in productive cooperation.

These values emphasize the important role that science and education must play in developing the future of the UAE. They stress that research should focus on overcoming the immediate challenges that society faces, and they charge the university with assuming its rightful responsibility of interacting fruitfully with external economic, cultural and industrial partners to increase society's productivity. These directives represent touchstones on which AUS must rely to guide its future progress.

This catalog contains all of the information that students will need to chart their academic careers at AUS. It lists available courses, outlines important regulations, and describes the academic and co-curricular services that the university offers. This same information is available on the university's website, www.aus.edu. This website should be considered the official source of such information, since it is updated more frequently than this catalog. I urge students to become familiar with the rules and regulations this catalog contains. Faculty members should also consult it to remain familiar with the information it provides.

AUS will continue to build on past achievements. It will continuously strive to enhance the quality of the education that it offers, increase the range of the services that it offers, and work to establish productive strategic partnerships both here and abroad.



Peter Heath

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His Highness Sheikh Dr. Sultan Bin Mohammad Al Qassimi, Member of the Supreme Council and Ruler of Sharjah, United Arab Emirates, Chairman of the Board and President of AUS Dr. Ali Abdullah Al Shamlan, Director-General, Kuwait Foundation for the Advancement of Sciences (KFAS), Kuwait Dr. MaryAnn Baenninger, President, College of Saint Benedict, Minnesota, USA Dr. MaryAnn Baenninger, President, College of Saint Benedict, Minnesota, USA Mr. Joseph L. Brand, Senior Partner, Patton Boggs LLP, Washington, DC, USA Professor Lord Alec Broers, Member of the British House of Lords, UK Dr. Anthony George Coates, Director, Museum of Biodiversity, Bridge of Life, Republic of Panama, Senior Scientist Emeritus, Smithsonian Institution, USA Mr. Abdul Jalil Yousuf Darwish, Chairman of UAE Enterprises Group, UAE Dr. Leroy S. Fletcher, Regents Professor Emeritus, Thomas A. Dietz Professor Emeritus, Texas A&M University, USA Dr. Roderick S. French, Chancellor Emeritus, American University of Sharjah, UAE Dr. Peter Heath, Chancellor, American University of Sharjah, UAE Mr. Hamid D. Jafar, Chairman and CEO, Crescent Petroleum Company, Sharjah, UAE Dr. Cornelius Kerwin, President, American University, Washington, DC, USA Baroness Onora O'Neill of Bengarve, CBE PBA FMedSci, Member of the British House of Lords, UK Mr. Riad T. Sadek, Chairman, Al Habtoor Leighton Group, Dubai, UAE

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Dr. A. Paul Williams, Associate Dean, School of Business and Management

Mr. Jerald Cumbus, Director, Academic Achievement Center

Dr. Daniel Kirk, Coordinator, Faculty Development Center

Mr. Kevin Mitchell, Director, Graduate and Undergraduate Programs

Ms. Lynda Ataya, Registrar

Ms. Lina El-Khoury Bendaly, Associate Registrar

Dr. Ibrahim Deiab, Coordinator, Office of Research

Ms. Kathlin Ray, University Librarian

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#### **Enrollment Management**

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- Mr. Basheer Daoud, Director, Controller and Director of Finance
- Mr. Mark Kirchner, Director, Facilities
- Mr. Scott Element, Director, Financial Systems
- Ms. Paula Doyle, Director, Human Resources

Mr. Ashutosh Sheth, Director, Information Technology

Mr. Richard Mundy, Director, Operations

Dr. Lubna Yousif, MD, Director, University Health Center

Mr. Lee Mitchell, Director, Wellness

#### **Public Affairs**

Mr. Salem Al Qaseer, Vice Chancellor for Public Affairs

- Mr. Nazzal Nazzal, Director, Media and Printing
- Mr. Saeed Al-Shamsi, Director, Public Relations

#### **Student Affairs**

Dr. Moza Al Shehhi, Vice Chancellor for Student Affairs Mr. Munketh Taha, Director, Student Activities 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.

# Graduate Academic Calendar 2009–2010

| Fall Semester           | 2009  |
|-------------------------|---|
| July 15                 | Regular admission applications deadline for Fall Semester 2009 (applicants from outside UAE)  |
| July 30                 | Regular admission applications deadline for Fall Semester 2009 (applicants from inside UAE)<br>Assistantships applications deadline for Fall Semester 2009 (new students)     |
| August 20               | Registration ends for all returning students  |
| August 23               | First day of classes/Late registration and add and drop period begin  |
| September 3             | Late registration and add and drop period end 3 p.m.  |
|                         | Graduation applications for Fall Semester 2009 due  |
| September 6             | Late payment fee applies  |
| September 19            | Classes end for Eid Al Fitr holiday 10 p.m.*  |
| September 27            | Classes resume at 8 a.m.  |
| November 5              | Deadline to withdraw from a course without academic penalty 5 p.m.  |
|                         | Last day to move from thesis to project and vice versa  |
| November 25             | Classes end at 10 p.m. for Eid Al Adha and National Day holidays *  |
| November 26–December 3  | National Day holiday/Eid Al Adha holiday  |
| November 30             | Regular admission applications deadline for Spring Semester 2010 (MBA applicants only)  |
| December 5              | Classes resume at 8 a.m.  |
| December 6–20           | Advising and early registration for Spring Semester 2010  |
| December 16             | Regular admission applications deadline for Spring Semester 2010 (applicants from outside UAE)  |
| December 22–December 27 | Fall semester 2009 examination period   |
| December 25             | Christmas holiday   |
| December 28             | Fall semester 2009 make-up examination day  |
| December 30             | Fall Semester 2009 Commencement   |
| December 31             | Regular admission applications deadline for Spring Semester 2010 (applicants from inside UAE)<br>Assistantships applications deadline for Spring Semester 2010 (new students) |
| January 1               | New Year holiday  |
| Spring Semester         | 2010  |
| January 10–14           | Spring Semester 2010 registration period  |
| January 17              | First day of classes/Late registration and add and drop period begin  |
| January 28              | Late registration and add and drop period end 5 p.m.  |
|                         | Graduation applications for Spring Semester 2010 due  |
| January 31              | Late payment fee applies  |
| March 20                | Classes end for Spring Break 10 p.m.  |
| March 27                | Classes resume at 8 a.m.  |
| April 1                 | Deadline to withdraw from a course without academic penalty 5 p.m.  |
|                         | Last day to move from thesis to project and vice versa  |
| April 15                | Regular admission applications deadline for Summer Term 2010 (MBA applicants only)  |
| April 18–29             | Early registration for Summer Term 2010 and Fall Semester 2010  |
| April 29                | Graduation applications for Summer Term 2010 due  |
| May 8-12                | Spring Semester 2010 examination period   |
| May 13                  | Spring Semester 2010 make-up examination day<br>Regular admission applications deadline for Summer Term 2010 (all applicants)   |
| May 27                  | Spring Semester 2010 Commencement   |
| Summer Term             | 2010  |
| May 30-31               | Summer Term 2010 registration   |
| June 1                  | First day of classes/Late registration and add and drop period begin  |
| June 3                  | Late registration and add and drop period end 5 p.m.  |
| June 6                  | Late payment fees apply   |
| July 28                 | Deadline to withdraw from a course without academic penalty 5 p.m.  |
|                         | Last day to move from thesis to project and vice versa  |
| July 13–14              | Summer Term 2010 examination period   |
| July 15                 | Summer Term 2010 make-up examination day  |
| Fall Semester           | 2010  |
| August 1                | Last day for application for admission/assistantships for new students for Fall Semester 2010   |

\*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 closing, the semester(s) may be extended

# University Terminology

| Academic Status                         | 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 at the beginning of each semester/term 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 was admitted to study at AUS.                                     |
| Concentration                           | Subspecialization within a major that allows a student to focus on a particular aspect of the major field of study   |
| Corequisite                             | 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  |
| Directed Study                          | An investigation under faculty supervision beyond what is offered in existing courses  |
| Dismissal                               | The involuntary separation of a student from the university for unacceptable conduct or unsatisfactory academic achievement. A student is academically dismissed when he/she fails to achieve academic good standing in two consecutive semesters. |
| Educational Records                     | Records directly related to the education of a student that are 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 other than course tuition   |
| Full-Time Student                       | A graduate student who is registered for nine or more credits in a given semester  |
| Good Standing, Academic                 | The academic standing of a graduate student who has achieved a cumulative GPA of 3.00 or   |
|   | higher   |
| GPA                                     | higher Grade point average of the grades of AUS courses  |
| GPA<br>Grade Points                     | higher         Grade point average of the grades of AUS courses         Numerical value associated with each grade   |
| GPA<br>Grade Points<br>Graduate Student | higher         Grade point average of the grades of AUS courses         Numerical value associated with each grade         A student who is working toward completion of a master's degree   |

| A course listed in the catalog but offered in an independent study format         Independent course (IC) or directed study (DS) beyond the courses offered in a specific semester conducted by a student under the supervision of a designated faculty member         A student's main field of study         A post-bachelor's graduate degree         Enrollment as a degree-seeking student         Designation used for students who are enrolled in courses but are not pursuing a degree |
|---|
| Independent course (IC) or directed study (DS) beyond the courses offered in a specific<br>semester conducted by a student under the supervision of a designated faculty memberA student's main field of studyA post-bachelor's graduate degreeEnrollment as a degree-seeking studentDesignation used for students who are enrolled in courses but are not pursuing a degree  |
| A student's main field of study         A post-bachelor's graduate degree         Enrollment as a degree-seeking student         Designation used for students who are enrolled in courses but are not pursuing a degree  |
| A post-bachelor's graduate degree         Enrollment as a degree-seeking student         Designation used for students who are enrolled in courses but are not pursuing a degree  |
| Enrollment as a degree-seeking student           Designation used for students who are enrolled in courses but are not pursuing a degree  |
| Designation used for students who are enrolled in courses but are not pursuing a degree   |
| program   |
| A written request seeking a waiver of or an exception to a university regulation, policy or deadline  |
| A course required to be completed before a certain course may be taken  |
| A course that must be completed either along with or before enrolling in a certain course   |
| A warning status resulting from the student's unsatisfactory conduct  |
| Status of any graduate student who has less than a 3.00 cumulative GPA  |
| The act of admitting a student back to the university through the Office of Enrollment<br>Management/Graduate Admissions after an interruption of studies for more than one semester.<br>Academically dismissed students are not eligible for readmission.  |
| The process of enrolling in classes   |
| A degree-seeking student  |
| The exceptional act of approving an academically dismissed student to resume studies following dismissal. Academically dismissed students who have been away longer than one semester may not apply for reinstatement.  |
| Courses other than free electives prescribed by the college/school necessary for the completion of a particular degree program  |
| A student's tenure within the university inclusive of all interruptions of study  |
| A list of courses offered during a semester that specifies the days, hours, locations of classes and the names of the instructors   |
| 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  |
| Either of the two 15-week periods of instruction followed by an examination period into which the academic year is divided  |
| A period of instruction and exams that is shorter than a semester   |
| A student's historical academic record  |
| 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  |
| A student admitted to AUS after having met the AUS transfer student admission requirements.<br>Credits completed at the student's previous university may or may not transfer to AUS.   |
| A student who has completed an undergraduate or graduate degree at AUS or elsewhere and who registered at AUS for some additional courses   |
| The fees charged for courses each semester or term  |
| A student of another accredited institution who receives permission to register (for up to two semesters) to earn credit to transfer back to his or her home institution  |
| 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/VCAA                    | 515 2020          | 515 2150 | vcaa@aus.edu               |
| Admissions                               | 515 1000          | 515 1020 | admission@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          |
| Chancellor                               | 515 2205          | 558 5858 | chancellors_office@aus.edu |
| Corporate Relations                      | 515 2032          | 515 2065 | dcr@aus.edu                |
| Development and Alumni Affairs/VCFA      | 515 2547          | 515 2297 | odaa@aus.edu               |
| Engineering                              | 515 2948          | 515 2979 | dosoe@aus.edu              |
| Finance                                  | 515 2185          | 515 2190 | finance@aus.edu            |
| Finance and Administration/VCFA          | 515 2192          | 515 2130 | vcfa@aus.edu               |
| General Information                      | 558 5555          | 558 5858 | info@aus.edu               |
| Graduate and Undergraduate Programs      | 515 2281          | 515 2050 | gup@aus.edu                |
| Grants and Scholarships                  | 515 2005/55/60/72 | 515 2040 | scholarship@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         |
| Library                                  | 515 2252          | 558 5008 | auslibrary@aus.edu         |
| Operations                               | 515 2299          | 558 5009 | operations@aus.edu         |
| Public Affairs/VCPA                      | 515 2207          | 515 2200 | public_affairs@aus.edu     |
| Registrar                                | 515 2031          | 515 2040 | registration@aus.edu       |
| Research                                 | 515 2353          | 515 2050 | research@aus.edu           |
| Student Residential Life                 | 515 2244          | 515 2294 | res-halls@aus.edu          |
| Sponsorship Liaison                      | 515 1016          | 515 1020 | sponsors@aus.edu           |
| Student Accounts                         | 515 2233/82       | 515 2190 | studentaccounts@aus.edu    |
| Student Affairs/VCSA                     | 515 2166          | 558 5024 | studentaffairs@aus.edu     |
| Student Learning and Counseling Services | 515 2767          | 515 2711 | lcs@aus.edu                |
|  |                   |          |                            |

| Emergency Numbers          |              |
|----------------------------|--------------|
| Maintenance Emergency      | 515 2100     |
| Medical Hotline (24 hours) | 050 635 7651 |
| Security                   | 515 2222     |





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## The University

### **Historical Preamble**

American University of Sharjah (AUS) was founded in 1997 by His Highness Sheikh Dr. Sultan Bin Mohammad 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



### Overview

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.

Through the College of Arts and Sciences, College of Engineering, School of Architecture and Design, and School of Business and Management, the university offers 26 majors and 42 minors at the undergraduate level, and 13 master's degrees.

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 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 and Computing Accreditation commissions 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 40 percent of the student body lives in campus housing. Unlike most American universities, AUS requires faculty members and their families 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.

### **Campus Services**

#### Banking

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 www.aus.edu/admin/operations/ commercial/campuscash.php.

#### 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

A variety of 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.

#### Government-Related Services/

#### **International Students Services**

The Public Relations Department handles all official government documents and transactions for students, faculty and staff, including passport custody, medical test assistance, 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.

For immigration issues, contact government\_relations@aus.edu. For international students issues, contact ois@aus.edu. For further information, visit www.aus.edu/publicaffairs/ publicrelations/.

#### Hairdresser

A beauty salon is located in the Women's Welcome Center, and a barbershop is located in the Student Center.

#### ID Cards

Students must carry their IDs at all times and have them available upon request. ID cards must be validated by the Public Relations Department every semester (including summer term) to avoid charges. The Public Relations Department also issues AUS ID cards for faculty, staff and their dependents.

#### Laundry

Regular and dry-clean laundry services are available on the west and east sides of campus near the faculty housing.

#### 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.

#### 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

#### 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

Parking lots, free and paid, are provided for faculty, staff, students and visitors. Vehicles must be registered with the Public Relations Department/ Security Division/AUS Parking Services located on the mezzanine floor of the Main Building, office MM33. Once the vehicle is registered, a car parking sticker is issued. Faculty, staff and students using rented cars or using cars on a temporary basis, as well as visitors, are issued temporary permits.

AUS parking stickers should always be visibly displayed on the car's windshield. These stickers must be renewed during the first two weeks of every academic year.

Parking regulations and details on issuing car stickers are posted at www. aus.edu/publicaffairs/publicrelations/ security/policies\_e.php. The university reserves the right to make changes in urgent situations without any prior notice.

#### 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.

#### 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. The Safety Enforcement Division can be contacted at safety@aus.edu. More information on the services and responsibilities of the Safety Enforcement Division is available at www.aus.edu/publicaffairs/ publicrelations/safety/.

#### Security

The Security Division, part of the Public Relations Department, is the recognized law enforcement agent on campus. It monitors security on the entire campus, including the residential halls and all universityowned 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.

The Security Division is located on the mezzanine floor of the Main Building and can be contacted at aus\_security@aus.edu. For more information on the Security Division's services, please refer to www.aus.edu/publicaffairs/publicrelations/security/index.php.

#### Transportation

AUS offers a shuttle bus 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 www.aus.edu/admin/operations/ hts/transportation.php. Transportation Services also provides information on local taxi and rental car services.

#### Travel

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.

### Facilities and Resources

#### Alumni Affairs

The Office of Development and Alumni Affairs (ODAA) fosters relationships between AUS and its alumni by providing opportunities for mutual involvement that contribute to the missions and interests of both. Since many of the alumni are situated within the neighboring community, the ODAA also seeks to publicize the university's programs, goals and achievements to the off-campus community, including alumni, parents and interested friends of the university.

The ODAA promotes a spirit of unity and of possible collaboration among current and former students on current as well as future projects. The alumni are valuable assets, and they are provided ways to aid in the further development of the university by drawing on their knowledge, skills, financial resources and their sense of deep loyalty to their alma mater.

The ODAA enhances the financial well being of AUS by raising contributions for the AUS Pioneer Scholarship Fund and networking with the wider community in anticipation of future fundraising efforts.

For more information on the ODAA, visit www.aus.edu/gateways/alumni. php, or contact Dr. Nada Mourtada-Sabbah, Vice Chancellor for Development and Alumni Affairs, 06 515 2547, nmsabbah@aus.edu.

#### Architecture and Design Facilities

The school of Architecture and Design provides for the use of both Macintosh and Intel-based computers. All students have 1:1 access to the 100 Mbs Ethernet. Dedicated ancillary spaces, which are shared by all curricula, include digital classrooms and closed networked studios, a highend Macintosh lab, an Intel-based lab, input/output labs, a printmaking shop, lighting and photography labs, a dedicated student wood 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.

#### **Computer Learning Resources**

The Information Technology (IT) Department serves the computerrelated 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.

All classrooms are networked and 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.

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.

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.

#### Laboratories

### Engineering and Computing Laboratories

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

Chemical engineering laboratories focus on unit operation, software, environmental, petroleum, water, materials, fluid flow and heat.

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

The Department of Computer Science and Engineering has laboratories related to programming, digital systems, microprocessors, very large scale integration (VLSI), embedded systems, industrial computer applications, computer networks, software engineering, operating systems and databases.

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 engineering measurements, control, engine testing, advanced manufacturing, fluid mechanics, materials testing, mechatronics, dynamics and mechanical vibrations, computer-aided engineering, refrigeration and air-conditioning, thermodynamics and solar energy.

The various departments share eight computer labs with more than 230 stations. All labs have dedicated lab instructors and engineers. Additionally, all engineering facilities offer wireless connectivity.

## Interpreting and Translation 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 teleconferencing. 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.

## Mass Communication Laboratories and Studios

Students in the Department of Mass Communication benefit from hightech digital classroom labs with Mac and PC computer stations featuring graphic design, desktop publishing and multimedia software. The Mass Communication TV Studio is a stateof-the-art facility that is dedicated to the development of student media skills. The studio consists of four digital wide-screen cameras, a widescreen digital video mixer and a digital audio mixer. A variety of sets can be created quickly, including a broadcast news set.

#### **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, glove box, 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, TOC 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. a gel documentation system, a UV trans-illuminator, refrigerated microcentrifuges, a trans-blot semi-dry transfer apparatus, a gel drver, CO2 cell incubator, -80 °C freezer, a tissue homogenizer, and a thermocycler for DNA amplification.

#### Library

The AUS Library, an 11,000-squaremeter state-of-the-art facility, provides collections, services and programs to support the curricular and research needs of the university community. The AUS Library provides a wide range of resources and services to meet the specialized needs of graduate students. The library has a growing collection of 115,000 items that includes reference materials, books, DVDs, and magazines and scholarly journals. In addition to its print collections, the library provides access to over 45.000 e-books, thousands of electronic journals and over 50 online databases. Through the library's website, AUS users can search the online catalog, access databases, read e-books and full-text journal articles, and find other digital resources whether on or off campus. The website also provides instructional aids such as subject guides and tutorials to help students use the library more effectively. Library facilities include a technology-intensive Information Commons, group study rooms, media viewing rooms, and an abundance of reading and study areas. For students who need a silent study environment, the library offers three "No Talking Zones" in which talking, whispering and mobiles are prohibited. Working with professors, AUS librarians offer hands-on workshops on performing library research, conducting a literature review, evaluating sources and websites, and using both print

and electronic tools more effectively. Graduate students can request books or journal articles not available in the library through the interlibrary loan service. Further information regarding the library is available at http://library. aus.edu.

#### Media and Printing

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.

#### 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 hazards 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 earthquakeresistant design codes.

#### **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.

#### **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, microelectro-mechanical systems, vehicle manufacture and design, robotics. electrical control and drives, and automated production systems.

# Testing and Professional Development Center

The AUS Testing and Professional Development Center serves as a central point of testing for both the AUS campus and the community. The center accommodates the placement tests for newly AUS admitted students as well as university testing. The center is part of the Prometric Strategic Testing Network and offers the ETS Internet-based TOEFL as well as an institutional paper-based TOEFL.

AMIDEAST, one of the region's most prominent international testing administrators, is an AUS testing partner and has a permanent office on the AUS campus to administer TOEFL tests (paper-based) on a regular basis, as well as other recognized international tests.

#### 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 general practitioners, a psychologist and 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. For more information on the health insurance plans, visit www.aus.edu/admin/uhc.

#### University Sports Complex

The Sports Complex facilities include indoor sports courts (basketball, tennis, squash and volleyball), multipurpose halls and exercise and gymnastic 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, table tennis and martial arts events; outdoor courts (tennis, volleyball and basketball); a soccer field; a cricket ground; a cricket practice net; and a baseball field.

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 and faculty members are entitled to free participation, regardless of their abilities, in a variety of sports and leisure activities including fitness training, football, basketball, badminton, handball, volleyball, table tennis, tennis, squash, track and field games, martial arts and other athletic pursuits.

Details on the university's athletic facilities are available in the *Student Handbook* and at www.aus.edu/osa/ athletics/.

### Student Life on Campus

#### 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 (OSA) establishes and enforces those rules and regulations. The full text of the Student Code of Conduct is provided in the *Student Handbook*.

As part of OSA, Judicial Affairs is responsible for educating students about their rights and responsibilities, creating awareness within the AUS community about the Student Code of Conduct, and implementing the code in a fair and consistent manner. 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 A254– 256 and 233–234.

Judicial Affairs also offers mediation services, which assist students in resolving conflicts through mediation. For more information, please refer to the *Student Handbook* or visit www. aus.edu/osa/judicialaffairs.

#### **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 (office A250), call 515 2794 or send e-mail to communityservices@aus.edu.

#### **Cultural Events**

Drama performances and musical events, ranging from classical and regional to jazz and rock, are brought to campus through the Cultural Events Committee. For more information, visit www.aus.edu/culturalevents/.

### Graduate Student Employment Opportunities

AUS offers graduate students several employment/learning opportunities on campus: employment through graduate assistantships, as research assistants on faculty research projects (both internally and externally funded grants) and as work-study students. For more information, please refer to section 4.0 Graduate Student Employment Opportunities in the Graduate Student Handbook section of this catalog.

#### **Residential Life**

The main objective of the Student Residential Life Department of OSA 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. Priority in room allocation is given to undergraduate 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.

#### **Student Activities**

Under the supervision of the Student Development and Organizations Department, 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. The Student Development and Organizations Department is located in the Student Center. Visit www.aus.edu/ osa/activities/ for details.

#### Student Athletics and Recreation

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 in the AUS Sports Complex 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. Details on the university's athletic facilities are available in the Student Handbook and at www.aus.edu/osa/athletics/.

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.

In line with its continuous endeavor to foster collegiate sports in the UAE, the Sports Complex offers students the opportunity to participate in collegiate athletic championships, symposia and training courses it organizes and hosts.

#### Student Center

The Student Center plays a broad role in the extracurricular life of the university. It is a comfortable and inviting place where students relax. In addition to housing the Student Development and Organizations Department, 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 Council

His Highness Sheikh Dr. Sultan Bin Mohammad Al Oassimi 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. For more information, please see the Student Handbook or visit www.aus.edu/osa/ council/index.php.

#### Student Leadership Programs

OSA's student leadership programs offer opportunities for students to develop their leadership skills and potential. These programs enhance student leadership and enable them to lead in co-curricular fields so that they become responsible citizens of a global society. Specialized leadership development programs and sessions are offered in-house and off campus through professionals and in collaboration with our academic experts.

#### 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 Development and Organizations Department is the central support for the numerous student organizations on campus. Its role includes supervising and providing assistance with program planning and implementation. The student 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 the Student Development and Organizations Department 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.

#### Students with Physical Challenges

Student Learning and Counseling Services provides assistance to AUS students who are physically challenged. Students who need further information should contact Student Learning and Counseling Services in the Student Center (offices A202–207) or call 515 2732.

# Student Educational Services

#### **Cisco Academy**

AUS hosts a Cisco regional networking academy in the College of Engineering. The academy trains students and professionals to design, build and maintain computer networks and prepares them for industrystandard certification. For more details, see the College of Engineering section of this catalog or visit www.aus.edu/ engr/cisco/.

# Directorate of Corporate Relations

The Directorate of Corporate Relations (DCR) offers all students and alumni comprehensive career services. It works closely with industry in Sharjah and the other emirates in order to promote interaction between potential employers and AUS students and graduates. DCR 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. DCR offers career development workshops, one-toone interviews, drop-in sessions, career assessments and other services. Advice on working abroad is also available. DCR has a career resource library and an up-to-date database of employers in the UAE and Middle East.

For more information, please visit http://www.aus.edu/caps/.

#### Learning and Counseling

Student Learning and Counseling Services (SLCS) offers support services to enhance the success of students. These services include assisting with academic growth, educational and career goals, problem solving, decision making, understanding and appreciation of oneself, and interpersonal relationships.

Counseling 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 2732, or by visiting the SLCS on the first floor of the Student Center. More information on SLCS can be found at www.aus.edu/osa/counseling/.

Student Learning and Counseling Services offers a variety of services to students, including personality/WAIS- III IQ and mental/behavioral testing. Students may choose to include any member of their family or other significant persons in the process.

Services offered by SLCS include:

#### Counseling

Counselors work with students to explore any academic or personal problems or concerns they may be experiencing. Examples of common issues that bring students to SLCS 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. Students who have been counseled at home or off-campus may wish to continue with counseling at the university.

SLCS provides different types of counseling services: group counseling, couples counseling, crisis counseling, family therapy and personality testing.

SLCS also offers private consultation for students, faculty members and staff members who would like advice about how to help a student through a difficult time.

In addition to direct counseling, counselors can also provide referral information to students.

#### Self-Help Resources

SLCS 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, and testtaking strategies.

#### **Student Workshops**

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

#### Writing Center

The AUS Writing Center, located on the first floor of the AUS Library building, helps students become independent, confident writers. Available to all AUS students, the Writing Center offers one-on-one writing conferences by appointment or on a drop-in basis. Consultations may include: thesis development, organization, outlining, paragraph development, vocabulary, sentence structure and mechanics. Students may visit the Writing Center to work on 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.



## Admission to Graduate Studies

American University of Sharjah is a center for high-quality graduate education and research as well as a resource for sustainable development and advancement for the Gulf region and internationally. Students in AUS graduate programs find career advancement opportunities and personal enrichment. These programs foster a stimulating intellectual environment of collaborative research and intellectual exchange. The university's crossdisciplinary graduate courses and specialized programs attract excellent students who pursue creative and original work under the guidance of highly qualified, dedicated faculty members recruited from the most prestigious universities in the United States, Canada and around the world.

#### **Degree Offerings**

AUS currently offers 13 programs of graduate studies leading to the master's degree. These are:

#### **College of Arts and Sciences**

- Master of Arts in English/Arabic/ English Translation and Interpreting
- Master of Arts in Teaching English to Speakers of Other Languages (TESOL)

#### **College of Engineering**

- Master of Science in Chemical Engineering
- Master of Science in Civil Engineering
- Master of Science in Computer Engineering
- Master of Science in Electrical Engineering
- Master of Science in Engineering Systems Management
- Master of Science in Mechanical Engineering
- Master of Science in Mechatronics Engineering

#### School of Architecture and Design

Master of Urban Planning

#### School of Business and Management

- Master of Business Administration
- Executive Master of Business Administration
- Gulf Executive Master of Public Administration

#### **Application Process**

Admission to all AUS graduate programs is processed through the Office of Enrollment Management/ Graduate Admissions. Applicants should address all inquiries, requests for application forms and correspondence to:

American University of Sharjah Office of Enrollment Management Graduate Admissions P.O. Box 26666, Sharjah, UAE graduateadmission@aus.edu www.aus.edu/programs/graduate

To apply to a graduate program at AUS, an applicant must:

- complete the official graduate application form available from the Office of Enrollment Management/ Graduate Admissions or through the AUS website
- pay the application fee
- submit official transcripts and TOEFL scores to the Office of Enrollment Management/Graduate Admissions
- submit to the Office of Enrollment Management/Graduate Admissions an equivalency of his/her degree from the UAE Ministry of Higher Education, (applies only to applicants with a bachelor's degree obtained outside the UAE)

Incomplete applications are not processed.

Upon receiving a complete application, the Office of Enrollment Management/Graduate Admissions determines if the applicant meets the general university requirements. For those applicants who meet such requirements, graduate admission committees within each program will review their applications and make recommendations for admission. Applicants must satisfy both general university requirements for graduate study and graduate program-specific admission criteria.

The Office of Enrollment Management/Graduate Admissions will notify the applicant of the university's final decision. When accepted into a graduate program, an applicant will be informed of the required tuition fees and dates for advising and course registration.

#### Application Deadlines

Applicants must submit completed application forms and all supporting documents to the Office of Enrollment Management/Graduate Admissions by the following dates:

#### Fall Semester 2009

July 30, 2009 June 30, 2009 (MBA program)

#### Spring Semester 2010

December 31, 2009

November 30, 2009 (MBA program)

#### Summer Term 2010

May 13, 2010

April 15, 2010 (MBA program)

Applications received after these deadlines will be considered based on seat availability.

#### **International Applicants**

International applicants (i.e., graduates of universities located outside the UAE) are required to submit completed application forms and all supporting documents to the Office of Enrollment Management/Graduate Admissions by the following dates:

#### Fall Semester 2009

July 15, 2009

June 30, 2009 (MBA program)

#### Spring Semester 2010

December 16, 2009

November 30, 2009 (MBA program)

#### Summer Term 2010

May 13, 2010

April 15, 2010 (MBA program)

Applicants in this category are required to present an equivalency of their degree from the UAE Ministry of Higher Education and Scientific Research located in Abu Dhabi, UAE. Details on the procedure can be obtained directly from the ministry by calling +(971) 2 695 1300 or +(971) 2 642 8000, or by visiting www.mohesr.ae/equicert.

Admitted international students who need visas for the UAE should submit the visa application form, which is included in the admission package and also available from the AUS website, at least one month prior to the first day of class.

**Note:** Admission is only valid for the semester for which the candidate has applied. If applicants do not enroll in the semester for which they have been accepted, they may request that their admission be deferred to the following semester: A written request should be submitted to the Office of Enrollment Management/Graduate Admissions.

# General University Requirements for Graduate Admission

To be considered for admission, all applicants must meet the general university requirements for graduate admission. Some graduate programs have additional requirements. For program-specific requirements, applicants should consult the pertinent degree program listing in this catalog.

#### **Full Admission**

For full admission to a graduate degree program at AUS, an applicant must:

- hold a four-year bachelor's degree from an independently accredited university recognized by AUS
- have attained a minimum cumulative grade point average (CGPA) of 3.00 (on a scale of 4.00) or its equivalent, and 3.00 or its equivalent in 300- and 400-level courses in discipline(s) relevant to the graduate program
- have attained a minimum Internet-Based TOEFL score of 80

Furthermore, the TESOL program also requires a TWE (Test of Written English) score of 5.

Other graduate programs may require additional specific admissions requirements. For details, please refer to the relevant graduate program section of this catalog.

#### **Conditional Admission**

Conditional admission to a graduate program may be granted to applicants who meet the following requirements:

- hold a four-year bachelor's degree from an independently accredited university recognized by AUS
- have attained a minimum cumulative GPA of 2.50 (on a scale of 4.00) or its equivalent
- have attained a minimum Internet-Based TOEFL score of 71(applicable to all programs except TESOL)

Conditional admission applicants may also be required to meet additional specific requirements in their requested program. Applicants should consult the relevant degree program section of this catalog.

To be accorded full admission into a graduate program, a conditional admission student must:

- achieve before the beginning of the second semester the required TOEFL score for full admission (Internet-Based TOEFL score of 80)
- achieve a cumulative GPA of at least 3.00 in the first semester. Conditional admission students are not eligible to register for more than two graduate courses (a maximum of six credit hours) in their first semester of study.

If either provision is not met, the student will not be allowed to continue his/her studies at AUS.

Important: Each graduate program may assign undergraduate prerequisite courses and/or specially tailored courses for conditional admission students. Credits from these courses do not satisfy credit requirements for completing the graduate degree and are not used to calculate the graduate cumulative GPA.

#### **Non-degree Admission**

Non-degree graduate students are those who wish to take AUS courses for academic credit but who do not seek a master's degree. Students are admitted to AUS with non-degree status if they meet requirements for full or conditional graduate admission. Complete applications should be submitted to the Office of Enrollment Management/Graduate Admissions. Standard graduate tuition and fees apply.

#### **Transient Students Admission**

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 to the Office of the Registrar. The form is available at www.aus.edu/registration/ all forms.php.

Transient students may enroll in any university course for which they have the necessary academic background and qualifications. They must register for courses through the Office of the Registrar. In courses with enrollment limits, priority is given to AUS students.

Normally, a student can register as a transient student for no more than one academic year. Standard graduate tuition and fees apply.

#### Visiting Students Admission

Students may enroll as visiting graduate students at AUS for credit transfer to their home universities. To be admitted as a visiting graduate student, a student must be enrolled in a graduate program at an accredited institution and be in good academic standing in his/her current institution. In addition, students must have attained a minimum Internet-Based TOEFL score of 80.

Requests for visiting student admission are submitted to the Study Abroad Department.

Students are admitted as visiting students for a maximum of one academic year, and are responsible for determining that AUS credits are transferable to their home institutions. Standard graduate tuition and fees apply.

#### Change of Status

Students may request a change of status (from non-degree to degree status, or from visiting to degree status) by submitting a complete application through the Office of Enrollment Management/Graduate Admissions. All admissions requirements in place at the time of the change of status request must be met.

Credits taken while under non-degree status may be accepted with the approval of the graduate program director. The university rules and regulations governing transfer courses and credits will apply.

#### Transfer Credit Policy

A graduate student may transfer up to nine graduate credits from a recognized graduate school at an accredited university to his/her program of study at AUS, depending upon programspecific rules and regulations. Such transfer credits should meet all of the following criteria:

- 1. The course work must:
  - be applied toward a graduate degree at the host institution and be taken for graduate credit
  - be approved by the graduate program director in consultation with appropriate faculty members
  - not have been used to earn another degree
  - not have been taken more than five years prior to entering a graduate program at AUS. (Some programs have more stringent time limitations on transfer credits. Consult individual program descriptions and graduate program directors for regulations.)
- The student must have earned a grade of B or higher for 500-level or 600-level courses or other courses restricted to graduate students.

Transfer credit will not be accepted for research and thesis/dissertation hours, travel experience or work/life experience.

Applicants must request that credit transfers be reviewed at the time of application.



## **Tuition and Fees**

Graduate student tuition, additional fees and housing charges are given in the tables below. Non-degree, transient and visiting students must pay the same tuition and fees as regular students.

| Graduate Tuition (in AED)                      |                                  |  |  |
|--|----------------------------------|--|--|
| College of Arts and Sciences                   | 2.580/per credit hour            |  |  |
| College of Engineering                         | 3,250/per credit hour            |  |  |
| School of Architecture and Design              | 3,250/per credit hour            |  |  |
| School of Business and Management              |                                  |  |  |
| Master of Business Administration              | 3,250/per credit hour            |  |  |
| Executive Master of Business Administration    | 190,000 for the complete program |  |  |
| Gulf Executive Master of Public Administration | 140,000 for the complete program |  |  |

| Graduate Fees (in AED)   |  |  |
|--|--|--|
| Application Fee  | 200                                    |  |
| Late Registration Fee  | 400                                    |  |
| Lab/Technology Fee A (applies for each registered Rate A course - check Course Descriptions section) | 560                                    |  |
| Lab/Technology Fee B (applies for each registered Rate B course - check Course Descriptions section) | 700                                    |  |
| Thesis or Project Extension Fee  | 200                                    |  |
| Thesis Processing Fee  | 1,000                                  |  |
| Internship Fee   | 400                                    |  |
| Deposit Payment (for MBA program only)   | 500 (non-refundable, non-transferable) |  |
|  |  |  |

Health insurance is available for graduate students. The insurance fee is 300 Dirhams (AED) per semester or 600 Dirhams per semester, depending on the type of plan applicable to each student. Visit the University Health Center's web page for more information on the health insurance plans.

| Student Housing Fees   |  |                       |                          |
|--|--|-----------------------|--------------------------|
| AUS has twelve 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<br>(AED) | Per Summer<br>Term (AED) |
| Private  | Single occupancy with private bath and kitchenette   | 13,900                | 5,560                    |
| Semi-Private   | Single occupancy with a shared bath and kitchenette  | 9,850                 | 3,940                    |
| Sharing  | Double occupancy with a shared bath and kitchenette  | 5,400                 | 2,160                    |
| Single   | Single occupancy with a common bath and no kitchenette (men only)  | 5,240                 | -                        |
| Double   | Double occupancy with a common bath and no kitchenette (men only)  | 3,200                 | -                        |
| Other Fees   |  |                       |                          |
| Refundable Dorm<br>Damage Deposit  | 1,000 AED. Compulsory for all students residing in dormitories. Paid once at first occupancy and refunded, less deductions due to any missing or damaged items, at dormitory clearance time. |                       |                          |
| Utilities Service<br>Fee   | Compulsory for all students residing in dormitories; will be added to the respective room rate when charged to the student account   | 140                   | -                        |

#### **Payment Methods**

Tuition and fees are due each semester at or before the time of registration and form an integral part of registration. For information on the deferment of tuition and fees, please see the Deferment of Tuition and Fees section below.

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 AED 500 is added if a check is returned for insufficient funds or if a credit card authorization payment is declined.

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 2282/515 2039 or sending an e-mail to studentaccounts@aus.edu.

#### Deferment of Tuition and Fees

Students are expected to pay

their tuition and fees or to make arrangements for deferred payment during the registration period. The deferment of tuition and fees is approved only if all of the following conditions are met:

- At least 60 percent of the tuition and fees have been paid by the payment deadline.
- The student does not have access to checks or credit cards.
- The student has a clean payment history.
- The Fee Deferment Request form is completed and signed by the student and is authorized by a Finance Department official. The form is available at www.aus.edu/admin/forms/ or through Students Account.

#### Late Fees and Fines

All university 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.

### Graduate Student Employment Opportunities

AUS offers graduate students two types of on-campus employment: graduate assistantships and graduate work-study positions. Assistantships are available to qualified graduate students and are competitively awarded and merit based. A variety of student work-study opportunities are available through specific departments, graduate programs and AUS internal research grants to faculty members.

Information on eligibility and application guidelines is available at www.aus.edu/gpr/graduate/ or in section 4.0 Graduate Student Employment Opportunities in the Graduate Student Handbook section at the end of this catalog.

### Sponsorship Liaison

The Sponsorship Liaison Division coordinates and communicates with external organizations sponsoring students to study at AUS.

The division provides various support services to both the sponsoring organizations and their sponsored students, including admission coordination, orientation, academic follow-up, progress reports, guidance, housing assistance and financial-related matters.

Moreover, the division is the main link for sponsors to communicate messages to sponsored students. It also coordinates the on- and off-campus annual meetings with sponsors and their students.

For further assistance and information, please contact the Sponsorship Liaison Officer, 515 1016, sponsors@aus.edu.


# Academic Integrity

## 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, American University of Sharjah affirms the importance of respecting the integrity of individual work. The AUS Student Academic Integrity Code 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, AUS 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 AUS, 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 (e.g., regarding such issues as collaborative work, use of study aids or take-home examinations, etc.). Students are also responsible for learning the conventions of documentation and acknowledgment of sources required in academic work.

## 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 categories.

## 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 machinegraded 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
- 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.

Faculty members who wish to bring charges against students should do so through the dean (or appointed designee) of the college/school in which the alleged academic integrity code violation occurred. Students who wish to bring charges against other students must do so through the faculty member in whose course or academic activity the alleged academic integrity code violation occurred. The student who brings the charges 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 and could result in the revocation of admission or dismissal from the university.

## 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. When the student is enrolled in another college/school, the dean who receives the notification will then notify the student's dean that the offense has occurred. Through this process, the university can monitor multiple occurrences of such errors of judgment by particular students.

2. Dean's Jurisdiction

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

- a. 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 college/school dean (or appointed designee).
- b. The college/school dean (or appointed designee) will promptly notify the student of the charge and will arrange a meeting to discuss the charge with the student. 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.

- c. At the 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 working days. The signed document will become additional evidence in the case. If the student fails to attend this preliminary meeting, the dean may proceed with the process as appropriate.
- d. Faculty members, at their discretion, may discuss the alleged case of dishonesty with the student before the case is adjudicated. However, faculty members are not to submit grades for the work in question or for the course until the case has been adjudicated. If the semester grades are due before the adjudication process is complete, a temporary grade of N will be assigned.
- e. When appropriate, the dean hearing the case (or appointed designee) will gather additional evidence from the student, the complainant and other concerned parties before the adjudication process.
- f. After reviewing the charges and the evidence, the dean hearing the case (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 hearing the case, 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.

- 1. 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:
   a. resubmission of the work in question
- b. submission of additional work for the course in which the offense occurred
- c. a lowered grade or loss of credit for the work found to be in violation of the integrity code
- d. a failing grade of XF or denial of credit for the course in which the offense occurred
- e. suspension for one or more academic terms, including the term in which the offense occurred
- f. dismissal (for a specified term or permanently) from the university
- 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.
- 5. 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 as applicable. If consensus cannot be reached, the Vice Chancellor for Academic Affairs or his/her representative will adjudicate.
- 6. Penalties (d)–(f) will become a permanent part of the student's file maintained indefinitely by the Office of the Registrar, with appropriate notation indicating that there has been a violation of the Student Academic Integrity Code.
- The student may petition to replace the XF grade that resulted from a (d) penalty with an F grade at graduation or at complete withdrawal time. For details, please refer to Appeal of an XF grade under Student Petitions and Appeals.

## 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.

#### Suspension

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 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 hearing the case when the original action was implemented. The student will then need to submit the Reactivation Form to the Office of the Registrar. The form is available at www.aus.edu/registration.

#### Dismissal

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 interest of maintaining the standards of behavior and conduct normally expected in a university community. In instances where the dean hearing the case has recommended dismissal, the Academic Appeals Review Committee will review the case and make a recommendation to the Vice Chancellor for Academic Affairs.

A student who has been dismissed but who has not been denied the privilege of returning to the university later may apply for readmission through the Office of Enrollment Management/ Undergraduate Admissions 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 admission requirements in effect at the time of readmission.

**Note**: The calendar year that must elapse before a Reactivation Form or 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.

## Notification of Penalty

The dean hearing the case (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 addition to the above and for penalties (d-f), the following notification process will apply:

- For penalty (d), the dean hearing the case will inform the Office of the Registrar.
- For penalty (e), the dean hearing the case will inform the student's dean who will, in turn, notify the Office of the Registrar as well as the Vice Chancellor for Student Affairs and take the appropriate academic action.
- For penalty (f), the dean hearing the case must inform the Director of Graduate and Undergraduate Programs in writing within five working days of the date of the notice. The Director of Graduate and Undergraduate Programs will refer the case to the Academic Appeals Review Committee, which will review it and make a recommendation to the Vice Chancellor for Academic Affairs. The Vice Chancellor for Academic Affairs will inform the dean hearing the case, the Director of Graduate and Undergraduate Programs, the Office of the Registrar and the Vice Chancellor for Student Affairs of the final decision.
- For record keeping of documents pertaining to the infringement of the academic integrity code, please refer to the appropriate section under Student Records herein.

## Appeal of Penalty

In cases concerning notation to the student's record [penalties (d)–(f)], students will be notified in writing of their right of appeal. Appeals must be made in writing within five working 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 must be submitted to the Director of Graduate and Undergraduate Programs. The Office of the Vice Chancellor for Academic

# Student Records

## Custody of Records

All transcripts and other documents students submitted from other institutions at admission time or later are the property of AUS, and, as such, are part of the student record that is under the custody 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 cannot be returned to the student or forwarded to other institutions.

## **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. The university allows, nevertheless, copy making of very specific documents included in a student's record. Copies of such documents will only be provided upon submission of a signed request from the student concerned. The request form is available at www. aus.edu/registration. A nominal fee applies.
- request changes or updates to their personal data. Registered students are given access to update their emergency telephone/mobile contact numbers and their personal e-mail address via the secured online student information system. For mailing address updates, an official request signed by the student concerned has to be submitted to the Office of the Registrar/Student Records section. The form is available at www.aus.edu/registration.
- 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

Affairs will review the appeal and may consult the case's written record, the appeal request and any person involved in the adjudication process. Following the review, the Office of the

immediate guardian of the student and to the private or public authority sponsoring the student. For further information on students' records, please check with the Office of the Registrar/Student Records section.

## Academic Transcripts

A permanent record reflecting the academic achievements of each student who registers at the university (also referred to as a "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 copies of their academic transcripts 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 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 Grades and Academic Standing section herein. A brief explanation is also provided on the back of every official transcript.

## Records on Academic Integrity Code Violations

The retention of records on academic integrity code violations is governed by the following:

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.

- In cases where penalties (a)-(c) were assigned: All records pertaining to the infringement of the code are maintained by the student's college/ school. If the student does not graduate from AUS, the records are retained for five years after the student's last registration. If the student graduates from AUS, these records are destroyed by the college/school upon the student's graduation.
- In cases where penalties (d)-(f) were assigned: The notation indicating a violation of the Student Academic Integrity Code will become a permanent part of the student's file maintained indefinitely by the Office of the Registrar. Upon graduation, all records pertaining to the violation of the Student Academic Integrity Code that were maintained by the college/ school will be transferred to the Office of the Registrar for permanent retention. If the student does not graduate from AUS, all records pertaining to violations of the academic integrity code will be retained by the college/school for five years after the student's last registration at AUS and then transferred to the Office of the Registrar for permanent retention.

Records on Student Academic Integrity Code violations maintained by the Office of the Registrar are subject to university regulations concerning the confidentiality of student records. Upon written request, students have the right to inspect their records related to violations of the integrity code.

## Enrollment Verifications and

## Certifications

Students may need different types of official certificates pertaining to their academic record at AUS. These certificates must be requested from the Office of the Registrar using the request forms available at www.aus.edu/registration. A nominal fee applies.

# **Registration and Course Information**

## Registration

## **Orientation Program**

Prior to registration, each college/ school holds an orientation session to familiarize students with its specific regulations and assist them with the registration process. These sessions are also to inform the students about potential research/project areas available within the program.

## 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 planning their schedules. 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 interpreting university policies and procedures. Students are required to consult with their advisor on issues regarding degree requirements. Some programs require that students have a graduate advisory committee, which has specific responsibilities identified by each graduate program in accordance with university policy.

## **Registration Process**

Before the registration period begins, the Office of the Registrar posts the registration guide at www.aus.edu/ registration. The guide provides pertinent information and indicates the registration steps along with the place, date and time for each step. A continually updated list of courses offered is posted on the online student information system as well.

Students must register in a course prior to attending classes. It is the responsibility of the individual student to monitor his/her registration status, which may be done by accessing his/her records through the AUS website. Students who register after the designated date are charged a late registration fee of 400 Dirhams.

Continuing and returning students register through the website. New students and transfer students register with their respective colleges/schools. Non-degree, 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 Enrollment Management/Graduate Admissions before registration begins. Transfer students must complete their transfer file and be awarded transfer credits before the end of their first semester at AUS.

## Thesis and Final Project

## Registration

See Thesis and Final Project Registration within the Graduation section herein.

## Student Course Load

The normal student course load for a full-time graduate student is nine credit hours per semester. The graduate program director/coordinator may approve a student in good standing to register for up to 12 credit hours per semester.

Students admitted on conditional admission are not eligible to register for more than six credit hours in their first semester of study.

## Auditing Courses

A graduate 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 and the graduate program director/coordinator. The instructor may establish standards of class participation and attendance that must be met if a student is to remain in audit status.

Graduate students may audit an undergraduate course with the permission of the instructor and the graduate program director/coordinator.

Registration is managed through the Office of the Registrar. In courses with enrollment limits, priority is given to students registering for credit.

The audited course will appear on a student's transcript as audited. Tuition and fees for audit students are the same as those for students registering for credit.

Changes to or from audit status must be made before the last day of the add and drop period.

## Registration in Independent Study Courses

Independent study is the umbrella term used to label two types of independent work: an independent course and directed study.

Students are allowed to take one independent study. A second independent study, for a maximum total of eight credit hours used toward the graduation requirements of one degree, could be approved by the student's graduate program director/ coordinator for graduation purposes only. In order to be eligible to pursue an independent study, students must be in good academic standing.

Students interested in registering for an independent study course must complete the Independent Study Application form available at www. aus.edu/registration/all\_forms.php and submit it to the Office of the Registrar during the early registration period of the upcoming semester/ term. Registration is handled by the Office of the Registrar. Tuition and fees for independent study courses are the same as those for other courses. Independent study courses are graded and appear on the student's transcript.

#### **Independent Course (1 to 4 credits)**

An independent course is listed in the catalog but offered in an independent study format. The course is coded using the course number in the catalog.

## Directed Study (1 to 4 credits)

A directed study is an investigation under faculty supervision beyond what is offered in existing courses. Directed study courses are numbered as 596 or 696 courses. The three-letter course prefix reflects the field of study of the course. Directed study courses should not be used to meet major/core requirements.

## Summer Courses outside AUS

#### Requirements

An enrolled student is eligible to apply to take courses at another college/ university during the summer with the aim of transferring credits to AUS provided to following conditions are met:

- The student is in good academic standing.
- The host university is located outside the UAE.
- The host university is recognized by the UAE Ministry of Higher Education and Scientific Research.
- The host university provides learning experiences similar to those offered by AUS.
- The language of instruction of the course(s) taken at the host university is English, except for language courses other than the English language.

Some programs may reserve the right not to allow for any courses to be taken at another college/university.

Students taking summer courses outside AUS must adhere to the maximum seven-credit-hour load for a six-week summer term taken at AUS. For summer terms of a different time duration, students will be eligible to transfer not more than the equivalent credit hours of the six-week summer term at AUS, provided course equivalency was established and approved as per the above.

Courses taken at AUS in which an

F grade was earned cannot be repeated for transfer of credit as summer courses outside AUS.

Students must complete the Permission to Take Courses Outside AUS form available at www.aus.edu/registration and submit it to the Office of the Registrar prior to registering for courses at the host institution. Failure to do so will result in no credit being awarded for the transfer work.

For information on visas and other related issues, please contact the Study Abroad Department at studyabroad@aus.edu.

#### **Transfer of Credits**

Credits earned in summer courses taken outside AUS will transfer provided the following conditions are met:

- The student submits to the AUS Office of the Registrar an official transcript indicating that the student met the course passing grade requirement, as indicated on the permission form.
- The student was in good academic standing at AUS prior to taking the summer courses to transfer.

# Non-degree, Transient and Visiting Student Registration

See the corresponding sections under Admission to Graduate Studies.

## **Tuition and Fees**

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

## Add and Drop

Students are allowed to add and/ or drop courses at the beginning of every semester/term. The add and drop period begins on the first day of class. The duration of the add and drop period may vary, and the actual dates are published in the registration guide for each semester/term, which is available at www.aus.edu/registration. Courses dropped during the add and drop period are not recorded in a student's transcript. The semester tuition is recalculated accordingly with no fee penalty charged. Students interested in adding or dropping courses should first consult with their respective advisors.

## Attendance and Lateness

Attendance and participation in all class, workshop and laboratory sessions are essential to the process of education at AUS. 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 academic achievement.

## Course Withdrawal

Students are permitted to withdraw from courses without penalty by submitting the Withdrawal Form (available at www.aus.edu/registration). The student must submit the form in person to the Office of the Registrar.

A student may not withdraw from a course in which an academic integrity infraction has been found and a penalty applied.

Withdrawal from courses must occur no later than the end of the withdrawal period. 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.

As of the end of the withdrawal period 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 (F grade) for the WF, and this will be used in calculating the student's GPA. Furthermore, as of the end of the withdrawal period, faculty members may assign a WF for excessive absence or no show.

If a student with a 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 Student Petition Form (available at www.aus. edu/registration) 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 wishes to withdraw from the university, he/she must submit the Complete Withdrawal Form to the Office of the Registrar in person. The form is available at www.aus.edu/registration.

Depending on the time of withdrawal, a grade of W or WF will be recorded for all the courses the student was registered for in the semester of withdrawal. In addition, 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 of tuition

During the third week of classes

25% refund of tuition

After the third week of classes

0% refund

\*Refunds for summer term withdrawals are prorated.

# Interrupted Studies and Reinstatement

Students are expected to maintain continuous enrollment (fall and spring semesters) until they complete their program. Enrollment in zerocredit courses only does not establish residency for the purpose of this policy.

A graduate student may take up to two semesters off from graduate studies

but must inform the Office of the Registrar in writing of their intention to do so. Reinstatement of the student is automatic; however, students must reactivate their record by submitting a Reactivation Form to the Office of the Registrar one month ahead of registration. The form is available at www.aus.edu/registration. Courses taken at another institution during this interim period will not be transferred. No fees are charged for reinstatement.

Graduate students who were on probation prior to complete withdrawal must petition for reinstatement. Reinstatement must be approved by the student's dean or program director.

Any graduate student who leaves AUS for more than two consecutive semesters must submit a new application for admission to the Office of Enrollment Management/Graduate Admissions.

## **Course Information**

## Course Code

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

## **Course Credit Hours**

All courses are valued in credits. Normally, each credit hour 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.

The numbers in parentheses following the title of a course indicate the course contact hours distribution and the course credit information. The first digit in parentheses refers to the number of class contact hours per week the course requires, the second digit denotes the number of laboratory or practice hours required weekly, and the third digit refers to the number of credits the student will receive upon successfully completing the course.

## Course Descriptions and Syllabi

Except for non-recurring topics (also referred to as special topic courses), descriptions of courses offered by AUS are listed in the Course Descriptions section of this catalog and on the university website. Courses are grouped by college/school and sorted by course subject and course code. 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 office. They include course description, 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**

Certain courses require a minimum background of knowledge, as indicated by prerequisite courses cited in individual course descriptions. Titles and numbers refer to AUS courses. Equivalent courses satisfactorily completed at other institutions may also meet prerequisite requirements by transfer credit. Courses for which a grade below C was received do not satisfy prerequisite requirements.

## Courses Offerings and Schedules

Courses are offered at the discretion of the individual graduate programs. Students should check with the respective programs for information on when courses will be offered.

To accommodate graduate student work schedules, some programs offer their courses in the evening or over the weekend. For details on course schedules, please refer to the semester online course offerings or check with the graduate program offering the course.

# Fields of Study

## Degree Offerings

American University of Sharjah has four colleges/schools that offer both undergraduate and graduate degree programs. Graduate degree programs are listed below. Undergraduate degree offerings are listed in the *AUS Undergraduate Catalog*.

#### **College of Arts and Sciences**

- Master of Arts in English/Arabic/ English Translation and Interpreting
- Master of Arts in Teaching English to Speakers of Other Languages

#### **College of Engineering**

- Master of Science in Chemical Engineering
- · Master of Science in Civil Engineering
- Master of Science in Computer Engineering
- Master of Science in Electrical Engineering
- Master of Science in Mechanical Engineering
- Master of Science in Engineering Systems Management
- Master of Science in Mechatronics Engineering

#### School of Architecture and Design

· Master of Urban Planning

## School of Business and Management

- Master of Business Administration
- Executive Master of Business Administration
- Gulf Executive Master of Public Administration

# Transferring from Non-Degree or Visiting to Degree Status

Students may request a change of status from non-degree to degree status or from visiting to degree status by submitting a complete application thought the Office of Enrollment Management/Graduate Admissions. All admissions requirements in place at the time of the change-of-status request must be met.

Credits taken while under the non-

degree or the visiting status may apply towards the degree program given the approval of the graduate program director. 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.

## Change of Program

Students seeking to change their graduate degree program must complete the Change of Major Form available from the Office of the Registrar. Requests for a change of program should be submitted to the office of the graduate program director of the program of the student's choice by the last day of the 12th week of classes of the fall or spring semester.

To be eligible for a change of program, the graduate student must meet the requirements for admission to the new program. Please refer to the relevant program's catalog section for information on admission requirements.

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

## Concentrations and Themes

Some programs allow students the choice of an area of concentration or theme. This option offers students more in-depth knowledge of a subject area. Please refer to the relevant program section for concentration/ theme requirements.

Where the concentration/theme is mandatory, a student must declare his/her choice when applying to the program. Where the concentration is an option, a student must indicate his/ her choice by filling in the appropriate information on the Change of Major Form. Change of Major forms must be submitted to the office of the graduate program director by the last day of the 12th week of classes of the fall or spring semester. Change of Major forms will not be accepted during a summer term. Forms submitted by the deadline will be effective as of the following semester/term. The Change of Major Form is available from the Office of the Registrar.

# Grades and Academic Standing

## Grading System

Courses are graded using letter grades. The grade point average (GPA) is based on a four-point scale. The minimum passing grade for a graduate course is C. Normally, graduate students who receive an F in a graduate course will not be allowed to continue in the program.

The AUS grading system is provided below:

| Excellent    |                               |  |  |
|--------------|-------------------------------|--|--|
| А            | equals 4.00 grade points      |  |  |
| A-           | equals 3.70 grade points      |  |  |
| Good         |                               |  |  |
| B+           | equals 3.30 grade points      |  |  |
| В            | equals 3.00 grade points      |  |  |
| B-           | equals 2.70 grade points      |  |  |
| Satisfactory |                               |  |  |
| C+           | equals 2.30 grade points      |  |  |
| С            | 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      |  |  |
| Acad         | emic Integrity Violation Fail |  |  |
| XF           | equals 0.00 grade points      |  |  |
| With         | drawal Fail                   |  |  |
| WF           | equals 0.00 grade points      |  |  |

Grades not calculated in the grade point average are:

| AUD | Audit  |
|-----|--|
| AW  | Administrative Withdrawal                                |
| Ι   | Incomplete   |
| IP  | In Progress  |
| Ν   | No Grade   |
| Р   | Pass; credits counted                                    |
| PDS | Pass with distinction (graduate executive programs only) |
| TR  | Transfer; credits counted                                |
| W   | Withdrawal   |
| WV  | Waive: no credit   |

The grade appeals process is outlined in the Students Petitions and Appeals section herein.

# 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 emergency circumstances, a student may request permission from the course instructor and graduate program director to complete a course in the following semester. A grade of I (incomplete) is assigned for the course. The instructor of the course will then process an Incomplete Grade Form 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 period.

Students must complete an incomplete course before the end of the following regular semester. Otherwise, a tentative grade estimated on the basis of work already completed may be recorded. Failure to complete the course within the following semester may result in the grade being recorded as F unless a tentative grade has been reported previously.

## **Repeating Courses**

Normally, graduate courses cannot be repeated. With the recommendation of the program director and the approval of the appropriate dean and the Director of Graduate and Undergraduate Programs, a graduate student may be allowed to repeat any course in which a grade of B-, C+, C or F is received. The original grade and the new grade will appear in the transcript, but only the new grade will be calculated into the GPA.

No course may taken more than twice.

**Note**: Normally, graduate students who receive an F in a graduate course will not be allowed to continue in the program.

## Grade Point Average

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

## **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. Effective June 2004, only the last entry of the repeated course is counted in the calculation of the 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 = sum (quality points of courses taken in semester X) / 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 = sum (quality points of courses taken in all semesters) / 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.

## Academic Standing

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

## **Good Standing**

In order to be considered in good standing, graduate students must maintain a CGPA of at least 3.00 out of 4.00. A student must be in good standing to be eligible for graduation.

## **Academic Probation**

If a graduate student's cumulative GPA is below 3.00, the student is placed on academic probation. During probation status, the following conditions apply:

- A graduate student on probation may not register for more than six credit hours.
- A graduate student on probation may not register for thesis or final project credit hours until a cumulative GPA of 3.00 is achieved.

Probation will be removed at the end of any semester in which the student attains a CGPA of 3.00.

#### Academic Dismissal

A graduate student on probation who does not achieve good academic standing by the end of the regular semester following the term in which the cumulative GPA fell below 3.00 will be dismissed from the university.

Normally, graduate students who receive an F in a graduate course will not be allowed to continue in the university.

Students who have been dismissed as a result of failing to meet the requirements of good standing or who receive an F in a graduate course may petition for reinstatement. Students seeking to move to another graduate program must petition to the Director of Graduate and Undergraduate Programs. Petitions must be submitted to the Office of the Registrar. The Student Petition Form is available at www.aus.edu/registration. Petitions will be reviewed by the graduate program director, who will make a written recommendation to the appropriate dean. The dean will then provide a written recommendation and forward the petition to the Director of Graduate and Undergraduate Programs. Decisions regarding continuation in the program will be made by the Director of Graduate and Undergraduate Programs in consultation with the appropriate dean or appointed designee.

Students who have been academically dismissed, readmitted and subsequently dismissed will normally not be readmitted.

# **Student Petitions and Appeals**

## Student Responsibility

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. The Student Petition Form is available at www.aus. edu/registration.

## Appeal of Academic-Related Issues

If 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 involved faculty member. If the issue or grievance is not resolved, the student should contact the graduate program director 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 dean will prescribe an appropriate procedure consonant with the university's mission or refer the matter to the Academic Appeals Review Committee through the Director of Graduate and Undergraduate Programs. Academic appeals requests must be submitted no later than the end of the first day of orientation week of the following semester.

# Graduation

## **Thesis and Final Project**

Master's theses or final project reports document research conducted by AUS graduate students under the guidance and supervision of AUS faculty members. They are the culmination of the students' programs of study and are expected to reflect appropriate scholarly depth and rigor. Theses and final projects are defended publicly.

The Office of Graduate and Undergraduate Programs, in collaboration with the Graduate Program Council, establishes and oversees the regulations and requirements for theses and final projects at AUS. Details on thesis preparation and defense are included in the Graduate Student Handbook section of this catalog. Degree candidates are responsible for familiarizing themselves with and adhering to the standards and regulations of the latest edition of the AUS Guide to Formatting Graduate Theses. This manual is available from the Office of Graduate and Undergraduate Programs and online at www.aus.edu/academic/gup/graduate/ thesesguide.

AUS also has a stringent policy regarding research involving humans or animals as subjects. Detailed information on such research activities may be found at www.aus.edu/gup/ graduate/research/polices\_research/.

It is AUS policy to maintain master's theses in the AUS Archives and also to make theses available to other students and scholars. The AUS Library is responsible for the archiving and binding of the master's thesis. Detailed procedures and requirements for submitting master's theses to the AUS Library and Archives for binding are outlined in the AUS Guide to Formatting Graduate Theses.

## Registering for Thesis/Final Project Credit

Graduate students registering for thesis/final project credits must register through the Office of the Registrar. Only students in good academic standing may register for thesis/final project credits.

## Thesis/Final Project First Registration

The thesis proposal must be formally and orally presented to and approved in writing by the thesis committee before registration in the thesis course (XXX 699). Final project proposals must be approved by the program coordinator before registration in the final project course (XXX 698). For details on thesis/final project proposal preparation and submission, please refer to section 3.0 Thesis in the Graduate Student Handbook part of this catalog.

Once the thesis/final project proposal is approved and before the end of the withdrawal period, the program directors will e-mail the Office of the Registrar the list of the students who will be signing up for thesis/final project credits, along with their thesis/ final project titles and the names of their college/school advisors.

In the first semester of thesis/final project work (usually no earlier than the second semester of enrollment in the graduate program), a student normally enrolls for three thesis/final project credit hours.

## Thesis/Final Project Continuous Enrollment

Students who do not complete their thesis/final project after one semester or more of thesis/final project work will need to maintain continuous enrollment in the thesis/final project.

Before the end of the add and drop period, the program director will

e-mail the Office of the Registrar a list of the names and IDs number of those students maintaining continuous enrollment for registration into their respective thesis/final project courses and the appropriate credit and billing hours.

#### **Thesis/Final Project Time Extensions**

Students who do not complete the thesis/final project after registering for six credit hours must register for the full thesis/final project credits but with zero billing hours until the thesis/ project is finished and defended. A fee of AED 200 per semester is charged to establish continuous enrollment. Failure to pay the AED 200 will be considered an interruption of studies (see Interrupted Studies and Reinstatement under the Registration section).

All students must be registered in the semester in which they defend their thesis.

**Note**: A student must complete all degree requirements within five years from the time of initial enrollment into the program.

## Switching from Final Project to Thesis and Vice Versa

Graduate students who wish to switch from thesis to final project (or vice versa) must submit their requests within the published deadlines. The petition must be approved by the student's graduate program director. A student who switches from thesis to final project (or vice versa) will be given an N for no grade for the thesis/ final project credit hours (i.e., XXX 698 or XXX 699) completed for the first option selected. The student must pay for any additional credit hours or courses required as a result of switching from thesis to final project (or vice versa).

## Grading of Thesis/Final Project

A thesis/final project grade will be awarded after completion and public defense of the thesis/final project.

If the thesis/final project work continues into a second semester, an IP grade will be awarded and the student must register for the thesis/final project course again but only for the balance thesis credit hours (i.e., enroll in the final three credits if he/she only enrolled in three the previous semester).

The IP designation will be used until completion and successful defense of the thesis/final project.

## Graduation Requirements

## Catalog

The graduation requirements for any individual student are determined either by the catalog that was effective for the academic year when the student was admitted 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 36 and the CGPA is at least 3.00. In case of substantial changes in course offerings, equivalent graduation requirements are determined by the dean of the student's college/school.

**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.

#### Courses

Courses are considered primary components of the curriculum and should not be split into individual credits to be counted in different areas of the degree audit.

## Graduation Residence

#### Requirements

In order to obtain a master's degree from AUS, students must complete at least three semesters in residence at AUS.

## Time Limit on Duration of Study and Course Year Limit

Regardless of the catalog by which the student's graduation requirements are governed, all degree requirements must be completed within five years of admission to AUS as a graduate student, inclusive of any leave.

In addition, credits more than eight years old (courses transferred to AUS) at the time of graduation may not be counted toward the fulfillment of a graduate degree program.

## Academic Standing Requirement

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

## **Graduation Procedures**

## Participation in the

## Commencement Ceremony

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.

Prospective candidates for graduation in a summer term or a fall semester are eligible to participate in the corresponding fall commencement ceremony. Likewise, prospective candidates for graduation in a spring semester are eligible to participate in the corresponding spring commencement ceremony. Graduate students registered at the 11th week of a semester for courses/ thesis/final project necessary to complete their degree requirements may participate in commencement at the end of that semester, unless the college/school notifies the Office of the Registrar that graduation will be delayed because of lack of progress on the thesis/final project.

Students who do not wish to participate in the commencement exercises of their semester of graduation must complete an Absentia Form, which is 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 graduate degrees file an Application for Graduation form (available at www.aus.edu/registration or www.aus.edu/commencement) with 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 all thesis requirements, including corrections and final submission of the completed thesis to the library, 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 academic transcript of the graduate with the date of graduation.

## Names on Degrees

The names of AUS students will be spelled in English exactly as they appear on their passports or identity cards when printed on degrees. 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.

## Attestation of Degrees and Transcripts

The Office of the Registrar offers the service of attesting degrees and transcripts with the UAE Ministry of Higher Education and Scientific Research once at the end of every semester. The office also provides all information relevant to the attestation process to assist graduates who wish pursue this process individually. For details, please see www.aus.edu/ commencement.



# College of Arts and Sciences

#### Dean

William Heidcamp

Associate Deans Ibrahim El-Sadek Timothy Walters

Director of Graduate Programs Timothy Walters

## Master of Arts in English/ Arabic/English Translation and Interpreting (MATI)

The Master of Arts in English/Arabic/ English Translation and Interpreting (MATI) responds to the vital role that intercultural communication plays in international encounters and the growing impact of the Arab region on world affairs by equipping graduates with highly specialized translation and interpreting skills in English and in Arabic. The MATI program places the diverse range of skills required for translation and interpreting within a general theoretical framework, which provides students with the conceptual tools to identify, analyze and resolve problems and develop a reflective approach to translation and interpreting. The MATI program provides students with advanced training in translation and interpreting techniques as well as in terminology management, machine translation (MT), translation memory (TM) and language engineering areas most relevant to the work of translators and interpreters in today's complex web of communication.

## **Program Goals**

To fulfill its mission, the MATI program aims to:

- equip graduates with highly specialized translation and interpreting skills and techniques in English and in Arabic
- provide students with the conceptual tools to identify, analyze and resolve problems and develop a reflective approach to translation and interpreting
- enhance their knowledge of English

and Arabic language and linguistics as they relate to translation and interpreting

- provide students with relevant technologies for translation and interpreting
- prepare students to respond confidently to the demands of translation and interpreting within the fields of business, science, international relations, law and journalism
- further develop their knowledge of relevant research methods and academic writing conventions

#### **Program Outcomes**

Graduates of the MATI program should be able to:

- demonstrate competence in translation and interpreting into and out of English and Arabic
- demonstrate the ability to reflect upon and use relevant theories of translation and interpreting in the production and assessment of translation and interpreting tasks
- apply knowledge of English and Arabic language and linguistics to the tasks of translation and interpreting
- apply relevant technologies to translation and interpreting activities
- perform competently in translating and interpreting for business, science, international relations, law and journalism
- employ appropriate research methodologies and conventions of academic writing

## Admission Requirements

Applicants are required to fulfill the university's general admission requirements for graduate studies.

In addition, non-native speakers of Arabic must hold a BA in Arabic.

Conditional admission status may be granted to applicants with a minimum overall GPA of 2.50 (or equivalent) and a 2.50 or its equivalent in 300and 400-level courses in discipline(s) relevant to the program, and at least three years of relevant practical experience in translation and/or interpreting. In such cases, the student must take TRA 500 Principles and Strategies of Translation and another course as specified by the program director in their first semester of study, and must attain a GPA of 3.00 (B) or above for that semester to achieve full admission and to be allowed to proceed. Conditional admission applicants must also meet the general university conditional admission requirements as outlined in the Admission to Graduate Studies section earlier in this catalog.

## **Degree Requirements**

To graduate with the Master of Arts in English/Arabic/English Translation and Interpreting, students must complete all the requirements of the program, which consist of 36 credits inclusive of a research thesis (eight required courses and three advised electives). Students must complete the degree requirements within five years from the time of initial enrollment in the program. A minimum cumulative GPA of 3.00 is required for graduation. Courses are offered during the weekday evenings.

## **Required Courses (27 credits)**

- TRA 500 Principles and Strategies of Translation
- TRA 501 Terminology and the Translator
- TRA 503 Theoretical Models of Translation
- TRA 505 Interpreting and the Profession I
- TRA 509 Interpreting and the Profession II: Simultaneous Interpreting
- TRA 558 Contrastive Linguistics and Translation
- TRA 695 Translation Research Seminar
- TRA 699 Master's Thesis

#### Elective Courses (a minimum of 9 credits)

Students must complete three courses (a minimum of nine credits) from the following, in consultation with their advisor.

- ELT 501 Advanced English Grammar
- any TRA course not listed as a required course

## Master's Thesis

The thesis must be prepared under close supervision of the thesis faculty supervisor on a topic within translation/interpreting studies.

The thesis must be completed within two consecutive academic semesters. An extension may be allowed if a candidate presents acceptable mitigating circumstances. The thesis is defended to the satisfaction of a committee composed of three faculty members. A complete guide for preparing the thesis is given at www. aus.edu/academic/gup/graduate/ thesesguide.

For information on the thesis proposal, thesis defense and deadlines, please refer to the Graduate Student Handbook section at the end of this catalog.

For thesis registration details, please refer to Thesis and Final Project under the Academic Policies and Regulations section of this catalog.

## Master of Arts in Teaching English to Speakers of Other Languages (MA TESOL)

The mission of the Master of Arts in Teaching English to Speakers of Other Languages (MA TESOL) program is to provide students a balanced foundation of both practical and theoretical knowledge needed to teach English at various proficiency levels, and to prepare them for doctoral studies in areas related to language learning and teaching. By combining theory and practice, the program aims to produce informed teachers capable of using theory to enhance their teaching practice.

## **Program Goals**

To fulfill this mission, the program goals are:

- to develop a critical approach to assess second language learning models, teaching methodologies and materials appropriate to the UAE cultural context
- to prepare students for positions requiring high levels of proficiency in teaching English as ESL/EFL at the secondary and tertiary levels
- to equip its graduates with the required competencies to contribute to the field and be prepared to enroll in PhD programs

## **Program Educational Objectives**

The objectives of the MA TESOL program are to:

- provide state-of-the-art knowledge in TESOL
- enhance students' ability to serve the specific needs of the region by selecting and adapting appropriate teaching materials
- advance students' teaching skills at different levels, primarily throughout the schools in the Gulf region
- increase students' understanding of the form and function of English
- offer students opportunities to practice teaching English in ESL/EFL classroom settings
- teach students the research skills that will enable them to conduct research in the field of TESOL

## **Program Learning Outcomes**

Upon graduation from the MA TESOL program, students should be able to:

- differentiate various approaches to teaching language skills
- evaluate the effectiveness and validity of different teaching methodologies
- take initiative in developing appropriate teaching materials
- develop or adapt materials for special/ learning teaching situations
- · understand language testing concepts
- apply testing and assessment concepts to real classroom situations
- select appropriate tests for specific goals
- demonstrate critical and practical knowledge in the field of computer assisted/enhanced language learning

- recognize the pedagogical potential of available technologies and develop curricula relying on these technologies
- analyze and critique important theoretical positions in the field of applied linguistics
- adapt and apply theoretical concepts in grammar to actual ESL teaching practice
- apply pedagogical theories to teaching practices
- explain how personal and social factors impact language learning
- explain the role of culture in language learning and teaching in an ESL/EFL environment
- understand the complexities involved in language learning
- ask informed questions about the process of language acquisition
- understand the basic models explaining language learning
- develop effective classroom
   observation skills
- use classroom research to improve teaching
- · conduct original research

## Admission Requirements

In addition to fulfilling the university's general requirements for graduate studies, the applicant must have a minimum of 5 on the TWE (Test of Written English). Only official ETS scores are accepted.

Applicants with a bachelor's degree or equivalent in English/linguistics with a minimum grade point average of 3.00 (B average) from an independently accredited university recognized by AUS, in addition to meeting the university's general requirements for admission to graduate studies, are granted full admission. Holders of bachelor's degrees in other fields who satisfy all admission requirements are granted conditional acceptance pending completion of ENG 223 Introduction to Language Study and ENG 401 Advanced English Grammar in their first semester of study with a GPA of 3.00 or higher. These courses, however, may be waived with a minimum of two years of full-time English language teaching in an accredited institution.

## **Degree Requirements**

The MA TESOL degree is awarded after successful completion of 36 credits at the graduate level. This consists of 10 graduate-level courses and a six-credit thesis supervised by a faculty advisor and the master's thesis committee. Students must complete the degree requirements within five years from the time of initial enrollment in the program. A minimum cumulative GPA of 3.00 is required for graduation.

## **Required Courses (27 credits)**

- ELT 510 Research Methods and Academic Writing
- ELT 511 Linguistics for ESL Teachers
- ELT 513 Language Acquisition and Development
- ELT 515 Methods and Materials
   Development
- ELT 517 Curriculum Design
- ELT 551 Language Testing and Evaluation
- ELT 619 Practicum in TESOL
- ELT 699 Master's Thesis

## Elective Courses (a minimum of 9 credits)

Students must complete three courses (a minimum of nine credits) from any ELT course not listed as a required course, in consultation with their advisor.

## Master's Thesis

The thesis must be prepared under close supervision of a faculty supervisor on a topic related to some aspect of TESOL. It must be defended to the satisfaction of the thesis committee, which is composed of three faculty members from TESOL program faculty. One committee member may be selected from outside the TESOL graduate faculty upon approval of the director of the program. For more information, please refer to the Graduate Student Handbook section at the end of this catalog. A complete guide for preparing the thesis is given at www.aus.edu/ academic/gup/graduate/thesesguide.

For thesis registration details, please refer to Thesis and Final Project under the Academic Policies and Regulations section of this catalog.

## Academic Advising

Students work closely with their advisor in selecting elective courses that address their individual needs. The advisor also encourages students to develop professional portfolios that include samples of selected work such as research papers, teaching reports, projects and lesson plans.

# **College of Engineering**

#### Dean

Yousef Al-Assaf

Associate Dean Hany El Kadi

**Director of Graduate Programs** Hany El Kadi

## Master of Science in Chemical Engineering (MSChE)

Dana Stevenson-Abouelnasr, Coordinator

The MSChE program will prepare professionals in an environment that combines chemical engineering practice and technical research to contribute to the growing body of chemical engineering knowledge, research and development both regionally and internationally.

## **Program Educational Objectives**

Graduates of the MSChE program will be prepared to:

- apply knowledge of advanced mathematics and engineering sciences to identify, formulate and solve chemical engineering problems
- develop technical depth, professional breadth and skills in research
- critically analyze advanced chemical engineering problems
- develop lifelong learning skills so as to be able to innovate and/or create improved or new processes
- work and communicate effectively in a professional environment
- create an environment where professional and ethical responsibilities are strengthened

## **Program Educational Outcomes**

Upon graduation, an AUS MSChE graduate should demonstrate the ability to:

- demonstrate a thorough knowledge of chemical engineering principles including transport phenomena, chemical reaction engineering and thermodynamics
- model chemical engineering processes from fundamental principles
- solve chemical engineering models

using advanced mathematics, numerical techniques and modern software

- plan and conduct a research project
- communicate the results of a research activity orally and in writing
- engage in lifelong learning and awareness of the impact of engineering decisions in a global and societal context

## Admission Requirements

In addition to meeting the university's general graduate admission requirements, applicants must meet specific requirements of the MSChE program. Applicants must hold a Bachelor of Science in Chemical Engineering from an independently accredited university recognized by AUS. Degreed individuals in other engineering fields or a quantitative science field that is closely related to the sought program field may be considered on a case-by-case basis. An applicant with a bachelor's degree in technology (or less than four years of university-level work) will not normally be admitted to the program.

## **Degree Requirements**

Students seeking an MSChE degree must complete a minimum of 30 credit hours consisting of college core courses, program core courses, program elective courses, a seminar and a master's thesis, with a minimum cumulative grade point average of 3.00.

The 30 credit hours needed as degree requirements for the MSChE include the following:

- six credits of required college core courses
- nine credits of required program core courses
- a minimum of six credits in elective courses
- a zero-credit seminar
- nine credits in Master's Thesis

## **Required Courses (24 credits)**

College Core Courses (6 credits)

Students must complete two of the following courses:

- NGN 500 Advanced Engineering Mathematics
- NGN 505 Random Variables and Stochastic Processes
- NGN 509 Advanced Computational Methods

## Program Core Courses (18 credits)

Students must complete the following courses:

- CHE 510 Transport Phenomena
- CHE 511 Advanced Chemical Engineering Thermodynamics
- CHE 512 Advanced Kinetics and Reactor Design
- CHE 695 Seminar
- CHE 699 Master's Thesis

#### Elective Courses (a minimum of 6 credits)

Students must complete two of the following courses:

- CHE 610 Catalysis and Reaction Engineering
- CHE 611 Biomedical Engineering and Biotechnology
- CHE 612 Advanced Process Analysis
   and Control
- CHE 613 Advanced Materials Science
- CHE 614 Environmental Engineering
- CHE 694 Special Topics in Chemical Engineering
- CHE 696 Independent Study in Chemical Engineering

## Master's Thesis

A student must complete his/her thesis under the direct supervision and guidance of a principal advisor. This principal advisor serves as the chair of the student's examining committee. The committee also includes two additional faculty members. One of the additional faculty members must be selected from outside the program. The committee could also include one coadvisor or more.

For more information, please refer to the Graduate Student Handbook section at the end of this catalog. A complete guide for preparing the thesis is given on the website of the Office of Graduate and Undergraduate Programs: www.aus.edu/academic/ gup/graduate/thesesguide/.

For registration details, please refer to Thesis and Final Project Registration under the Academic Policies and Regulations section of this catalog.

## Master of Science in Civil Engineering (MSCE)

Jamal A. Abdalla, Coordinator

The MSCE program will prepare professionals in an environment that combines civil engineering practice and technical research to contribute to the growing body of civil engineering knowledge, research and development efforts both regionally and internationally.

#### **Program Educational Objectives**

Graduates of the MSCE program will be prepared to:

- utilize and apply knowledge of advanced mathematics and engineering sciences to identify, formulate and solve civil engineering problems
- develop the technical depth, the professional breadth, and the research and development skills needed for higher studies and/or for industry in the field of civil engineering
- maintain the desire for innovation, creativity, use and integration of multiple technologies, and lifelong learning
- work and communicate effectively in a professional environment
- recognize the professional and ethical responsibilities of the engineering profession

#### **Program Educational Outcomes**

Upon graduation, an AUS MSCE graduate should demonstrate the ability to:

- apply advanced mathematics and engineering science in identifying, formulating and solving civil engineering problems
- · use modern engineering tools
- demonstrate proficiency in planning, designing and conducting experimental studies and research
- write a research thesis or report and defend research results

- attend to professional and ethical responsibilities and understand the impact of engineering solutions in a global and societal context
- recognize the need for and engage in lifelong learning with knowledge of contemporary issues

## Admission Requirements

In addition to meeting the university's general graduate admission requirements, applicants must meet specific requirements of the MSCE program. Applicants must hold a Bachelor of Science in Civil Engineering from an independently accredited university recognized by AUS. Degreed individuals in other engineering fields or a quantitative science field that is closely related to the sought program field may be considered on a case-by-case basis.

An applicant with a bachelor's degree in technology (or less than four years of university-level work) will not normally be admitted to the program.

## **Degree Requirements**

Students seeking an MSCE degree must complete a minimum of 30 credit hours consisting of college core, program core and program elective courses in addition to a seminar and a master's thesis or a professional project, with a minimum cumulative grade point average of 3.00.

Students in the MSCE program must choose from two options, the thesis option or the project option, as described below:

## **Thesis Option**

The 30 credit hours needed as degree requirements for this option include:

- six credits of required college core courses
- nine credits of required program core courses
- a minimum of six credits in elective courses
- a zero-credit seminar
- nine credits in Master's Thesis

## **Project Option**

The 30 credit hours needed as degree requirements for this option include:

- six credits of required college core courses
- nine credits of required program core courses
- a minimum of 12 credits in elective courses
- a zero-credit seminar
- · three credits in Professional Project

#### **Required Courses (18/24 credits)**

#### College Core Courses (6 credits)

Students must complete two of the following courses:

- NGN 500 Advanced Engineering Mathematics
- NGN 501 Research Methods and Analysis in Engineering
- NGN 505 Random Variables and Stochastic Processes
- NGN 509 Advanced Computational Methods

## Program Core Courses (12/18 credits)

Students must complete three of the following courses:

- CVE 520 Advanced Construction Materials and Methods
- CVE 521 Finite Element Method
- CVE 522 Advanced Water Resources Engineering
- CVE 523 Advanced Transportation Systems
- ESM 570 Project Management

## In addition, students must complete:

- CVE 695 Seminar
- CVE 698 Professional Project (3 credits) or CVE 699 Master's Thesis (9 credits)

#### Elective Courses (a minimum of 6/12 credits)

Students must complete two courses (for a minimum of six credits) for the thesis option or complete four courses (a minimum of 12 credits) for the project option selected from the following:

- CVE 620 Advanced Construction
   Planning and Controls
- CVE 621 Analysis and Design of Tall Buildings
- CVE 622 Physical and Chemical Processes in Environmental Engineering
- CVE 623 Advanced Transportation
   Planning Techniques
- CVE 624 Advanced Geotechnical Engineering

- CVE 625 Highway Bridge Design
- CVE 694 Special Topics in Civil Engineering
- CVE 696 Independent Study in Civil Engineering

## Master's Thesis/Professional Project

A student must complete his/her thesis or project under the direct supervision and guidance of a principal advisor. This principal advisor serves as the chair of the student's examining committee. The committee also includes two additional faculty members. For the thesis option, one of the additional faculty members must be selected from outside the program. The committee could also include one co-advisor or more.

For more information, please refer to the Graduate Student Handbook section at the end of this catalog. A complete guide for preparing the thesis is given on the website of the Office of Graduate and Undergraduate Programs: www.aus.edu/academic/ gup/graduate/thesesguide/.

For registration details, please refer to Thesis and Final Project Registration under the Academic Policies and Regulations section of this catalog.

## Master of Science in Computer Engineering (MSCoE)

Assim Sagahyroon, Coordinator

The MSCoE program will prepare professionals in an environment that combines computer engineering practice and technical research to contribute to the growing body of computer engineering knowledge, research and development both regionally and internationally.

## **Program Educational Objectives**

Graduates of the MSCoE program will be prepared to:

• utilize advanced mathematics and engineering sciences to identify, formulate and solve computer engineering problems

- acquire the technical depth, the professional breadth, and the research and development skills needed for higher studies and/or for industry
- demonstrate the desire for innovation, creativity, use and integration of multiple technologies, and lifelong learning
- work and communicate effectively in a professional environment
- recognize and adhere to the professional and ethical responsibilities of the engineering profession

## **Program Educational Outcomes**

Upon graduation, an AUS MSCoE graduate should demonstrate the ability to:

- apply advanced mathematics and engineering science in identifying, formulating and solving computer engineering problems
- use modern research and development tools in computer engineering
- demonstrate proficiency in planning, designing and conducting experimental studies and research
- write a research thesis and defend research results
- attend to professional and ethical responsibilities and understand the impact of engineering solutions in a global, environmental and societal context
- recognize the need for and engage in lifelong learning and knowledge of contemporary issues

## Admission Requirements

In addition to meeting the university's general graduate admission requirements, applicants must meet specific requirements of the MSCoE program. Applicants must hold a Bachelor of Science in Computer Engineering from an independently accredited university recognized by AUS. Degreed individuals in engineering fields or a quantitative science field that is closely related to the sought program field may be considered on a case-by-case basis. An applicant with a bachelor's degree in technology (or less than four years of university-level work) will not normally be admitted to the program.

## **Degree Requirements**

Students seeking an MSCoE degree must complete a minimum of 30 credit hours consisting of college core courses, program core courses, program elective courses, a seminar and a master's thesis, with a minimum cumulative grade point average of 3.00.

The 30 credit hours needed as degree requirements for the MSCoE include the following:

- six credits of required college core courses
- nine credits of required program core courses
- a minimum of six credits in elective courses
- · a zero-credit seminar
- · nine credits in Master's Thesis

## **Required Courses (24 credits)**

## College Core Courses (6 credits)

Students must complete two of the following courses:

- NGN 500 Advanced Engineering Mathematics
- NGN 501 Research Methods and Analysis in Engineering
- NGN 505 Random Variables and Stochastic Processes
- NGN 509 Advanced Computational Methods

## Program Core Courses (18 credits)

Students must complete three of the following courses:

- COE 530 Advanced Computer Networks
- COE 531 Advanced Software Design for Engineers
- COE 532 Advanced Embedded
   Systems and Industrial Automation
- COE 533 Advanced Computer Architecture

In addition, students must complete:

- COE 695 Seminar
- COE 699 Master's Thesis

#### Elective Courses (a minimum of 6 credits)

Students must complete two courses selected from the following:

- COE 630 Wireless Networks
- COE 631 Computer and Network
   Security

- COE 632 Advanced Database Systems
- COE 633 Advanced Internet Computing
- COE 634 Computer-Aided Design and Optimization of Digital Systems
- COE 635 Optical Networks
- COE 694 Special Topics in Computer Engineering
- COE 696 Independent Study in Computer Engineering

## Master's Thesis

A student must complete his/her thesis under the direct supervision and guidance of a principal advisor. This principal advisor serves as the chair of the student's examining committee. The committee also includes two additional faculty members. One of the additional faculty members must be selected from outside the program. The committee could also include one coadvisor or more.

For more information, please refer to the Graduate Student Handbook section at the end of this catalog. A complete guide for preparing the thesis is given on the website of the Office of Graduate and Undergraduate Programs: www.aus.edu/academic/ gup/graduate/thesesguide/.

For registration details, please refer to Thesis and Final Project Registration under the Academic Policies and Regulations section of this catalog.

## Master of Science in Electrical Engineering (MSEE)

Mohamed El-Tarhuni, Coordinator

The MSEE program will prepare professionals in an environment that combines electrical engineering practice and technical research to contribute to the growing body of electrical engineering knowledge, research and development both regionally and internationally.

## **Program Educational Objectives**

Graduates of the MSEE program will be prepared to:

• utilize and apply knowledge of

advanced mathematics and engineering sciences to identify, formulate and solve advanced electrical engineering problems

- develop the technical depth, the professional breadth, and the research and development skills needed for higher studies and/or for industry
- maintain the desire for innovation, creativity, use and integration of multiple technologies, and lifelong learning
- work and communicate effectively in a professional environment
- recognize the professional and ethical responsibilities of the engineering profession

## **Program Educational Outcomes**

Upon graduation, an AUS MSEE graduate should demonstrate the ability to:

- apply advanced mathematics and engineering science in identifying, formulating and solving advanced electrical engineering problems
- use modern engineering tools
- plan, design and conduct experimental studies and/or research
- write a research thesis and defend research results
- attend to professional and ethical responsibilities and understand the impact of engineering solutions in a global and societal context
- recognize the need for and engage in lifelong learning with knowledge of contemporary issues

## Admission Requirements

In addition to meeting the university's general graduate admission requirements, applicants must meet specific requirements of the MSEE program. Applicants must hold a Bachelor of Science in Electrical Engineering from an independently accredited university recognized by AUS. Degreed individuals in engineering fields or a quantitative science field that is closely related to the sought program field may be considered on a case-by-case basis. An applicant with a bachelor's degree in technology (or less than four years of university-level work) will not normally be admitted to the program.

## **Degree Requirements**

Students seeking an MSEE degree must complete a minimum of 30 credit hours consisting of college core courses, program core courses, program elective courses, a seminar and a thesis, with a minimum cumulative grade point average of 3.00.

The 30 credit hours needed as degree requirements for the MSEE include the following:

- six credits of required college core courses
- nine credits of required program core courses
- a minimum of six credits in elective courses
- · a zero-credit seminar
- · nine credits in Master's Thesis

## **Required Courses (24 credits)**

## *College Core Courses (6 credits)* Students must complete two of the following courses:

- NGN 500 Advanced Engineering Mathematics
- NGN 505 Random Variables and Stochastic Processes
- NGN 509 Advanced Computational Methods

## Program Core Courses (18 credits)

Students must complete three of the following courses:

- ELE 540 Principles of Digital Communications
- ELE 541 Utility Applications of Power Electronics
- ELE 542 Applied Electromagnetics
- ELE 543 Advanced Electronics
- MTR 605 Digital Signal Processing

In addition, students must complete:

- ELE 695 Seminar
- ELE 699 Master's Thesis

#### Elective Courses (a minimum of 6 credits)

Students must select two courses from the following:

- ELE 640 Bioelectric Phenomena
- ELE 641 Advanced Microwave Engineering
- ELE 642 Digital and Wireless Communications
- ELE 643 Image and Video Processing

- ELE 644 Control of AC Drives
- ELE 645 High Voltage Engineering
- ELE 694 Special Topics in Electrical Engineering
- ELE 696 Independent Study in Electrical Engineering

## Master's Thesis

A student must complete his/her thesis under the direct supervision and guidance of a principal advisor. This principal advisor serves as the chair of the student's examining committee. The committee also includes two additional faculty members. One of the additional faculty members must be selected from outside the program. The committee could also include one coadvisor or more.

For more information, please refer to the Graduate Student Handbook section at the end of this catalog. A complete guide for preparing the thesis is given on the website of the Office of Graduate and Undergraduate Programs: www.aus.edu/academic/ gup/graduate/thesesguide/.

For registration details, please refer to Thesis and Final Project Registration under the Academic Policies and Regulations section of this catalog.

## Master of Science in Engineering Systems Management (MSESM)

Moncer Hariga, Coordinator

## Faculty

Fouad Abdel Aziz Ibrahim Al-Kattan Hazim El-Baz

The mission of the Master of Science in Engineering Systems Management (MSESM) program is to considerably increase the opportunities for practicing engineers to be successful in their efforts to build effective teams, lead and manage major engineering projects, and expand economic development for the private and public sectors of the UAE and the Gulf region countries. The curriculum provides core courses followed by concentration courses in the theme areas of construction management (CM), engineering management (EM) and information technology management (ITM).

With quality standards similar to those established in comparable North American institutions, the program offers a multidisciplinary curriculum designed to integrate management skills with technical knowledge from different engineering disciplines for the purpose of accomplishing work activities and entire projects more economically and productively. The program provides students from engineering and related disciplines with the knowledge and skills needed to plan, design, analyze and improve integrated systems of people, material, technology and information. It also aims to contribute to the related world body of knowledge and advance research and development efforts in the region.

**Program Educational Objectives** Graduates of the MSESM program will be prepared to:

- utilize engineering system management tools and techniques to design and implement economically and technically sound solutions to realworld problems
- lead the change management process to meet organizational goals and objectives
- communicate effectively in a multidisciplinary team work environment
- act professionally and ethically in the practice of engineering systems management
- engage in lifelong learning and carry
   out independent research in ESM fields

## **Program Educational Outcomes**

Upon graduation, an AUS MSESM graduate should demonstrate the ability to:

- apply the techniques, tools and skills of engineering systems management to address real-world problems
- conduct economic and financial analysis of projects and engineering operations

- function as effective members of multidisciplinary teams and communicate effectively in both written and verbal forms
- recognize professional and ethical responsibilities and act accordingly within a global and social context
- engage in theoretical and applied research projects

## Admission Requirements

In addition to meeting the university's general graduate admission requirements, applicants must meet specific requirements of the MSESM program. Applicants must have:

- a Bachelor of Science degree in engineering from an independently accredited university recognized by AUS. Degreed individuals in a quantitative science field that is closely related to engineering may be considered on a case-by-case basis.
   Degreed individuals in computer science or information technology may be considered only for the information technology theme. An applicant with a bachelor's degree in technology (or less than four years of university-level work) will not normally be admitted to the program.
- one year of professional experience in engineering or a closely related field that has provided good professional experience in design, analysis, management, research, technical sales or another relevant dimension of engineering practice.

## **Degree Requirements**

Students in the MSESM program must choose from two options: the thesis or professional project option, or the course option, as described below.

Students seeking an MSESM degree with a thesis or professional project option must complete a minimum of 36 credit hours with a minimum cumulative grade point average of 3.00.

Students seeking an MSESM degree with a course option must complete a minimum of 39 credit hours with a minimum cumulative grade point average of 3.00.

## **Thesis or Professional Project Option**

The 36 credit hours needed as degree requirements for this option include:

- 15 credit hours in core courses
- 15 credit hours in theme required and elective courses
- six credit hours in Master's Thesis or Professional Project

#### **Course Option**

The 39 credit hours needed as degree requirements for this option include:

- 18 credits in core courses
- 21 credits in theme required and elective courses

# Prerequisite Discipline-Bridging Courses

Students with no prior background in engineering statistics will be required to take ESM 501 Fundamentals of Probability and Statistics.

Students with no prior background in engineering economy will be required to take ESM 502 Fundamentals of Engineering Economy.

Credits for prerequisite bridging courses do not count toward fulfillment of degree requirements.

## **Required Courses**

## Core Courses (15/18 credits)

Students in the thesis/professional project option must complete 15 credits in course courses; students in the course option must complete 18 credits.

- ESM 520 Management for Engineers
- ESM 532 Introduction to Applied Operations Research
- ESM 555 Information Technology Management
- ESM 560 Quality Engineering and Management
- ESM 575 Advanced Engineering Economy
- ESM 600 Research Methodology (course option only)

## Theme Courses (3/6 credits)

Students in the thesis/professional project option must complete three credits in theme required courses; students in the course option must complete six credits. Construction Management Theme

- ESM 570 Project Management
- ESM 686 Capstone Course in Construction Management (course option only)

Engineering Management Theme

- ESM 570 Project Management
- ESM 685 Capstone Course in Engineering Management (course option only)

#### IT Management Theme

- ESM 580 IT Project Management
- ESM 687 Capstone Course in Information Technology Management (course option only)

#### **Elective Courses**

Students in the thesis/professional project option must complete a minimum of 12 credits in theme elective courses; students in the course option must complete a minimum of 15 credits.

#### Construction Management Theme

- ESM 600 Research Methodology (thesis/professional project option only)
- ESM 642 Business Process
   Management
- ESM 644 Financial Management for Engineers
- ESM 650 Construction Management
- ESM 652 Construction Planning and Scheduling
- ESM 654 Material Management
- ESM 660 Legal Aspects of ESM
- ESM 667 Construction Contracting and Cost Estimate
- ESM 668 Construction Safety
   Management
- ESM 694 Special Topics in ESM

#### Engineering Management Theme

- ESM 600 Research Methodology (thesis/professional project option only)
- ESM 610 Strategic Technology Management
- ESM 634 Advanced Modeling and Simulation
- ESM 636 Human Resources Management

- ESM 638 Decision Analysis
- ESM 640 Supply Chain Management
- ESM 642 Business Process
   Management
- ESM 644 Financial Management for Engineers
- ESM 660 Legal Aspects of ESM
- ESM 694 Special Topics in ESM

#### IT Management Theme

- ESM 600 Research Methodology (thesis/professional project option only)
- ESM 612 Advanced Information Systems Management
- ESM 614 Communication and Network Management
- ESM 616 Infrastructures for e-Businesses
- ESM 620 Security Management
- ESM 624 Knowledge Management
- ESM 626 Data Warehousing and Business Intelligence
- ESM 642 Business Process
   Management
- ESM 644 Financial Management for Engineers
- ESM 660 Legal Aspects of ESM
- ESM 694 Special Topics in ESM

## Master's Thesis/Professional Project

A student must complete his/her thesis or professional project under the direct supervision and guidance of a principal advisor. This principal advisor serves as the chair of the student's examining committee. The committee also includes two additional faculty members. For the thesis option, one of the additional faculty members must be selected from outside the program. The committee could also include one co-advisor or more.

For more information, please refer to the Graduate Student Handbook section at the end of this catalog. A complete guide for preparing the thesis is given at www.aus.edu/academic/ gup/graduate/thesesguide/.

For registration details, please refer to Thesis and Final Project under the Academic Policies and Regulations section of this catalog.

## Master of Science in Mechanical Engineering (MSME)

Mohammed-Amin Al-Jarrah, Coordinator

The MSME program will prepare mechanical engineering and associated professionals in an environment that combines mechanical engineering practice and technical research to contribute to the growing body of mechanical engineering knowledge, research and development both regionally and internationally.

## **Program Educational Objectives**

Graduates of the MSME program will be prepared to:

- utilize advanced mathematics and engineering sciences to identify, formulate and solve mechanical engineering problems
- acquire the technical depth, the professional breadth, and the research and development skills needed for higher studies and/or for industry
- demonstrate the desire for innovation, creativity, use and integration of multiple technologies, and lifelong learning
- work and communicate effectively in a professional environment
- recognize and adhere to the professional and ethical responsibilities of the engineering profession

## **Program Educational Outcomes**

Upon graduation, an AUS MSME graduate should demonstrate the ability to:

- apply advanced mathematics and engineering science in identifying, formulating and solving engineering problems
- · use modern engineering tools
- demonstrate proficiency in planning, designing and conducting experimental studies and research.
- write a research thesis and defend research results
- attend to professional and ethical responsibilities and understand the impact of engineering solutions in a global, environmental and societal context
- · recognize the need for and engage in

lifelong learning and knowledge of contemporary issues

## Admission Requirements

In addition to meeting the university's general graduate admission requirements, applicants must meet specific requirements of the MSME program. Applicants must hold a Bachelor of Science in Mechanical Engineering from an independently accredited university recognized by AUS. Degreed individuals in engineering fields or a quantitative science field that is closely related to the sought program field may be considered on a case-by-case basis. An applicant with a bachelor's degree in technology (or less than four years of university-level work) will not normally be admitted to the program.

## **Degree Requirements**

Students seeking an MSME degree must complete a minimum of 30 credit hours consisting of college core courses, program core courses, program elective courses, a seminar and a thesis, with a minimum cumulative grade point average of 3.00.

The 30 credit hours needed as degree requirements for the MSME include the following:

- six credits of required college core courses
- nine credits of required program core courses
- a minimum of six credits in elective courses
- a zero-credit seminar
- nine credits in Master's Thesis

#### **Required Courses (24 credits)**

College Core Courses (6 credits)

Students must complete two of the following courses:

- NGN 500 Advanced Engineering Mathematics
- NGN 501 Research Methods and Analysis in Engineering
- NGN 505 Random Variables and Stochastic Processes
- NGN 509 Advanced Computational Methods

## Program Core Courses (18 credits)

Students must complete the following three courses:

- MCE 550 Mechanical Systems Design
- MCE 551 Advanced Thermofluids
- MCE 552 Modeling and Simulation of Mechanical Systems

In addition, students must complete:

- MCE 695 Seminar
- MCE 699 Master's Thesis

#### Elective Courses (minimum of 6 credits)

Students must complete two courses selected from the following:

- CHE 511 Advanced Chemical Engineering Thermodynamics
- CHE 611 Biomedical Engineering and Biotechnology
- CVE 521 Finite Elements Method
- MCE 650 Advanced Machine
   Dynamics
- MCE 651 Advanced Engineering Materials
- MCE 652 Advanced Topics in Manufacturing
- MCE 653 HVAC Systems Design
- MCE 654 Advanced Fluid Dynamics
- MCE 655 Advanced Measurements and Design of Experiments
- MCE 694 Special Topics in Mechanical Engineering
- MCE 696 Independent Study in Mechanical Engineering

## Master's Thesis

A student must complete his/her thesis under the direct supervision and guidance of a principal advisor. This principal advisor serves as the chair of the student's examining committee. The committee also includes two additional faculty members. One of the additional faculty members must be selected from outside the program. The committee could also include one coadvisor or more.

For more information, please refer to the Graduate Student Handbook section at the end of this catalog. A complete guide for preparing the thesis is given on the website of the Office of Graduate and Undergraduate Programs: www.aus.edu/academic/ gup/graduate/thesesguide/.

For registration details, please refer to Thesis and Final Project Registration under Academic Policies and Regulations section of this catalog.

## Master of Science in Mechatronics Engineering (MSMTR)

Rached Dhaouadi, Coordinator

The Master of Science in Mechatronics Engineering (MSMTR) program is committed to being an international, multidisciplinary center of excellence in synergistic applications of the latest techniques in embedded systems, precision mechanical engineering, control theory, computer science and electronics through education, research and outreach. The technological gap between developing and industrialized nations continues to widen at an alarming rate, largely due to the lack of skilled engineers capable of integrating new technologies into existing systems and networks. The mandate of the mechatronics engineering program is to improve this situation by equipping engineers with the design, analysis and synthesis abilities to plan, implement and manage the latest technologies. The curriculum of the mechatronics program meets the region's needsboth present and future-through the education of engineers and scientists.

Professional jobs considered to be in the mechatronics engineering field are grounded in the multidisciplinary aspects of electrical, mechanical, control, computer and software engineering. The unique skills of the mechatronics graduate are becoming increasingly valuable to employers in a variety of areas, including modern industrial installations and systems, computer integrated manufacturing systems, maintenance diagnosis and troubleshooting, defense systems, vehicle design and manufacturing, robotics and many more.

This graduate program provides students with state-of-the-art

knowledge in their areas of specialization and with practical strategies for adapting that knowledge to serve the specific needs of the region. Multidisciplinary engineers are needed now more than ever to meet the demands for a flexible engineering workforce to deal with highly integrated engineering systems.

#### **Program Educational Objectives**

Graduates of the MSMTR program will be prepared to:

- apply the latest techniques in precision mechanical engineering, control theory, computer engineering and science, and electronics to design more functional, adaptable and cost-effective products
- provide employers with interdisciplinary skills necessary to utilize cutting-edge technology tools in the design, development and implementation of modern engineering systems
- understand and develop technologies such as information technology, embedded systems, modeling and simulation, and precision engineering systems in the design and development of smart products
- apply mechatronics principles in the broad context of engineering system design
- address open-ended problems and maintain an attitude of self-learning

#### **Program Educational Outcomes**

Upon graduation, an AUS MSMTR graduate should demonstrate the ability to:

- apply advanced engineering tools necessary to identify, model and analyze mechatronics engineering problems
- formulate and propose alternative solutions that satisfy specific performance requirements of a mechatronics system
- design and implement a mechatronics component, process or system and assess its performance
- function effectively in multidisciplinary teams in a leadership role or as an active member
- · act professionally and ethically
- · recognize contemporary issues

and their influence on technology advancement in a global and societal context

- engage in lifelong learning in engineering and related professional areas
- conduct research and development activities in mechatronics and related areas
- communicate effectively through technical presentations and documentations

## Admission Requirements

In addition to meeting the university's general graduate admission requirements, applicants must meet the specific requirements of the mechatronics engineering program. Applicants must hold a bachelor of science degree in engineering from an accredited institution. Degreed individuals in fields closely related to engineering or a quantitative science may be considered on a case-by-case basis. An applicant with a bachelor's degree in technology (or less than four years of university-level work) is not normally admissible to the program.

#### Waiver Policy

Students may qualify to waive up to six credits (two courses) from prerequisite discipline-bridging courses (see Degree Requirements). In general, a course may be waived if the student has completed comparable course work at the undergraduate level. Students may be required to submit course documentation. Waivers are only granted after an official, sealed transcript is received by the AUS Office of Enrollment Management/ Graduate Admissions. A petition for waiving a discipline-bridging course must be submitted before the first semester of enrollment in the program. Listed below are the waiver rules:

 Students may waive prerequisite discipline-bridging courses if two similar undergraduate courses have been taken at an accredited university toward a degree completed within five years prior to admission to the AUS program. Only courses with a minimum grade of B (3.0) will be considered.

- Students with professional experience that indicates mastery of a given discipline-bridging course content may be granted a waiver.
- Students may be required to take a placement exam in order to waive a discipline-bridging course.

## **Degree Requirements**

The formal program of study includes a minimum of 30 credits, including the completion of either a research thesis or design project. Students must file formal study plans upon the completion of 12 credits of approved MTR graduate courses. A minimum cumulative grade point average of 3.00 is required for graduation.

## **Thesis Option**

Students in the thesis option must complete a minimum of 30 credit hours, as follows:

- 18 credits in core courses
- a minimum of six credits in elective courses
- · six credits in Master's Thesis

## **Design Project Option**

Students in the design project option must complete a minimum of 30 credit hours, as follows:

- 15 credits in core courses
- a minimum of 12 credits in elective courses
- three credits in Mechatronics Design Project

# Prerequisite Discipline-Bridging Courses

Students admitted to the program must complete the two prerequisite disciplinebridging courses listed below. One or both courses could be waived by the Mechatronics Engineering Admissions Committee, depending on the student's background. The waiver must be established at the time of admission. Prerequisite discipline-bridging courses do not generate credits toward the completion of the degree.

- MTR 501 Introduction to Mechatronics
- MTR 515 Information Technology for Mechatronics (Students with a Bachelor of Science in Computer Engineering are exempted.)

## Core Courses (15/18 credits)

Students in the thesis option must complete 18 credit hours, while students in the design project option must complete 15 credit hours from the following list of courses:

- MTR 520 Embedded Systems for Mechatronics
- MTR 540 Advanced Control Systems
- MTR 590 Mechatronics Design
- MTR 600 Modeling and Simulation of Dynamic Systems
- MTR 605 Digital Signal Processing (thesis option only)
- MTR 695 Mechatronics Seminar
- NGN 500 Advanced Engineering Mathematics

## Elective Courses (6/12 credits)

Students in the thesis option must complete a minimum of six credit hours, while students in the design project option must complete a minimum of 12 credit hours from the following list of courses:

- MTR 605 Digital Signal Processing (design project option only)
- MTR 610 Automated Manufacturing Systems
- MTR 615 Artificial Intelligent Systems
- MTR 620 Machinery Dynamics and Vibration
- MTR 625 Distributed Control Systems
- MTR 630 Real-Time Robotics Systems
- MTR 635 Smart Structures and Sensor Fusion
- MTR 640 Nonlinear and Intelligent Control Systems
- MTR 645 Image Processing and Computer Vision
- MTR 694 Special Topics in Mechatronics Engineering
- MTR 696 Independent Study in Mechatronics Engineering

## Master's Thesis/Design Project

Students in the thesis option must complete a program of research culminating in a thesis, for at least six credits, that contributes to a selected area of knowledge. Students in the project option must complete a comprehensive design project for three credit hours during the final semester of the program. Projects are normally industry related and developed through an industrial partner.

A student must complete his/her thesis/ project under direct supervision and guidance of a principal advisor. This principal advisor will serve as the chair of the student's examining committee and is appointed no later than the end of the third semester of study in the program. The committee also includes two additional faculty members. For the thesis option, one of the additional faculty members must be selected from outside the program. The committee could also include one or more coadvisor.

Students in the thesis option must pass a final oral thesis defense. Students in the project option must pass a final oral project presentation.

For more information, please refer to the Graduate Student Handbook section at the end of this catalog. A complete guide for preparing the thesis is given at www.aus.edu/academic/ gup/graduate/thesesguide/.

For registration details, please refer to Thesis and Final Project under the Academic Policies and Regulations section of this catalog.

# School of Architecture and Design

#### Dean

Peter Di Sabatino

Associate Dean W. Eirik Heintz

# Master of Urban Planning (MUP)

Varkki Pallathucheril, Coordinator

#### Faculty

Erik Ferguson Jerry Kolo Amer Moustafa

Urban planning is concerned with creating pleasing and functional places where present and future generations can live, work, entertain and engage in their customary community, social, religious and cultural activities.

Urban planning has roots in architecture, engineering, public health, law and the social sciences. Planners today combine design, analytical and communication skills to help communities manage change. Urban planning involves government, private enterprise and local communities taking concerted action toward achieving a common goal.

The Master of Urban Planning (MUP) at AUS provides a specialized and professional education that enables graduates to exert leadership in managing urban growth, developing urbanization policies and promoting social development. The program imparts to students ethical standards compatible with the values of local cultural settings, principles of social justice and concerns for environmental protection and sustainability. More details on the program are available at www.aus.edu/programs/mup.

## **Program Mission**

The MUP program prepares individuals to become experts and leaders in the management and planning of urban development; in doing so, they will be guided by professional and ethical standards rooted in values of sustainability, local culture and social justice.

#### **Program Goals**

The MUP program seeks to:

- offer a high-quality educational setting that integrates theoretical principles of urban planning with practical methods and applications
- pursue approaches to teaching and learning that emphasize dealing with practical real-world issues and problems
- support and promote original interdisciplinary research in urban planning and related fields
- advance cooperation and forge partnerships with local communities, be they governmental, professional, academic and other local groups such as community-based organizations, not-for-profit entities and nongovernmental organizations

#### **Program Outcomes**

Graduates of the MUP program will be able to:

- analyze and interpret data relevant to urban planning issues and questions
- use digital technology tools to solve planning problems and advance decision making
- identify, formulate and propose solutions to urban planning problems
- communicate effectively, both verbally and in writing
- make effective, persuasive and coherent oral presentations
- develop sound policy options to support policy making
- describe the local context of practice and the way it differs from other contexts worldwide
- link the local with the global so as to maximize planning action performance
- discern nature and mechanisms of contemporary urban planning practice in advanced societies
- apply knowledge and skills to actual, real-world situations

- engage citizens as active and meaningful participants in the planning process
- function effectively within a team of planners or other professionals
- describe ethical and professional responsibilities
- describe the challenges and contradictions in sustainable development
- integrate the imperatives of sustainable development in all aspects of urban planning

## Admission Requirements

Applicants are required to fulfill the university's general admission requirements for graduate studies. The program admits students from all fields of study including, but not limited to, urban planning, architecture, engineering, business, the humanities and the social sciences. The Admissions Committee consists of the Coordinator of the Master of Urban Planning program and two faculty members who teach in the program-one from the School of Architecture and Design and one from the College of Engineering. Applicants must submit their most recent curriculum vitae (CV) with the application package.

## **Degree Requirements**

The MUP degree is awarded after the successful completion of a minimum of 33 credits (in core, concentration, elective courses and a capstone experience) and a maximum of 48 credits (up to 15 additional credits—five courses—in foundation courses). Foundation courses may be waived when the waiver policy requirements are met. Students must choose between two areas of concentration: design of the built environment and transportation planning.

Students must complete the degree

requirements within five years from the time of initial enrollment in the program. A minimum cumulative grade point average of 3.00 is required.

#### **Graduation Requirements**

To graduate with an MUP degree, students must successfully complete the following minimum requirements:

- 12 credits in core courses
- · six credits in concentration courses
- six credits in a required capstone experience
- a minimum of nine credits in elective courses

#### **Foundation Courses Requirement**

Students admitted to the MUP program may be required to complete a maximum of 15 credits in foundation courses, which serve as preparation for the core courses. The number of foundation courses required will normally depend on courses completed at the undergraduate level. Foundation courses may be waived when the waiver policy requirements are met.

#### Foundation Courses (15 credits)

- UPL 501 Fundamentals of Urban Planning
- UPL 547 Research Methods and Analysis
- UPL 550 Urban Economics and Analysis
- UPL 572 Urban Transportation Systems Planning Techniques
- UPL 582 Theory and Principles of Urban Design

## Waiver Policy

Students may qualify to waive up to 15 credits (five courses) from the foundation courses. In general, a course may be waived if the student has completed comparable course work at the undergraduate level. Waivers are only granted at the time of admission, after an official, sealed transcript is received by the AUS Office of Enrollment Management/ Graduate Admissions. Students may be required to submit course documentation in order to qualify. The waiver rules are as follows:

· Students may waive foundation

courses if two related undergraduate courses have been completed within five years prior to admission to AUS. Only courses taken at an accredited university toward a degree and with a minimum grade of B will be considered.

 Students may be required to take a placement exam in order to waive a foundation course.

## Core Courses Requirement (12 credits)

Students must complete the following UPL courses:

- UPL 541 Planning Theory and Methods
- UPL 548 Environmental Planning
- UPL 556 Spatial Analysis for Planners
- UPL 565 Land Use Planning Principles and Practice
- UPL 597 Urban Planning Internship

## **Concentration Courses Requirement** (6 credits)

Depending on their choice of a concentration, students have to complete the following courses:

Concentration in Design of the Built Environment

- UPL 584 Urbanism and Urban Form Analysis
- UPL 686 Space, Society and the Public Realm

## Concentration in Transportation Planning

- UPL 574 Urban Transportation Systems Analysis
- UPL 676 Transportation Systems Operations and Control

## **Required Capstone Experience** (6 credits)

Students must select one capstone experience from among the three listed below. Students must first receive permission from the program coordinator in order to choose the final project or master's thesis option.

- UPL 667 Urban Planning Studio
  - This experience involves working as a group on applying substantive urban planning skills. It involves fieldwork and hands-on analysis and application.

• UPL 698 Final Project

This involves individual work by a student, under faculty supervision, on an applied topic. For more information, please refer to the Graduate Student Handbook section at the end of this catalog.

For registration details, please refer to Thesis and Final Project in the Academic Policies and Regulations section of this catalog.

• UPL 699 Master's Thesis

This involves individual work by a student, under faculty supervision, on an original piece of research. For more information, please refer to the Graduate Student Handbook section at the end of this catalog. A complete guide for preparing the thesis is given at www.aus.edu/academic/gup/graduate/thesesguide.

For registration details, please refer to Thesis and Final Project under the Academic Policies and Regulations section of this catalog.

#### Elective Courses (a minimum of 9 credits)

Students must complete three elective courses (a minimum of 9 credits) selected in consultation with their advisor from any university graduatelevel course not counted as a core, concentration or capstone course.

## Academic Advising

Program advising procedures provide students with orientation and guidance on the program and the profession. Students are assigned a faculty mentor based on their area of interest. Students meet with their faculty mentor every semester to discuss curricular progress and changes in circumstances, if any. Students subsequently meet with the program coordinator, who confirms course choices for the next semester. The program coordinator will either clear the students to register themselves via the website or register them in the courses selected for the following semester.

# School of Business and Management

## Dean

R. Malcolm Richards

Associate Dean A. Paul Williams

#### Director of Graduate Programs and Outreach Robert E. Bateman II

## Master of Business Administration (MBA)

The AUS Master of Business Administration (MBA) program is committed to helping individuals in the Gulf region think and act globally, integrating the latest business knowledge into problem solving. The program provides advanced management education in an environment that encourages students to extend their leadership capabilities. It is built on the premise that up-todate expertise is what gives managers value-added capacity in a knowledgebased economy.

Through this program, students are prepared for careers in management and leadership positions in both the private and public sectors. Students will acquire a comprehensive foundation in the fundamentals of business in the global environment. They will also learn the skills and analytical tools for effective communication and decision making.

AUS faculty worked in close cooperation with American University, Washington, DC, to design this program. Individual participation is emphasized through class discussions, case study methodology, and interaction and cooperation with other students in the class. Graduates of the MBA program are prepared to identify, analyze and understand the interrelationships among business organizations and international and domestic institutions in the UAE and throughout the world. Students also develop an awareness of societal and environmental needs and concerns as they relate to ethical, professional and socially responsible business practices. More details on the program

are available at www.aus.edu/mba.

## Program Educational Goals and Outcomes

The MBA program prepares students for careers in management and helps them develop the decision-making skills necessary to lead successful business enterprises. The curriculum presents global business perspectives and challenges students to apply them to the Gulf region. MBA graduates are expected to achieve the following objectives:

• Proficiency in the core business knowledge required of an executive manager

Students will appropriately apply principles of economics, financial analysis, information and operations management, and marketing to the diagnosis of complex business problems.

• Understanding of the interrelations between business organizations and other societal institutions

Students will use principles of ethics and social responsibility to understand the management of relationships between a business enterprise and its key internal and external stakeholders.

- Teamwork, interpersonal, communication and leadership skills
   Students will demonstrate graduatelevel competence in team interaction and presentation skills, use of technology, writing and leadership through participation in projects that emphasize the role of the executive in managing change.
- Decision-making skills rooted in critical thinking, analysis and problem solving

Students will have the ability to evaluate and select from alternative courses of action, using appropriate methods to consider and integrate data with the theory and practices common to business organizations.

## Admission Requirements

In addition to meeting the university's general graduate admission requirements, applicants must meet

the specific requirements of the MBA program. Admission to the MBA program is competitive. Applicants are required to submit results from the Graduate Management Admission Test (GMAT). This score is then considered with the student's undergraduate grade point average, particularly for the last two years of study. These results are used to assist the SBM Graduate Committee in determining the admission status of an applicant. GMAT scores more than five years old will not be accepted. Preference is given to applicants who have at least two years of work experience.

## **Conditional Admission**

Conditional admission to the MBA program is limited. During the semester in which they have conditional admission status, applicants must satisfy all admission requirements for the MBA program, including the requirement to earn an average of at least 3.00 in all coursework. Failure to do so will result in dismissal.

## Academic Load

An MBA student may register for up to nine credits per semester. Upon a student's request, the program director can approve three additional credits if the student has achieved a cumulative GPA of 3.50 or above.

## Academic Standing Policy

In addition to the university guidelines on academic dismissal, as outlined in the Academic Policies and Regulations section of this catalog, the following rule applies:

 A student is allowed to receive two Cs (C or C+) in courses in the MBA program. If the student receives a third C or C+, he/she is dismissed from the program.

## **Degree Requirements**

To be awarded an MBA degree, students must complete 30 credits in MBA core courses and electives as follows:

- · 24 credits in MBA core courses
- a minimum of six credits in elective courses

Students enrolled in the program also have the option to choose an area of concentration in one of the following fields: finance, human resource management, management consulting, public management or supply chain management.

Students who select an area of concentration are required to complete 33 credits in core courses and concentration electives as follows:

- 24 credits in MBA core courses
- a minimum of nine credits in concentration electives

In addition, the following restrictions apply:

- Students concentrating in finance cannot substitute MBA 611.
- Students concentrating in human resource management cannot substitute MBA 612.
- Students concentrating in management consulting cannot substitute MBA 612.
- Students concentrating in public management can substitute MBA 611 with MBA 625 only. This substitution is encouraged.
- Students concentrating in supply chain management cannot substitute MBA 609.

In addition, students may be required to complete 21 credits (seven courses) in foundation courses at the beginning of their program.

Courses are offered in the evenings. The MBA program can be completed in 24 months, including summers, if all the foundation courses are required and 16 months if all the foundation courses are waived.

## **Foundation Courses Requirement**

Students admitted to the MBA program may be required to complete a maximum of 21 credits in foundation courses, which serve as preparation for the core courses. The number of foundation courses required will normally depend on courses completed by the student as an undergraduate. Foundation courses may be waived when the waiver policy requirements are met.

## Foundation Courses (21 credits)

- MBA 501 Foundations of Economics
- MBA 502 Organizational Behavior
- MBA 503 Accounting Concepts
- MBA 504 Managerial Statistics
- MBA 505 Financial Management
- MBA 506 IT Essentials for Managers
- MBA 507 Marketing Concepts

#### Waiver Policy

Students may qualify to waive up to 21 credits (seven courses) from the foundation courses. In general, a course may be waived if the student has completed comparable course work at the undergraduate level. Students may be required to submit course documentation. Waivers are only granted after an official, sealed transcript is received by the AUS Office of Enrollment Management/ Graduate Admissions. Waivers are evaluated at admission. Listed below are the waiver rules:

- Students may waive foundation courses if two similar undergraduate courses have been completed at an accredited university toward a degree completed within five years prior to admission to the AUS program. Only courses with a minimum grade of B will be considered.
- Students with professional experience and/or holders of commonly recognized certificates (e.g., CPA or CFA) that indicate mastery of the content of a foundation course may be granted a waiver.
- Students may be required to take a placement exam in order to waive a foundation course.

#### **Core Courses Requirement**

To be awarded an MBA degree, students must complete 24 credits in core courses. With permission of the SBM Director of Graduate Programs, students may replace up to two core courses with elective courses in related subjects, provided that the electives meet the educational objectives of the program.

Students may not substitute for a core course if the corresponding foundation course was waived.

#### Core Courses (24 credits)

- MBA 601 Managerial Economics
- MBA 606 Management Information Systems
- MBA 609 Operations Management
- MBA 611 Advanced Financial Management
- MBA 612 Leadership and Change
   Management
- MBA 613 Accounting Analysis for Managers
- MBA 614 Marketing Management
- MBA 618 Strategic Management in a Global Environment

## **Elective Courses Requirement**

Students must complete two elective courses (a minimum of six credits) selected from any university graduatelevel courses not counted as core or concentration courses. Electives selected from outside of the MBA program must be approved by the student's advisor.

#### **Finance Concentration (9 credits)**

Students may choose from the following or any other approved elective:

- MBA 632 Investment Analysis
- MBA 633 Financial Futures and Derivatives
- MBA 634 Commercial Banking
- MBA 635 Islamic Economics
- MBA 636 Islamic Banking and Finance

#### Human Resource Management Concentration (9 credits)

#### Required Course (3 credits)

 MBA 661 Strategic Human Resource Management

#### Elective Courses (6 credits)

Students may choose from the following or any other approved elective:

- MBA 662 International Human Resource Management
- MBA 663 Staffing
- · MBA 664 Training and Development

#### Management Consulting Concentration (9 credits)

Required Course (3 credits)

MBA 670 Management Consulting

#### Elective Courses (6 credits)

Students may choose from the following or any other approved elective:

- MBA 610 Business Research Applications
- MBA 615 Innovation and Entrepreneurship
- MBA 680 Project Management
- MBA 690 Global Consulting Practicum

## Public Management Concentration (9 credits)

Required Course (3 credits)

 MBA 620 Public Administration and the Policy Process

#### Elective Courses (6 credits)

Students may choose from the following or any other approved elective:

- MBA 621 Management of Nonprofit
   Organizations
- MBA 622 The Public-Private Partnership
- MBA 623 e-Government
- MBA 624 Ethics, Law, Democracy and Society

## Supply Chain Management Concentration (9 credits)

Students may choose from the following or any other approved elective:

- MBA 651 Supply Chain Management and Strategy
- MBA 652 Modeling and Analysis of Supply Chain Processes
- MBA 653 Supply Chain Management Technology and Applications
- MBA 654 Transportation and Logistics Management

## Academic Advising

The SBM Office of Graduate Programs provides academic and career advising to students through the director, advisor and graduate faculty in the School of Business and Management. Additionally, the graduate committee provides assistance in advising as required. The graduate committee consists of faculty members who teach in the MBA program and are appointed on a yearly basis.

## Executive Master of Business Administration (EMBA)

The Executive MBA program is designed for high-potential business leaders preparing to expand the position of their companies in world markets. Adapting state-of-thediscipline business knowledge to the needs of the local market, the EMBA helps to unlock the global growth potential of Gulf enterprises. A unique curriculum integrates liberal thought with professional education in a format that encourages active learning and immediate application to the challenges of executive management and organizational governance in a global context.

The focus is on development of leadership and decision-making skills; participants learn from crossfunctional business approaches, strategies, techniques and technologies around the world to identify useful new ideas and stimulate creative problem solving. The cohort-based approach promotes dialogue among participants and fosters a network of innovative thinkers who can create solutions that serve businesses throughout the region. Two travel seminars introduce participants to world markets in a structured setting.

Leadership-building includes enhancing core competencies for effective management. Individual modules highlight key decisions on the use of human, financial and data resources. Other sessions consider executive problem-solving, development of strategy and effective communications. Participants learn to motivate others and to implement organizational growth initiatives. Strategic innovation and executive skill-set sessions are interwoven with modules that bring discipline-specific theory into practice.

## **Program Educational Goals and Outcomes**

The EMBA program prepares graduates to take on new leadership responsibilities and feel confident in facing new business challenges. Specific objectives and outcomes include the following:  Application of business knowledge to the development of organizational strategy

Participants will apply principles of economics, financial management, marketing, information systems, human resource management and operations to the development of integrated organization strategies for growth and innovation.

 Management of relations between business organizations, stakeholders and social institutions

Participants will use principles of ethics and social responsibility, knowledge of local expectations, and an understanding of the influence of the globalization process on corporate governance to position a business enterprise appropriately with key internal and external stakeholders worldwide.

• Exhibit leadership, teamwork, and interpersonal and communication skills at an executive level

Participants will demonstrate an ability to use leadership techniques, highlevel team interaction and presentation skills, application of technology, and effective writing in projects that emphasize the role of the executive in enhancing organizational performance.

• Application of critical thinking, analysis and problem-solving skills to executive decisions

Participants will apply a variety of techniques to analyze problems critically; to develop, evaluate and select from alternative courses of action; and to implement decisions in an organizational context.

## Admission Requirements

Admission requirements for the EMBA program limit participation to professionals with significant career growth potential. The standards are designed to ensure that each participant is able to contribute to the interaction of a motivated cohort.

Applications for admission to AUS graduate programs are processed through the Office of Enrollment Management/Graduate Admissions, which determines whether an applicant meets minimum university standards.

Each applicant must satisfy the

following requirements:

- hold a four-year bachelor's degree from an accredited university recognized by AUS and the UAE Ministry of Higher Education and Scientific Research
- have maintained a minimum cumulative grade point average (CGPA) of 3.00 (on a scale of 4.00) or its equivalent, and 3.00 or its equivalent in 300- and 400-level courses in disciplines relevant to the graduate program. An applicant with a lower CGPA must present evidence of at least five years of relevant work experience after earning the bachelor's degree and provide evidence of suitable preparation for graduate work, such as a strong score of the Graduate Management Admission Test (GMAT).
- have attained a minimum iBT score of 80 (or 550 on the AUS Institutional version)
- provide official notice of the results of the GMAT exam

The SBM Graduate Committee will require the following additional information before determining whether an applicant will be admitted to the program:

- a resume or CV indicating the current position title, responsibilities and any awards or special recognition received by the applicant. Each participant will be expected to have a minimum of three to five years of managementlevel leadership experience.
- a letter from a supervisor or other executive of the individual's employer, indicating that the applicant has potential for taking on increased levels of responsibility and will have the support of the employer (i.e., time off, etc.)
- a statement of interest describing the applicant's reasons for seeking admission

After reviewing these materials, the SBM Graduate Committee will schedule interviews with candidates judged most likely to benefit from the program. The evaluation and interview results will be used by the committee to prepare a ranked list of candidates for the available seats in each cohort. Consideration will be given for equal opportunity and the diversity of the cohort.

Due to the structure and sequencing of the cohort approach, the program will not accept transfer or non-degree participants.

## Academic Load

EMBA instruction takes place on alternating weekends over a twoyear program (excluding Ramadan). Attendance at all sessions is required. Courses often span traditional academic terms but approximate a sixcredit load per semester.

Participants are expected to attend all courses with their cohort, but the EMBA Program Director may, in extenuating circumstances, allow a participant to make up sessions with a subsequent cohort to meet this requirement.

## Academic Standing Policy

Grading in the EMBA program is Pass/ Fail. A grade of Pass with Distinction is awarded to participants who demonstrate exceptional performance. Participants must pass all modules.

University guidelines on repeating courses and on academic dismissal apply, as outlined in the Academic Policies and Regulations section of this catalog. In addition, participants may take no more than one course with a subsequent cohort to improve their grade.

## **Degree Requirements**

The EMBA requires the completion of 45 credits in eight modules. Portions of each module are integrated with supporting elements from other modules to facilitate immediate application of new knowledge. All modules must be completed with a minimum grade of Pass to earn the degree.

## **Required Modules (45 credits)**

• EMB 701 Leadership and the Executive

- EMB 702 Analytical Foundations
- EMB 703 Financial Management
- EMB 704 Process and Innovation
- EMB 705 Markets and Innovation
- EMB 706 Society and Governance
- EMB 711 Gulf to Global Strategy
- EMB 712 Executive Toolkit

## Academic Advising

The SBM Office of Graduate Programs and Outreach provides academic and career advising to participants through the Director of Graduate Programs and Outreach and members of the SBM Graduate Committee.

## Gulf Executive Master of Public Administration (GEMPA)

The AUS Gulf Executive Master of Public Administration (GEMPA) program is designed to increase the capacity of governments in the Gulf region by stimulating the ability of key executives to learn from theories, policies and practices proven successful in enhancing service quality, improving public participation and strengthening the business investment environment in other rapidly developing economies.

Emphasis is placed on learning from cultures, societies, religions, traditions, technologies and the social sciences to identify new ideas that stimulate creative problem solving and promote effective cooperation between government leaders and the public. A key element of this approach and objective of the program is to stimulate dialogue among participants and foster a network of innovative thinkers who can create solutions that serve governments throughout the Gulf region.

Development of core competencies for effective management is also a fundamental goal of the program. Individual sessions focus on key skills as they apply to the use of human, financial and data resources. Other seminars consider policy development and evaluation, effective communications and executive problem solving. Participants learn to motivate others and to drive organizational change.

Each participant is expected to integrate these skills and demonstrate their application in a project using action learning—one of the most powerful techniques in executive education. Upon completion of the program, each participant will be more effective in his or her existing role and will be better prepared to deal with new challenges.

More details on the program are available at www.aus.edu/gempa.

# Program Educational Goals and Outcomes

The GEMPA program is designed to increase the capacity of governments in the Gulf region by stimulating the ability of key executives to learn from theories, policies and practices proven successful in enhancing service quality, improving public participation and strengthening the business investment environment in rapidly developing economies.

- Breadth and diversity of perspectives
   Participants will broaden their
   perspectives by engaging the working
   knowledge and diverse viewpoints of
   motivated public executives through
   cooperative interaction with instructors
   and peers.
- Integrative approach to learning Participants will develop an integrative approach to organizational learning, bringing together liberal thought, practical policy choices and analogies drawing on the experience of others.
- Ethic of public service

Participants will internalize an ethic of public service and stewardship, respect for the rule of law and concern for effective communication with stakeholders in society.

• Executive management skills

Participants will apply executive management skills and competencies to new challenges across the full spectrum of public resource and leadership issues.

## Admission Requirements

Admission to the GEMPA program is limited to experienced public officials committed to making effective use of an executive education opportunity. In addition to meeting the university's general graduate admission requirements, applicants must submit the following materials to the SBM Graduate Committee prior to the end of the second week of July:

- a graduate application form (on paper or via e-mail)
- official transcripts from each college or university attended
- a résumé or CV indicating current position title, service level rating, and awards or special recognition received. Participants are normally expected to have at least five years of service in a governmental or nonprofit organization, with at least one year in a mid-level or senior management position.
- a letter from a supervisor or other executive of the individual's employer, indicating the applicant's potential for taking on increased levels of responsibility
- a statement of interest in which the applicant describes his or her reasons for seeking admission to the program
- an example of the potential participant's written work, such as a report or policy statement

After reviewing these materials, the SBM Graduate Committee will schedule interviews with candidates judged most likely to benefit from the program. The evaluation and interview results will be used by the committee to prepare a ranked list of candidates for the available seats in each cohort.

## **Conditional Admission**

Conditional admission is not applicable to the GEMPA program.

## **Transfer Policy**

Transfer or non-degree students are not admitted to the GEMPA program.

## Waiver Policy

The waiver policy is not applicable to the GEMPA program.

## Academic Load

GEMPA course instruction takes place in four-day sessions, usually scheduled over a single weekend each month, excluding Ramadan. Attendance at all sessions is required. Courses often span traditional academic terms but approximate a six-credit load per semester.

Each course in the GEMPA program is designed to convey new ideas and teach practical concepts that participants can apply in their own areas of responsibility. Faculty members update course content continuously to include the latest in management thinking and real-world application.

Participants are expected to attend all courses with their cohort, but the GEMPA Program Director may, in extenuating circumstances, allow a participant to take a course with the subsequent cohort to fulfill this requirement.

Courses are often taught away from AUS, but in each case one or more instructors have face-toface interaction with participants. Reading selections, exams and class assignments are administered through the AUS web-based learning system.

Participants are working officials in government, non-profits or similar organizations. Courses frequently require the application of administrative leadership concepts in practical assignments. Each participant is required to undertake an actionlearning project within his or her organization.

## Academic Standing

University guidelines on repeating courses and academic dismissal apply as outlined in the Academic Policies and Regulations section of this catalog. In addition, participants may retake no more than two courses with a subsequent cohort to improve their grades.

In exceptional circumstances, the program director may allow participants who have left the program to return, provided that no more than one year has elapsed between the last course completed and the return of the participant to the program.

## **Degree Requirements**

The Gulf Executive MPA degree requires completion of 40 credits, normally over a 22-month period. Course and seminar credits vary from one to three credits, depending on the length of instruction and the nature of assignments. All courses must be successfully completed to earn the degree.

Participants must take a comprehensive exam constituting an action-learning project (GMPA 632) that must be presented in both written and oral form. This project requires the student to take a leading role in an organizational change initiative in which he or she applies the knowledge and skills learned during the GEMPA experience. Specific guidelines for the project, the written report and the oral presentation will be available from the GEMPA Program Director and at www.aus.edu/gempa.

All participants must complete their degree requirements within three years from first enrollment. All credit applied toward the degree must be completed in the AUS Gulf Executive MPA Program.

#### **Required Courses (40 credits)**

- GMPA 500 Executive Writing and Research
- GMPA 501 Economics for Public Executives
- GMPA 504 Executive Problem Solving
- GMPA 506 Government Informatics
- GMPA 600 Public Administration Colloquium (non-credit)
- GMPA 601 Policy, Politics and Administration
- GMPA 605 Financial Management and Budgeting
- GMPA 606 Strategic Human Resource Management
- GMPA 607 Public Marketing and Strategic Communication

- GMPA 612 Organizational Transformation
- GMPA 614 Analysis and Evaluation
- GMPA 615 Managing the Public
   Private Partnership
- GMPA 616 e-Governance
- GMPA 617 Public Ethics and the Rule of Law
- GMPA 619 Executive Leadership
- GMPA 632 Learning in Public Management
- GMPA 680 Project Management for Executives

## Academic Advising

The SBM Office of Graduate Programs provides academic and career advising to participants through the SBM Director of Graduate Programs and the Graduate Program Advisor. Additionally, the SBM Graduate Committee provides assistance in advising as required. The SBM Graduate Committee consists of faculty members who teach in the GEMPA program and are appointed on a yearly basis.




## College of Arts and Sciences

## ELT

## TESOL

ELT 501 Advanced English Grammar (3-0-3). (Cross-listed as ENG 401). Examines the structure, function and meaning of contemporary English. Discusses issues relative to descriptive/prescriptive approaches to language and ESL instruction.

ELT 503 Contrastive Linguistics (3-0-3). Compares and contrasts English and Arabic phonology, morphology, syntax and semantics. Promotes a functional approach to language to demonstrate the applications of contrastive linguistics to ESL teaching.

ELT 505 Culture and the Language Teacher (3-0-3). Investigates how identities, values, assumptions, behaviors and communication styles affect teaching and learning a second language. Analyzes methods and approaches for cross-cultural research.

ELT 510 Research Methods and Academic Writing (3-0-3). Develops students' academic writing competencies and research skills. Introduces students to quantitative and qualitative research methods and teaches them how to conduct and report research.

ELT 511 Linguistics for ESL Teachers (3-0-3). (Formerly ENG 511). Focuses on areas in linguistics relevant to ESL teachers. Explores ways of utilizing research and generalizations derived from linguistics to inform ESL teaching practice.

ELT 513 Language Acquisition and Development (3-0-3). Focuses on processes involved in acquiring first and second languages. Examines different theoretical perspectives explaining acquisition and analyzes the factors that affect language development and learning. Explores the implications of SLA research in ELT classroom contexts.

ELT 515 Methods and Materials Development (3-0-3). Examines traditional and contemporary approaches to English language teaching. Various aspects of classroom practice are analyzed, including teacher and learner roles, classroom management, and integrated versus separate teaching of the language skills.

**ELT 517 Curriculum Design (3-0-3).** Introduces students to the principles of ESL course design. Examines the stages of developing and evaluating learning centered curricula and materials. Prerequisite/concurrent: ELT 515.

ELT 521 Reading and Writing in ESL (3-0-3). Discusses various theoretical models dealing with teaching literacy skills in a second language to children and adults. Explores ways to adapt and apply these models for effective ESL instruction. Prerequisite: ELT 510.

**ELT 523 Bilingual Education (3-0-3).** Reviews different models of bilingual education and issues in bilingualism. Discusses how to achieve a balanced bilingual education system by examining the challenges posed by cultural and linguistic diversity in a bilingual education setting.

ELT 525 Pragmatics for ESL Teachers (3-0-3). Focuses on social implications of language use in social contexts (world English, international English, regional English or intranational English). Provides training for ESL/EFL teachers in practical and theoretical areas of pragmatics and teaches them how to prepare, present and evaluate lessons in pragmatics utilizing authentic materials. Prerequisite: ELT 511.

**ELT 531 Sociolinguistics (3-0-3).** Studies the relationship between language, society and culture. Investigates the implications of sociolinguistic research for ESL teachers. Prerequisite: ELT 510.

ELT 551 Language Testing and Evaluation (3-0-3). Covers the fundamental goals, principles, standards and uses of language assessment and language assessment research. Reviews the factors involved in assessing proficiency in second language skills and in selecting appropriate testing instruments and evaluation tools. Prerequisite/ concurrent: ELT 515.

ELT 553 Technology in the ESL Classroom (3-0-3). Introduces a wide range of current applications of technology in the ESL classroom. Focuses on creating innovative and effective ESL learning and teaching environments using computers and other educational technologies. Prerequisite/concurrent: ELT 515.

ELT 567 ELT Leadership and Management (3-0-3). Introduces students to basic concepts in ELT leadership and management. Explores the areas of educational organizations, human resources in ELT, language program development and marketing as well as establishing stakeholder relations. Prerequisite: ELT 515.

ELT 611 Classroom Research (3-0-3). Reviews ESL classroom-based research as a means of understanding how ESL instruction and learning take place. Discusses research topics such as teacher talk, wait time, conversational repair, error correction, learning strategies and feedback. Prerequisite: ELT 510.

ELT 615 Quantitative and Qualitative Research in ELT (3-0-3). Surveys both quantitative and qualitative theoretical and epistemological approaches in TESOL research. Emphasizes how choices in research designs and analytical procedures impact data collection and results. The course is applications-oriented using the results of established theory. Graduate students can use this course to develop their research project proposals. Prerequisite: ELT 510.

ELT 619 Practicum in TESOL

(1 to 3 credits). Provides the opportunity to observe, explore and implement effective ESL teaching strategies. Involves weekly seminars in which the students discuss their classroom experiences and reflect on their personal growth as ESL teachers. Prerequisite: ELT 551. **ELT 699 Master's Thesis (6 credits).** Requires students to complete individual and original research work on a topic related to some aspect of TESOL that addresses both theoretical and practical aspects of ELT. The thesis is supervised by the thesis faculty supervisor and is defended to the satisfaction of the committee of three faculty members. Graded as Pass/Fail.

## **TRA** English/Arabic/ English Translation and Interpreting

**TRA 500 Principles and Strategies of Translation (3-0-3).** Provides advanced training in principles and methods of translation from English to Arabic and vice versa. A variety of text types are covered, ranging from legal to journalistic genres.

**TRA 501 Terminology and the Translator (3-0-3).** Reviews the field of terminology in the work of the translator. Covers term formation, standardization and banks, among others. Uses samples from humanities and technical-scientific texts to apply terminology theories and models.

TRA 502 Arabicization and Translation (3-0-3). Reviews the process of Arabicization and its impact on translating into Arabic. Covers term formation, standardization, coordination and banks, among others. Uses samples from humanities and technical-scientific texts to demonstrate theories of Arabicization.

**TRA 503 Theoretical Models of Translation (3-0-3).** Provides the students with a conceptual map of translation studies and outlines the various theoretical approaches to translation equivalence. Students are introduced to the range of factors that govern the process of translation and to the theoretical underpinnings that have motivated different attitudes to translating and translations. Prerequisite: TRA 500.

**TRA 504 Discourse Semantics and Pragmatics in Translation (3-0-3).** Addresses the needs of the practicing translator and interpreter within a discourse framework. Advanced training in semantics and pragmatics is provided, and linguistic analysis in these domains is re-considered from the vantage point of cross-cultural communication.

**TRA 505 Interpreting and the Profession I (3-0-3).** Provides the students with high-level training in those interpreting skills most relevant to the translator at work. Provides advanced training in liaison and consecutive interpreting with a focus on professional standards and community needs. Theoretical insights into the process of interpreting are presented and placed within an overall, practice-driven model of the process.

**TRA 506 Perspectives on Translation Quality Assessment (3-0-3).** Enables students both to achieve competent standards of translation and to reflect on the process of deriving texts from English or Arabic. Emphasis is placed on texts with a persuasive function in professional settings such as journalism, advertising and translation for the media.

**TRA 508 Research and Academic Writing (3-0-3).** Introduces students to the conventions of academic writing in both English and Arabic, and of promoting an "action research" stance. These research skills are applied to the work of the translator and interpreter both as practitioners and as analysts.

TRA 509 Interpreting and the Profession II: Simultaneous Interpreting (3-0-3). Builds on TRA 505 and provides high-level training in those skills most relevant to Simultaneous Interpreting (SI), including professional standards and international conventions as well as equipment simultaneous interpreters use. Theoretical insights into the process of interpreting are presented and placed within an overall, practice-driven model of the process. Prerequisite: TRA 505.

**TRA 556 Rhetoric for Translators** (**3-0-3**). Surveys the various traditions within both English and Arabic grammar and rhetoric. This is related to the concerns of the translator in dealing with modern standard Arabic and English composition. Develops and applies a text-linguistic model rooted in rhetorical thinking, particularly to the translation of sacred and sensitive texts.

**TRA 558 Contrastive Linguistics and Translation (3-0-3).** Deals with how English and Arabic compare and contrast at various levels of linguistic organization: phonology, morphology, syntax and semantics. Promotes a discourse pragmatic perspective throughout to enable students to look at the way texts are organized functionally. Prerequisite: TRA 500.

TRA 610 Intercultural

**Communication and Translation** (**3-0-3**). Provides an in-depth view of the way in which cultures influence communication and representations. Covers perception differences, worldview, identity, verbal and nonverbal communication styles in both high and low context cultures, and the effect of bias and conflicting value systems on cross-cultural communication through translation.

TRA 695 Translation Research Seminar (3-0-3). Allows students to share what they have learned throughout the course as they develop their thesis proposal. Students further refine their research skills, learn appropriate presentation formats and enhance their professionalism in a supportive environment. Prerequisite: permission of program director.

TRA 699 Master's Thesis (6 credits). Requires students to complete an extended piece of individual research (10,000-12,000 words) on a topic within translation/interpreting studies, including an extended translation (c. 5000 words) and a commentary. chosen in consultation with the thesis faculty supervisor. Emphasis is placed on the theoretical and practical aspects of translating or interpreting. The thesis must be completed within two consecutive academic semesters. An extension may be allowed if a candidate presents acceptable mitigating circumstances. The thesis is defended to the satisfaction of a committee composed of three faculty members. Graded as Pass/Fail. Prerequisite: permission of program director.

## Independent Study

Independent study is the umbrella term used to label two types of independent work: independent course and directed study.

Students are allowed to take one independent study. A second independent study could be approved by the student's program director for graduation purposes only.

In order to be eligible to pursue an independent study, students must be in good academic standing.

### Independent Course (1 to 4 credits).

A course listed in the catalog but offered in an independent study format. The course is coded using the course number in the catalog.

**Directed Study (1 to 4 credits).** An investigation under faculty supervision beyond what is offered in existing courses.

Directed study courses are numbered as 596 or 696 courses. The threeletter course prefix reflects the field of study of the course (e.g., independent study courses in TESOL are coded as ELT 596).

## **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 694 courses. The three-letter course prefix reflects the field of study of the course.

Descriptions of particular special topics courses are made available in the college/school offering the course during registration.

## College of Engineering

### CHE

# Chemical Engineering

**CHE 510 Transport Phenomena** (**3-0-3**). Covers the following topics: differential analysis of momentum; heat and mass transport; models transport processes; and formulation of appropriate boundary conditions, mathematical solutions and interpretation of results. Prerequisite/ concurrent: NGN 500.

CHE 511 Advanced Chemical Engineering Thermodynamics (3, 0, 3) Investigates advanced

(3-0-3). Investigates advanced concepts in thermodynamics. Includes in-depth study of the following topics: fundamental laws of thermodynamics, equations of state, property relations for pure materials and mixtures, phase equilibria and intermolecular forces. Prerequisite: admission to the MSChE or MSME program.

CHE 512 Advanced Kinetics and Reactor Design (3-0-3). Covers the following principles of chemical reaction and reactor analysis and design: non-elementary reaction kinetics, estimation of thermochemical and reaction rate parameters, detailed chemical kinetic modeling, catalysis with particular emphasis on coupled chemical kinetics and transport phenomena, heterogeneous nonisothermal reactor design and real reactors. Prerequisite: admission to the MSChE program.

CHE 610 Catalysis and Reaction Engineering (3-0-3). Introduces the fundamental concepts underlying catalytic processes and their application in reactor design. Covers the following topics: molecular theories of adsorption and surface reactions on catalysts; catalyst characterization techniques; transport in catalysts and shape selective catalysts; and applications in fixedbed catalytic reactors, fluidized bed reactors and multiphase reactors. Prerequisite: CHE 512.

**CHE 611 Biomedical Engineering** and Biotechnology (3-0-3). Explores chemical engineering concepts related to the human body. Covers the following topics: body material balances, blood properties and theology, circulatory dynamics, neuroprosthetics, body heat exchange, body thermoregulation, heat transfer in tumors, pharmacokinetic models, non-invasive imaging, orthopedics, biomaterials, membrane transport, tissue engineering and drug delivery systems. Assumes a basic understanding of physiological functions. Prerequisite: CHE 510.

#### CHE 612 Advanced Process Analysis and Control (3-0-3) Covers the

and Control (3-0-3). Covers the following topics: linear multi-input multi-output (MIMO) systems; state-space representation of process dynamic systems; controllability and observability analysis; stability analysis; frequency-domain analysis and system identification: controller synthesis for multivariable process systems; decentralized control, state feedback control, model predictive control and optimal control; digital control systems-Z transforms, discrete time models, closed loop analysis and digital control system implementation; and application of advanced control concepts to chemical process units. Prerequisite: NGN 500. Prerequisite/ concurrent: NGN 509.

#### **CHE 613 Advanced Materials**

Science (3-0-3). Introduces advanced materials for engineers, emphasizing process-structure-property relations. Covers concepts in materials science, engineering and technology dealing with traditional and advanced materials, surface science and engineering, evaluation and standards. Prerequisite: admission to the MSChE program.

#### CHE 614 Environmental

**Engineering (3-0-3).** Provides a review of fundamentals, applied knowledge and recent advances

in environmental engineering. Covers the following topics: causes of environmental pollution; environmental regulations; mass and energy balance for environmental systems under steady state and transient conditions; and contaminant transport in air, water and solids. Focuses on microbiology and reaction kinetics related to the environment and the application of environmental principles to water and wastewater treatment, air pollution control and solid waste management. Prerequisite: admission to the MSChE program.

CHE 695 Seminar (1-0-0). Introduces research methodologies. Explores the planning and realization of research projects. Examines current research issues in engineering using case studies that emphasize the utilization of applied research in designing engineering systems. Graded as Pass/ Fail. Prerequisite: admission to the MSChE program.

**CHE 699 Master's Thesis (9-0-9).** Requires students to complete original research work in the field of study. Requires the thesis to be completed under the supervision of a faculty member serving as thesis advisor, and a final defense to the examining committee. Graded as Pass/Fail. Prerequisite: permission of program director.

## COE

## Computer Engineering

**COE 530 Advanced Computer** Network (3-0-3). Focuses on advanced topics in computer networking, network management and performance modeling. Covers the following topics: review of OSI layers; congestion control and quality of service (QoS); high-speed networks; asynchronous transfer mode (ATM); frame relay; multimedia networking; voice over Internet protocol (VoIP); simulation, modeling and queuing theory and their applications; Internet traffic characteristics: network management systems and architectures; management information

bases (MISs), simple network management protocol (SNMP); remote network monitoring (RMON); fault and performance management; and security and accounting management. Prerequisite: admission to the MSCoE program.

**COE 531 Advanced Software Design for Engineers (3-0-3).** Examines software design fundamentals and recent research trends in software design. Covers the following topics: architectural structures, design patterns and frameworks, design quality analysis and evaluation, software design notations, design strategies and methods, software-hardware co-design and real-time systems. Prerequisite: admission to the MSCoE program.

COE 532 Advanced Embedded Systems and Industrial Automation (3-0-3). Covers the following topics: embedded systems hardware, advanced embedded systems programming and interface, serial communicates and control area networks, realtime operations of embedded systems, supervisory control and data acquisition (SCADA) systems, distributed control systems (DCS) and embedded systems applications. Prerequisite: admission to the MSCoE program.

**COE 533 Advanced Computer Architecture (3-0-3).** Covers techniques of quantitative analysis and evaluation of modern computing systems. Emphasizes the major component subsystems of highperformance computers: pipelining, instruction level parallelism, memory hierarchies, input/output and networkoriented interconnections. Prerequisite: admission to the MSCoE program.

**COE 630 Wireless Networks (3-0-3).** Explores advanced concepts in wireless networking and mobile communications. Covers the following topics: antennas and multipath propagation, wireless propagation modeling, multiple access, spread spectrum, modulation, coding and error control, orthogonal frequency division multiplexing (OFDM), cellular wireless networks, wireless local area networks (LANs), mobile Internet Protocol (IP), ad hoc networks, Bluetooth, transmission control protocol (TCP) over wireless, Worldwide Interoperability for Microwave Access (WiMAX), satellite networks, security issues in wireless networks and sensor networks. Prerequisite: COE 530.

**COE 631 Computer and Network Security (3-0-3).** Explores a broad variety of issues related to computer and network security. Covers the following topics: computer forensics and investigation; applied cryptography and public key infrastructure (PKI); network security including physical, network, transport and application layers security; and security in electronic commerce, peer-to-peer and sensor networks. Prerequisite/concurrent: COE 530.

COE 632 Advanced Database Systems (3-0-3). Covers the following advanced topics in database systems: file structures, indexing techniques, query processing and optimization, concurrency control and backup and recovery Extensible Markup Language (XML) databases and languages, and mobile databases and data mining. Prerequisite/concurrent: COE 531.

**COE 633 Advanced Internet Computing (3-0-3).** Covers the following advanced topics in Internet computing: search engines; webserver technologies; web proxies and web-caching; web-crawlers, information retrieval and filtering methods; semantic Internet and related technologies; and web-services architectures. Prerequisite/concurrent: COE 531.

COE 634 Computer-Aided Design and Optimization of Digital Systems (3-0-3). Covers the following topics in computer-aided design of verylarge-scale integration (VLSI) circuits: functional verification; logic synthesis; verification of combinational and sequential circuits; technology mapping; and logic simulation, optimization and testing. Prerequisite: COE 533.

**COE 635 Optical Networks (3-0-3).** Covers the following advanced concepts in optical communications and networking: single-mode and multi-mode fibers, fiber loss and dispersion, fiber nonlinearities, lasers and optical transmitters, photodetectors and optical receivers, singlechannel system design, synchronous optical network (SONET)/synchronous digital hierarchy (SDH) networks, Wavelength-Division Multiplexing (WDM) components, WDM network design issues, wavelength routing and assignment, protection and restoration in optical networks, and control and management of optical networks. Prerequisite: COE 530.

**COE 695 Seminar (1-0-0).** Introduces research methodologies. Explores the planning and realization of research projects. Examines current research issues in engineering using case studies that emphasize the utilization of applied research in designing engineering systems. Graded as Pass/ Fail. Prerequisite: admission to the MSCoE program.

**COE 699 Master's Thesis (9-0-9).** Requires students to complete original research work in the field of study. Requires the thesis to be completed under the supervision of a faculty member serving as thesis advisor, and a final defense to the examining committee. Graded as Pass/Fail. Prerequisite: permission of program director.

## CVE Civil Engineering

CVE 520 Advanced Construction Materials and Methods (3-0-3).

Covers emerging construction materials that impact new construction and repair of existing infrastructure. Introduces material design concepts related to the development of advanced composites through combinations of new materials. Introduces advanced concrete materials, fiber-reinforced concrete and advanced steel applications. Covers principles and applications of building and heavy construction methods including safe formwork. Focuses on sustainable materials and methods in construction. Prerequisite: admission to the MSCE program.

**CVE 521 Finite Element Method** (3-0-3). Introduces the theory and

application of modern structural analysis. Covers matrix analysis with an emphasis on the direct stiffness method, equilibrium and compatibility, matrix formulations and virtual work principles. Emphasizes finite element formulations for truss, frame, plane stress/strain and axisymmetric problems (element stiffness, assemblies and load vectors). Introduces fundamentals of nonlinear analysis concepts. Covers computer modeling and practical analysis of large-scale structural systems. Prerequisite: admission to the MSCE or MSME program.

**CVE 522 Advanced Water Resources** Engineering (3-0-3). Presents advanced hydrologic and hydraulic principles in planning, modeling and designing storage, irrigation, drainage, flood control and related water resource facilities. Covers the following topics: unsteady and nonuniform flow, conveyance channels and spillways, control and diversion structures, outlet works, energy dissipation, hydraulic machinery, flow measurements and reservoir hydraulics. Employs applicable case studies. Prerequisite: admission to the MSCE program.

**CVE 523 Advanced Transportation Systems (3-0-3).** Focuses on transportation systems modeling, simulation, analysis and evaluation techniques. Covers transportation systems operations, traffic signal systems design and optimization. Includes intelligent transportation systems (ITS) concepts and applications. Uses available software packages to evaluate transportation systems performance and ITS applications. Prerequisite: admission to the MSCE program.

**CVE 620 Advanced Construction Planning and Control (3-0-3).** Covers the following topics: application of advanced planning and control techniques critical to the success of construction projects, advanced resource allocation and leveling, timecost optimization, project monitoring, updating and control, stochastic scheduling, contractual implications of construction schedules, analysis of time-related change orders and delays, schedule diagnostics, and advanced use of construction planning and scheduling software. Employs case studies from the construction industry. Prerequisite: admission to the MSCE program.

**CVE 621** Analysis and Design of Tall Buildings (3-0-3). Introduces design strategies for tall buildings. Covers the following topics: selection of the structural systems for tall buildings; modeling of gravity, wind and earthquake loads using relevant codes; structural modeling and static and dynamic analysis of tall buildings; design of structural elements and effects of creep, shrinkage and temperature; and P-Delta effects and instability of tall buildings. Emphasizes the use of computers in analysis and design of tall buildings. Prerequisite: CVE 521.

CVE 622 Physical and Chemical Processes in Environmental Engineering (3-0-3). Explores advanced analysis and design methods for various environmental engineering problems in water treatment, wastewater treatment, air pollution control and water quality management. Covers the following topics: materials transport, reaction kinetics, reactor modeling, separation processes, disinfection and process optimization. Prerequisite: CVE 522.

**CVE 623 Advanced Transportation Planning Techniques (3-0-3).** Presents an overview of both theoretical and applied issues in planning transportation systems. Focuses on everyday planningoriented problems associated with development and project evaluation issues and techniques with emphasis on the development, calibration and validation of master transportation plans and traffic impact study analysis.

Covers engineering economics and procedures for traffic impact studies. Prerequisite: CVE 523.

**CVE 624 Advanced Geotechnical Engineering (3-0-3).** Covers site investigation with an emphasis on advanced site testing, and shallow and deep foundations. Includes footing and rafting for difficult subsoil conditions, excavation support systems, groundwater control, slope stability, soil improvement and construction monitoring techniques. Explores offshore geotechnical engineering and elements of geotechnical earthquake engineering. Prerequisite: admission to the MSCE program.

### **CVE 625 Highway Bridge Design**

(3-0-3). Introduces highway bridge analysis, design and evaluation based on the American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications. Covers the following topics: types of bridges, highway bridge loading, bridge analysis, deck slabs, composite steel bridge design, pre-stressed concrete girders, substructure design and bridge rating. Prerequisite: CVE 521.

**CVE 695 Seminar (1-0-0).** Introduces research methodologies. Explores the planning and realization of research projects. Examines current research issues in engineering using case studies that emphasize the utilization of applied research in designing engineering systems. Graded as Pass/ Fail. Prerequisite: admission to the MSCE program.

#### **CVE 698 Professional Project**

(3-0-3). Requires an approved professional project on selected area of civil engineering for completion of the MS degree. Includes development of the project concept, investigation of needs, initial data collection and assembly of written and field materials necessary to conduct a professional project, as well as exploration of alternative means to conduct the project. Requires a report and final presentation to the examining committee. Graded as Pass/Fail. Prerequisite: approval of advisor.

### CVE 699 Master's Thesis (9-0-9).

Requires students to complete original research work in the field of study. Requires the thesis to be completed under the supervision of a faculty member serving as thesis advisor, and a final defense to the examining committee. Graded as Pass/Fail. Prerequisite: permission of program director.

## ELE

## Electrical Engineering

### ELE 540 Principles of Digital

**Communications (3-0-3).** Covers the following topics: representation of band-pass signals and systems, detection and estimation techniques, Bayes criteria for decision and parameter estimation, signal space representation of digital modulation schemes, optimum receiver design and performance analysis, channel capacity, and block and convolutional channel coding and decoding schemes. Prerequisite/concurrent: NGN 505.

ELE 541 Utility Applications of Power Electronics (3-0-3). Covers operation and modeling of power electronic devices, DC/DC converters and PWM inverters. Includes applications of power electronics circuits to power distribution and transmission systems, including static volt-amperes reactive (VAR) compensation, flexible alternating current transmission systems (FACTS) devices, and system stability enhancement and harmonic minimization. Prerequisite: admission to the MSEE program.

ELE 542 Applied Electromagnetics (3-0-3). Covers the following topics: Maxwell's equations; electromagnetic boundary conditions; potentials and the representation of electromagnetic fields; theorems of field calculations (uniqueness, duality, equivalence, reciprocity and Babinet's principles); plane, cylindrical and spherical waves; polarization properties of waves; and waveguides and elementary antennas. Prerequisite: admission to the MSEE program.

### **ELE 543 Advanced Electronics**

(3-0-3). Covers analysis and design of advanced electronic circuits. Explores topics such as electronic device modeling, processing and layout, current mirrors, noise analysis, voltage reference and regulators, Opamp design, OTAs and filter circuits. Prerequisite: admission to the MSEE program.

### ELE 544 Advanced Signal Processing (3-0-3). Explores topics

such as signal representation and system response, signal sampling and reconstruction, convolution, transfer function and system characteristics, digital filter design and realization, adaptive filters, spectral analysis, multirate signal processing, timefrequency analysis and wavelets. Prerequisite: admission to the MSEE program.

#### **ELE 640 Bioelectric Phenomena**

(3-0-3). Provides an overview of the following topics: electrical sources and electric fields, membrane biophysics, action potentials, volume conductor fields, electrophysiology of the heart, electric and magnetic lead fields, electroencephalography (EEG) and magnetoencephalography (MEG). Prerequisite/concurrent: NGN 500.

ELE 641 Advanced Microwave Engineering (3-0-3). Covers transmission-line theory; microstrip and coplanar lines; S-parameters; signal-flow graphs; matching networks; microwave devices; design, fabrication and measurements of microwave-integrated circuits using CAD tools; radar equation; resolution techniques; calibration; scatterometers; and scattering models. Prerequisite/ concurrent: NGN 500.

ELE 642 Digital and Wireless Communications (3-0-3). Covers the following topics: signal design for communications over band-limited channels, optimum and suboptimal receiver structures for band-limited channels, adaptive equalization, communications over mobile radio channels with fading and mitigation techniques against channel fading. Prerequisite: ELE 540.

ELE 643 Image and Video Processing (3-0-3). Provides an overview of the principles and techniques of digital image processing in applications related to digital imaging system design and analysis. Covers the following topics: analysis and implementation of image and video processing algorithms and standards, methods and filters for image enhancement and restorations, source and transform coding techniques for lossless and lossy compression, and basic elements of object recognition systems. Prerequisite/concurrent: NGN 500.

ELE 644 Control of AC Drives (3-0-3). Covers the following topics: dynamic models of DC and AC machines, pulse width modulated (PWM) inverters, scalar control of induction machines, direct and indirect field orientation, flux estimators and observers and vector control of AC machines. Prerequisite: admission to the MSEE program.

#### **ELE 645 High Voltage Engineering**

(3-0-3). Covers the following topics: destructive and non-destructive testing of power system components; breakdown mechanism of gas, liquid and solid insulating materials; generation and measurement of high-voltage AC; and DC and impulse voltages and non-destructive testing such as surface and internal discharges, capacitance and loss factor. Prerequisite: admission to the MSEE program.

ELE 695 Seminar (1-0-0). Introduces research methodologies. Explores the planning and realization of research projects. Examines current research issues in engineering using case studies that emphasize the utilization of applied research in designing engineering systems. Graded as Pass/ Fail. Prerequisite: admission to the MSEE program.

**ELE 699 Master's Thesis (9-0-9).** Requires students to complete original research work in the field of study. Requires the thesis to be completed under the supervision of a faculty member serving as thesis examining, and a final defense to the advisory committee. Graded as Pass/Fail. Prerequisite: permission of program director.

## ESM Engineering Systems Management

**ESM 501 Fundamentals of Probability and Statistics (1-0-1).** Covers basics of probability and statistical methods and principles including data collection, descriptive statistics, elementary probability theory, statistical inference and simple regression. Prerequisite: admission to the MSESM program.

#### ESM 502 Fundamentals of Engineering Economy (1-0-1).

Covers the basics of engineering economic analysis methods and principles, including time value of money and the effects of interest, alternative evaluation methods, breakeven analysis and economic analysis of public projects. Prerequisite: admission to the MSESM program.

ESM 520 Management for Engineers (3-0-3). Explores a full range of integrated topics for individuals in both public and private sector organizations who coordinate and manage engineering projects, personnel, resources and systems. Covers human resources, communication skills, leadership styles, team building, the basics of marketing management and financial management, and the management needs in multicultural and multinational environments. Integrates the core management principles with engineering experiences using case studies and applications.

ESM 532 Introduction to Applied Operations Research (3-0-3). (Formerly ESM 632). Covers formulation of mathematical models and explores solution techniques such as linear programming, sensitivity and cost analysis, simulation and stochastic modeling. Applications include transportation and networks, inventory control, production planning and control, and forecasting. Prerequisite: Admission to the MSESM program.

ESM 555 Information Technology Management (3-0-3). Provides an overview of the important managerial and strategic issues associated with using IT in today's networked organization. Covers IS/IT strategy, IT/business strategy alignment, IT-enabled business models, IT governance, managing integration with partners, planning and implementing new systems in organizations, and managing IT outsourcing. Previous knowledge of statistics is required. Includes case studies and team projects.

ESM 560 Quality Engineering and Management (3-0-3). Covers the techniques and applications of quality control using total quality management and reliability engineering. Includes sampling procedures, product quality and control, statistical process control charts and troubleshooting, product acceptance sampling plans, process capability analysis, an introduction to six sigma and design of experiment, time-to-failure, failure rate, reliability and system reliability.

#### ESM 570 Project Management

(3-0-3). Covers the elements of project management critical to the success of engineering projects: project management framework, strategic management and project selection, project organization, human aspects of project management, conflicts and negotiations, scope management, time management, cost management, risk management, contracts and procurement, project termination, the project management office, and modern developments in project management. Integrates and clarifies the principles and tools through case studies from a variety of disciplines.

ESM 575 Advanced Engineering Economy (3-0-3). Covers the theory and application of advanced engineering economy principles and methods. Studies the effects of inflation, depreciation and taxes, cost estimation, sensitivity analysis, risk and uncertainty, capital budgeting, multi-attribute decision making, advanced asset replacement analysis and real option analysis. Includes case studies and a term project related to the topic.

ESM 580 IT Project Management (3-0-3). Provides an overview and explores concepts of IT project management. Includes the following topics: IT project planning and its relationship to CMMI levels, IT project risk management and configuration management techniques for IT projects. Discusses prevailing alternative life-cycle models such as RUP/Agile/SCRUM and their relationship to PMBOK and CPM. Covers IT project estimation techniques such as COCOMO. Includes case studies in IT project management.

ESM 600 Research Methodology

(3-0-3). Introduces the methodology of scientific research. Covers topics such as internal and external construct validity and reliability issues in research; normative, prescriptive and descriptive theories; process and variance approaches to theory formulation: introduction to quasiexperimental design and case study methodologies: practical strategies for literature review; APA and IEEE style guidelines; and presenting research results and conclusions. Includes invited speakers from industry and business. Prerequisites: ESM 520 and ESM 560.

ESM 610 Strategic Technology Management (3-0-3). Provides a broad overview of the main topics encompassed by management of technology. Covers the innovative activities beginning with research and development and extending through production and marketing. Focuses on the emergence of the knowledge economy and technology as a key knowledge asset. Includes case studies covering technological innovation, technological forecasting, technological impact identification, and technology assessment and evaluation. Prerequisite: ESM 520.

ESM 612 Advanced Information Systems Management (3-0-3). Introduces topics in IT services management, resource planning and governance. Covers IT value-chain and related processes. Discusses IT portfolio management and maturity models. Discusses enterprise architectures and outsourcing strategies. Includes an overview of CMMI, CoBIT and ITIL. Prerequisite: ESM 555.

ESM 614 Communication and Network Management (3-0-3). Addresses the key technological and managerial issues related to the design, operation and maintenance of computer networks and the enterprise telecommunication system. Provides an overview of telecom technologies, including telecom architectures and protocols, voice technologies, LANs, WANs, cellular and mobile networks, satellite systems and Internet/intranet architectures. Covers feasibility analysis, service level agreements, service quality monitoring, network planning, network management, survivability, telecom equipment procurement, contracting, outsourcing, technology forecasting and replacement, telecom investment decisions, legal and regulatory issues in telecommunications, and performance modeling and monitoring tools. Includes case studies related to the topic. Prerequisite: ESM 555.

ESM 616 Infrastructures for e-Businesses (3-0-3). Explores the various elements of infrastructures deployed to run e-businesses, including the Internet, intranet and extranet. Covers web hosting, web servers and web services; electronic transaction processing and payment systems; trust services; modes of e-businesses, including business-to-business transactions and EDI; ethical and social issues involved in e-business; and quality of service and infrastructures. Includes case studies related to the topic. Prerequisite: ESM 555.

ESM 620 Security Management (3-0-3). Provides a solid background in the administration and management of security for computer-based systems. Introduces the management of security, including managing identity, IT threats, vulnerabilities and trust. Covers planning for security and contingencies, the development of security programs and policies, security models, practices and standards, security risk management, personnel and security, and legal and ethical issues in security. Prerequisite: ESM 555.

ESM 624 Knowledge Management

(3-0-3). Introduces the roots of knowledge and knowledge management (KM); theories/definitions of knowledge; theories, applications, tools, and practices of KM; the Knowledge Management Life-Cycle Framework and Models; significant issues in KM (e.g., best practices, culture, economics, strategy, intellectual capital and sustainable innovation). Includes case studies related to the topic. Prerequisite: ESM 555.

ESM 626 Data Warehousing and Business Intelligence (3-0-3). Covers planning, designing and operating data centers; site selection; operational procedures; physical and operational security; business continuity and disaster recovery; data collection and organization; concepts and tools of data warehousing; and business intelligence and trends discovery including data visualization, data mining and machine learning techniques. Includes case studies related to the topic. Prerequisite: ESM 555.

ESM 634 Advanced Modeling and Simulation (3-0-3). (Formerly ESM 540). Covers advanced principles associated with systems modeling and simulation using contemporary software tools. Includes topics such as problem formulation, queuing theory, discrete event simulation modeling, and analysis of alternatives and selection of the optimum solution. Prerequisite: ESM 532.

ESM 636 Human Resources Management (3-0-3). Covers human resource planning processes, tools and techniques, job specification and methods of job analysis. Describes the requirements and ethical context of HRM methods of recruitment, evaluation, career training and development programs, salary systems and employee benefits, HR information systems and international HR issues. Integrates HR management practices and methodologies with engineering experiences. Prerequisite: ESM 520.

**ESM 638 Decision Analysis** 

(3-0-3). Covers the theory and practice of analyzing decisions in the public and private sectors. Covers multiple objectives, influence diagrams, decision trees, sensitivity analysis, probability assessment, multi-attribute utility and human biases. Describes practical applications through realworld systems model building. Uses decision analysis software and spreadsheets to solve real-life problems through case studies. Prerequisite: ESM 501.

### ESM 640 Supply Chain

Management (3-0-3). Explores key issues related to the design, planning and operation of supply chains. Includes topics such as supply chain structure, supply chain performance metrics, network design, facility location in a supply chain, demand forecasting, aggregate planning, planning and managing inventory in a supply chain, transportation in a supply chain, pricing and revenue management. Prerequisite: ESM 532.

ESM 642 Business Process Management (3-0-3). Introduces

the important issues in alignment of business internal activities and resources with external requirements through process design and process improvements. Includes process types and hierarchies, workflow management systems, incremental process improvement, process reengineering and benchmarking. Covers implementation and change management. Prerequisite: ESM 520.

ESM 644 Financial Management for Engineers (3-0-3). Provides engineers with financial management knowledge necessary for value-added decision making. Covers structure and analysis of financial statements, corporate valuation, working capital management, capital structure and budget, securities analysis and financial markets, and financial forecasting. Includes practical financial management case studies in technical organizations. Prerequisite: ESM 575.

**ESM 650 Construction Management** (**3-0-3**). Covers both the fundamental concepts and contemporary applications of construction management. Discusses elements of the construction project life cycle, project stakeholders, project administration and coordination and construction delivery methods.

Provides the student with the opportunity to simulate real-life construction management problems and apply acquired skills in their solution through case studies and team projects. Prerequisite: ESM 570.

**ESM 652 Construction Planning and Scheduling (3-0-3).** Covers the application of planning and scheduling techniques critical to the success of construction projects, critical path method, resource allocation and leveling, time-cost optimization, project monitoring, updating and control, linear scheduling, stochastic scheduling, contractual implications of construction schedules, analysis of time-related change orders and delays, schedule diagnostics, and use of construction planning and scheduling software. Includes case studies from the construction industry. Prerequisite: ESM 570.

ESM 654 Materials Management

(**3-0-3**). Covers applications of management skills on materials, site, personnel, planning process, information systems, expediting and quality assurance, purchasing, logistics, materials control, forecasting, inventory and warehouse management, physical distribution, just-in-time principles and total quality management. Prerequisite: ESM 570.

ESM 660 Legal Aspects of ESM (3-0-3). Introduces construction contracts and their administration with special emphasis for engineering. Covers construction claims, matters of time, delays and litigation. Includes the following professional topics: analysis of specific issues concerning contracts, subcontracting, tort claims, insurance and bonds. Covers strategies for avoiding or terminating litigation, methods of dispute resolution, key aspects of prosecuting and defending claims, the role of dispute review boards and their use, procedures of claims presentation, conducting cost evaluation of claims and methods of international construction contracts. Covers actual legal cases involving construction and law. Prerequisite: ESM 570.

ESM 667 Construction Contracting and Cost Estimate (3-0-3). Examines the cost elements of construction contracting crucial to the success of construction businesses. Provides an overview of basic cost estimating and bidding procedures, including the role of the estimator, and various levels and details of an estimate and the bidding process. Includes the following topics: accounting and costkeeping systems, budgeting, quantity takeoff, pricing labor, material and equipment, bonding, private and public bidding formats, minority requirement, markups and bidding strategies. Prerequisite: ESM 650.

### ESM 668 Construction Safety

Management (3-0-3). Covers safety and health concerns in the construction worksite. Concentrates on safety process development and management in construction. Provides the student with a comprehensive background in worksite hazard assessment, safety and health program development, and risk management in the construction industry. Prerequisite: ESM 570.

ESM 685 Capstone Course in Engineering Management (3-0-3). Presents students with an opportunity to showcase the theory and the practical knowledge accumulated throughout their studies. The general intent of the engineering capstone is to demonstrate students' knowledge of the integrative aspects of ESM tools through rigorous written and oral communication of case analysis and a team project. Uses case studies to demonstrate the integrative aspects of ESM applications. Prerequisite: ESM 600.

ESM 686 Capstone Course in Construction Management (3-0-3). Presents students with an opportunity to showcase the theory and the practical knowledge accumulated throughout their studies. The general intent of the engineering capstone is to demonstrate students' knowledge of the integrative aspects of ESM tools through rigorous written and oral communication of case analysis and a team project. Uses case studies to demonstrate the integrative aspects of ESM applications. Prerequisite: ESM 600.

### ESM 687 Capstone Course in Information Technology

Management (3-0-3). Presents students with an opportunity to showcase the theory and the practical knowledge accumulated throughout their studies. The general intent of the engineering capstone is to demonstrate students' knowledge of the integrative aspects of ESM tools through rigorous written and oral communication of case analysis and a team project. Uses case studies to demonstrate the integrative aspects of ESM applications. Prerequisite: ESM 600.

ESM 698 Professional Project (6 credits). Requires completion of an approved professional project on a selected area of engineering management and systems engineering. Requires students to demonstrate the ability to integrate the information and the skills accumulated in their study plan through rigorous written and oral communication. A final report and presentation must be submitted to the examining committee. Graded as Pass/Fail.

**ESM 699 Master's Thesis (6 credits).** Requires students to complete original research work in a multidisciplinary area in engineering systems management. Requires students to demonstrate the ability to integrate the information and the skills accumulated in their study plan through rigorous written and oral communication. The thesis is completed under the supervision of a faculty member serving as the thesis advisor, and a final defense to the examining committee is required. Graded as Pass/Fail.

# MCE Mechanical Engineering

MCE 550 Mechanical Systems Design (3-0-3). Introduces the design methodology applicable to mechanical systems. Includes the following topics: materials selection; specialized design methods such as design for manufacture, design for reliability and life cycle design; applications of optimization techniques; and finite element analysis to solve typical mechanical engineering problem. Prerequisite: admission to the MSME program.

MCE 551 Advanced Thermofluids (3-0-3). Explores the design and analysis of thermofluid systems using principles of thermodynamics, fluid mechanics and heat transfer. Covers single and multiphase thermofluid systems, multicomponent thermofluid systems, non-equilibrium thermofluid systems, heat loads, fluid flow network, exergy analysis, entropy generation minimization, heat exchangers and system design optimization. Prerequisite: admission to the MSEE program.

MCE 552 Modeling and Simulation of Mechanical Systems (3-0-3). Addresses the importance of modeling and simulation and the interface between computer models and actual processes. Covers the formulation of systems of equations representing linear and non-linear mechanical systems behavior, and black box modeling of mechanical systems such as artificial intelligence schemes. Employs commercial software applied to the different fields of mechanical engineering. Prerequisite: admission to the MSEE program.

MCE 650 Advanced Machine Dynamics (3-0-3). Covers the following topics: kinematics and kinetics of three-dimensional rigid bodies and multibody systems, momentum and energy methods, and holonomic and non-holonomic constraints. Introduces Hamilton's principle for holonomic systems, Lagrange's equations, relativistic dynamics, central force motion, Euler equations of motion, Hamilton's equations and phase space, and the Hamilton-Jacobi equation. Prerequisite: MCE 550.

MCE 651 Advanced Engineering Materials (3-0-3). Explores advanced materials used in engineering applications. Covers the following topics: fatigue, fracture, experimental techniques, nondestructive evaluation, inelastic behavior, and the effect of processing and environmental conditions on mechanical properties. Prerequisite: MCE 550.

MCE 652 Advanced Topics in Manufacturing (3-0-3). Provides an in-depth study of manufacturing processes. Covers a quantitative analysis of metal cutting and analyzes the relationship between production performance and crucial process parameters. Introduces contemporary manufacturing technologies. Prerequisite: MCE 550.

### MCE 653 HVAC Systems Design

(3-0-3). Aims at developing a solid background in the practical design and analysis of HVAC systems. Covers building load using transfer functions and energy estimation methods, renewable energy technologies (solar, wind, geothermal, photovoltaics) and their applications on HVAC systems. solar thermal energy and wind energy conversion systems, passive design strategies, HVAC system controls, thermal energy storage, absorption chillers, energy efficiency for buildings, and design of large commercial and industrial HVAC systems w/without renewable energy. Prerequisite: MCE 551.

MCE 654 Advanced Fluid Dynamics (3-0-3). Examines the conservation equations for viscous fluids and Navier-Stokes equations. Covers advanced topics such as Stokesian flow, boundary layer concept, laminar boundary layer equations and methods of solutions, theory of stability of laminar flows and introduction to turbulent flow. Prerequisite: MCE 551.

MCE 655 Advanced Measurements and Design of Experiments (3-0-3). Explores advanced experimental methods used in mechanical engineering systems. Covers the following topics: advanced measurement techniques in fluids, solids and motion variables; instrumentation; data acquisition; error and noise reduction; experimental data processing; error analysis; and design of experiments. Prerequisite: MCE 552.

MCE 695 Seminar (1-0-0). Introduces research methodologies. Explores the planning and realization of research projects. Examines current research issues in engineering using case studies that emphasize the utilization of applied research in designing engineering systems. Graded as Pass/ Fail. Prerequisite: admission to the MSEE program.

MCE 699 Master's Thesis (9-0-9). Requires students to complete original research work in the field of study. Requires the thesis to be completed under the supervision of a faculty member serving as thesis advisor, and a final defense to the examining committee. Graded as Pass/Fail. Prerequisite: permission of program director.

### MTR

## Mechatronics Engineering

### **MTR 501 Introduction to**

Mechatronics (2-3-3). Covers applied mechanical and electrical engineering principles used in mechatronics products. Introduces students to system modeling of mechanics. electromechanics, basic electronics design, signal processing and conditioning filters, power amplifiers and switches, semiconductor devices. and thermal and fluidic systems. Develops design skills in mechanisms. electronics devices and software in order to create, test and verify system functions. Includes laboratory projects. Graded as Pass/Fail. Prerequisite: admission to the MSMTR program. Lab/Tech fee rate A applies.

MTR 505 Applied Electrical and Electronics Systems (3-1-3). Covers operational amplifiers and their applications, power amplifiers and switches, DC and AC motors, digital systems and electronic CAD tools. Prerequisite: admission to the MSMTR program.

MTR 510 Applied Mechanical Systems (3-0-3). Covers modeling of thermal and fluid systems. Includes kinematics and dynamics of machinery, and CAD tools for mechanical systems. Prerequisite: admission to the MSMTR program.

MTR 515 Information Technology for Mechatronics (3-1-3). Covers computer organization, operating systems, computer networking (LAN and WAN), Internet programming and application, and web-based monitoring. Prerequisite: admission to the MSMTR program.

MTR 520 Embedded Systems for Mechatronics (2-3-3). Explores microprocessor hardware and software modules. Covers microcontroller hardware and software architectures, microcontrollers programming and interface with real-time mechatronics systems, data acquisition unit and designing stand-alone embedded systems for mechatronics products. Includes case studies and course projects. Prerequisite: admission to the MSMTR program.

### MTR 540 Advanced Control

**Systems (3-0-3).** Covers state variable models, design of control systems in state space, full state observers, reduced order observers, digital compensator design LQ regulator and LQG theory, servomechanism design, and design of continuous and digital control systems using modern analytic and computer design tools. Prerequisite: admission to the MSMTR program.

MTR 590 Mechatronics Design (2-3-3). (Formerly MTR 525). Requires individual and team projects involving the development and integration of hardware and software into a smart system, which includes sensing, processing and controlling functions. Prerequisites: MTR 501 and MTR 520.

MTR 600 Modeling and Simulation of Dynamic Systems (3-0-3). Introduces multi-domain systems. Covers mechanical, thermal, fluid, electrical, electronic and electromechanical system dynamics. Emphasizes modeling and simulation of hybrid systems using computeraided tools. Prerequisite: NGN 500.

MTR 605 Digital Signal Processing (3-0-3). Covers signal representation and system response, signal sampling and reconstruction, convolution, transfer function and system characteristics, digital filter design and realization, adaptive filters, spectral analysis, multirate signal processing, and time-frequency analysis and wavelets. Prerequisite: NGN 500.

### MTR 610 Automated

Manufacturing Systems (3-0-3). Describes and demonstrates automated machine tools and machining cells. Covers machining center configuration and operation, machine tool controller, machining code generation, in-process sensing and control, cell controllers and system simulation. Prerequisite: MTR 520. MTR 615 Artificial Intelligent

**Systems (3-0-3).** Covers biological and cognitive paradigms, concepts of machine intelligence, intelligent agents, vision and image analysis, principles of decision making, fuzzy logic, decision trees, casebased reasoning, genetic algorithms, neural networks and expert systems. Prerequisites: MTR 515 and MTR 520.

MTR 620 Machinery Dynamics and Vibration (3-0-3). Covers machinery vibration analysis (signature analysis in time and frequency domains, fault detection, diagnosis and correction), instrumentation, case studies and machine monitoring programs. Prerequisite: NGN 500.

MTR 625 Distributed Control Systems (3-0-3). Studies distributed computer systems architecture, system elements, data communications links, software algorithms, reliability and applications. Prerequisite: NGN 500.

MTR 630 Real-Time Robotics Systems (2-3-3). Covers components of robot systems, analysis and design of modern robotic and industrial control systems, hardware and software, computational methods and techniques used in vision-based robotics, real-time embedded control, optimization techniques, matrix analysis and analytic 2D/3D geometry. Prerequisites: MTR 520 and NGN 500.

MTR 635 Smart Structures and Sensor Fusion (3-0-3). Explores basic material properties, models, and active and sensory material systems. Covers health monitoring approaches to detect damage in a structure; applications of smart materials primarily for vibration and pointing control; finite element models with piezoelectric elements use in sensor selection and actuator; the design of feedback and adaptive feed-forward control algorithms; and implementation of sensor, actuator and control electronics. Prerequisite: MTR 520.

MTR 640 Nonlinear and Intelligent Control Systems (3-0-3). Introduces nonlinear systems, Lyapunov stability theory, linearization by high gain and sliding modes, nonlinear observers, Lyapunov design methods, feedback linearization, and intelligent control strategies, such as neural networks and fuzzy logic. Prerequisite: MTR 540.

MTR 645 Image Processing and Computer Vision (3-0-3). Discusses fundamentals of digital images, image enhancement, restoration and segmentation. Covers color representation, morphological image processing, representation of images and object recognition. Prerequisite: NGN 500.

MTR 691 Mechatronics Design Project (0-6-3). Requires an extended project of interdisciplinary nature in which elements of computing, mechanics and electronics should be involved. Graded as Pass/Fail. Prerequisite: MTR 590.

MTR 695 Mechatronics Seminar (1-0-0). Explores project planning development and realization, case studies of engineering systems design and realization, and current research topics in mechatronics engineering, including areas such signal processing, imageprocessing, control, robotics, intelligent systems, computer vision and MEMS. Prerequisite: approval of advisor.

MTR 699 Master's Thesis (6 credits). Requires students to complete extended and original research work on a topic related to elements of computing, mechanics, electronics and intelligence. Graded as Pass/Fail. Prerequisite: approval of advisor.

## NGN Engineering

NGN 500 Advanced Engineering Mathematics (3-0-3). Covers analysis of linear and nonlinear physical systems equations of motion (ODEs and PDEs), tensors, partial differential equations of mathematical physics (wave, diffusion, Laplace, Poisson Equations), transform and integral methods for solving boundary and initial value problems, and numerical methods for ordinary and partial differential equations. Prerequisite: admission to the MSChE or MSCOE or MSCE or MSEE or MSME or MSMTR program. NGN 501 Research Methods and Analysis in Engineering (3-0-3).

Introduces basic knowledge and advanced skills necessary for conducting research in engineering. Covers techniques and tools for carrying out literature surveys and reviews, forming research goals, designing appropriate research method of approach, designing experiments and conducting data analyses, and preparing manuscripts and presentations of findings. Prerequisite: admission to the MSChE or MSCoE or MSCE or MSEE or MSME program.

NGN 505 Random Variables and Stochastic Processes (3-0-3). Covers the following topics: random variables, transformation of two functions of random variables, distributions, random processes, correlation and power spectral density, LTI systems with stochastic signals, sampling theorem, continuity, differentiation and integration, analytic signals and Markov chains. Prerequisite: admission to the MSChE or MSCoE or MSCE or MSEE or MSME program.

NGN 509 Advanced Computational Methods (3-0-3). Covers topics such as numerical analysis methods (error analysis, roots of equation, linear algebraic equations, interpolation, approximation, finite difference and quadrature): numerical linear algebra; numerical solutions of ordinary differential equations; numerical solutions of partial differential equations; control volume technique; and numerical modeling, simulation and visualization of engineering problems using MATLAB. Prerequisite: admission to the MSChE or MSCoE or MSCE or MSEE or MSME program.

## Independent Study

Independent study is the umbrella term used to label two types of independent work: independent course and directed study.

Students are allowed to take one independent study. A second independent study could be approved

by the student's program director for graduation purposes only.

In order to be eligible to pursue an independent study, students must be in good academic standing.

**Independent Course (1 to 4 credits).** A course listed in the catalog but offered in an independent study format. The course is coded using the course number in the catalog.

**Directed Study (1 to 4 credits).** An investigation under faculty supervision beyond what is offered in existing courses.

Directed study courses are numbered as 596 or 696 courses. The three-letter course prefix reflects the field of study of the course (e.g., independent study courses in ESM are coded as ESM 696).

## 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 594 or 694 courses. The three-letter course prefix reflects the field of study of the course.

Descriptions of particular special topics courses are made available in the college/school offering the course during registration.

## School of Architecture and Design

## UPL Urban Planning

UPL 501 Fundamentals of Urban Planning (3-0-3). (Cross-listed as ARC 571). Introduces the discipline of urban planning. Surveys the history of the field as well as its links with other fields of environmental studies, such as architecture, urban design, geography, engineering and others. Overviews what planners do and the tools they use in their practice.

UPL 541 Planning Theory and Methods (3-0-3). Explores the theoretical foundations of planning and its associated methods. Examines the basic theoretical framework that fosters good planning practice. Reviews the classical theoretical paradigms of planning, examines the major roles played by practicing planners, and looks at the application of theory in dealing with such issues as community development, environmental protection, economic policies, political and administrative structure, and social equity.

UPL 547 Research Methods and Analysis (3-0-3). Introduces the quantitative and qualitative methods and techniques used in urban planning research and practice. Analytic approaches include research design, multivariate regression, survey research, case study research, evaluation and graphic data presentation. Emphasizes methods in the context of planning and urban policy research. Prerequisite/ concurrent: UPL 501.

UPL 548 Environmental Planning (3-0-3). Provides a comprehensive overview of the field of environmental planning and how it relates to efforts intended to manage, organize and protect environmental resources. Reviews the political and administrative context of environmental planning. Addresses principles of sustainability, ethics and the law in relation to land, air, water and other natural resources. Prerequisite/concurrent: UPL 501. Lab/Tech fee rate A applies.

**UPL 550 Urban Economics and** Analysis (3-0-3). Examines the economics of cities and urban problems. Undertakes economic analysis of the location and growth of urban and regional areas with emphasis on public policy issues. Discusses land-use patterns, measurement and change in regional economic activity, and urban problems such as transportation, housing, poverty and crime. Places special attention on local fiscal behavior, overlapping jurisdictions and the provision of local public goods, and intergovernmental fiscal relations. Prerequisite: UPL 501.

UPL 556 Spatial Analysis for Planners (4-0-3). Introduces key concepts and technical skills involved in analyzing spatial phenomena. Includes the following topics: spatial inferences, cartographic quality, geospatial data and exploratory spatial data analysis. Introduces and applies key software tools in urban and regional contexts. Prerequisite/ concurrent: UPL 501. Lab/Tech fee rate A applies.

UPL 565 Land Use Planning Principles and Practice (3-0-3). Examines various theoretical and practice-based approaches to land use planning. Gives an overview of the various social, economic, political and legal influences on land use and the planning process and application appropriate to balance such influences. Prerequisite/concurrent: UPL 501.

UPL 572 Urban Transportation Systems Planning Techniques (3-0-3). Covers data collection, trip generation, trip distribution, factors underlying the choice of mode, traffic assignment, modeling and evaluation techniques, use of planning software packages, development and evaluation of alternatives. Prerequisite/ concurrent: UPL 501.

### **UPL 574 Urban Transportation**

**Systems Analysis (3-0-3).** Explores the use of quantitative techniques for modeling urban transportation systems' performance. Covers the application of graph theory and network analysis to transportation problems, and analytical approaches to formulate network equilibrium assignment problems and solution algorithms. Introduces dynamic traffic assignment. Prerequisite: UPL 572.

UPL 582 Theory and Principles of Urban Design (3-0-3). (Cross-listed as ARC 573). Examines major concepts, principles and theories of urban design. Reviews the historic development of urban design as a professional field and surveys current urban design issues, trends and practices in both the Western and non-Western/Islamic contexts. Prerequisite/concurrent: UPL 501.

**UPL 584 Urbanism and Urban Form Analysis (3-0-3).** Examines urban form elements, patterns and evolution. Focuses on the forces that have shaped cities in history and analyzes contemporary trends that impact urban formation and regeneration. Explores methods of urban morphological analysis as related to urban design. Places special attention on the study of cities of the Middle East and Islamic societies. Prerequisite: UPL 501.

**UPL 597 Urban Planning Internship** (0-0-0). Consists of eight weeks (320 hours) of approved internship. At the end of the internship, the student must submit a report of the internship work experience. Course is offered on a Pass/Fail basis. Prerequisite: UPL 501. Registration fees apply.

**UPL 667 Urban Planning Studio** (12-0-6). Covers the application of substantive skills in urban planning. Focuses on comprehensive planning exercises for an urban area in the UAE/Gulf region, involving fieldwork and hands-on analysis and application. Emphasizes the methods and tools of preparing plans. Addresses development of baseline data; analysis of existing conditions; identification of strategic planning and development issues; forecasting of future conditions; review of development goals, objectives and policies; development and synthesis of alternative plans; evaluation of alternatives; and development of implementation strategies and programs that support policymaking. Prerequisites: UPL 501, UPL 556 and completion of a minimum of 15 UPL credit hours. Lab/ Tech fee rate A applies.

## UPL 676 Transportation Systems Operations and Control (3-0-3).

Studies the operation and control of transportation systems with emphasis on traffic characteristics, capacity analysis, traffic improvements, signalization, signs and marking, channelization, intersection capacity, and principles and techniques used to improve the efficiency and safety of transportation systems. Prerequisite: UPL 572.

UPL 686 Space, Society and the Public Realm (3-0-3). Explores the nature of urban space and its role in the social being. Focuses on the potentials of space as a tool in shaping the public realm and nurturing citizenship. Examines critical issues of globalization and the transforming role of space in the post-industrial, informational city. Prerequisite: UPL 582.

### UPL 698 Final Project (6 credits).

Requires students to choose an applied research topic often in conjunction with a real planning problem and/or client. Students will produce a high-quality project report guided by an advisor and a minimum of two readers. The final project serves as a capstone course requiring students to draw on the basic knowledge, skills and techniques learned from their coursework. Graded as Pass/Fail. Prerequisite: permission of program director.

### UPL 699 Master's Thesis (6 credits).

Requires independent, significant original research conceived and developed by the student and guided by an advisor and a minimum of two readers. Students will demonstrate scholarly capabilities and expertise based on the theoretical knowledge and methodological skills they have developed in their previous coursework. The thesis experience serves as a capstone course for students who intend to pursue careers in research, teaching and/or scholarship. Graded as Pass/Fail. Prerequisite: permission of program director.

## Independent Study

Independent study is the umbrella term used to label two types of independent work: independent course and directed study.

Students are allowed to take one independent study. A second independent study could be approved by the student's program director for graduation purposes only.

In order to be eligible to pursue an independent study, students must be in good academic standing.

**Independent Course (1 to 4 credits).** A course listed in the catalog but offered in an independent study format. The course is coded using the course number in the catalog.

**Directed Study (1 to 4 credits).** An investigation under faculty supervision beyond what is offered in existing courses.

Directed study courses are numbered as 596 or 696 courses. The three-letter course prefix reflects the field of study of the course (e.g., independent study courses in UPL are coded as UPL 696).

## **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.

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Descriptions of particular special topics courses are made available in the college/school offering the course during registration.

## School of Business and Management

# **EMB** Executive Business Administration

### EMB 701 Leadership and the

Executive (6-0-6). Focuses on building the leadership skills required to prepare an organization for changes that will lead to higher levels of performance. Considers the behavior of people in organizations, principles and attributes of leadership, motivation theory, business ethics and effective management communication in the context of the Gulf Region. Explores approaches to organizational learning, strategic management of human capital, organizational development, and team building as the business enterprise positions itself to compete in a globalizing economy. Graded as Pass/Fail. Prerequisite: admission to the EMBA program.

**EMB 702 Analytical Foundations** 

(6-0-6). Introduces principles and techniques of analysis used to support decision making in business organizations, drawing primarily on economics, statistics and management science. Reviews essential elements of micro- and macroeconomic theory as they apply to competition, market behavior, interest rates and other phenomena impacting Gulf enterprises. Examines the use and analysis of data in decision making, including probability distributions, regression, modeling and other quantitative methods. Graded as Pass/ Fail. Prerequisite: admission to the EMBA program.

### EMB 703 Financial Management

(9-0-9). Focuses on executive decisions in the framework of international financial markets. Explores fundamentals of financial record keeping and decision making, including cash now, cost accounting and financial ratio analysis. Reviews management of assets and liabilities, followed by consideration of managerial and capital budgeting processes. Investigates the use of corporate leverage and introduces methods of appraising corporate debt and equity securities. Examines portfolio optimization and risk management techniques, including the use of financial derivatives. Graded as Pass/Fail. Prerequisite: admission to the EMBA program.

### EMB 704 Process and Innovation

(6-0-6). Focuses on manufacturing and service management decisions, as well as sourcing and distribution functions of an organization. Considers principles of operations strategy, productivity, capacity planning, facility location quality, supply chain management, and the design and control of projects, products and processes. Explores a wide variety of analytical techniques for critically evaluating and continuously improving business processes. Graded as Pass/ Fail. Prerequisite: admission to the EMBA program.

### EMB 705 Markets and Innovation

(3-0-3). Introduces segmentation and market positioning using the four strategic dimensions of marketing, together with the basic principles of consumer behavior and market research. Explores the balance between standardization and adaptation of marketing programs in an era of globalization. Examines techniques to stimulate innovation in the development of new marketing strategies, product and service offerings, and e-business applications. Graded as Pass/Fail. Prerequisite: admission to the EMBA program.

EMB 706 Society and Governance (3-0-3). Focuses on the position of business in society and examines its relations with other stakeholders. Considers societal expectations, corporate accountability and strategic approaches to social responsibility. Discusses concepts of management accountability and fiduciary responsibility based on agent and stewardship models, particularly as they apply to corporate governance and the challenges faced by boards of directors. Explores the evolving legal structure of the UAE and examines such issues as contracts, dispute resolution, employment law and government regulation. Graded as Pass/Fail. Prerequisite: admission to the EMBA program.

### EMB 711 Gulf to Global Strategy

(6-0-6). Provides opportunities for students to integrate theories and principles in the development of corporate strategies for businesses in the Gulf Region. Employs case studies and experiential learning activities to create situations in which participants can synthesize concepts and apply analytical skills or leadership techniques to the creation of comprehensive strategies capable of supporting expansion into world markets. Considers the appropriate combination of marketing, financial, operations, technology and human resources. Graded as Pass/Fail. Prerequisite: admission to the EMBA program.

### EMB 712 Executive Toolkit

(6-0-6). Focuses on experiential development of specific leadership skills that help executives tie strategy to implementation. Introduces team building, negotiation, financial control, process mapping, project management and other useful techniques. Employs case studies, simulations, group exercises, role plays and a variety of analytical techniques to put management theory into effective practice. Graded as Pass/Fail. Prerequisite: admission to the EMBA program.

## GMPA Gulf Executive Public Administration

GMPA 500 Executive Writing and Research (2-0-2). Teaches the elements of effective writing and research. Introduces students to online research and available information resources, including journals and databases. Includes writing concepts such as organizing and prewriting, wordiness, parallel structure, paragraphing, subordination, passive voice, transitions, report structure, nominalizations, prepositional decay, proofreading, and document design and layout. Prerequisite: admission to the GEMPA program.

**GMPA 501 Economics for Public** Executives (3-0-3). Explores microand macroeconomic theory for management decisions and emphasizes basic economic reasoning in the analysis of public policy choices. Covers topics such as resource scarcity, supply and demand, household and firm behavior, market equilibrium, externalities, market failure, public goods and benefit-cost analysis. Discusses the comparative advantages of short-run fiscal and monetary policy changes and of longer-run growth policy options. Prerequisite: admission to the GEMPA program.

**GMPA 504 Executive Problem** Solving (3-0-3). Introduces basic quantitative methods and their application to executive decision making and problem solving. Presents a variety of techniques for data analysis. Covers topics such as defining problems, choosing appropriate techniques, descriptive data analysis, probability theory, sampling, point and interval estimation, analysis of comparisons and associations, and hypothesis testing. Prepares participants to be effective initiators, consumers and evaluators of quantitative studies. Prerequisite: admission to the GEMPA program.

**GMPA 506 Government Informatics** (3-0-3). Explores the organizational integration and performance implications of networked information assets in the public sector. Explores information architecture planning, open standards and interoperability of IT infrastructures, open source software applications in government, and IT investment planning and evaluation. Addresses the role of information systems at all levels of government. Considers trust and privacy issues, ethics, access and security aspects. Outlines models for organization of the IT function

and management of IS resources in the government sector. Prerequisite: admission to the GEMPA program.

GMPA 600 Public Administration Colloquium (1-0-0). Introduces participants to each other, the GEMPA staff, SBM and AUS. Incorporates registration, computer configuration, calendaring and logistics activities. Establishes expectations and procedures for testing, assignment submission and communication with faculty. Frames key challenges for public administration in the Gulf region. Prerequisite: admission to the GEMPA program.

GMPA 601 Policy, Politics and Administration (3-0-3). Introduces the public policy process and considers concepts such as competing values, externalities, market failure, risk and uncertainty. Explores alternate models of policy decision making and teaches approaches used by public managers to build support for specific programs. Examines the roles of agency culture, administrative reform, public trust, judgment and ethical norms. Prerequisite: admission to the GEMPA program.

**GMPA 605 Financial Management** and Budgeting (3-0-3). Presents use of the executive budget as a device for management planning and control. Emphasizes underlying concepts of public finance and the elements of budget analysis, strategy, review and execution. Highlights factors that influence budgetary commitments and considers the interplay among tax policy, budgets and fiscal policy. Examines basic financial management functions including cash management, debt administration and communication with their impact on financial performance. Prerequisite: admission to the GEMPA program.

GMPA 606 Strategic Human Resource Management (1.5-0-1.5). Examines the management of human resources as a key element in organizational strategy and implementation. Presents the human resource inventory and considers principles of effective hiring, performance management, employee development, position classification, job analysis and managerial discretion in the context of ethical theories on equity, equality and representative governance. Prerequisite: admission to the GEMPA program.

## GMPA 607 Public Marketing and Strategic Communication

(1.5-0-1.5). Examines the principles of effective marketing and communication as they apply in the public sector. Encourages participants to improve their interpersonal, group and representational communication skills in written and oral form. Explores conceptual and theoretical frameworks for developing communication campaigns aimed at advancing organizational priorities and public policy. Prerequisite: admission to the GEMPA program.

**GMPA 612 Organizational** 

**Transformation (3-0-3).** Explores the principles of organizational diagnosis, planning and change. Presents methods for identifying root causes, analyzing processes, evaluating alternatives and securing support for implementation. Covers topics such as data collection methods, diagnostic models, organizational design principles, process reengineering, business case analysis and training alternatives. Cases will allow students to apply theories, models and methods to real situations. Prerequisite: admission to the GEMPA program.

**GMPA 614 Analysis and Evaluation** (**3-0-3**). Focuses on quantitative and qualitative research activities essential for designing, implementing and appraising government programs. Explores approaches to assessing the effectiveness and efficiency of public services, new initiatives and ongoing agency activities. Considers the US Government Performance and Results Act, along with parallel initiatives for program reform in other nations. Prerequisite: admission to the GEMPA program.

**GMPA 615 Managing the Public-Private Partnership (3-0-3).** Explores the broad range of public-private interaction in delivery of public services. Considers tenets of the New Public Management, including entrepreneurialism in government, public-private partnerships and their implications for political, managerial, legal and ethical questions associated with use of non-governmental service providers. Considers types of services amenable to new approaches and introduces elements of performance monitoring in acquisition, contracting and program delivery. Prerequisite: admission to the GEMPA program.

GMPA 616 e-Governance (1-0-1).

Introduces the concept of e-governance and the basic stage model of e-government. Distinguishes between models of government automation and transformation. Considers the potential influence of government information access on the development of an informed and empowered citizenry. Explores the potential of electronic media for stimulating citizen participation in public decision making. Prerequisite: admission to the GEMPA program.

**GMPA 617 Public Ethics and** the Rule of Law (3-0-3). Presents public ethics, the public good and stewardship as derived from liberal theory and moral reasoning. Considers the relationship between law and ethics in Western thought, stressing the implications of rule of law and due process for administrative practice. Reviews the impact of interests, privilege, political power and conflict of interest on integrity and public trust. Addresses differences in values, norms and social objectives based on local culture and tradition. Prerequisite: admission to the GEMPA program.

**GMPA 619 Executive Leadership** (3-0-3). Explores leadership roles and responsibilities in creating highperforming public organizations. Emphasizes creation and implementation of an organizational vision integrating key program goals, priorities and values. Considers adaptive leadership, team-building, conflict resolution, crisis management, emotional intelligence, integrity and dealing with diversity in a crosscultural context. Employs case analysis and discussion, role plays and an active learning project. Prerequisite: admission to the GEMPA program.

**GMPA 632 Learning in Public** Management (3-0-3). Synthesizes and integrates principles and theories from throughout the GEMPA Program, applying them to leadership, human resource management, law and ethics, policy and evaluation. Presents the notion of a learning organization and explores its implications for government performance. Introduces the concept of policy transfer and considers the ability of public organizations to learn by analogy. Explores the importance of administrative capacity and the relationship between policy and implementation. Prerequisite: admission to the GEMPA program.

### GMPA 680 Project Management for Executives (1-0-1). Explores techniques, models and tools for management of government projects. Uses case studies to evaluate leadership challenges in managing complex, highly technical and time-sensitive projects. Considers project design, planning, scheduling, systems engineering, cost estimation and control. Prerequisite: admission to the GEMPA program.

## MBA Business Administration

#### **MBA 501 Foundations of Economics**

(3-0-3). Provides an introductory survey of microeconomics and macroeconomics, designed primarily for MBA students unfamiliar with economics principles. The microeconomics side of the course includes elements of demand and supply, consumer behavior, costs, market structures and income distribution. The macroeconomic side of the course analyzes movements in prices and national output, inflation, unemployment, and monetary and fiscal policy.

MBA 502 Organizational Behavior (3-0-3). Looks into the factors that influence individual and group performance while incorporating current management theory and research. Topics discussed range from individual attitudes and motivation to leadership, change, culture and organizational structure.

### MBA 503 Accounting Concepts

(3-0-3). Addresses the use of accounting as a management tool, including the strengths and limitations of accounting as an information system. Explores the financial and managerial aspects of accounting, focusing on the underlying concepts of accounting, the role of accounting in management planning and control, and the usefulness of accounting data for evaluating the results of operations and decision making.

#### **MBA 504 Managerial Statistics**

(3-0-3). Examines the decision-aiding tools that can be applied by managers to gain insight into decision problems, ranging from simple graphic displays of data to sophisticated statistical tests. Students use real-world data sets and PC-based software to describe sets of measurements, construct probability distributions, estimate numerical descriptive measures and build multiple regression models. Prerequisite: a college-level finite mathematics course is highly recommended.

MBA 505 Financial Management (3-0-3). Covers financial theory and techniques of analysis, including valuation theory, theories of risk measurement, managing a firm's investment decisions and capital structure, sources of financing for a firm, and financial planning and analysis. Completion of MBA 503 before taking MBA 505 is recommended.

**MBA 506 IT Essentials for** Managers (3-0-3). Provides an overview of the essentials of information systems management, computer hardware and software. database management systems, telecommunications and data networks, Internet technologies and security. The second part of the course covers effective methods of designing, building and testing models, and performing model-based analyses; non-technical, craft skills that expert modelers commonly employ, such as abstracting a situation, debugging a model and translating model results into managerial insights; and an introduction to statistical and management science techniques used in business today such as data analysis, simulation and optimization. The hands-on labs emphasize advanced Excel skills and use Premium Solver, Crystal Ball and sensitivity tools.

### **MBA 507 Marketing Concepts**

(3-0-3). Covers the fundamental aspects of marketing including the marketing mix (product strategy, pricing, advertising and promotion, and distribution), by focusing on problem-solving and decision-making abilities. Includes lectures, case studies, projects and experiential learning activities as students learn to research consumer needs, segment markets and other basic marketing functions. Gives particular attention to localizing content to provide a stronger regional understanding.

MBA 601 Managerial Economics (3-0-3). Covers the application of economic theory to management problems using basic economic tools and techniques of economic analysis to analyze decision-making problems faced in private businesses, government agencies and non-profit organizations. Prerequisite: MBA 501.

MBA 606 Management Information Systems (3-0-3). Provides the theoretical, technological, practical and managerial foundations of management information systems. Covers information technologies, systems development, the impact of information systems on business organizations, information technology as a competitive tool and the management of information systems within domestic and multinational corporations. Introduces students to current systems and software. Prerequisite: MBA 506.

#### **MBA 607 Business Communication**

(3-0-3). Focuses on the written and oral communication skills of the participants. Emphasizes the use of technology in business communication. Covers effective business writing and presentation, listening and negotiation skills. Stresses the study and practice of advanced techniques of argumentative writing.

**MBA 609 Operations Management** (**3-0-3**). Takes an analytical approach to solving problems in production and operations management. Explores basic principles, functions and concepts involved in the design, operation and control of operations in contemporary organizations. Covers development of operations strategy, decision analysis, mathematical (linear and integer) programming, quality management and control, project management, inventory control, forecasting and process analysis. Prerequisite: MBA 504.

MBA 610 Business Research Applications (3-0-3). Introduces students to the basic tools of business research by explaining various research methodologies and techniques. Includes numerous illustrations, portraying actual research in management, marketing, finance, accounting and other areas of business, that show how to perform the research function. Prerequisite: MBA 504.

MBA 611 Advanced Financial Management (3-0-3). Examines, at an intermediate level, the problems of managing short-term assets including cash, marketable securities, accounts receivable and inventory, managing the acquisition and disposal of longterm assets and financing decisions including leverage, leasing, mergers and international issues. Familiarizes students with both the basic theories in each of these areas and various strategies for integrating the theory with practice. Prerequisite: MBA 505.

MBA 612 Leadership and Change Management (3-0-3). Investigates the role of leadership in the context of global change. Gives particular attention to leadership issues as they pertain to organizational development, culture and the dynamics of change. Prerequisite: MBA 502.

MBA 613 Accounting Analysis for Managers (3-0-3). Explains the role of accounting information in facilitating the functions of management. Covers decision making, planning, performance evaluation, budgeting, cost control and international transfer prices. Prerequisite: MBA 503.

**MBA 614 Marketing Management** (**3-0-3**). Introduces current marketing management techniques and the tools necessary for effective marketing decision making. Provides global perspectives on marketing management and international marketing issues. Interactive learning techniques include the case method and active class participation. Incorporates issues such as ethics, minorities and the ecological environment. Requires familiarity with microeconomic theory, basic concepts of accounting and relevant support software. Prerequisite: MBA 507.

#### **MBA 615 Innovation and**

Entrepreneurship (3-0-3). Considers the practices and techniques used to stimulate and sustain innovation and the entrepreneurial spirit. Examines the process of new venture formation and the issues involved in both the contexts of existing firms and freestanding new ventures. Prerequisite: MBA 609.

MBA 616 e-Commerce Business Models and Technology (3-0-3). Presents a survey of consumer and business-to-business electronic commerce models, systems and technical solutions. Includes hands-on projects and assignments. Prerequisite: MBA 606.

**MBA 617 Ethics and Legal Issues** (3-0-3). Intensively introduces the legal and ethical issues confronting the global business manager. Addresses the legal system, legal processes and several areas of substantive commercial law relevant to the business manager. Discusses the developing recognition of legal and ethical issues and their managerial implications. Examines product liability, the administrative legal process of regulation, antitrust and the contract as the fundamental legal instrument of global commercial relations.

MBA 618 Strategic Management in a Global Environment (3-0-3).

Focuses on developing and applying strategic management to successfully position organizations in a competitive global environment. Integrates previous course experiences to hone decision making, analysis, and oral and written communication skills. Requires students to work in small teams to analyze a real company's external environment, perform an internal corporate audit and build detailed action plans including implementation issues and financial forecasting. Prerequisites: completion of all MBA foundation courses and completion of at least five 600-level courses. Prerequisites/concurrent: MBA 609 and MBA 611.

MBA 620 Public Administration and the Policy Process (3-0-3). Introduces the public policy process and considers concepts such as competing values, externalities, market failure, risk and uncertainty. Presents alternate models of policy decision making and explores the approaches used by public service managers to build support for specific programs. Examines the roles of agency culture, administrative reform, public trust, judgment and ethical norms. Prerequisite: MBA 501.

#### **MBA 621 Management of Nonprofit Organizations (3-0-3).** Focuses on the application of management

on the application of management theory and practice in nonprofit organizations. Examines the establishment of nonprofits, strategic planning, governance, accountability, communication, budgeting and fundraising, human resource management, design of volunteer programs, ethics and responsiveness to stakeholders. Prerequisite: MBA 502.

MBA 622 The Public-Private Partnership (3-0-3). Explores key tenets of the New Public Management and their implications for the delivery of public services. Examines the political, managerial, legal and ethical issues associated with use of nongovernmental organizations. Considers types of services amenable to new approaches and introduces elements of performance monitoring in acquisition, contracting and program delivery. Prerequisite: MBA 620.

### MBA 623 e-Government (3-0-3).

Introduces the concept of e-government and explores the role of IT and the Internet in the delivery of public services and reengineering of administrative processes. Explores dramatic changes in public administration and methods of transformation. Examines issues of technology, public interfaces, transparency and accountability, access and security, equity, privacy and their impact on the deployment of government electronic services. Considers the influence of government information delivery in the development of an informed citizenry and expanded citizen participation in public decision making. Prerequisite: MBA 506.

MBA 624 Ethics, Law, Democracy and Society (3-0-3). Considers ethical issues and moral reasoning in the context of public policy formulation and implementation. Examines ethical standards and legal requirements that apply to managers in the public sector. Explores concepts such as the rule of law. constitutional constraints. administrative legitimacy, due process, rule making, administrative appeal and managerial liability. Reviews the impact of interests, privilege, political power and conflict of interest on public trust. Addresses differences in values, norms and social objectives based on culture and tradition. Prerequisite: MBA 620.

MBA 625 Public Financial Management (3-0-3). Introduces fundamental concepts and practice in budgeting, financial administration and revenue generation. Considers the budget process, budget preparation, resource allocation, cost analysis and audit. Presents basic management functions including cash management, debt administration and communication of financial performance. Surveys various public funding sources in the context of the Gulf Region. Prerequisite: MBA 503.

**MBA 632 Investment Analysis** (**3-0-3**). Covers the purpose and operations of security markets; investment instruments and their characteristics; introduction to portfolio and capital market theory; theory of valuation, bonds and the term structure of interest rates; options, commodity and financial futures investment companies; and international investments. Prerequisite: MBA 611.

MBA 633 Financial Futures and Derivatives (3-0-3). Comprehensively studies equity and debt-based futures and other derivative instruments. Discusses the functioning of options and futures markets and the role the market participants. Analyzes derivative instruments with a focus on pricing, hedging techniques and arbitrage applications. Prerequisite: MBA 632.

#### **MBA 634 Commercial Banking**

(3-0-3). Focuses on decision making based on an integrated approach that exposes students to the understanding of bank management. Discusses factors that influence credit. investment, funding and pricing decisions. Introduces topics that help develop an appreciation of the trade-offs between risk and return. Discusses a wide range of cases related to bank performance evaluation, making new loans, managing the investment portfolio, asset and liquidity management as well as the macro and international environment in which commercial banks operate. Prerequisite: MBA 501.

### MBA 635 Islamic Economics (3-0-3).

Provides the theoretical foundation for advanced studies in Islamic economics. Addresses questions concerning the need for an Islamic economic system, the viability of an economic system that is built on religious paradigm, how that system should be and how it relates to contemporary economic systems. Investigates the socioeconomic dynamics of classical Islamic economics and its views on wealth creation and distribution, optimum growth and employment, economic stability, public finance and the role of the state in economic activity. Prerequisite: MBA 501.

MBA 636 Islamic Banking and Finance (3-0-3). Provides students with a formal and intuitive understanding of the essentials of Islamic finance, including the foundation of traditional Islamic financial tools and practices and the development of modern Islamic banking and financial instruments and institutions. Relates the theory of Islamic finance to current development in Islamic banking and the finance industry. Prerequisite: MBA 501.

### MBA 651 Supply Chain

Management and Strategy (3-0-3). Introduces basic concepts of logistics and supply chain management. Examines supply chain management topics, tools and issues from a general management point of view. Covers supplier selection and collaboration, performance measurement along the supply chain, strategic outsourcing, just-in-time partnership and distribution, customer relationship management, logistics, procurement, inventory and warehousing strategies, and service supply chains. Includes case assignments, discussions and mini-projects. Prerequisite: MBA 506.

**MBA 652 Modeling and Analysis** of Supply Chain Processes (3-0-3). Enables students to learn and apply analysis and modeling techniques to typical supply chain problems using a spreadsheet-based and example-driven approach. Covers the basics of supply chain modeling for the optimization and monitoring of a supply chain, or a segment thereof, using statistical, simulation and optimization tools and models. Examines process modeling, transportation models, facility location models, logistics cost analysis, multi-echelon inventory, linear programming, routing and scheduling, network optimization, simulation and optimum service levels. Prerequisite: MBA 506.

#### MBA 653 Supply Chain Management Technology and Applications (3.0-3) Provides

Applications (3-0-3). Provides students with the knowledge, tools and hands-on experience necessary to develop, implement and sustain ITenabled strategies for managing supply chains. Familiarizes students with supply chain information technology trends, and explores procurement and order fulfillment strategies and the impact of the Internet on distribution and back-end supply chain processes. Uses a combination of concepts, analytical models and commercial software to give students a theoretical foundation and practical experience in applying their supply chain management knowledge. Prerequisite: MBA 506.

## MBA 654 Transportation and Logistics Management (3-0-3).

Introduces the transport system and related logistics activities in the context of their role in an economy. Applies public management principles to domestic and international transportation and shipping facilities, considering operations management, material handling, warehousing and storage, environmental impact, information technology and other variables as they apply to a variety of transport modes and intermodal activities. Prerequisite: MBA 506.

**MBA 655 Information Systems** Design (3-0-3). Introduces students to basic elements of IS infrastructures, such as networks, intranets and XML. databases, and data warehouses and data centers. Teaches students how to plan and develop IT architectures and business applications based on business requirements. Emphasizes building shared databases and planning integrated applications such as CRM, SCM and ERP and other knowledge management and business intelligence platforms. Covers alternative paradigms for designing business solutions, including outsourcing, utility computing, open source software and grid computing. Requires a courselong project within a real-world context. Prerequisite: MBA 506.

MBA 661 Strategic Human Resource Management (3-0-3). Focuses on the strategic role of HRM. Examines the role of HRM in strategy formulation and implementation and measuring and improving HRM effectiveness. Discusses how to align HRM practices with organizational business goals. Focuses on strategic recruitment and retention practices, high-performance management practices, strategies for developing employees, and the role of HR in supporting change and in managing mergers and alliances. Prerequisite: MBA 502.

### **MBA 662 International Human Resource Management (3-0-3).** Explores the roles of HR managers in multinational corporations and identifies and analyzes efficient management strategies and practices

in the field of international HR and effective HRM policies and practices in international contexts. Focuses on the internationalization of the organizations and the cultural dimensions that have an impact on HRM activities. Studies recruitment and selection, training, development, and evaluation and compensation practices in an international context. Covers ethics and social responsibility issues in the MNE as well as the challenges of designing and implementing an iHRM policy. Prerequisite: MBA 502.

MBA 663 Staffing (3-0-3). Allows students to develop critical, analytical and integrative thinking about the staffing process in today's organizations. Examines in detail the six steps in the staffing process: job design and analysis, HR planning, recruitment, selection, orientation and retention. Explores selection interviews, interviewing skills and selection tests. Covers how to manage diversity in the staffing context as well as evaluation and improvement of the important steps in the staffing process. Includes concrete exercises and case studies. Prerequisite: MBA 502.

**MBA 664 Training and Development** (3-0-3). Adopts a systematic approach to training and development systems, focusing on the blend between theory and practice. Covers training in organizations, the training process, identifying learning needs and appropriate learning opportunities, designing and delivering training, the transfer of learning, reviewing and evaluating training activities, the management of transfers and promotions, the strategic development of leaders and managers, numerous developmental techniques, the learning organization and knowledge management. Studies the strategic management of training and development activities. Prerequisite: MBA 502.

MBA 670 Management Consulting (3-0-3). Explores the theoretical and analytical foundations of management consulting practice. Helps students to develop skills necessary for successful consulting engagements. Includes the following topics: marketing professional services, needs assessment, selection of key performance indicators, proposal preparation, liaising with senior management, change leadership, training, managing deliverables, project documentation and presentation styles. Exposes students to common consulting tools, technologies and techniques used for problem identification, data collection, process analysis, quality management, team building, etc. Students who have not completed all foundation courses will require approval of the SBM Director of Graduate Programs. Prerequisite: MBA 612.

MBA 672 Managing a Family Business (3-0-3). Addresses issues facing family enterprise, a unique subset of entrepreneurial, small and growing businesses. Considers family business issues, family business systems, family members as employees, boundaries and succession issues. Cases and empirical studies engage students in family business experiences. Prerequisite: MBA 612.

### MBA 680 Project Management

(3-0-3). Examines the concepts and techniques associated with managing projects in business organizations. Considers project design, planning, scheduling, systems engineering, cost estimation and control. Explores the relationship between innovation and risk. Prerequisite: MBA 506.

### MBA 690 Global Consulting

**Practicum (0-9-3).** Provides student teams with an opportunity to participate in a consulting engagement under the direction of SBM faculty. Requires students to carry out a complete project with a team from a US partner institution. Develops skills in problem definition, needs analysis, strategic planning, market research and other techniques appropriate to the needs of the client. Students may enroll only with the permission of the SBM Director of Graduate Programs. Travel is required. Prerequisite: MBA 670.

## Independent Study

Independent study is the umbrella term used to label two types of independent work: independent course and directed study.

Students are allowed to take one independent study. A second independent study could be approved by the student's program director for graduation purposes only.

In order to be eligible to pursue an independent study, students must be in good academic standing.

**Independent Course (1 to 4 credits).** A course listed in the catalog but offered in an independent study format. The course is coded using the course number in the catalog.

**Directed Study (1 to 4 credits).** An investigation under faculty supervision beyond what is offered in existing courses.

Directed study courses are numbered as 596 or 696 courses. The threeletter course prefix reflects the field of study of the course (e.g., independent study courses in MBA are coded as MBA 696).

### 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 594 or 694 courses. The three-letter course prefix reflects the field of study of the course.

Descriptions of particular special topics courses are made available in the college/school offering the course during registration.



## Graduate Student Handbook

## Foreword

The Graduate Student Handbook provides information on the policies and procedures related to theses, final projects, graduate student employment and graduate student work-study opportunities at AUS.

The preceding 2009–2010 catalog section contains detailed information on admission, tuition, academic policies and regulations, and program requirements.

The catalog is the official university document that describes the academic requirements for each program.

# 1.0 Office of Graduateand UndergraduatePrograms

The Office of the Graduate and Undergraduate Programs is a division of the Office of the Vice Chancellor for Academic Affairs.

The office is responsible for academicrelated matters and for facilitating the activities of the Office of Research and the Faculty Development Center.

Office of Graduate and Undergraduate Programs American University of Sharjah P.O. Box: 26666, Sharjah, UAE Tel: +(971) 6 515 2281 Fax: +(971) 6 515 2050 gup@aus.edu

## 2.0 Graduate Program Council and the Graduate Program Curriculum Committee

The Graduate Program Council (GPC) is a standing university-level committee responsible for developing policies and procedures related to graduate studies at AUS. The committee recommends policies and procedures for both the programs and the graduate students. The Graduate Program Curriculum Committee (GPCC) is a standing university-level committee charged with ensuring that the curricular integrity of graduate academic programs is maintained. The committee makes recommendations to the Vice Chancellor for Academic Affairs.

The members of both the Graduate Program Council and the Graduate Program Curriculum Committee are listed at www.aus.edu/academic/gup/ graduate.

## 3.0 Master's Thesis

A thesis is a formal manuscript that identifies theories or hypotheses, tests these hypotheses and accepts or rejects them using formal, systematized research methodology. On the basis of the findings, the researcher draws conclusions and makes recommendations.

The thesis is an opportunity for the student to conduct developmental research or a focused project on a particular topic of personal interest.

A thesis presents the results of an original, creative investigation leading to new insights, conclusions and recommendations appropriate to the investigated topic. The key outcome is the development and documentation of new knowledge. Therefore, students are expected to prepare and submit scholarly papers to peer-reviewed journals based on the research presented in the formal and approved thesis document.

The master's thesis at AUS must have appropriate depth for graduate work. As the culmination of the program of study, it should reflect scholarly depth and rigor. "Literature review" and "routine implementation" theses are not acceptable for completing the master's degree.

Several distinct steps occur in the preparation of a thesis:

selecting the thesis research topic

- preparing and submitting the formal thesis proposal for approval by the thesis supervisor and master's thesis committee
- conducting research and writing the thesis under the direction of the thesis supervisor and committee
- · conducting the oral thesis defense
- submitting the approved thesis for certification by the AUS Office of Graduate and Undergraduate Programs
- submitting the thesis to the AUS Archives within the AUS Library for binding and archiving

## 3.1 Selecting the Thesis Research Topic

Prior to registering for the thesis course (e.g., XXX 699), students should develop and submit a list of potential topics to their academic advisor and the graduate program director. A master's thesis committee, composed of a thesis supervisor and at least two other faculty members, is then formed and will approve the topic.

After the final thesis topic is approved, the student must provide the thesis supervisor with an outline of the work to be conducted, which should include a schedule. All members of the master's thesis committee must approve in writing the topic and work outline.

While students are given a great deal of latitude in selecting thesis topics, work must be done within an area appropriate to the chosen graduate program. Furthermore, the thesis must not have been submitted for credit elsewhere or have been published previously.

## 3.2 Preparing and Submitting a Thesis Proposal

The thesis proposal must be formally presented to and approved in writing by the master's thesis committee before registration in the thesis course (XXX 699). Only students in good academic standing may register for thesis credits. The thesis proposal should, at a minimum, include the following sections in the order listed below:

- · proposed thesis title
- abstract
- problem statement (must include a hypothesis and/or a list of basic research questions central to the problem)
- · significance of the research
- review of the literature
- summary of planned research methodology (summarizes the research methods to be used and why these particular methods are appropriate)
- · preliminary bibliography

Specific graduate programs may have requirements for additional sections and page limitations. Students should consult their thesis supervisor and graduate program director.

## 3.3 Conducting Thesis Research and Writing the Thesis

When beginning the process of researching and writing the thesis, the student and the thesis supervisor must agree upon a review process and schedule to ensure satisfactory and timely completion of the final written document. Frequent consultation with the thesis supervisor is expected throughout the research and writing phase. The final draft of the thesis must be distributed to the master's thesis committee at least three weeks prior to the final defense and review.

## 3.4 Conducting the Oral Thesis Defense

An oral presentation (defense of the thesis) explaining the thesis and responding to questions by members of the master's thesis committee is required of all thesis students. It is the student's responsibility to schedule this presentation with the thesis committee members and to notify the graduate program director. All committee members must be present unless an unforeseen emergency occurs. The committee meeting may not be scheduled until the entire committee approves the final draft of the thesis as ready for defense. The oral defense has two parts. The first part is open to the public. The director of the relevant graduate program will notify the Director of Graduate and Undergraduate Programs of the date, time and place of the defense so that members of the academic community may be invited.

The public part of the defense should be no longer than 40 minutes, with an additional 15–30 minutes for questions. The presentation should include a summary of key content points that explain the intellectual contributions of the work, conclusions, recommendations and lessons learned.

The second part of the oral defense is a 30-minute closed session limited to the student, the thesis supervisor and the thesis committee. In this session, the committee may ask additional questions and may convene privately to deliberate on their recommendations for the thesis grade.

### 3.5 Guide for Preparing the Thesis

A complete guide for preparing the thesis is given on the website of the Office of Graduate and Undergraduate Programs: www.aus.edu/academic/ gup/graduate/thesesguide.

## 4.0 Graduate Student Employment Opportunities

### 4.1 Graduate Assistantships: Policies, Selection Requirements and Application Procedures

The purpose of offering graduate assistantships at AUS is to attract highly qualified students who bring benefit to the academic community. Two categories of graduate assistantships are provided: graduate research assistantships (GRAs) and graduate teaching assistantships (GTAs). Both types of assistantships are competitively awarded on a semester-by-semester basis and follow the same application process. Graduate assistantships can be held for a maximum of two years.

### 4.1.1 Eligibility Requirements

Graduate assistantships are available to graduate students who have been admitted to the university in good standing, meeting or exceeding all university and program-level requirements for full admission. Students on conditional or probationary status are not eligible for graduate assistantships. Applicants to AUS must indicate whether they wish to be considered for a graduate assistantship on the graduate admission application form.

Students already enrolled in a graduate program but not holding a graduate assistantship may also apply through the relevant program at the college/school level. The graduate assistantship application form for continuing students can be found at www.aus.edu/academic/gup/graduate/.

Graduate assistants must achieve and maintain a satisfactory academic record with a GPA of 3.0 or greater.

Specific graduate programs may establish additional and/or higher standards, which can be found on the relevant graduate program's website.

## 4.1.2 Types of Assistantships Available at AUS and Corresponding Workload

For each of the two categories of graduate assistantship (GRA and GTA), AUS offers two types of assistantships within its master's degree programs (excluding the GEMPA program):

- full-time assistantships
- · part-time assistantships

### Full-Time Assistantships

This type of graduate assistantship is highly competitive and is for full-time graduate students at AUS. Students must take a minimum of nine credit hours each term of their assistantship or be registered for thesis/project credit. They may take no more than 12 credit hours per term. They work a maximum of 20 hours per week as research assistants or teaching assistants during the academic year for members of the graduate faculty. Full-time graduate assistants receive a tuition waiver for nine credit hours, as well as a work stipend. Full-time graduate students may hold graduate assistantships and concomitantly serve as work-study students at AUS only if the total hours worked does not exceed 20 per week.

Graduate students who are employed full-time may not hold full-time graduate assistantships but are eligible for part-time assistantships.

### Part-Time Assistantships

The part-time assistantship is also highly competitive. It is open to both full- and part-time graduate students at AUS. Part-time assistants must take six credit hours or be registered for thesis/project credit each term of their assistantship. They work a maximum of 10 hours per week as research assistants or teaching assistants for members of the graduate faculty. Parttime assistants receive up to six credit hours of tuition waiver each term of their assistantship and a stipend based on the level of support offered.

Part-time graduate students may hold graduate assistantships and concomitantly serve as work-study students at AUS only if the total hours worked does not exceed 10 per week.

## 4.1.3 Appointments and Responsibilities

Graduate assistants are appointed on semester-by-semester basis.

The director of the relevant graduate program or faculty supervisor is required to provide a detailed statement of duties and assignments for the graduate assistant at the beginning of the appointment. Graduate assistants are responsible for adhering to weekly workload expectations.

Both full- and part-time assistants may conduct research, serve as lab assistants, teaching assistants or research assistants.

Information about stipends and benefits is posted at www.aus.edu/academic/ gup/graduate/Graduate%20Student%20 Employment/assistantship.php.

### 4.1.4 Application Package

New Students Applying for a Graduate Assistantship

New students applying for graduate

assistantships must submit the following to the Office of Enrollment Management/Graduate Admissions:

- a complete Application for Graduate Admission with the box requesting consideration for assistantship marked
- three recommendation forms/letters of recommendation

Continuing Students Applying for a Graduate Assistantship for the First Time

Continuing students applying for a graduate assistantship for the first time must submit the following to the relevant graduate program director by the deadline established by each college/school:

- an Application for Graduate Assistantship (Continuing Students Only)
- · AUS transcripts
- three recommendation forms/letters of recommendation

### Continuing Students Seeking to Maintain a Graduate Assistantship

Continuing students seeking to maintain a graduate assistantship must submit the following to the relevant graduate program director by the deadline established by each college/ school:

- an Application for Graduate Assistantship (Continuing Students Only)
- AUS transcripts

The recommendation form and the Application for Graduate Assistantship (Continuing Students Only) are available at www.aus.edu/academic/ gup/graduate/forms.php.

### 4.1.5 Deadlines

## New Students Applying for a Graduate Assistantship

Please refer to the Graduate Academic Calendar at the front of this catalog.

Each college/school must submit recommendations for graduate assistantship assignments to the Office of Graduate and Undergraduate Programs by 5:00 p.m. on the last day of the undergraduate registration week in the semester during which the assistantship is requested. Recommendations must be signed by the relevant graduate program director and dean and must include the following:

- a cover letter from the dean's office
- a photocopy of the completed Application for Graduate Admission form (with box requesting consideration for assistantship marked) for each student
- a photocopy of transcript for each student
- photocopies of three recommendation forms/letters of recommendation for each student

## Continuing Students Applying for a Graduate Assistantship for the First Time

Each college/school establishes an internal deadline when applications for an assistantship should be submitted.

Each college/school must submit recommendations for graduate assistantship assignments to the Office of Graduate and Undergraduate Programs by 5:00 p.m. on the last day of the undergraduate registration week in the semester during which the assistantship is requested.

Recommendations must be signed by the relevant graduate program director and dean and must include the following:

- a cover letter from the dean's office
- an Application for Graduate Assistantship (Continuing Students Only) for each student
- a photocopy of up-to-date AUS transcripts for each student
- photocopies of three recommendation forms/letters of recommendation for each student

### Continuing Students Seeking to Maintain a Graduate Assistantship

Each college/school establishes an internal deadline when applications for continuation of an assistantship should be submitted.

Each college/school must submit recommendations for graduate assistantship continuation to the Office of Graduate and Undergraduate Programs by 5:00 p.m. on the last day of the undergraduate registration week in the semester during which the assistantship is requested. Recommendations must be signed by the relevant graduate program director and dean and must include the following:

- a cover letter from the dean's office
- a photocopy of up-to-date AUS transcripts for each student

### 4.1.6 Address for Submission

For new students, completed admissions application packages should be submitted to:

Office of Enrollment Management Graduate Admissions American University of Sharjah Main Building P.O. Box 26666, Sharjah, UAE graduateadmissions@aus.edu

For continuing students, completed assistantship application packages should be submitted to the relevant graduate program director before the deadline established by each college/ school.

### 4.1.7 Review Process

The application package received from the Office of Enrollment Management/ Graduate Admissions is first screened by the graduate program within the academic unit to check for completion of the package, current admission status and academic standing of the applicant.

Complete application packages of students meeting the minimum requirements are forwarded to and fully reviewed by selection committees within relevant graduate programs. These program committees are made up of faculty members who teach in the graduate program, and they report to the graduate director.

After selection committees review application packages, the graduate program director will forward application packages to the dean of the relevant college/school along with committee review comments and recommendations.

The dean will review the application packages and make a recommendation.

He/she will forward application packages with all recommendations and comments to the Director of Graduate and Undergraduate Programs.

The Director of Graduate and Undergraduate Programs will forward his/her comments and recommendations along with the recommendation of the dean of the relevant college/school to the Vice Chancellor for Academic Affairs, who will make the final selection.

## 4.2 Graduate Student Work-Study Opportunities: Policies, Selection Requirements and Application

### Procedures

AUS provides a variety of student employment opportunities for graduate students through specific departments, graduate programs and through work on AUS internal research grants to faculty members. The following sections describe the general policies governing graduate student employment at AUS.

### 4.2.1 Eligibility Requirements

To be employed as a graduate student worker, a student must be enrolled in a graduate program and registered for at least six credit hours.

Graduate student workers may work up to 20 hours per week while courses are in session. Graduate student workers may work up to 40 hours per week during breaks as long as they are enrolled as full-time students in the semesters before and after the break. Students are not paid for work beyond these limits.

**Note**: Graduate students who have received a graduate assistantship are eligible for employment as student workers provided their total working hours do not exceed 20 hours per week for graduates with a full-time assistantship and 10 hours for graduates with a part-time assistantship.

### 4.2.2 Pay Range and Work Records

The hourly rate for a specific position is based on range and complexity of duties, skill requirements and equity. Graduate programs directors are responsible for consistency and equity in pay rates among the graduate workers within their college/school. The college/school also determines the starting wage and pay increases.

### 4.2.3 Timesheets

All AUS colleges/schools and departments are required to keep detailed timesheets for each student worker. Work-study students will check their posted hours and sign the timesheet. Timesheets should be submitted by the department or college/school through their dean to the Director of Graduate and Undergraduate Programs for approval. Timesheets must be completed at the end of each month.

Graduate student timesheets are posted at www.aus.edu/academic/gup/graduate/forms.php.

### 4.2.4 Payment

Checks for work-study students are issued from the Finance Department (second floor, Main Building). Students must present a valid ID to receive their paychecks.

### 4.2.5 Application Process

Graduate students must apply for student employment through their graduate program directors.

Those who wish to hire graduate student workers must complete the form posted at www.aus.edu/academic/ gup/graduate/forms.php.



## **Full-Time Faculty**

### A

Abdalla, Jamaleldin, PhD, University of California at Berkeley, 1989; Professor in Civil Engineering and Head, Department of Civil Engineering

**Abdallah, Abed Al-Nasser**, PhD, University of Lancaster, 2004; Assistant Professor in Accounting and Finance

Abdelfatah, Akmal, PhD, University of Texas at Austin, 1999; Associate Professor in Civil Engineering

Abdel-Hafez, Mamoun, PhD, University of California at Los Angeles, 2003; Assistant Professor in Mechanical Engineering

Abdel-Jabbar, Nabil, PhD, University of Michigan, 1996; Associate Professor in Chemical Engineering

Abdelsalam, Omneya, PhD, Heriot-Watt University, 1999; Associate Professor in Accounting and Finance

AbdulHadi, Zayid, PhD, Université Laval, 1987; Professor in Mathematics and Statistics

Abed, Farid, PhD, Louisiana State University, 2005; Assistant Professor in Civil Engineering

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

Abukhaled, Marwan, PhD, Texas Tech University, 1995; Associate Professor in Mathematics and Statistics

Abu-Lebdeh, Ghassan, PhD, University of Illinois at Urban-Champaign, 1999; Associate 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; Professor in Biology and Chemistry

Ahmad, Norita, PhD, Renssealaer, 2001; Assistant Professor in Management Information Systems

Ahmad, Shoaib Nabi, MID, Rhode Island School of Design, 1991; Associate Professor in Design 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 Science and Engineering

Ahmed, Saad, PhD, Georgia Institute of Technology, 1981; Professor in Mechanical Engineering

Ahmed, Vian, PhD, Loughborough University, 2000; Visiting Associate Professor in Civil Engineering

Al-Ali, Abdul-Rahman, PhD, Vanderbilt University, 1990; Professor in Computer Science and Engineering

Al-Assaf, Yousef, PhD, Oxford University, 1988; Professor in Electrical Engineering and Dean, College of Engineering

Albasha, Lufti, PhD, University of Leeds, 1995; Assistant Professor in Electrical Engineering

**Al-Ghoussein, Tarek**, MA, University of New Mexico, 1989; Associate Professor in Design

Ali, Ahmed, PhD, University of Durham, 1999; Assistant Professor in Arabic Studies

Ali, Naghmana, PhD, University of Toronto, 2004; Assistant Professor in English

Ali, Tarig, PhD, Ohio State University, 2003; Assistant Professor in Civil Engineering

Alibrandi, Thomas, DEd, University of San Francisco, 1999; Assistant Professor in Writing Studies, and Head and Director, Intensive English Program

**Al-Issa, Ahmad**, PhD, Indiana University of Pennsylvania, 1998; Associate Professor in English

**Al-Jurf, Saladin**, JD, University of Iowa College of Law; 1998; Assistant Professor in Management, Marketing and Public Administration

Alkafaji, Yass, DBA, Mississippi State University, 1983; Associate Professor in Accounting and Finance

Al-Kattan, Ibrahim, PhD, Tennessee Technical University, 1994; Associate Professor in Engineering Systems Management

Al-Khazali, Osamah, PhD, University of Memphis, 1997; Professor in Accounting and Finance

Allagui, Ilhem, PhD, University of Montreal, 2001; Assistant Professor in Mass Communication Allee, John, MA, University of Minnesota, 1969; 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 Edinburgh, 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; Associate Professor in Mathematics and Statistics

Aloul, Fadi, PhD, University of Michigan, 2003; Associate Professor in Computer Science and Engineering

**Al-Satari, Mohamed**, PhD, University of Southern California, 2005; Assistant Professor in Civil Engineering

**Al-Sayah, Mohamed**, PhD, University of Alberta, 2002; Assistant Professor in Biology and Chemistry

**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

Anderson, Sean, PhD, University of California, Los Angeles, 2006; Assistant Professor in Architecture

Angell, Linda, DBA, Boston University, 1996; Associate Professor in Management Information Systems and Management, Marketing and Public Administration

Araujo, Anderson, PhD, University of Western Ontario, 2006; Assistant Professor in English

Arenfeldt, Pernille, PhD, European University Institute, 2006; Assistant Professor in International Studies **Artz, Benjamin**, PhD, University of Wisconsin, 2008; Assistant Professor in Economics

**Arzaghi, Mohammad**, PhD, Brown University, 2005; Assistant Professor in Economics

Ashill, Nicholas, PhD, University of Bradford, 2004; Associate Professor in Management, Marketing and Public Administration

AshShareef, Teirab, PhD, Indiana University, 1988; Assistant Professor in Arabic Studies and Head, Department of Arabic Studies

Assaleh, Khaled, PhD, Rutgers University, 1993; Associate Professor in Electrical Engineering

Atabay, Serter, PhD, University of Birmingham, 2001; Assistant Professor in Civil Engineering

Attom, Mousa, PhD, Kansas State University, 1989; Associate Professor in Civil Engineering

Aveyard, Mark, PhD, Florida State University, 2007; Assistant Professor 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 Head, Department of English (on sabbatical Spring 2010)

**Baghestani, Hamid**, PhD, University of Colorado, 1982; Professor in Economics (on sabbatical Fall 2009)

**Bahloul, Maher**, PhD, Cornell University, 1994; Associate Professor in English (on sabbatical Spring 2010)

**Baker, Jeffrey**, PhD, Texas Tech University, 2008; Assistant Professor in Management Information Systems

Banan, Mohammad, PhD, University of Illinois at Urbana-Champaign, 1993; Visiting Associate Professor in Civil Engineering

**Bantey, Paul**, MFA, Whitecliffe College of Arts and Design, 2005; Assistant Professor in Design and Head, Department of Design

**Barlas, Gerassimos**, PhD, National Technical University, Athens, 1996; Associate Professor in Computer Science and Engineering

**Barnett, Andy**, PhD, University of Virginia, 1978; Professor in Economics

**Bartholomew, Aaron**, PhD, College of William and Mary, 2001; Associate Professor in Biology and Chemistry

Bateman II, Robert E., PhD, University of Utah, 2004; Assistant Professor in Management, Marketing and Public Administration, and Director, SBM Graduate Programs and Outreach

Beheiry, Salwa, PhD, University of Texas at Austin, 2005; Assistant Professor in Civil Engineering

**Belkhodja, Omar**, PhD, Laval University, 2006; Assistant Professor in Management, Marketing and Public Administration

**Berbić, Amir**, MFA, The School of the Art Institute of Chicago, 2004; Assistant Professor in Design

**Berenger, Ralph**, PhD, Idaho State University, 2002; Visiting Associate Professor in Mass Communication

Berkaty, Ali, PhD, Loughborough University of Technology, 1993; Visiting Professor in Civil Engineering

**Bieber-Roberts, Peggy**, PhD, University of Washington, 1990; Associate Professor in Mass Communication

**Bley, Jörg**, PhD, Florida Atlantic University, 2000; Associate Professor in Accounting and Finance

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**Botthoff, John**, MID, Pratt Institute, 1980; Lecturer in Design

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**Breslow, Harris**, PhD, University of Illinois, Champaign-Urban, 1995; Assistant Professor in Mass Communication

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**El-Tarhuni, Mohamed**, PhD, Carleton University, 1997; Associate Professor in Electrical Engineering and Head, Department of Electrical Engineering

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Faiq, Said, PhD, Salford University, 1991; Professor in Arabic Studies

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**Gatenby, Bruce**, PhD, University of Arizona, 1992; Assistant Professor in Writing Studies

**Genc, Ismail**, PhD, Texas A&M University, 1999; Associate Professor in Economics

**Gibbs, Joseph**, PhD, Boston University, 1994; Associate Professor in Mass Communication

Giesen, Martin, PhD, Heidelberg University, 1973; Professor in Fine Arts and Coordinator, Visual and Performing Arts Program

**Gold, Gary**, JD, Indiana University, 1991; Associate Professor in Management, Marketing and Public Administration

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**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

**Griffin, James**, PhD, University of London, 2004; Assistant Professor in Mathematics and Statistics

**Guessoum, Nidhal**, PhD, University of California at San Diego, 1988; 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 (on sabbatical Spring 2010)

Haney II, William, PhD, University of California at Davis, 1984; Professor in English

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Hashem, Mahboub, PhD, Florida State University, 1984; Professor in Mass Communication

Hassan, Mohamed, PhD, University of Arizona, 2005; Assistant Professor in Electrical Engineering

Hatim, Basil, PhD, University of Exeter, 1982; Professor in Arabic Studies (on sabbatical Spring 2010)

Haverila, Matti, PhD, Tampere University of Technology, 1995; Associate Professor in Management, Marketing and Public Administration

Hawileh, Rami, PhD, University of Wisconsin-Milwaukee, 2005; Assistant Professor in Civil Engineering

Heath, Peter, PhD, Harvard University, 1981; Professor in Arabic Studies and Chancellor

Heaton, J. Lade, JD, University of Utah, 1972; Senior Lecturer in Management, Marketing and Public Administration

Heidcamp, William, PhD, University of Pittsburg, 1971; Professor in Biology and Chemistry and Dean, College of Arts and Sciences

Heintz, W. Eirik, MArch, Harvard University, 1994; Associate Professor in Architecture and Associate Dean, School of Architecture and Design

Hewitt, David, MFA, Cornell University, 1979; Associate Professor in Design

Hochstettler, Thomas, PhD, University of Michigan, 1980; Professor in International Studies and Vice Chancellor for Academic Affairs

Husseini, Ghaleb, PhD, Brigham Young University, 2001; Associate Professor in Chemical Engineering

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Ingersoll, Stewart, PhD, University of Arizona, 2005; Assistant Professor in International Studies

Irimia-Vladu, Marina, PhD, Auburn University, 2006; Assistant Professor in Economics

**Islam, Mohammad**, PhD, Columbia University, 2003; Assistant Professor in Physics

**Izwaini, Sattar**, PhD, University of Manchester, 2004; Assistant Professor in Arabic Studies

## J

Jaidi, Asad Hasan, PhD, University of Kansas, 1993; Associate Professor in Physics

Jarrah, Abdul Salam, PhD, New Mexico State University, 2002; Associate Professor in Mathematics and Statistics

Jarrah, Mohammad-Ameen, PhD, Stanford University, 1989; Professor in Mechanical Engineering and Head, Department of Mechanical Engineering

Jayyusi-Lehn, Ghada, PhD, University of Toronto, 2007; Assistant Professor in Arabic Studies

Jhemi, Ali, PhD, University of Minnesota, 1999; Assistant Professor in Mechanical Engineering

Jumean, Fawwaz, PhD, City University of New York, 1973; Professor in Biology and Chemistry and Head, Department of Biology and Chemistry

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Karavatos, Nicholas, MFA, New College of California, 1999; Assistant Professor in English

Kassam, Meenaz, PhD, University of Toronto, 1996; Assistant Professor in International Studies

Katodrytis, George, AADip, Architectural Association, UK, 1985; Associate

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**Kaya, Ilker**, PhD, University of Georgia, 2009; Assistant Professor in Economics

Kayanga, Andrew M., PhD, University of New Orleans, 2009; Assistant Professor in Accounting and Finance

Keck, Stephen, DPhil, University of Oxford, 1992; Associate Professor in International Studies and Head, Department of International Studies

Kennedy, Thomas, MLA, Cornell University, 1991; Assistant Professor in Architecture

Khalaf, Kinda, PhD, Ohio State University, 1997; Assistant Professor in Mechanical Engineering

Khaldi, Boutheina, PhD, Indiana University, 2008; Assistant Professor in Arabic Studies

Khallaf, Ashraf, PhD, Florida Atlantic University, 2004; Assistant Professor in Accounting and Finance

Khan, Sajid, PhD, University of Manchester, 2001; Assistant Professor in Management, Marketing and Public Administration

Khan, Zahid, PhD, University of Western Ontario, 2007; Visiting Assistant Professor in Civil Engineering

Kharkhurin, Anatoliy, PhD, City University of New York, 2005; Assistant Professor in International Studies

Khatibi, Akbar, PhD, University of Sydney, 1997; Visiting Associate Professor in Mechanical Engineering

Kherfi, Samer, PhD, Simon Fraser University, 2002; Assistant Professor in Economics

**Khoury, Suheil**, PhD, Michigan State University, 1994; Professor in Mathematics and Statistics

**Kim, Jong**, PhD, Emory University, 2005; Assistant Professor in Economics

Kirk, Daniel, PhD, University of Georgia, 2008; Assistant Professor in Writing Studies and Coordinator, Faculty Development Center

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Knuteson, Sandra, PhD, Clemson University, 2004; Assistant Professor in Biology and Chemistry

Kocabas, Ibrahim, PhD, Leland Stanford Junior University, 1990; Associate Professor in Chemical Engineering Kolo, Jerry, PhD, University of Waterloo, 1986; Professor in Urban Planning

Krieg Dosier, Ginger, MArch, Cranbrook Academy of Art, 2005; Assistant Professor in Architecture

**Kucuk, Ismail**, PhD, University of Utah, 2001; Associate Professor in Mathematics and Statistics

### L

Landolsi, Taha, PhD, University of Texas at Dallas, 1999; Assistant Professor in Computer Science and Engineering

Lanteigne, Betty, PhD, Indiana University of Pennsylvania, 2004; Assistant Professor in English

Lea, David, PhD, University of Ottawa, 1990; Professor in International Studies

Leduc, Guillaume, PhD, Carleton University, 1995; Assistant Professor in Mathematics and Statistics

Loughlin, Kevin, PhD, University of New Brunswick, 1970; Professor in Chemical Engineering

Love, Charles, PhD, London Business School, 1975; Professor in Management Information Systems and Head, Department of Management Information Systems

Love, Don, PhD, Ohio University, 1997; Assistant Professor in Mass Communication

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**Maitner, Angela**, PhD, University of California, 2007; Assistant Professor in International Studies

**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, PhD, University of Wisconsin-Madison, 2006; Assistant Professor in Economics

**Mansour, Iskandar**, PhD, UCLA, 2000; Assistant Professor in Arabic and Translation Studies

Manzur, Meher, PhD, The University of Western Australia, 1990; Visiting Associate Professor in Accounting and Finance **Marchon, Cassia**, PhD, Texas A&M University, 2008; Assistant Professor in Economics

Markov, Ivan, PhD, Cornell University, 1994; Associate Professor in Architecture

**Marshall, Timothy**, PhD, University of Auckland, 1995; Assistant Professor in Mathematics and Statistics

McLaurin, J. Reagan, PhD, Memphis State University, 1994; Associate Professor in Management, Marketing and Public Administration

Mir, Hasan, PhD, University of Washington, 2005; Assistant Professor in Electrical Engineering

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

**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 Common Wealth University, 2002; Assistant Professor in Management, Marketing and Public Administration

Mortula, MD Maruf, PhD, University of Dalhousie, 2006; Assistant Professor in Civil Engineering

**Mosbo, John**, PhD, Iowa State University, 1973; Professor in Biology and Chemistry and Special Advisor to the Chancellor

**Mounajjed, Nadia**, PhD, University of Sheffield, 2007; Assistant Professor in Architecture

Mourtada-Sabbah, Nada, PhD, University of Pantheon-Assas (Paris II), 1997; Professor in International Studies and Vice Chancellor for Development and Alumni Affairs

Moustafa, Amer, PhD, University of Southern California, 1999; Associate Professor in Architecture

## N

**Najim, Mujeeb**, PhD, University of Glasgow, 1989; Assistant Professor in Arabic and Translation Studies

Nashef, Hania, PhD, University of Kent, 2008; Assistant Professor in Mass Communication **Naufal, George**, PhD, Texas A&M University, 2007; Assistant Professor in Economics

Naumann, R. Earl, PhD, Arizona State University, 1981; Professor in Management, Marketing and Public Administration

Noman, Laila, PhD, University of Wales, 2000; Assistant Professor in English

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**Olson, Dennis**, PhD, University of Wyoming, 1982; Professor in Accounting and Finance and Head, Department of Accounting and Finance

**Osman-Ahmed, Ahmed**, PhD, University of Calgary, 2003; Assistant Professor in Electrical Engineering

**Ozkul, Tarik**, PhD, Florida Institute of Technology, 1988; Associate Professor in Computer Science and Engineering (on sabbatical Fall 2009)

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Pallathucheril, Varkki, PhD, The Ohio State University, 1992; Professor in Urban Planning and Coordinator, Urban Planning Program

**Palmer-Baghestani, Polly**, PhD, University of Colorado, 1984; Assistant Professor in Writing Studies

**Pappalardo, Lucia**, PhD, Syracuse University, 1998; Assistant Professor in Biology and Chemistry

**Pasquier, Michel**, PhD, National Polytechnic Institute of Grenoble, 1989; Associate Professor in Computer Science and Engineering

**Perkins, John**, DMA, University of Arizona, Tucson, 2009; Assistant Professor in Visual and Performing Arts

**Picken, Gavin**, PhD, University of Leeds, 2005; Assistant Professor in Arabic Studies (on leave AY 2009–2010)

**Pilkington, Mark**, MA, Royal College of Art, 1977; Associate Professor in Design

**Prescott, David**, PhD, Curtin University of Technology, 2001; Associate Professor in English

## Q

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**Qaddoumi, Nasser**, PhD, Colorado State University, 1998; Associate Professor in Electrical Engineering

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**Rab, Samia**, PhD, Georgia Institute of Technology, 1997; Associate Professor in Architecture

**Raddawi, Rana**, PhD, Université de La Sorbonne Nouvelle (Paris III), 1995; Assistant Professor in English

Radnell, David, PhD, Rutgers, The State University of New Jersey, 2003; Assistant Professor in Mathematics and Statistics

Randle, Jay, MLArch, North Carolina State University, 1971; Professor in Architecture

Rehman, Habib-ur, PhD, Ohio State University, 2001; Associate Professor in Electrical Engineering

Reyhanoglu, Mahmut, PhD, University of Michigan, 1992; Visiting Professor in Mechanical Engineering

Richards, R. Malcolm, PhD, University of Michigan, 1974; Professor in Accounting and Finance and Dean, School of Business and Management

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**Russell, Dennis**, PhD, University of Hawaii, 1981; Professor in Biology and Chemistry

### S

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Sabet, Mehdi, MArch, Virginia Polytechnic Institute, 1978; Associate Professor in Architecture

Sagahyroon, Assim, PhD, University of Arizona, 1989; Associate Professor in Computer Science and Engineering and Head, Department of Computer Science and Engineering

Saifi, Ali, PhD, University of Sussex, 1978; Associate Professor in Mathematics and Statistics (on sabbatical Fall 2009)

Sakhi, Said, PhD, University of Montreal, 1994; Associate Professor in Physics

Salama, Mohamed Feras, PhD, University of Texas, 2008; Assistant Professor in Accounting and Finance

Salamin, Yousef, PhD, University of Colorado, 1987; Professor in Physics

Samara, Fatin, PhD, State University of New York, 2007; Assistant Professor in Biology and Chemistry

**Sarnecky, William**, MArch, University of New Mexico, 1999; Assistant Professor in Architecture

Sater, James, PhD, University of Durham, 2003; Assistant Professor in International Studies

Scavarda, Annibal, PhD, Pontifical Catholic University of Rio de Janeiro, 2004; Associate Professor in Management, Marketing and Public Administration

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Shamim, Tariq, PhD, University of Michigan, 1997; Visiting Associate Professor in Mechanical Engineering

**Shanableh, Tamer**, PhD, University of Essex, 2001; Associate Professor in Computer Science and Engineering

Shareefdeen, Zarook, PhD, New Jersey Institute of Technology, 1994; Associate Professor in Chemical Engineering

**Sheil, Phil**, MFA, University of Calgary, 1995; Associate Professor in Design

Shih, Shou-Hsing, PhD, University of South Florida, 2008; Assistant Professor in Mathematics and Statistics

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