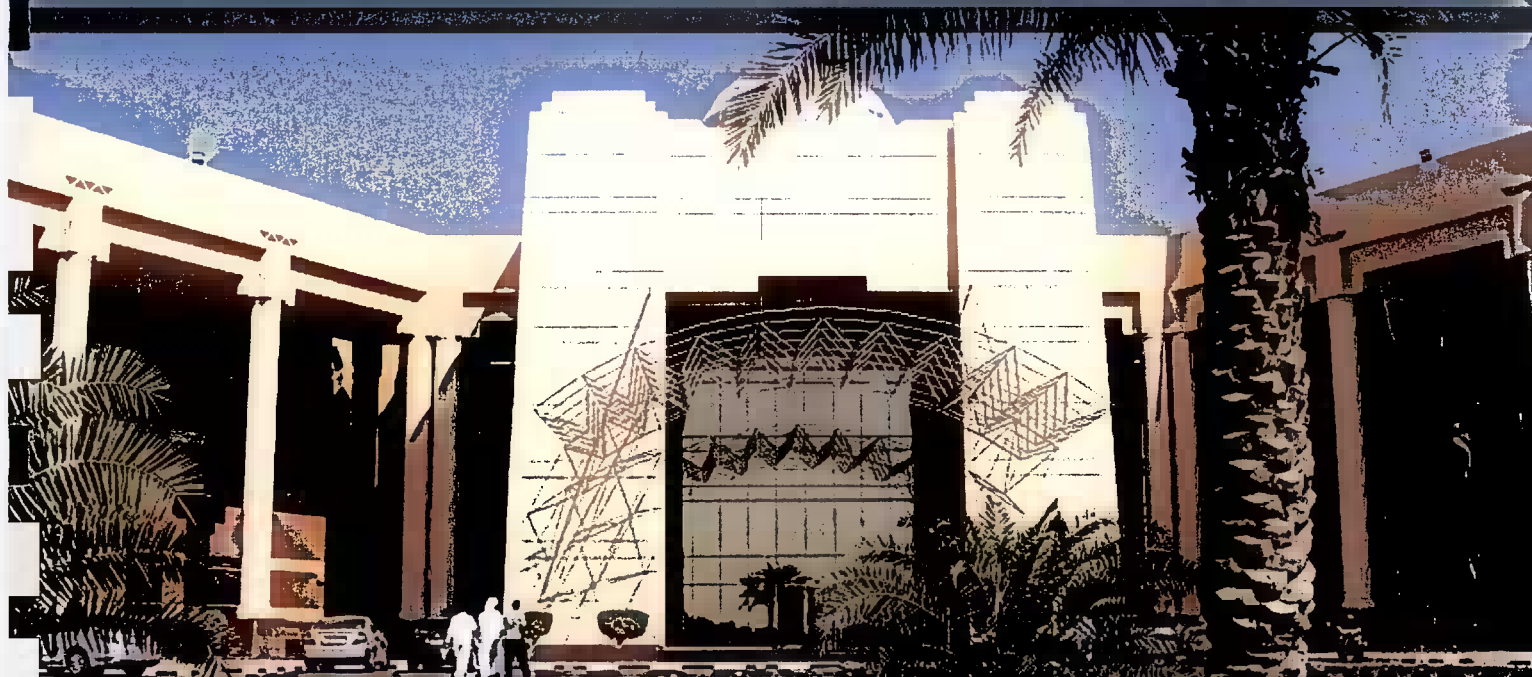
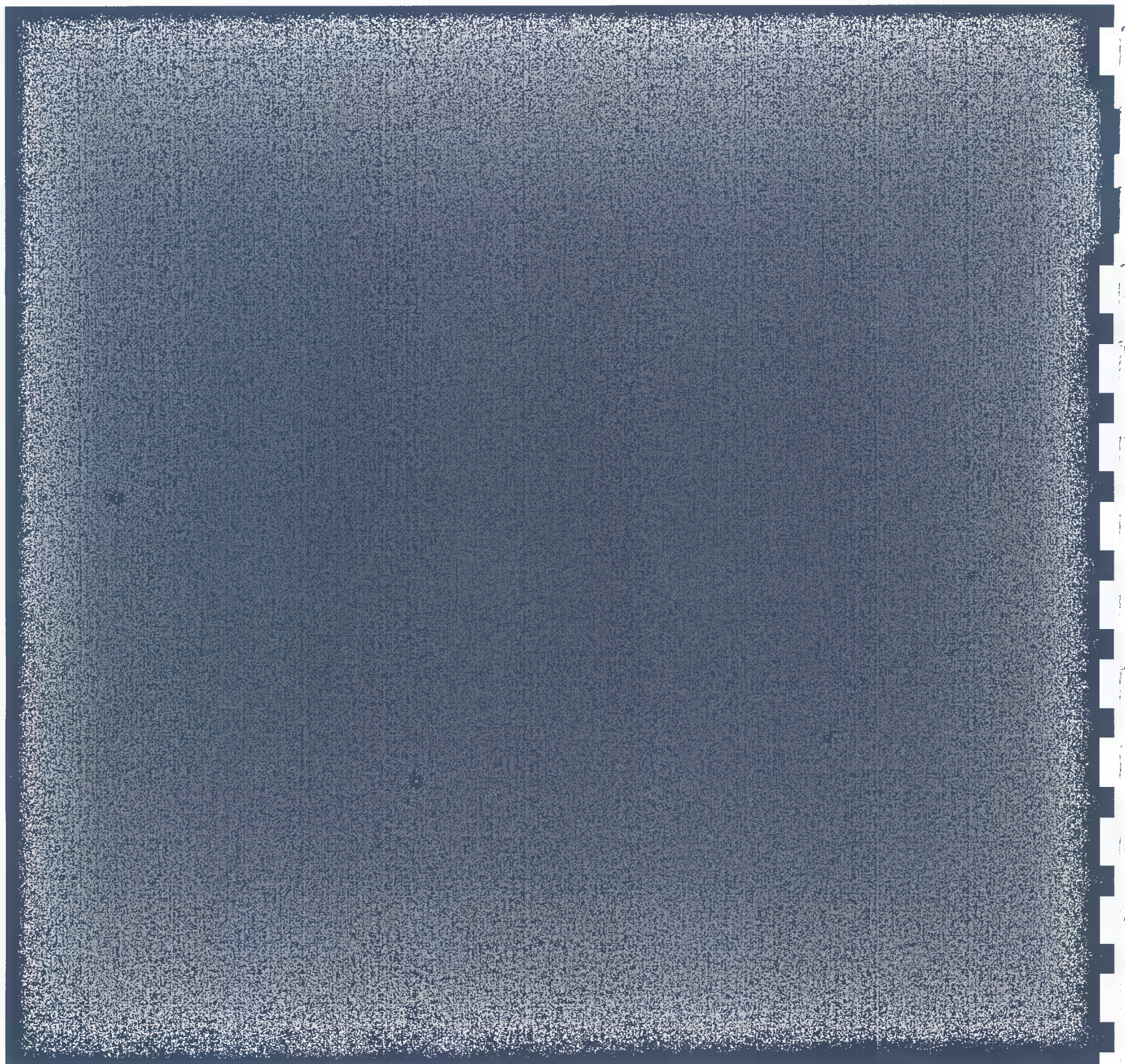




AJMAN UNIVERSITY
OF SCIENCE & TECHNOLOGY



UNIVERSITY CATALOG
2012-2013





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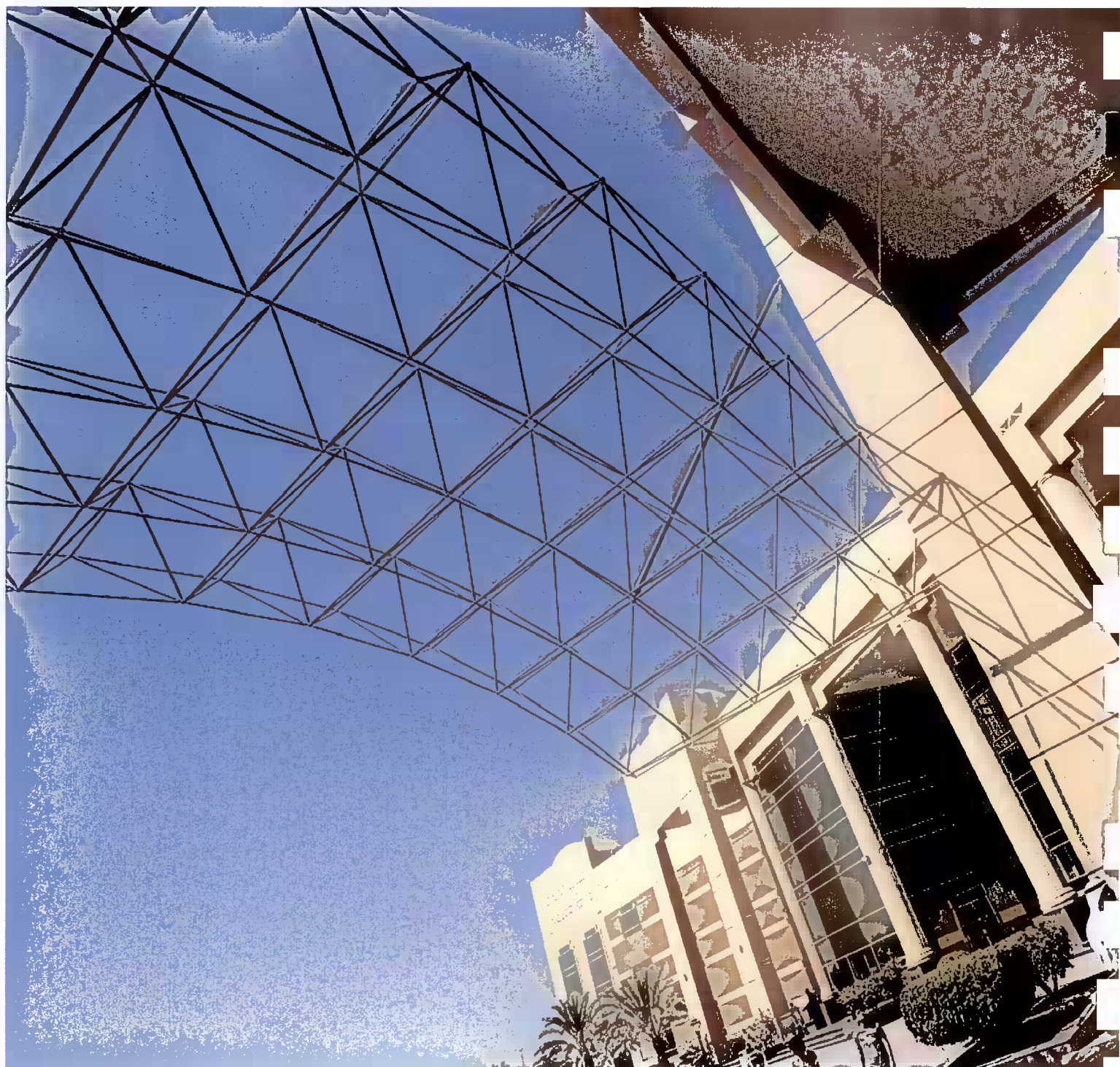
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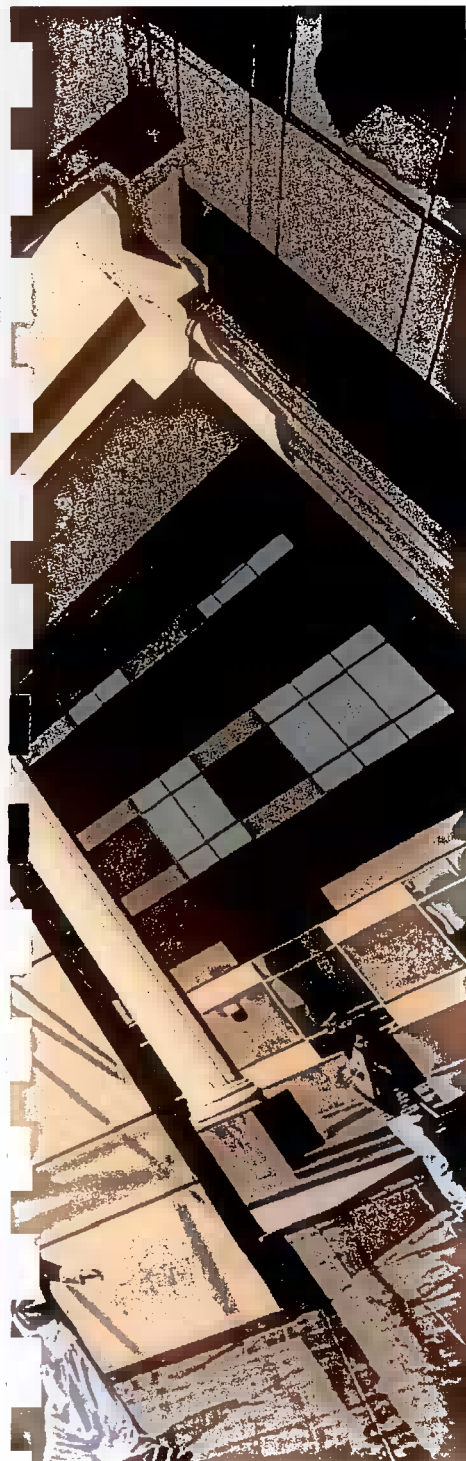




His Excellency Dr. Saeed Abdullah Salman

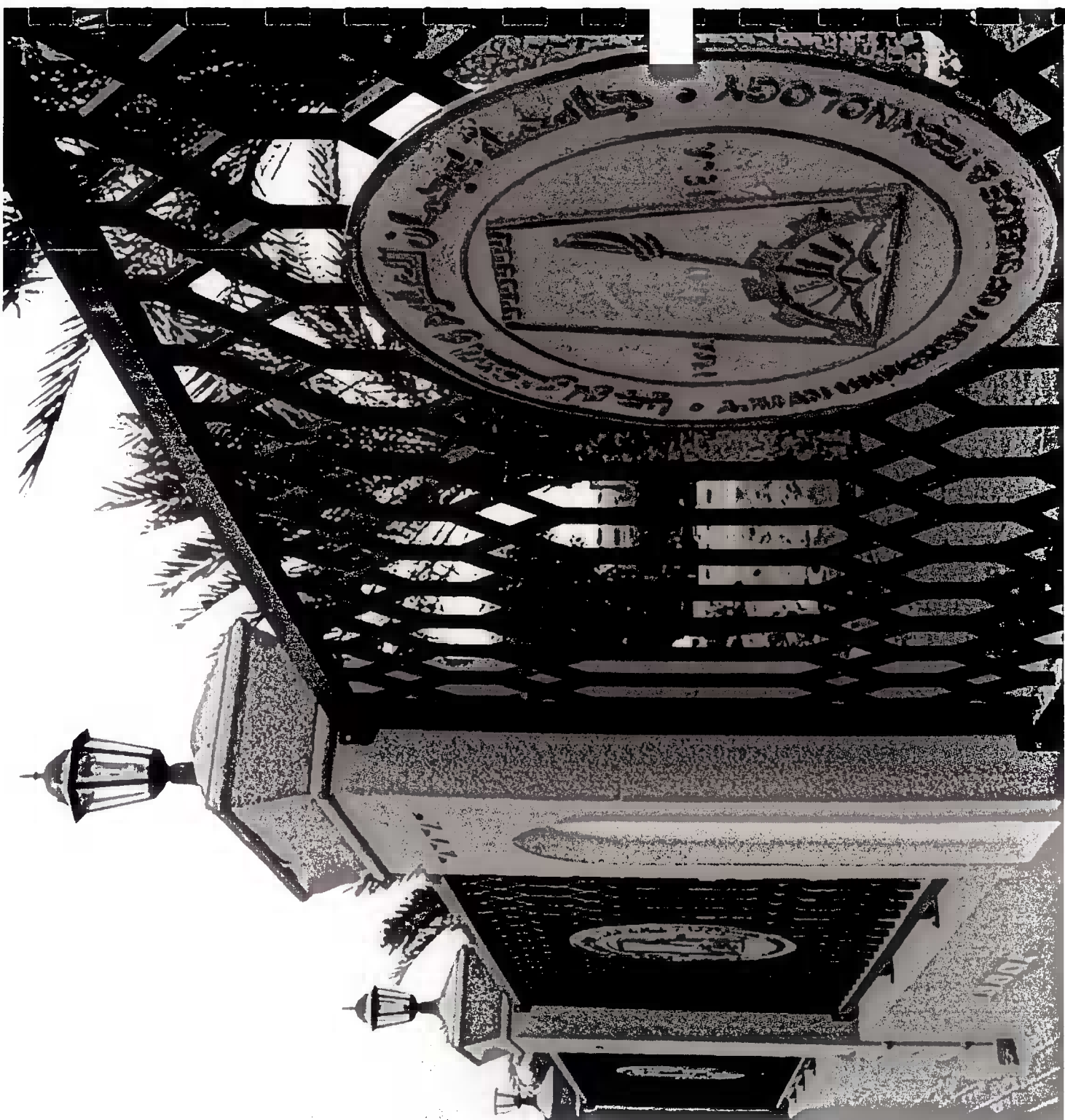
President of Ajman University of Science and Technology
Honorary President & Founder of the Association of Arab Private Institutions for Higher Education
President of the Euro-Arab Research Network





CONTENTS

Introduction	13
College of University Requirements & Academic Counseling .	41
College of Business Administration.....	55
College of Information Technology	101
College of Dentistry.....	169
College of Engineering.....	197
College of Information, Mass Communication & Humanities	269
College of Pharmacy and Health Sciences.....	295
College of Education and Basic Sciences.....	315



From The President

Ajman University of Science and Technology (AUST) was founded in 1988 as a private institution of higher education. Today it is a cutting-edge university – one which employs state-of-the-art technology while at the same time remaining grounded in Arab culture and the traditions of the Middle East.

In June 2008, we celebrated the 20th anniversary of AUST, and two decades of teaching, training, research, expertise and practice. These have been years of education, information and investment, not only in the UAE but across the Arab region and also in the wider world. Thanks to the adoption of its comprehensive three-dimensional vision, AUST has advanced in progress and prosperity. Today, as a result of this vision, the University is firmly established as an institution of expertise, providing the local community and the region with distinguished and high-quality experts in a variety of fields. Ajman and Fujairah campuses also provide open and innovative environments in which the latest educational methods and communication tools – CCTV, E-learning, videoconferencing, smart boards and multimedia labs – are used to further their interactivity.

During the last two decades, AUST community members have spared no effort in communicating with both the business and civic communities via a variety of channels which include the organization of workshops, seminars, approach conferences and colloquia. Through such efforts, modest as they are, we aim to share the benefits of our endeavors with the wider community. At the regional level, AUST has both launched and contributed to more than 700 projects and initiatives, such as the Association of Arab Private Institutions for Higher education and the Euro-Arab Research Network.

To conclude, we believe that the achievements of AUST are due to our comprehensive vision – a vision which has been implemented through continuous revision and development, through the selection of the best models from among a variety of educational systems, and through the embracing of technological advancement.

Assalamu Alaikum,

Dr. Saeed Abdullah Salman

President, Ajman University of Science and Technology

Honorary President & Founder, Association of Arab Private Institutions for Higher Education

President, Euro-Arab Research Network

AUST

Vision

Ajman University of Science and Technology adopts a comprehensive vision, reflecting national ambitions for progress and modernity, while preserving the vital elements of the United Arab Emirates culture, traditions and identity. The University encourages quality performance in tutoring, research, training, expertise and practice. The University fosters an environment for innovation in order to achieve academic and professional excellence.

Mission

Ajman University of Science and Technology, in its threefold vision of education, information and investment, aims at providing the United Arab Emirates and the region with distinguished graduates capable of handling modern technologies and integrating them in their professional occupations. The University makes available to its students, carefully selected, modern, customized educational and learning tools that are in harmony with the customs, values and requirements of the society. The University endeavors to build bridges between academia and the professional and business community.



1. Message to AUST Students

The AUST catalog can be used as a quick-reference guide to student life at AUST as it provides answers to many of the questions students ask. It gives general information about the university, the programs offered by each of the eight colleges, admission and registration procedures, and the key regulations that are relevant to students.

2. History of AUST

Ajman University of Science and Technology was founded in 1988 as a non-conventional private institution of higher education. The university was established by His Highness Sheikh Humaid Bin Rashid Al-Nuaimi, Member of the Supreme Council and Ruler of Ajman. On June 17, 1988 he issued an Emiri Decree establishing Ajman University College of Science and Technology (AUCST), as AUST was then called, and the first intake of students took place on September 15 that year. In accordance with the Ministry of Higher Education and Research decree No 54 of 1997, AUCST became Ajman University of Science and Technology (AUST). The university has two campuses - in Ajman and Fujairah - at which it offers 31 accredited undergraduate programs and 12 accredited graduate programs. The aim of these programs is to provide the community with competent graduates capable of using technology and its applications for the development of UAE society.

3. System of Education and Programs Offered

The university utilizes the credit hour system. This system requires that students earn a total number of credit hours, as determined by the university, to complete their program of study. The required number of credit hours is distributed over a certain number of semesters, depending on the program (see Table 1 for details).

Table 1: Accredited degree programs offered

a. Undergraduate Programs

College	Degree	Total Credit Hours	Type of School certificate & minimum average score
Dentistry	Doctor in Dental Surgery	199	80% Science
Pharmacy and Health Sciences	Bachelor of Pharmacy	150	70% Science
	BSc in Nursing	132	70% Science
Engineering	BSc in Electrical Engineering/Electronics	142	70% Science
	BSc in Electrical Engineering/Communication	142	70% Science
	BSc in Electrical Engineering/Instrumentation & Control.	142	70% Science
	BSc in Biomedical Engineering	142	70% Science
	BSc in Architectural Engineering	169	70% Science
	Bachelor in Interior Design	133	60% Science/Arts
Information Technology	BSc in Computer Engineering	140	70% Science
	BSc in Computer Science	126	60% Science
	BSc in Information Systems / Project Management	126	60% Science, 65% Arts
	BSc in Information Systems / E-Business Management		
	BSc in Multimedia & Web Development	126	70% Science
	BSc in Information Technology/Networking & Security	123	70% Science
Business Administration	BSc in Information Technology/Databases & Web design	123	70% Science
	BSc in Management	126	60% Science/Arts
	BSc in Marketing	126	60% Science/Arts
	BSc in Finance	126	60% Science/Arts
	BSc in Accounting	126	60% Science/Arts
Education & Basic Sciences	Bachelor of Education: "Teacher Training Program in Arabic Language & Islamic Studies"	132	60% Science/Arts
	Bachelor of Education: "Teacher Training Program in Mathematics & Science"	132	60% Science
	Bachelor of Education: "Teaching English as a Foreign Language"	126	60% Science/Arts
	Bachelor in Educational Technology	120	60% Science/Arts

College	Degree	Total Credit Hours	Type of School certificate & minimum average score
Information, Mass Communication & Humanities	BA in Mass Communication/ Public Relations & Advertising	126	60% Science/Arts
	BA in Mass Communication/ Radio & Television	126	
	BA in Mass Communication/ Electronic & Printed Print	126	
	BA in Mass Communication/ Graphic Design	126	
	BA in English Language & Translation	126	
	BA in English Language & Translation/Translation for Media	126	
	BA in Sociology and social work	126	
Law	Bachelor of Law	132	60% Science/Arts

b. Graduate Programs

College	Degree	Total Credit Hours
Institute of Environment, Water, and Energy	MSc in Ground Water Engineering and Management	36
	MBA (Human Resource Management)	36
Business Administration	MBA (Financial Management)	36
	MBA (Marketing)	36
Information Technology	MSc. in Information Systems	33
Engineering	MSc. in Architecture and Urban Studies	36
Law	Master of Law (Private Law)	33
	Master of Law (Public Law)	33
Dentistry	MSc. in Restorative Dentistry	57
Pharmacy & Health Sciences	MSc in Pharmacy (Clinical Pharmacy)	36
	MSc in Pharmacy (Pharmaceutical Technology)	36
Education and Basic Sciences	Professional Diploma in Teaching	24

4. Admission and Registration

Applications for admission should be submitted to the Admission and Registration prior to the beginning of each semester. To be eligible for admission, a student must have a secondary school certificate issued in the UAE, or its equivalent as approved by the UAE Ministry of Education.

The AUST Council of Academic and Scientific Affairs determines the number of students to be admitted to each degree program each semester, according to the university's available resources.

4.1. General Admission Conditions

a. Holders of UAE Secondary School Certificate:

Holders of a Secondary School Certificate (SSC), Science Section, are eligible for admission in any College of the university if they satisfy the minimum score requirement for the degree program (see Table 1).

Holders of the Secondary School Certificate, Literary Section, with a minimum score of 60 percent, are eligible for admission to all degree programs in the following colleges:

- Business Administration
- Law
- Information, Mass Communication and Humanities

They are also eligible for admission to the following programs offered by other colleges:

- Bachelor of Education/Teacher Training Program in Arabic and Islamic Studies
- Bachelor of Education in Teaching English as a Foreign Language
- Bachelor of Science in Information Systems (65%)
- Bachelor in Interior Design

The decision to admit a student is made on a competitive basis taking into account the number of available places as determined by the individual college and the applicant's final secondary school examination score.

Applications made by holders of foreign secondary school certificates will be considered according to Circular No. 200, 2004, and Circular No. 123, 2005, issued by His Excellency the Minister of Higher Education and Scientific Research, UAE, as listed below:

b. Holders of Foreign Secondary School Certificates other than British System Certificates

In general, holders of the national high-school certificate of a foreign country are eligible for admission if:

1. The certificate is considered for admission in public universities of the country where it was obtained
2. The certificate was awarded after at least 11 years of schooling
3. The certificate includes at least six subjects covering the following four areas:
 - Mathematics
 - Sciences
 - Languages
 - Social Sciences/Humanities or Arts

Holders of high-school certificates from countries having two-level high-school certificates, must submit the certificate of the higher level.

Examples of Acceptable Foreign Certificates:

- Iranian: the Pre-University Certificate
- Indian Board(s): Senior Secondary School Certificate (Part II)
- Pakistani Board(s): Higher Secondary School Certificate (Part II)
- French Baccalaureate: completion of Part II
- Lebanese Baccalaureate: completion of Part II

- International Baccalaureate: completion of six subjects, with three at the higher level
- American High-school Diploma : High-school Diploma and completion of SAT

c. Holders of British System Certificates (IGCSE, GCSE, GCE)

A holder of a British system certificate is eligible for admission if:

- the applicant has passed seven subjects at the ordinary level of IGCSE or GCSE, with a minimum grade of C. If a subject is taken at the AS Level or A Level the required minimum score is reduced to D and E respectively
- the seven subjects must cover the following four areas: Mathematics, Science, Languages, and Humanities or Arts
- the applicant must prove that he/she has completed at least 11 years of schooling by providing the grade transcript of Grade 11 and that of Grade 12, when available
- the applicant submits his/her school leaving certificate

4.2 English Language Proficiency

Full admission to programs where the medium of instruction is English is given only to applicants with a score of at least 500 in the TOEFL (paper-based test), 61 in TOEFL (iBT), or Band 5 in IELTS (Academic). TOEFL and IELTS scores are accepted only if they were obtained in less than two years from the admission date. Institutional TOEFL score is considered only if the test is taken at AUST.

Students who do not satisfy the above-mentioned minimum English proficiency requirement may begin their studies with conditional admission.

During their first semester, Holders of TOEFL ,with score between 450 and 499 or equivalent, will be required to enroll in the Intensive English Program (IEP) offered by the College of University Requirements and Academic

Counseling, until they obtain at least 500 in the TOEFL, or its equivalent.

Admitted students with a score below 450 (TOEFL) are required to enroll for an English preparation course (lower level) at the on-campus Continuing Education Centre. However, colleges will reserve a seat for them, for one semester only, if they obtain a score of at least 450 in TOEFL, iBT 45, or Band 4 in IELTS, at the end of the first semester of registration.

4.3 Admission on Probation

Applicants holding a high-school score below the required minimum admission score , not less than 60%, of an academic program may be admitted on probation in a program. They must sign an undertaking stating that they are aware that they will be dismissed from the program at the end of the probation period if they do not satisfy the condition(s) set by the College such as obtaining a Grade C in a given course, or a GPA greater or equal to 2, etc..

4.4 Re-Admission of Former Students

Students who have missed more than two consecutive semesters of enrollment (excluding the summer semester) at the university may apply for re-admission by completing the re-enrollment form which is available from the Admission and Registration.

To be eligible for readmission, the applicant must meet the following conditions:

- The applicant was not subject to academic or behavioral dismissal from AUST
- The applicant must satisfy admission requirements in effect at the time of re-admission
- If the applicant transferred from AUST to another accredited institution, he/she must apply as a transfer student

No student will be re-admitted until all fees, charges and dues owed to the university have been paid. A non-refundable re-admission fee of AED 300 is charged.

4.5 Transfer Students from Accredited Institutions

Students from accredited institutions of higher education may apply for admission in an AUST program in the same field of study if they have been in good academic standing, i.e., their Cumulative Grade Point Average (CGPA) is a least 2.0 on a scale of 4.0, or the equivalent, and they have not been the subject of disciplinary dismissal. However, those students who have not been in good academic standing (i.e. those having a CGPA of less than 2.0 on a scale of 4.0) will be allowed to transfer only to programs in a different field from the one in which they were enrolled at the institution they previously attended.

Any transferred student is required to meet the English Language Proficiency condition (see Section 4.2). If the student was admitted at his/her previous university based on the Institutional TOEFL, he/she will be requested to re-take TOEFL test at AUST.

The transfer of credited courses is considered for students who are transferring to a similar program to one studied previously if:

- their cumulative grade point average was at least 2.0 on a scale of 4.0, or the equivalent
- the number of credit hours for the course is not less than that of the AUST equivalent course
- the grade obtained on the previous course must have been at least C (or the grade that corresponds to "Merit/Good" for institutions using a different grading scale)
- the course content at the institution previously attended should be similar to that of the corresponding course offered at AUST

If the transfer of a student with a CGPA less than 2.0 is accepted in a program in different field of study, the transfer of credited General Education courses may be considered if the points 2-4 listed above are fulfilled.

If a student meets these transfer conditions but is unable to submit the course content that was covered previously, he/she may sit an examination set by the College (after payment of a fee). The examination result will be used to determine whether the course will be transferred or not.

Only grades obtained from courses taken at AUST will be taken into account in the calculation of a student's CGPA, i.e.: grades obtained from transferred courses at the previous institution will not be taken into account in the computation of the CGPA at AUST.

It is important to note that AUST does not grant transfer students a degree unless they successfully complete at least 50 percent of the credit hours of the program, including the majority of the final year courses, at one of the AUST campuses.

4.6 Documents Required for Admission

- Application form, which may be obtained from the Admission and Registration, to be filled in by the applicant
- UAE Secondary School Certificate, or its equivalent, and grade transcript. Certified copies are acceptable
- Photocopy of valid passport
- Photocopy of a valid Identity Card(for UAE residents)
- Health certificate, issued by a university doctor
- Certificate of good conduct, issued by an official body
- Six passport-size photographs with the applicant's full name on the back of each

- A written commitment signed by the applicant that he/she will observe university rules and regulations
- If available, a certificate of proficiency in English language, e.g. TOEFL with a minimum score of 500 score, or IELTS with a score of at least 5.

Important: Institutional TOEFL score is considered only if the test was taken at AUST.

Applications will be processed by the Admission and Registration only after the payment of application and registration fees of AED 1,300. Transfer students are also requested to pay AED 500 for the evaluation of the credits that will be transferred to them.

4.7 Certification of Documents

Newly-admitted students are requested to have their documents certified before the end of the first semester of study, otherwise their registration will be cancelled.

- High-school certificates obtained in the UAE must be certificated by the UAE Ministry of Education.
- High-school certificates obtained abroad must be certificated by the Ministry of Education, and by either the Ministry of Foreign Affairs of the country of origin and the UAE embassy in that country, or by the embassy of the country which issued the certificate, and by the UAE Ministry of Foreign Affairs.

4.8 Seat Reservation

Students admitted to the Architectural Engineering, Interior Design, Pharmacy and Dentistry programs are required to pay a seat reservation deposit of AED 4,000. This deposit is non-refundable and non-transferable and must be paid before the deadline stated on the letter of admission. This deposit is deductible from the student's fee once the applicant joins Ajman University of Science and Technology. If the student asks to defer admission to

the following semester and the request is approved, the deposit will be applied to the following semester.

4.9 Course Registration for New Students

Newly-admitted students who have a TOEFL score of at least 500, iBT 61, or IELTS Band 5, will be allowed to register for between nine and 18 credit hours according to their study plan.

Newly-admitted students who have a TOEFL score of between 480 and 499, iBT 54 - 60, or an IELTS Band 4.5, will be allowed to register up to nine credit hours according to their study plan, subject to concurrent registration in the Advanced Level of the Intensive English Program (nine hours per week), which is offered by the College of University Requirements and Academic Counseling.

Newly-admitted students who have a TOEFL score of between 450 and 479, iBT 45 - 53, or an IELTS Band 4, will be allowed to register for up to six credit hours according to their study plan subject to concurrent registration in the Intermediate Level of the Intensive English Program (15 hours per week) which is offered by the College of University Requirements and Academic Counseling.

Newly-admitted Mass Communication students who have a TOEFL score of between 400 and 449, iBT 32-44 or an IELTS band 4 will be allowed to register up to nine credit hours general education courses accordingly to their study plan, subject to concurrent registration in TOEFL for mass Communication of the Intensive English program (nine hours per week) which is offered by the College of University Requirements and Academic Counseling.

Newly-admitted students who have a TOEFL score less than 450 or 45 iBT, or less than Band 4 of IELTS, will be allowed to register for a three credit hours course according to their study plan subject to concurrent registration in the Lower Level of the Preparatory English Program (15 hours per week) which is offered by AUST Continuing Education Centre.

Load of New Students according to their TOEFL Score or equivalent

TOEFL (Paper-Based)	TOEFL (iBT)	IELTS (Academic)	Number of IEP Hours Required	Number of University Credit Hours Permitted
500 or more	61	5	None	9-18
480-499	54-60	4.5	9	Not more than 9
450-479	45-53	4.0	15	Not more than 6
400-449 BA in Mass Communication Students Only	32-44	4.0	9	Not more than 9
Below 450	Below 45	Below 4	15	3

Important: Students are allowed to complete at most 15 credit hours before fulfillment of English Language Proficiency. If they complete 15 credit hours without achieving 500 score (450 for BA in Mass Communication students) in TOEFL, they will be allowed to register only in the appropriate IEP program during the next semester.

If the student does not achieve the 500 TOEFL score during 2 semesters after his/her admission, the Council of the College may consider dismissal of the student from his/her program. In this case, the student may be allowed to transfer to a program taught in Arabic if he/she satisfies its admission conditions.

Once a student's selected courses have been approved by the academic advisor, and on payment of the tuition fees, the student will be given a timetable which states the name of the courses, the schedule of classes, the name of the lecturer and the number of the classroom or laboratory in which the course is held.

The offer of admission may be canceled if the student fails to finalize his/her registration during the registration week.

4.10 Course Registration for Continuing Students

Colleges encourage non-warned students (see Section 8.4 for an explanation of the academic warning system) to use the early registration period to select courses in consultation with their academic advisor. The early registration period is specified in the academic calendar. Warned students and students who did not benefit from the early registration phase can register during the registration week. See the academic calendar.

Registered AUST students may take some courses outside AUST provided that they obtain the prior approval of the dean of the college. Acceptance of the transfer of external courses is conducted according to the criteria outlined in Section 4.4.

4.11 Adding and Dropping Courses

Students may add/drop courses only with the approval of their academic advisor. Students who add and drop courses during the approved period will not lose the

fees paid for dropped courses. When adding/dropping courses students should bear in mind that the minimum number of credit hours for which they may register is nine.

The academic calendar also specifies the period allocated for dropping courses without affecting the student's academic record, but without refund of fees. The academic calendar also specifies the last date for withdrawal from a course with a "W" grade without refund of fees. In this case the course appears in the transcript with the letter "W" with no effect on the computation of the semester Grade Point Average or the CGPA.

4.12 Study Load

A student's "study load" is the number of credit hours for which he or she is registered during the semester. For the fall and spring semesters, the study load varies from nine to 18 credit hours, where one credit hour refers to one lecture hour or two hours of practical study per week, lasting for fifteen weeks. For summer semesters, the study load varies from three to six credit hours.

Students may increase their study load to up to twenty-one credit hours in the fall and spring semesters in the following cases:

- The student's CGPA was at least 3.6 in the preceding semester
- The student is expected to graduate at the end of the semester and his/her CGPA is at least 2.0

Students may increase their study load to up to nine credit hours in a summer semester in the following cases:

- The student's CGPA was at least 3.6 in the preceding semester
- The student is expected to graduate at the end of the semester

However, independently of their academic standing, students will not be allowed to register for more than 12

credit hours during the two summer semesters of the academic year.

The study load of academically warned students is given in Section 11.

4.13 Time Allowed for Completion of a Degree Program

The maximum time allowed a student in which they may complete a degree program is a maximum of double the regular number of required semesters. In other words, a four-year bachelor degree must be completed in a maximum of 16 regular semesters of enrolment in the program. The minimum time allowed to complete a degree for non-transfer students is a minimum of six regular semesters for four-year programs and eight regular semesters for five-year programs.

The maximum and minimum number of semesters of enrollment for transfer students are determined after the deduction of the number of earned/transferred semesters (15 credits correspond to one semester) from the above limits. Suspended semesters are not counted in the time allowed for students to complete their degree.

4.14 Suspension of Registration

Suspension of study is allowed only if a student has completed his/her first semester. The total number of semesters that can be suspended is four. However, suspension for more than two consecutive semesters is not allowed. In all cases, the Admission and Registration should be notified in writing.

Suspension request may be rejected by the Admission and Registration if the student did not complete an acceptable number of credit hours during his/her past enrolment.

4.15 Right to Withdraw Registration

The university reserves the right to withdraw an offer of admission if the applicant fails to satisfy all requirements, or it is found that admission was obtained through the use of incomplete, falsified, altered or embellished information. In the case of withdrawal of registration from a matriculated student, credit earned at AUST will be withheld and no transcript will be issued to the student.

5. Orientation Program for New Students

AUST gives special attention and assistance to new students to ease the transition between life at high-school and the university. For this purpose, a special program has been designed:

a. Orientation Session

At the beginning of each semester, AUST organizes an orientation session for new students which enables them to meet the Vice-President, Deans of the Colleges and the Admission & Registration and Students Affairs. The orientation also provides them with essential information about course registration, academic advising, important deadlines and other related matters.

b. Orientation Course

All new students must register in the orientation course during their first semester. It is a non-credit course which aims to provide them with information about AUST rules and regulations, services and essential skills such as time-management and exam preparation.

6. Academic Advising

AUST is committed to providing quality advising services. Each new student is assigned an academic advisor who is a member of the College in which the student is enrolled.

Advising is a very important element of the credit hour system. Not only does the advising system help acquaint the student with the syllabus and its contents, but it also strengthens the relationship between the student and faculty members in order to achieve the objectives of the educational process.

Academic advisors assist student in solving the problems that they face during their academic career. In addition, they follow the student's academic progress through their course of study and assist in the selection of appropriate courses prior to the start of each semester. Students are encouraged, and sometimes required, to meet their academic advisors regularly during each semester.

7. Change of Major

7.1 New Students

First-semester students may apply to transfer from one major to another within the university during the add/drop period. The application is processed through the Admission and Registration provided that:

1. The applicant meets the admission requirements of the degree program to which he/she is applying
2. There is availability of seats
3. Approval of the deans of both colleges concerned is obtained

7.2 Transfer between Programs

Students may transfer from one program to another within the university provided that they satisfy items 2 and 3 of section 7.1. In addition, they must satisfy the following:

1. The preceding semester's Grade Point Average should be equivalent to that required by the new program

2. The application for transfer should be submitted within the period specified in the academic calendar

A student is normally entitled to only one transfer throughout his/her course of study at the university.

8. Academic Grading and Assessment

8.1. Course Assessment

In each registered course, a student's performance is assessed according to a procedure established by the college concerned, and explained in the course plan. The overall score is normally distributed as follows:

- | | |
|----------------------------------|------------|
| 1. Semester tests and activities | 40 percent |
| 2. Mid-Semester examination | 20 percent |
| 3. Final examination | 40 percent |

The score for semester tests and activities includes marks for tests, quizzes, assignments, research and laboratory work. The pass mark in each course is sixty percent.

8.2. Grading System

The university adopts the following grading system:

Mark	Grade		Merit
	Letter	Point	
From 90 to 100	A	4.0	Excellent
From 85 to 89	B+	3.5	Very Good (High)
From 80 to 84	B	3.0	Very Good
From 75 to 79	C+	2.5	Good (High)
From 70 to 74	C	2.0	Good
From 65 to 69	D+	1.5	Pass (High)
From 60 to 64	D	1.0	Pass
Less than 60	F	0	Fail

8.3. Semester Grade Point Average

The semester GPA indicates student performance during the semester, and is calculated as follows: the total of the grade point of each course taken in the semester multiplied by its credit hours, divided by the total number of credit hours registered in the semester.

For example, if a student obtains the results as set out in the table given below, his/her semester grade point average will be computed as follows: **GPA = 54/18 = 3**

Subject	Credit Hours	Points	Product of Credit Hours by Point Grade
Mathematics 1	3	3	9
Statistics	3	2	6
Physics I	3	3	9
Islamic Culture	3	4	12
Arabic Language	3	4	12
Psychology	3	2	6
Total	18		54 points

8.4. Cumulative Grade Point Average

The CGPA indicates the student's average performance over all semesters up to the final or current semester. It is calculated as follows: the total of the point grade of each course taken to date, multiplied by its credit hours, divided by the total number of credit hours taken.

If a student repeats a course in which he/she obtained an "F" grade, or does so in order to improve his/her CGPA, the last grade obtained will be considered in the calculation of the CGPA regardless of whether the last grade is higher than the original one or not. However, the original grade will continue to appear in the academic record without affecting the calculation of the CGPA.

The CGPA is also used for academic probation as follows: starting from the end of the second semester of study, if the student's CGPA is less than 2.0, he/she will be regarded as an "academically-warned" student and will be requested to improve his/her academic performance to raise the CGPA to 2.0 or higher. (See Section 11 for the policy regulating the study load of warned students).

A student will not be allowed to graduate unless his/her CGPA is at least 2.0, even if he/she has passed all required courses of the program of study. In this case, in consultation with the academic advisor, the student must repeat a number of courses of the study plan in order to raise his/her CGPA to at least 2.0.

8.5. Incomplete Grade

Attendance at final examinations is compulsory. Failure to attend means failure in the course. However, if a student does not attend the final examination for emergency reasons and he/she scored at least a total of 36 out of 60 in coursework (tests and midterm examination) the course may be considered as "incomplete." Acceptable evidence for failure to attend a final examination consists of the following:

1. illness certified in a medical report approved by the university doctor
2. death certificate of a first or second degree relative
3. arrest or summons before a court or other legal body

In these cases the student must complete and submit a request form within three days of the examination date. He/she also must present the relevant documents to the Admission and Registration. The application will be processed only if the student has no financial obligation to the university and has paid the fee for an "incomplete request." The application will not be accepted if the student has a 25 percent absence warning.

A student who has been deemed to be "incomplete" in a course must take the final examination before the end of the first week of the following semester in which he/she registers, as shown in the academic calendar.

8.6. Examination Re-sits

If a student passes all courses required for graduation except one, which he/she failed in the last semester, he/she will be allowed to re-register for that course. In this case there is a charge of 50 percent of the course fees and the student must re-take the final examination before the beginning of the following semester.

8.7. Complaints about Grades

Complaints regarding final examination results must be lodged within a period of two weeks following the announcement of the examination results. The student should complete and submit a Complaint Form to the Admission and Registration. The form will be transferred to the college concerned where an appropriate decision will be made. The Admission and Registration notifies the student of this decision.

9. Supervised Credit-Earning

Colleges may approve supervised credit-earning on selected courses designed for advanced undergraduates that have completed 50 percent of the required credits for graduation. The purpose of such courses is to make it possible to study all the units of a course under the supervision of a faculty member on a meeting session basis. The schedule of these meetings should not be less than 15 contact hours per semester.

The supervised work should cover all the content of the course and meet its objectives. The supervisor must ensure that the course is devoted to advancing student's knowledge and skills as required in the course outline.

Reasons why a student may wish to take a supervised study course include:

1. To adjust his/her study plan by completing a specific course which is not offered in that semester
2. To complete a course which is not offered but it is required for graduation during the final semester
3. To gain additional knowledge and practical experience in designing, conducting, analyzing and documenting coursework

A maximum of nine credit-hours of supervised study can be taken during a student's undergraduate degree program. A student may not register for more than three credit hours of supervised study per semester.

The assessment of the course will be conducted as follows:

1. the student will be required to sit for a written exam to be evaluated by the supervisor out of 20 percent before the end of the semester
2. at the end of the semester the student will submit a written report to the supervisor detailing the work carried out. This report will be evaluated out of 40 percent
3. The student will defend his work in front of an internal examiner who will not be the supervisor. The oral presentation will be evaluated out of 40 percent

The student's final grade for the supervised study course will be determined by the student's supervisor and the internal examiner after evaluation of the student's work, written report, oral presentation and response to questions.

10. Attendance Policy

Attending classes is compulsory for all courses. A student will not be allowed to take the final examination if he/she

has missed more than 25 percent of the classes during the semester. Absence warning policies are set out below:

- If a student is absent for 10 percent of theoretical and practical class hours, the lecturer will issue a 10 percent absence warning.
- If a student is absent for 20 percent of theoretical and practical class hours, the lecturer will issue a 20 percent absence warning.
- If a student is absent for 25 percent of theoretical and practical class hours, the lecturer will issue a 25 percent absence warning and the student will receive the grade of "F."

The Council of Academic and Scientific Affairs may consider a student's withdrawal from the course if sufficient and convincing reason for the absence is submitted to it by the Admission and Registration.

11. Academic Probation

If a student's CGPA is less than 2.0 in any regular semester, starting from his/her second semester at the university, he/she will receive an academic warning and be placed on probation. The Admission and Registration will notify the student and his/her sponsor.

A student on probation must raise his/her CGPA to at least 2.0 within three semesters, not including the summer session, and he/she will not be allowed to register unless he/she signs the corresponding undertaking and produces the address of his/her sponsor.

The study load of warned students will be reduced, as follows:

- a) First warning: a maximum of 15 credit hours among which three or six credit hours are repeated depending on the CGPA and the previous semester's GPA

- b) Second warning: a maximum of 12 credit hours among which six or nine credit hours are repeated depending on the CGPA and the previous semester's GPA
- c) Third warning: nine repeated credit hours

If a student having a third warning has failed to raise his/her CGPA to 2.0 or higher at the end of the semester, his/her case will be reviewed by the College Council. The council may take one of the following actions:

- a) transfer the student to another program providing that his/her CGPA for the courses to be transferred is 2.0 or higher
- b) suspend the student for a maximum of two consecutive semesters during which he/she repeats courses at another accredited institution. He/she may be re-admitted if the transfer of the courses will raise his/her CGPA to 2.0
- c) dismiss the student from the university

12. Graduation Requirements

A student will be awarded a degree subject to fulfilling the following requirements:

- a) Completion of all courses of the academic program
- b) Completion of practical training as specified in the study plan
- c) A CGPA of at least 2.0

The merit of the degree is determined according to the following scale:

Scaling System for Graduation

Cumulative GPA	Merit
From 3.8 to 4.0	Excellent with Honor
From 3.6 to less than 3.8 Cumulative GPA	Excellent
From 3.0 to less than 3.6	Very Good
From 2.5 to less than 3.0	Good
From 2.0 to less than 2.5	Satisfactory

13. Information Technology and Learning Resources

13.1 IT Facilities

Students are encouraged to use the university's IT facilities and are given adequate storage space on the university's network, which is accessible from any computer within the university. However, students are recommended to back up their work on CD's or flash drives, etc.

The university's Information Technology department has developed an easy, efficient and integrated communication system via the university network. There is an IT Help Desk at each AUST campus with a team ready to help computer-users.

Every student will be given an user ID and an Email address ID@ajman.ac.ae to enable the student to access Online registration, and E-learning applications from the University website.

Every registered student can access useful information from Online Registration application such as: Schedule of registered courses, Transcript, offered courses and their scheduling, and E-payment of the tuition fees, etc.. Non academically warned students can complete their course registration using the following three steps:

1. Send to the academic advisor a set of selected courses to be registered for the next semester.
2. Receive back from the academic advisor the list of submitted courses with his approval or denial and related justifications and comments.
3. Complete the registration of the approved courses after having selected the appropriate sections. Students can also add and drop courses using the application during the Add & Drop period.

A Help manual for online registration is available to the users.

In collaboration with the IT Department, the E-Learning Department manages the Learning Management System Moodle to enable students to have access to information about their courses, interact with their lecturers, and submit their assignments.

Note: Access to and use of IT facilities must comply with UAE laws and the internal regulations of the university. Any misuse of IT facilities may result in university disciplinary sanctions against the user. It is a violation of university regulations to intentionally and without authorization access damage or alter the operation system of a computer, or publish a password or any other confidential information that allows non-authorized users to gain access to the university network.

13.2 Learning Resources

The AUST library assists and enriches the student learning process by providing material and services to support curricula and improve academic development. The library offers educational and research materials in a variety of formats and media. In addition to books, periodicals and audio visual materials, the library also provides access to electronic indexes and full text databases on CD ROMs and the internet. The library subscribes to several

hundred electronic journals and magazines through databases such as PROQUEST and EBSCO which are accessible through the university website. Each student can borrow library materials for two weeks (renewable) on presentation of a valid Student ID Card. If the student wishes to borrow material that is out on loan, it can be reserved at the loan desk. The library manual provides further details and regulations.

13.3 Plagiarism

The rich learning resources that are available at AUST are expected to be used for reading to help you to understand and to find out the work of others in the topic of your essays or projects only. Students are requested to submit their own work to be used for evaluating the level of achievement of a specific learning outcome. Thus, your Faculty is interested in evaluating your own work and not the work of others. However, it is not forbidden to reproduce an idea or sentences from a book or an article as long as you use quotation marks and give its source. Usually a good student reproduces a material to justify his/her arguments or his/her understanding. In other words, a quoted sentence (s) must either be preceded or followed by your own sentences. There is no usage in reproducing sentences if you do not refer to them in your own sentences. For instance, every submitted project is expected to contain a Bibliography in which you list all the materials that you consulted or used in your project.

Plagiarism is strictly forbidden at AUST which has acquired a specialized software that detects plagiarism. If plagiarism is proven, a Zero mark could be given to the project and can include a Failure in the course. See Plagiarism policy for more detail and do not hesitate to request help from your academic advisor or your Faculty for what could be regarded as plagiarized work.

14. Student Activities

14.1 Sports Activities

AUST encourages sporting activities to promote the physical health and wellbeing of students. The university provides facilities for football, basketball, handball, volleyball, and field and track events, as well as a swimming pool and gymnasiums. There are several sports teams, coached by qualified trainers, and university teams participate in sporting events and competitions both in and outside the UAE.

14.2 Social Activities

The university seeks to promote social relationships between students, and between students and the university administrative body and academic staff members, in order to create a friendly and cooperative environment.

14.3 Cultural Activities

Cultural activities are considered an important aspect of social life and are given special attention by AUST. The university encourages its students to be active members of the various clubs and provides facilities to promote ties between society and students by the organization of cultural exhibitions, seminars and lectures. These are held on appropriate occasions, particularly religious and national ones.

15. Student Services

15.1 Accommodation

The university provides accommodation services to students. Hostel fees vary according to the type of accommodation. Women and Men are accommodated in separate buildings, adjacent to the university, managed by the Hostel Department. A deposit fee of AED 500

is charged and refunded on final evacuation of the accommodation.

15.2 Transportation and Trips

The university provides transportation for students as follows:

- Hostels to Campus - hourly
- Nearby emirates – one return trip daily
- Weekend service - Thursday and Saturday

Bus schedules are available from the Transportation Department. The university also provides transportation for cultural and scientific trips organized in conjunction with the Student Affairs Department.

15.3 Cafeterias & Restaurants

The university provides cafeterias and restaurants on each campus, offering a variety of meals and beverages. Separate areas are provided for men and women students. Women students living in university hostels have a private cafeteria in the hostel building. Prices are set according to the choice of meals and are kept at a reasonable level.

15.4 Health Unit

There is a health unit on each of the university's campuses, as well as in student hostels. The health units ensure that a healthy environment is maintained in all university premises, and provides students with the following health services:

- medical examinations for new students and delivery of medical certificates
- examination and prescription treatment as appropriate
- emergency treatment
- medical supervision of sporting and social activities
- raising health awareness among students

- organizing seminars on health issues for the benefit of students
- First-Aid training
- checking medical certificates and advising on health-based student excuses

15.5 Bookshops

A bookshop on each campus sells books and stationery and provides photocopying services.

15.6 Mosques

The university has conveniently-located mosques and prayer rooms with facilities for men and women students on each campus.

15.7 Shops

There are shops on each campus and in student hostels to supply everyday items. Weekday and weekend opening hours are displayed on the shop fronts.

16. Student ID Card

Students will receive a university ID card containing their photograph, name, date of birth and AUST ID number. The ID card should be carried at all times. It provides access to certain academic buildings and hostels. In addition, the card is required for admission to sports facilities, to sit university exams and to make use of computer facilities.

The loss of an ID card should be reported immediately to the Admission and Registration. Fraudulent use of an ID card shall result in disciplinary action.

17. Student Behavior Code

All members of AUST are expected to conduct themselves in accordance with the regulations of the university, and the laws of the UAE. In particular, AUST students

are requested to play an exemplary and positive role in enhancing the reputation of the university by:

- demonstrating a clear commitment to their own learning
- conforming themselves to all specified time requirements for registration, class schedules, examinations and completion of assignments
- ensuring that work presented is their own personal work
- ensuring that all information presented to faculty members and administrative staff is accurate and true
- conducting themselves in a courteous and proper manner in their dealings with faculty members, employees or other students
- meeting their academic advisors regularly
- respecting the property of others and of the university
- reporting grievances to their academic advisor or the Dean of the College
- not engaging in cheating, plagiarism, disruptive behavior or improper conduct which could damage the reputation of the university
- not using AUST facilities for other than learning purposes without prior authorization
- not falsifying documents or using falsified documents for any purpose related to the university
- not distributing leaflets or collecting signatures on university premises or in hostels without prior authorization
- abiding by AUST rules and regulations, and the directives of the academic and administrative staff
- acting in a way that will not cause offence to the culture of the UAE

18. Disciplinary Policy

Any violation of university regulations or directives, or improper behavior (as set out in Section 17), is considered as misconduct and will render the student liable to disciplinary action which may range from a verbal warning to dismissal from the university.

In addition, if a student violates any rule or instruction during an examination, or is caught cheating, he/she will be asked to leave the examination room. In this event, the campus examination committee will interview the student on the day following that in which the incident occurred and will as a result submit a detailed report to the President of the University, in which the level of punishment is recommended. The level of punishment may range from the giving of an "F" grade for the course concerned, or failure in all courses for which the student is registered that semester.

A copy of the decision of the President will be kept in the student's file, and the Admission and Registration will also inform the sponsor as appropriate.

19. Student Grievance Procedure

The purpose of the grievance procedure is to resolve grievances, other than grade complaints, that are raised by students. If a student has a complaint or grievance about any aspect of university life, he/she should raise the matter with the academic advisor or the dean of the college at the earliest opportunity. The academic advisor or dean will inform the appropriate parties so that the grievance may be resolved. If the student is not satisfied with the results obtained via normal administrative procedures, he/she can submit the grievance in writing within three weeks of the occurrence of the incident to the General Manager of Student Affairs Department.

The General Manager of Student Affairs Department will then forward the matter to the Chairman of the Grievance Committee who will arrange a meeting to

hear both parties, and witnesses, as appropriate. The committee will then deliberate upon its findings and make a recommendation to the university President who will take the final decision, to be communicated to both parties.

20. The Career Counseling Center

The Career Counseling Center (CCC) aims to educate and serve AUST students and alumni to successfully identify, plan and pursue their career goals. In doing so, the Career Counseling Center will support the mission of AUST by providing quality services to its students, thereby enhancing their employability potential, and also to the community through liaison with prospective employers.

The CCC has established solid ties with various national and multinational companies seeking potential employees. The center also works closely with the AUST Alumni Association.

21.1 Application and Registration Fees

Application and registration fees of AED 1,300 should be paid in cash in one installment upon registration, and are not part of the tuition fees. Application and registration fees are non-refundable, except when the application is rejected in which case an amount of AED 1,000 will be refunded to the student.

A student who wishes to apply for transfer from another accredited institution will pay a non-refundable fee of AED 500. This fee shall be considered part of the application and registration fees if the student is admitted in the University.

Students admitted to the Architectural Engineering, Interior Design, Pharmacy and Dentistry programs are required to pay a seat reservation deposit of AED 4,000. This deposit is non-refundable and non-transferable and must be paid before the deadline stated on the letter of admission. This deposit is deductible from the student's

fee once the applicant joins Ajman University of Science and Technology. If the student asks to defer admission to the following semester and the request is approved, the deposit will be applied to the following semester.

21.2. Tuition Fees

a. Credit Hours

- Tuition fees for the Bachelor's programs offered at the University are as follows:

College		Fee per one credit hour
College of Dentistry		AED 1,350
College of Pharmacy and Health Sciences		AED 1,050
College of Information, Mass Communication and Humanities		AED 900
College of Law		AED 900
College of Information Technology		AED 900
College of Engineering:	B.Sc. in Biomedical Engineering	AED 900
	B.Sc. in Electrical Eng. (Electronics)	AED 900
	B.Sc. in Electrical Eng. (Communication)	AED 900
	B.Sc. in Electrical Eng. (Instrumentation & Control)	AED 900
	B.Sc. In Architectural Engineering	AED 950
	Bachelor in Interior Design	AED 950
College of Education and Basic Sciences		AED 900
College of Business Administration		AED 900
College of University Requirements and Academic Counseling		AED 900

Tuition fees for the Graduate programs offered at the University are as follows:

College/Institute	Major	Fee per one credit hour
Institute of Environment, Water and Energy	M. Sc. in Groundwater Engineering & Management	AED 2,000
College of Engineering	M. Sc. in Architecture & Urban Studies	AED 2,500
College of Business Administration	MBA: Human Resources Management	AED 2,000
	MBA: Financial Management	
	MBA: Marketing	
College of Information Technology	M. Sc. in Information Systems	AED 2,000
College of Law	Master of Law (Public Law)	AED 2,000
	Master of Law (Private Law)	
College of Education and Basic Sciences	Professional Diploma in Teaching	AED 950
College of Pharmacy and Health Sciences	M. Sc. in Pharmacy (Clinical Pharmacy)	AED 2,500
	M. Sc. in Pharmacy (Pharmaceutical Technology)	
College of Dentistry *	M. Sc. in Restorative Dentistry	AED 420,000 per program (3 years)

*The average annual tuition cost for M.Sc. in Restorative Dentistry is AED 140,000 per academic year.

b. Laboratory, Clinic and Studio Fees

Students registered in the programs offered by the College of Dentistry and College of Pharmacy & Health Sciences pay a flat semester fee for specialized laboratory sessions and clinics as shown in the table below:

College	Dentistry		Pharmacy
	1st -3rd year	4th & 5th year	
Fees	AED 2,000	Clinics	AED 1,200
		Productive Lab	
		AED 3,000 AED 1,500	

This fee does not include the lab fees of courses of the proposed sequence of study (study plan) offered by other colleges.

- Students registered in a program other than those of Doctor of Dental Surgery and the Bachelor in Pharmacy will pay a lab fee of AED 600 for each registered course having lab sessions.
- Students registered in the programs of Architectural Engineering and Interior Design will pay a studio fee of AED 1,000 per semester.

- Students registered in the program of Bachelor of Arts in Mass Communication will pay a studio fee of AED 900 per semester course having Radio/TV session.

c. Tutorial Session Fees

Students registered in courses having tutorial sessions will be charged a fee of AED 500 per course.

d. Orientation Course Fee

New students pay a fee of AED 900 for the Orientation Course, which is taken during the first semester of enrolment.

21.3. Additional Fees

- one-off fee for medical check-up to be paid upon enrolment: AED 150
- student service fee per semester: AED 200
- application fee for an incomplete course: AED 200
- reference letter: AED 30
- extra copy of the academic transcript: AED 50
- grade grievance application: AED 100
- ID card, per academic year: AED 10
- additional fee of AED 500 per each registered course taken as independent studies.

The University may and reserves the right to increase the fees up to 10% per academic year when deemed necessary.

21.4. Payment Terms

A student should pay AED 3,000 in advance as a deposit in order to register in fall/spring semesters (AED 2,000 in summer semester).

The student should pay the tuition fees in full for all courses upon registration so that he/she can add/drop courses and receive the "Student Timetable" that shows the details of registered courses. Finance Department has

the right to take necessary action against any student who has not settled their due balance of tuition fees.

The student has an option to settle tuition fees in 4 monthly installments (for spring/fall semesters only). To get this privilege, the student should obtain Finance Department's approval after filling the required form. Only then can he/she add/drop provided that he/she pays 25% or more of semester tuition fees.

Tuition fees for summer semester should be paid in one installment upon registration.

21.5. Refund Policy

a. Add/Drop Period

During the add/drop period students may add or drop courses without incurring charges. If a student adds one or more course(s) during the add/drop period, he/she must pay additional fees for the added course(s) at the time of submitting the application, otherwise the application will be rejected.

If a student withdraws from one or more courses during the add/drop period, the fees of the dropped course(s) will be refunded only after the end of the add/drop period. Alternatively, the student may request that the amount be credited to his/her balance for the following semester.

A student may withdraw from one or more course(s) after the end of the add/drop period, provided he/she remains registered in at least three courses during that semester. In this case, the student does not have the right to claim any refund for the fees of the withdrawn courses.

If a student wishes to reclaim any amount from a credit balance, he/she must fill in an Application for Refund Form and submit it to the Student Account Officer (at Finance Department) after the end of the add/drop period. A cheque payment will be prepared within one

week from receiving the application. If the student fails to do this, the amount will be credited to the student balance for the following semester.

b. Suspension of Registration

During the add/drop period a student may submit an application for suspension of registration for one or a maximum of two consecutive semesters. The application should be submitted to the Admission and Registration Department. In this case, the full amount of any fees paid shall be credited in full to the student's account for the following semester, or refunded one week after the submission of the refund application to the Student Account Officer (at Finance Department).

If the student submits an application for suspension of registration for one or two semesters during the two weeks following the end of add/drop period, he/she shall be entitled to only 50 percent of the tuition fees of the semester in which he/she submits the application for suspension.

If the student submits an application for suspension of registration after the end of the two weeks following the add/drop period, he/she will not be entitled to claim a refund of any part of the tuition fees of the semester in which he/she submits the application for suspension.

c. Withdrawal from the University

During the add/drop period, the student may submit an application for suspension of registration and withdrawal from the University. The application should be submitted to the Admission and Registration Department. In this case, the student is entitled to a full refund of tuition fees paid for the semester in which he/she submits the application for withdrawal. The refund will be made one week after the submission of the application for refund to the Student Account Officer (at Finance Department).

If the student makes an application for suspension of registration and withdrawal from the University within the two weeks following the end of the add/drop period, he/she is entitled to a refund of only 50 percent of the tuition fees for the semester in which he/she submits the application.

The student shall not be entitled to claim a refund of any part of the tuition fees if the application for suspension of registration and withdrawal from the University is made more than two weeks after the end of the add/drop period.

d. Disciplinary Dismissal

A student who is dismissed from the University for disciplinary reasons is not entitled to any refund of tuition fees of the semester of dismissal.

21.6. Tuition Fee Waiver

a. New students

New students are entitled to a waiver of 20 percent of the tuition fee for the courses in which they register in the first semester of their study, after fulfillment of the English proficiency requirements, if:

- i. The student obtains a minimum grade of 95 percent in secondary school final examinations (for the College of Dentistry and College of Pharmacy and Health Sciences programs)
- ii. The student obtains a minimum grade of 90 percent in secondary school final examinations (for all other colleges)

b. Continuing Students

Continuing students are entitled to a reduction of 20 percent of the tuition fee of the courses in which they register in a regular semester if they obtained a GPA of 3.8 or higher out of 4.0, and registered for at least 15 credit hours during the previous semester.

The University reserves the right to amend the secondary school grade or semester GPA required for students to be entitled to tuition fees reduction.

c. Sibling Fee Waiver

Any two brothers/sisters who enroll in the University during the same semester (excluding summer semester) shall each be granted a five percent waiver in tuition fees.

d. Performance Fee Waiver

Exemptions from tuition and laboratory fees shall be granted to academically distinguished students, except during the summer session, in accordance with the following regulations:

- a student holding first place at the College level: 100 percent fee exemption.
- a student holding second place at the College level: 50 percent fee exemption.
- a student holding third place at the College level: 40 percent fee exemption.

These exemptions shall be applied only to students who have demonstrated good conduct, who have completed at least 60 credit hours at the University, and who have not breached the Student Behavior Code during their entire period of study.

N.B.: If a student meets more than one of the above, i.e. conditions of fee waiver or scholarship, he/she will not be entitled to benefit from more than one fee waiver at the same time. In this case, the student will be granted the higher fee waiver.

21.7. Scholarships

The University offers a number of scholarships on an annual basis. Students wishing to apply for these scholarships shall submit their requests to the Scholarships Office.

21.8 Books

The university will supply course textbooks to students at reasonable prices. It should be noted, however, that a student in receipt of a fee exemption as listed above will not be provided with textbooks without charge.



College of

**University Requirements
& Academic Counseling**

The College of University Requirements and Academic Counseling was established in 2005 in order to cater for the General Education Program, which is an absolutely vital component of tertiary education. Having such a college will render both the required and elective courses relevant, enriching, and appropriate. In addition, they will feature both originality and modernity.

Mission

Ajman University of Science & Technology has established the College of University Requirements & Academic Counseling based on its strategic vision and educational philosophy in its three dimensions: education, information and investment. It aims at providing students with a variety of competencies associated with a range of University requirements intended to lay the ground for their future progress and development, academically as well as professionally.

College Learning Outcomes

Upon completing the general education courses students should be able to:

- Demonstrate knowledge of scientific and mathematical principles.
- Communicate clearly and effectively in writing and speaking.
- Acquire basic knowledge about Islam.
- Demonstrate knowledge of social sciences or behavioral sciences, humanities or art.
- Use Computer and Information Technology when appropriate.

Units of the College

The College is composed of the following five units:

Basic Education Unit

It is responsible for the management of all General Education courses in the fields of Arabic Language, Islamic Studies and Culture, History, humanities, and UAE Society. For the full list of courses see the next section.

Basic Science Unit

It is responsible for the management of all General Education courses in the fields of Mathematics/Statistics, Health, Biology, Chemistry, Environment, and Social Sciences. For the full list of courses see the next section.

Information Technology Unit

It is responsible for offering General Education courses in the fields of IT, Internet, and Technology

English Language Unit

The Unit is in charge of the Intermediate and Advanced Levels of the Intensive English Program (IEP) which is offered to students that did not fulfill the English Language Proficiency Requirement but they had scored at least 450 in TOEFL or its equivalent.

Academic Counseling Unit

The Unit is in charge of the orientation of new students to assist them in the transition from a High School Environment to a University Environment.

Offered General Education Courses

Every AUST student is required to complete 30 credit hours in General Education covering the following areas: Mathematics, Science, Information Technology, Languages, and Social Sciences & Humanities. After a review of all offered programs at AUST, the Academic Council of Academic Affairs & Scientific Affairs identified 24 out of the 30 credit hours of General Education that could be taken by all AUST students independently of

their specialization. In fact, the College of University Requirements & Academic Counseling is responsible for offering 15 credit hours, (see below), that are compulsory to all students and 9 credit hours to be chosen from a large number of courses covering the different areas of General Education, as shown below.

List of required Courses (15 credit hours)

Course Code	Course Name	Credit hours
0101000	Orientation	0
0102110	Islamic Culture	3
0102140	Communication Skills in Arabic Language	3
0104110	Computer Applications	3
0103110	Statistics	3
0103120	Environmental Sciences	3

List of elective courses (9 credit hours)

Course Code	Course Name	Credit hours
0115140	Principle of Mathematics	3
0115130	General Psychology	3
0115110	History of Science in Islam	3
0115120	Scientific Pioneering	3
0115150	The Art of Written Expression	3
0115160	Emirates Society	3
0115170	Educational Technology	3
0112110	Principles of Architecture & Art	3
0112120	Principles of Interior Design	3
0112130	Modern Technology and Society	3
0113110	Internet Concepts	3
0113120	Introduction to Information System	3
0114110	Economic Concepts	3
0114120	Entrepreneurship Development	3
0118110	Principles of Ethics	3
0118120	General Biology	3
0118130	Oral Health	3
0118140	General Principles of Epidemiology	3

Course Code	Course Name	Credit hours
0118150	CPR-Cardio Pulmonary Resuscitation	3
0119110	Communication Skills	3
0117110	General Chemistry	3
0117120	Fundamentals of Human Nutrition	3
0117130	First Aid	3
0103130	Research Methodology	3
0117120	Applications of Remote Sensing & GIS.	3
0119120	Introduction to Communication Sociology	3
0119130	Information Society	3
0120110	Legal Culture	3

Laboratories

The College has well-equipped laboratories to provide practical hands-on experience to students of all specializations. These laboratories are as follows:

- Information Technology laboratories.
- Statistics laboratories.
- English Language laboratories.

The faculty of the college is also using the E-Learning system and MOODLE to enhance the learning process by giving students the opportunity, of accessing the teaching materials while they are away from the University through the use of the Internet..

Intensive English Program

The Intensive English Program, IEP has two strands: TOEFL and IELTS. The student is free to choose either. Each of which has two levels: Advanced and Intermediate.

Students whose score is between 480 and 499 on TOEFL or Band 4.5 on IELTS are eligible to register in the Advanced Level. Students whose score is between 450 and 479 on TOEFL, or Band 4 on IELTS are eligible to register in the Intermediate Level. The table below summarizes this information.

Level	TOEFL		IELTS
	Paper-Based	Internet-Based	
Advanced (AD)	480-499	54-60	Band 4.5
Intermediate (INT)	450-479	45-53	Band 4

The student who starts in the Intermediate Level can register in the Advanced Level when he gets the required score as shown in the table

IEP Organizations

Level	Organization	Other Courses
Advanced	Contact teaching hours: 6 + 3 for Independent Learning in the English Lab.	Up to 3 additional courses from the College of University Requirements
Intermediate	Contact teaching hours: 12 + 3 Independent learning in the English Lab	2 additional courses from the College of University Requirements

IEP Structure

The Advanced Level Program is a program that consists of 9 contact hours per week during 15 weeks. It is suitable to students whose English Proficiency is close to the minimum required Level to be admitted in a Program taught in English. It covers the following components:

1. Listening

The central object of the listening components is to enhance and develop student competence to enable him/her to understand the English language in both academic and social settings. At the beginning of the listening component, emphasis is given to skills such as understanding conversation, identifying main and detailed ideas, and interacting with other students and lecturers in social settings. Later, more emphasis will be placed on comprehending conversations and talks, taking lecture notes and being aware of the structure of a lecture.

2. Speaking

The objective of the speaking component is to enable students to communicate in English appropriately, fluently and successfully in both academic and social settings where they are required to ask and answer questions, agree and disagree, express their opinions

clearly with supporting evidence, give presentations and take part in short debates and discussions.

3. Reading

The main objective of the reading component is to enable students to become good readers, by developing in them reading skills such as text comprehension, appropriate speed, reading with a purpose, skimming, scanning, etc. In order to achieve these aims, students will be exposed to a diverse range of text forms and genres.

4. Writing

Since writing is viewed as a process, it is imperative that students acquire and develop the different steps of the writing process: generating ideas; organizing ideas; editing; revising, etc. Emphasis is also given to grammatical accuracy, lexical appropriateness, fluency and coherence.

5. Vocabulary

Rather than being developed in isolation, vocabulary is integrated into all skills. The main aim of the vocabulary component is to expand and enrich the student vocabulary repertoire and enable them to acquire academic vocabulary pertinent to their university studies.

6. Grammar

Like vocabulary, grammar is not developed in isolation, and is also integrated into the four skills of listening, speaking, reading and writing. The ultimate aim of this component is to enable students to acquire both the rules of usage (accuracy) and at the same time to acquire the rules of use (appropriateness) in both spoken and written discourse.

7. Test-taking strategies

In addition to the components listed above, test-taking strategies are an essential element and are incorporated into the program.

Courses of the TOEFL programs

Course Code	Seq.	Course Name	Weekly Hours
105000	2	TOEFL AD/ Independent Learning	3
105101	2	TOEFL AD/ Listening, Speaking & Reading	3
105102	2	TOEFL AD/ Grammar & Test Practice	3
105200	2	TOEFL INT/ Independent Learning	3
105201	2	TOEFL INT/ Listening & Speaking	3
105202	2	TOEFL INT/ Reading	3
105203	2	TOEFL INT/ Grammar	3
105204	2	TOEFL INT/ Test Practice	3

Courses of the IELTS programs

Course	SEQ.	Course Name	Weekly Hours
105000	3	IELTS AD/ Independent Learning	3
105101	3	IELTS AD/ Listening & Speaking	3
105102	3	IELTS AD/ Reading & Writing	3
105200	3	IELTS INT/ Independent Learning	3
105201	3	IELTS INT/ Listening	3
105202	3	IELTS INT/ Speaking	3
105203	3	IELTS INT/ Reading	3
105204	3	IELTS INT/ Writing	3

Students exit the IEP successfully if they achieve one of the following:

TOEFL			IELTS
Paper-Based	Computer-Based	Internet-Based	Band
500	173	61	5

Course Descriptions

101000 ORIENTATION (0 Cr. Hrs.)

This course will inform new students about academic policies and procedures, help with the academic and social transition to higher education, prepare students to make reasoned and well-informed choices, and enable them to become competent members of the university community. The course presents an overview of the foundation and objectives of the university and provides information on career and academic issues, policies and procedures about the registration rules. Also, it gives them brief advice in the social, personal and career orientation, study and time management and achieving success at university.

102110 Islamic Culture (3 Cr. Hrs.)

This course aims at providing students with knowledge about culture, Islamic faith and beliefs, sources of legislation and characteristics of Islam. It will also deal with some contemporary issues from an Islamic perspective such as human rights, women status, globalization and environment.

102120 The Miraculousness of the Holy Kuran (3 Cr. Hrs.)

The course deals with the concepts of the miraculousness of the Holy Kuran; its types and necessity; and the principles pertinent to it with special emphasis on its scientific dimension. It also covers the miraculousness in the Sunah to illustrate aspects of miraculousness based also on principles agreed upon by Muslim scholars.

102140 Communication Skills in Arabic Language (3 Cr. Hrs.)

This course aims at providing students with communication skills in the Arabic language, such as: listening, reading, writing, and speaking. These skills are taught and achieved through the use of selected texts from traditional poetry, modern poetry and prose. There is also an emphasis on students' academic and cultural surroundings in which they live and interact with.

102140 Communication Skills in Arabic Language (Non-Arabs) (3 Cr. Hrs.)

This course aims at providing non-Arab students with Communication Skills in the Arabic language. It focuses on the following skills: reading, writing, speaking and listening. It also aims at encouraging students to communicate in Arabic in their environment, university and society

103110 Statistics for Science (3 Cr. Hrs.)

This course is designed for students who need to gain skills in the basic statistics knowledge. It covers the essential statistical topics that students in the science section are expected to know. It is a basic course where essential material in statistics is covered. The first part of the course deals with data tabulation and calculation of descriptive measures. The second part covers basic concepts of probability, probability laws of addition and multiplication and bays' law. The third part covers some discrete distributions namely (Binomial and Poisson) and continuous distribution, where the emphasis is on

Standard Normal Distribution. The fourth part covers the linear regression analysis and correlation.

103110 Statistics for Arts (3 Cr. Hrs.)

This course is designed for students who need to gain skills in basis statistics knowledge, so it covers the essential statistical material and topics that students are expected to know. The first part of the course deals with data tabulation and calculation of descriptive measures. The second part covers basic concepts of probability such as population, sample, sample space and probability laws of addition and multiplication. The third part covers the discrete and continuous distribution, where the emphasis on Standard Normal Distribution. The fourth part covers the linear regression analysis and correlation.

103120 Environmental Sciences (3 Cr. Hrs.)

This course is designed for students who need to gain knowledge in environmental sciences in general. Special emphasis is given to water and energy resources because of their importance in the Arab Region and the world. The course includes three basic modules: environment, water and energy. The environment module covers population dynamics, natural resources, pollution, remote sensing and GIS applications, environmental protection and sustainable development. The water module discusses the hydrologic cycle, basics of hydrogeology and water quality as well as water-related problems in the Gulf Region. The third module covers the conventional and non-conventional energy resources, energy production and use, also energy management and sustainability.

103130 Research Methodology (3 Cr. Hrs.)

The course provides students with some basic tools of research methods in different fields. It covers the research process including: formulating research questions, sampling and surveying, measurement (scaling), data organization, data analysis, methods of extracting

knowledge from the readable materials, searching for relevant references, and writing research reports.

104110 Computer Applications (3 Cr. Hrs.)

This course is an introduction to the most common software applications such as word processing, spreadsheets, presentations, and other features found in current software packages. Students will also acquire knowledge related to basic computer concepts and components.

105101 TOEFL ADVANCED (9 Hours)

The advanced course aims to foster and develop further both language proficiency and test-taking strategies. It also aims to encourage students to maximize their exposure to the language by encouraging them to be independent learners who can benefit from the different resources available to them such as the English lab, MOODLE and other online sources.

105101 IELTS ADVANCED (9 Hours)

The advanced course fosters and develops further English proficiency and test-taking strategies. Besides attending classes, students are encouraged to make use of the different learning resources available to them such as the English lab, MOODLE and the Internet. They also take active roles by using pair-work, group work, bridging the information gap, doing presentations, etc.

105201 TOEFL INTERMEDIATE (15 Hours)

The course gives students intensive practice in language skills: listening, reading and writing. It also focuses on vocabulary and grammar together with test-taking strategies in order to develop proficiency in the English language and perform efficiently in the TOEFL exam. Learning takes place in a user-friendly and anxiety-free environment.

105201 IELTS INTERMEDIATE (15 Hours)

IELTS requires proficiency in the four language skills: listening, speaking, reading and writing. Students are exposed to intensive practice so as to develop their communicative competence. They learn in a user-friendly and anxiety-free environment, making use of the different resources such as the English lab, MOODLE and the Internet.

112110 THE PRINCIPES OF ARCHITECTURE & ART (3 Cr. Hrs)

The course introduces the student to the world of architecture and art through a series of lectures which highlight this subject by exploring visual presentations, videos, and slideshows. In addition, the course gives the student the chance to practice what he has visualized by creating drawings, pictures, and other media outcomes as required.

112120 Principles of Interior Design (3 Cr. Hrs)

The aim of this course is to introduce students to elements and principles of interior design and expose them to contemporary designs. Students will be able to understand the principles of interior design and appreciate its impact on their surroundings.

112130 Modern Technology and Society (3 Cr. Hrs)

The course starts with defining key terms such as: science, engineering and technology then it deals with the history of technological developments that changed society, philosophical theories of interaction, ethical and legal issues pertinent to the use of modern technology and entrepreneurship in modern technology.

In addition, the course describes the roles modern technology play in shaping the lifestyle of individuals and society, and in politics, the economy and health. Other issues such as: the impact of modern technology on the environment, how individuals interact with technology

and immersing and future technology with its possible effects are also discussed.

113110 Internet Concepts (3 Cr. Hrs)

This course is designed as an introduction to the Internet and World Wide Web. It starts by introducing the history of the Internet and includes the use of Internet applications and the basics of web page and web site production, and continues with matters such as Internet security, cookies, viruses, etc.

113120 Introduction to Information Systems (3 Cr. Hrs)

The purpose of this course is to introduce the topic of information systems (IS) and how organizations use it to support a variety of tasks ranging from basic day to day activities to creating competitive edge in the market place. It will focus on topics such as business process reengineering, collaborative computing, electronic commerce, the impacts of IS upon organizations and society, ethical use of information systems, types of information systems, and how to analyze and design information systems.

114110 Economic Concepts (3 Cr. Hrs)

This course is an integrated introduction to the analysis of individual firms and markets, as well as aggregate economic variables. These include inflation, unemployment and economic growth, with a focus on the state's role in attempts to regulate the economy. Thus, efforts will be focused on learning how societies use scarce resources to produce and distribute commodities among its various people.

114120 Entrepreneurship Development (3 Cr. Hrs)

Based on the economic and social dimensions, the entrepreneurship development concept has become an imminent part of life. This course aims to highlight the economics of entrepreneurship, its role in venture creation and facilitation of capital resource. The course

also aims at describing the management strategies for starting up businesses which necessarily includes the business plan. The course focuses on all the basic tenets of entrepreneurship development.

115110 History of science in Islam (3 Cr. Hrs)

The course consists of four units. In the first unit, we elaborate on introductory aspects related to history of science in general and the science in the context of Islamic Culture in particular. This unit includes: nature of human knowledge, the term science and scientific method, significance of the recent concern of studying history of science, scientific achievements of ancient nations and the cultural context of the scientific accomplishments of the intellectuals of the Islamic Culture. The second unit is devoted to the achievements of the scientists of this culture in medical sciences and prominent figures in these fields. In the third unit, we concentrate on the field of natural sciences, mathematics and prominent figures in these fields in the context of the Islamic Culture. Last, we discuss, in the fourth unit, agricultural endeavors in the Islamic culture in addition to the impact of this culture on the scientific progress in Europe.

115120 Scientific Pioneering (3 Cr. Hrs)

The course consists of four distinct units. The first unit deals with human knowledge, introduction to epistemology, science and the scientific method and the nature of scientific explanation of observed phenomena. In the second unit, we study the societal influence on science, first by illustrating the theoretical basis of this influence, then by illustrating this influence via real societal examples extracted from ancient and recent history. The third unit is devoted to studying the salient features of modern science and technology, including particularly: science and natural resources and intellectual property and patents. In the last unit we discuss the scientific impact on human behavior and thought.

115130 General Psychology (3 Cr. Hrs)

The course aims to provide students with basic concepts, methods, techniques and theories of psychology as applied to the field and practice of several academic discipline specialties. The course also introduces areas of psychology dealing with biology, learning, motivation, human development, personality, society, maladjustment and other topics.

115140 Principles of Mathematics (3 Cr. Hrs)

This course deals with algebraic equations of degree 1 and 2, the elementary ideas of plane geometry; Cartesian coordinates system, equations of line, circles, linear inequalities and systems of inequalities are introduced. Also, basic notions of real functions such as limits, continuity, and differentiability are studied along with simple applications. In addition basic knowledge about matrices and their algebra is provided.

115150 The Art of Written Expression

The course analyzes writing practices within and across disciplines, recognizing the role writing plays in consolidating knowledge in a retrievable form which is easily accessible within each academic specialization. This course highlights the processes, practices and application of written expression in various academic fields. Students have the opportunity to develop a critical understanding of important discourses within their particular area of study.

115160 Emirates Society (3 Cr. Hrs)

This course covers topics related to the nature of UAE society before and after the discovery of oil, and its effect on the political, geographical, cultural, social and educational aspects of national life.

115170 Educational Technology (3 Cr. Hrs)

This introductory course surveys the field of educational technology through the historical development of Educational Technology, an overview of modern classroom applications, and an examination of trends and issues surrounding the use of technology for teaching and learning.

117110 Chemistry of Life (3 Cr. Hrs)

The course aims to provide students with the basic knowledge of chemical principles needed for the daily life. It deals with the development of life on Earth from its origins (Chemistry of life, Cells) and the characteristics of living things.

117120 Fundamentals of Human Nutrition (3 Cr. Hrs.)

This course discusses the fundamental principles of human nutrition and their application to food selection. Emphasis is placed upon the Essential Nutrients and their vital importance as well as the recommended dietary allowances and other dietary guidelines, which promote health maintenance and disease prevention. Moreover, it answers the questions of what Nutrition is, why it is important for our life, and how to easily adjust the life style based on what is learned will be highlighted.

117130 First Aid (3 Cr. Hrs.)

This course aims to teach the skills and knowledge critical to saving life and minimizing the severity of injury or sudden illness. Safety awareness and accident prevention are emphasized.

117150 Remote Sensing and GIS Applications (3 Cr. Hrs.)

This course introduces students to the basic elements of spatial sciences, including Global Positioning System (GPS), Remote Sensing (RS) and Geographic Information System (GIS). Students are taught how to locate themselves and determine their direction with a GPS. Students will study

data collection, acquisition and processing in a much wider way than the visible spectrum, including IR, UV and microwave zone of the electromagnetic spectrum in the RS. Finally, students will learn how to capture, store, retrieve, display and interpret data through GIS; identify the art of image interpretation and enhancement.

118110 Academic and Technological Ethics (3 Cr. Hrs.)

The course is concerned about ethical issues related to the misuse of scientific and technological advances, miscommunication of scientific research results, the ethical aspects related to the actual practice of scientists in their scientific endeavors and the lack of ethics in all facets of academic character at all levels of educational standing. The course starts with clarifying the relevance of discussing ethical issues in the present age. Then it discusses examples of misbehaving by students and instructors in educational institutes at all levels, further we discuss examples of the random growth of modern technology without paying attention to ethical standards and finally we shed some light on the miscommunication and fraud in research results among scientists. Stress is made on case studies related to aspects mentioned above.

118120 General Biology (3 Cr. Hrs)

This course provides students with general knowledge in biology. The students are provided with a basic knowledge of chemistry of living materials, the cell structure, types and functions. The students are also provided with good knowledge concerning cell division, general embryology and genetics. A basic knowledge about the morphological features of the tissues and recognize their roles in forming organs and organisms integrates the above information. The students are also provided with brief knowledge concerning human health and common diseases.

118130 Oral Health (3 Cr. Hrs)

This course defines the responsibilities of the individual within community dental health education with

emphasis on the etiology of dental disease, methods for prevention, and principles of nutrition in relation to oral health and preventive dentistry.

119110 English Communication Skills (3 Cr. Hrs)

This course aims to satisfy students' immediate needs in the communication field in both their academic environment and their future needs as professionals. It covers, among other things: the concept of human communication and its problems; communication and culture; telephoning; interview skills; conducting and participating in meetings; note-taking; presentation skills; knowing your audience; developing a positive public image; writing for the web. The course is practically oriented to ensure interactivity by the students playing a very active and constructive role.

119120 Introduction to communication sociology (3 Cr. Hrs)

This course focuses on the inevitable social role of communication in society. The course clarifies some of the effects, functions and dysfunctions of mass communication in society. The course concentrates on the role of communication in different social fields

and analyzes its role in public service sectors and non-governmental organizations (NGOs)

The course is also intended to make students aware of sensitive topics to avoid using words that might offend or upset people.

119130 Information Society (3 Cr. Hrs)

The course focuses on the information revolution in all fields around the world. It concentrates on the characteristics of the information society, its consequences, challenges and future implications on Arab society under the information revolution and the international information market map.

120115 Legal Culture (3 Cr. Hrs)

The course addresses itself to general legal concepts at a macro level of generality such as the rule of practice and its characteristics, sources of obligation with reference to the rules of malpractices. It also deals with: the trader, commercial business and documents; labor law, rights and duties of workers, termination of contracts and penal law illustrated by common crimes such as robbery, fraud etc. In addition, matters related to administrative decisions are covered such as the employee rights and duties, the marriage contract and the wife's rights and duties.

List of Faculty

Name	Rank	Specialization	Degree	Date	University
Mahmoud Abou Naaj	Associate Professor Dean	Computer Science	Ph. D	1983	Leeds University, U.K
Mehdi Saleh	Assistant Professor	Statistics	Ph. D	1985	University of Wales - UK
Nadia Ouakili	Lecturer	Statistics	Doct 3rd cycle	1986	Paris VI University – France
Mr. Laith Aljumaily	Lecturer	Statistics	Master	1978	Mississippi State University
Mr. Emad Shadid	Lecturer	Statistics	M.Sc	1991	Middle East University – Turkey
Dr. Mourad Abid	Assistant Professor	Education Psychology	Ph.D	2007	Annaba University, Algeria
Dr. Yousuf Ali Mahmud	Assistant Professor	Physics	Ph. D	1978	Standford University, U.S.A
Dorria Hegazy	Assistant Professor Head of Dept	Arabic	Ph. D	1995	Monofia University
Hayam Al Maamari	Lecturer	Arabic	Ph. D	2004	Jordan University
Mohammad Al Wahidi	Lecturer	Islamic	Master	2000	Al Bait University
Ahmed Yacoob	Lecturer	Islamic	Master	2000	Dar Al Hadith Alhassaniya College, Morocco
Salah Abdelhai	Lecturer	Psycology	Master	1986	Oum El Qura University, Mekka
Siddiq Ismail Abd Elmonim	Lecturer Head of Dept	English	Master	1982	Manchester University, U.K
Hanaa Mansour	Lecturer	English	Master	2000	Kardiff University, U.K
William Vize	Lecturer	English	Master	1999	Bath University, U.K.
Nida Hadi	Lecturer	English	Master	1986	Bangor University, U.K

Name	Rank	Specialization	Degree	Date	University
Belal Ibrahim	Lecturer	English	Master	1998	Rajasthan University
Said Lezzar	Lecturer Head of Dept	Information Technology	Master	1982	American University, U.S.A
Dr. Mohammed Salahat	Lecturer	Information Technology	Master	1996	Arab Academy Jordan
Hussein Taha	Associate Professor Deputy Dean	Foundations of Education	Ph D	1984	Minnesota University, USA
Abdul Majid Al-Abbasi	Associate professor	Statistics	Ph D	1987	Essex University, UK
Said Mahmoud Hamad	Lecturer	Arabic	Master	1996	Tanta University, Egypt
Mohamed Ashraf El Zamil	Lecturer	English	Master	2004	American University ,Cairo
Mohammed Hachlaf	Lecturer	Islamic	Master	2002	Institute of Holy Koran & Islamic Studies, Sudan
Nasser Mahmoud Nasser	Lecturer	Statistics	Master	1978	University of Wales, UK
Maachou Bendelhoum	Lecturer	Computer Science	Master	1991	Salford University, UK
Peter D Troiano	Lecturer	Journalism + (English certificate)	Master	1987	Columbia University, USA

College of

Business Administration

The remarkable growth in economic and business activity in the Arabian Gulf region over the past decade has greatly stimulated the demand for skilled and competent business graduates. The College of Business Administration has built up a reputation for providing high quality teaching and training programs to equip its students with the knowledge, skills and attitudes they need to effectively address the challenges and opportunities of today's business environment.

Mission

The college adheres to the fulfillment of AUST's overall mission, which seeks to meet the educational needs of local, regional and international students. As such the college philosophy is grounded in finding practical and scientific solutions to contemporary organizational and business problems through the BSc degree programs offered in four areas of specialization: Management, Accounting, Marketing, and Finance and the Master of Business Administration degree program in three areas of specialization: HR Management, Financial Management and Marketing.

Stemming from this underlying philosophy, the college's strategic focus is to enhance the intellectual, professional and behavioral development of its students to meet the managerial challenges of the 21st century.

Degree Programs

The college offers four bachelor programs and three MBA tracks, providing students with the theoretical and practical backgrounds that form an excellent foundation for satisfying career requirements or for further study. The department's undergraduate programs have been reaccredited by the UAE Ministry of Higher Education and Scientific Research, and the MBA programs are also accredited.

The four bachelor degree programs, Management, Accounting, Marketing and Finance each require four years of study. The Master of Business Administration program has three tracks, each of which takes two years of study: HR Management, Financial Management and Marketing.

Facilities

The college's current physical facilities, which include offices, labs and teaching rooms are equipped to meet its needs and are regularly upgraded. The library is regularly updated with the latest books in the field for the benefit of students and college members. IT facilities include:

- wireless internet connection, available in the university campus
- Internet labs available 14 hours per day
- multimedia facilities provided in all labs
- more than 12 business programs installed in the labs
- college computers connected through local and wide area networks

DEPARTMENT OF MANAGEMENT

The Department of Management offers a comprehensive and dynamic program leading to the Bachelor of Science in Management, which combines courses from all core areas of business administration. Through the careful selection of teaching materials and real-life cases, the department builds the marketable skills of students to facilitate their entry into the global business arena as professional managers and entrepreneurs.

Bachelor of Science in Management

Mission

The mission of the management program is to achieve excellence in delivering management knowledge. It aims

to contribute to the competitiveness of the organizations of the UAE and the GCC in the global market-place by producing highly skilled, ethical and well-rounded graduates in areas of strategic relevance to the global economy.

Program Goals

The program's goals are to enable students to:

- deal effectively and efficiently with managerial responsibilities, tasks and challenges in a changing and complex business environment
- gain proficiency in modern analytical problem-solving, communication and decision-making skills
- gain broad managerial skills, abilities and competences required in a globalized world
- carry out research and postgraduate study

Program Educational Objectives

The objectives of the program are to:

- Clarify management theories in leadership and justifications for the need of organizational reengineering, through professional programs and the managing of organizational assets
- Explain organizational objectives of specialization, coordination, adaptation and alignment to benefit the community and the business milieu, and what is beneficial to the community and the business milieu
- Identify quantitative and qualitative research and diagnosis tools and their appropriate end use through creative thinking and continuous learning
- Raise student awareness to the managerial, ethical and other principles of "what is measurable is manageable"
- Clarify the global multidimensional managerial challenges as they pertain to the various functions of the global corporation

- Clarify the importance of strategic change and development, and the need for alignment to the principle of management by performance and results linked to an increasingly competitive environment
- Explain the vital role of fundamental and quality standards in an applied business strategy, congruent with research for developing innovative products and services in tune with a highly competitive business environment
- Explain the need for creative thinking in the employment field, thus turning out graduates who are able to use skills such as "thinking out of the box," and intellectual capital-based innovation
- Provide knowledge and skills appropriate for the conducting of research and the pursuit of postgraduate study

Admission Requirements

The normal admission requirement for an applicant is the UAE Secondary School Certificate (both sections), or an equivalent qualification, with a minimum average grade of 60 percent, & TOEFL certificate with a minimum score of 500.

Career Opportunities

Management is the art of getting things done by others. Hence, the need for future managers never stops, particularly for those who are equipped with the latest managerial knowledge skills and the ability to think analytically.

The Bachelor of Science in Management program has been carefully crafted to meet market demands qualitatively. The program is intended to produce graduates who will be efficient and effective managers able to achieve organizational objectives. AUST management graduates have been well received in the job markets of the UAE and other Arabian Gulf countries for their outstanding

teamwork, and creative and management leadership skills.

Graduation Requirements

Students will be awarded the Bachelor of Science in Management degree upon fulfillment of the following requirements:

- Successful completion of 126 credit hours, which normally takes eight semesters.
- 8 weeks of industrial internship (after the completion of 96 credit hours including seven management core courses), which is equivalent to three credit hours.
- A minimum Cumulative Grade Point Average of 2.0.

Degree Requirements

The BSc in Management degree requires the completion of 126 credit hours distributed according to the following plan:

Type of Courses	Credit Hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Requirements	
(a) College Required Courses	54
(b) College Elective Courses	9
3. Major Requirements	
(a) Major Required Courses	33
(b) Major Electives Courses	6
Total Credit Hours	126

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Required Courses (15 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
101000	Orientation	0	-
102110	Islamic Culture	3	-
102140	Communication Skills in Arabic Language	3	-
103110	Statistics	3	-
102130	Environmental Sciences	3	-
104110	Computer Applications	3	-

(b) University Elective Courses (9 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Qur'an	3	-

Course No.	Course Title	Cr. Hrs.	Prerequisite
103130	Research Methodology	3	-
112110	Principles of Architecture & Art	3	-
112120	Principles of Interior Design	3	-
112130	Modern Technology and Society	3	-
113110	Internet Concepts	3	-
113120	Introduction to Information Systems	3	-
114110	Economic Concepts	3	-
114120	Entrepreneurship Development	3	-
115110	History of Science in Islam	3	-
115120	Scientific Pioneering	3	-
115130	General Psychology	3	-
115140	Principles of Mathematics	3	-
115150	The Art of Expression and Writing	3	-
115160	Emirates Society	3	-
115170	Education Technology	3	-
117110	General Chemistry	3	-
117120	Fundamental of Human Nutrition	3	-
117130	First Aid	3	-
117150	Applications of Remote Sensing	3	-
118110	Principles of Ethics	3	-
118120	General Biology	3	-
118130	Oral Health	3	-
118140	General Principles of Epidemiology	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	-
119110	Communication Skills	3	-
119120	Introduction to Communication Sociology	3	-
119130	Information Society	3	-
120115	Legal Culture	3	-

COLLEGE REQUIREMENTS (63 Credit Hours)**a. College Compulsory Courses (54 Credit Hours)**

Course No.	Course Title	Cr. Hrs	Prerequisite
110140	Math for Management	3	-
400393	Microeconomics	3	-
102211	Statistics for Business	3	103110
311102	PC Application	3	104110
400292	Principles of Accounting I	3	-
400513	Quantitative Analysis	3	102211, 110140
400394	Principles of Accounting II	3	400292
400396	Fundamentals of Finance	3	400292
400291	Introduction to Management	3	-
400408	Business Communication	3	400291
400395	Principles of Marketing	3	400291
400411	Business Law	3	400291
400615	Management Information Systems	3	400291, 306460
400409	Organizational Behavior	3	400291
400410	Macroeconomics	3	400393
306460	Data Base Management Systems	3	311102
310202	IT in Business	3	311102
400516	Supervised Training	3	Earning 96 Hrs including 7 management core courses

b. College Elective Courses (9 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
400419	Business Ethics	3	400291
400512	Economic Development of GCC	3	400410
400307	Business Research Methods	3	400291, 102211
400522	Managerial Economics	3	400410
400523	Public Relations	3	400408
400524	Feasibility Studies	3	400393, 400396

3. MAJOR REQUIREMENTS (39 Credit Hours)

(a) Major Compulsory Courses (33 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
410501	Production & Operations Mgt.	3	103110, 400291
410602	Human Resources Management	3	400291
410603	International Business	3	400291, 400410
410704	Purchasing & Material Mgt.	3	410501
410705	Computer App. Management	3	311102, 400291
410706	Strategic Management	3	400291, 400409
410612	Mgt. of Small Business	3	400291
410712	Total Quality Management	3	410501
410808	Org. Theory & Design	3	400409
410909	Selected Topics Mgt.	3	410706
410811	Graduation Project / Mgt.	3	102 Credit Hours

b. Major Elective Courses (6 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
430707	Service Marketing	3	400395
440612	Personal Finance	3	400396
410820	Project Management	3	400291
410830	Electronic Business	3	400291, 311102

Proposed Sequence of Study

Semester 1

Course No.	Course Title	Contact & Credit Hrs.				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110	Statistics	2	2	0	3	-
400291	Introduction to Management	3	0	0	3	-

Course No.	Course Title	Contact & Credit Hrs.				Prerequisite
Xxxxxx	University Elective Course 1	3	0	0	3	-
Total		15	2	1	15	

Semester 2

Course No.	Course Title	Contact & Credit Hrs.				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
104110	Computer Applications	2	2	0	3	-
102130	Environmental Sciences	3	0	0	3	-
102110	Principles of Accounting I	3	0	0	3	-
102211	Statistics for Business	3	0	0	3	103110
Xxxxxxx	University Elective Course 2	3	0	0	3	-
Total		14	2	0	15	

Semester 3

Course No.	Course Title	Contact & Credit Hrs.				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
311102	PC Applications/ Management	2	2	0	3	104110
400393	Microeconomics	3	0	0	3	-
400394	Principles of Accounting II	3	0	0	3	400292
400395	Principles of Marketing	3	0	0	3	400291
400396	Fundamentals of Finance	3	0	0	3	400291
xxxxxx	University Elective Course 3	3	0	0	3	-
Total		17	2	0	18	

Semester 4

Course No.	Course Title	Contact & Credit Hrs.				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
110140	Mathematics for Management	3	0	2	3	-
310202	IT in Business	2	2	0	3	311102
306460	Database Management Systems	2	2	0	3	311102
400410	Macroeconomics	3	0	0	3	400393
400411	Business Law	3	0	0	3	-

Course No.	Course Title	Contact & Credit Hrs.				Prerequisite
xxxxxxx	College Elective Course 1	3	0	0	3	-
Total		16	4	2	18	

Semester 5

Course No.	Course Title	Contact & Credit Hrs.				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
400408	Business Communications	3	0	0	3	400291
400409	Organizational Behavior	3	0	0	3	400291
410501	Production and Operations Management	3	0	0	3	103110, 400291
400513	Quantitative Analysis	3	0	0	3	102211, 110140
400615	Management Information Systems	3	0	0	3	400291, 306460
xxxxxxx	College Elective Course 2	3	0	0	3	-
Total		18	0	0	18	

Semester 6

Course No.	Course Title	Contact & Credit Hrs.				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
410603	International Business	3	0	0	3	400291, 400410
410611	Management of Small Business	3	0	0	3	400291
410704	Purchasing and Materials Management	3	0	0	3	410501
410705	Computer Applications /Management	2	2	0	3	311102, 400291
410712	Total Quality Management	3	0	0	3	410501
xxxxxxx	College Elective Course 1	3	0	0	3	-
Total		17	2	0	18	

Semester 7

Course No.	Course Title	Contact & Credit Hrs.				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
400516	Supervised Training	-	-	-	3	96 cr. hrs.
410602	Human Resource Management	3	0	0	3	400291
410706	Strategic Management	3	0	0	3	400409

Course No.	Course Title	Contact & Credit Hrs.				Prerequisite
xxxxxxx	Major Elective Course 1	3	0	0	3	-
Total		9	0	0	12	

Semester 8

Course No.	Course Title	Contact & Credit Hrs.				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
410808	Organizational Theory & Design	3	0	0	3	400409
410811	Graduation Project	-	-	-	3	102 cr. Hrs.
410909	Selected Topics in Management	3	0	0	3	410706
xxxxxxx	Major Elective Course 2	3	0	0	3	-
Total		9	0	0	12	

DEPARTMENT OF ACCOUNTING

Accounting is described as "The Language of Business." Accounting is the study of the concepts and techniques used in reporting on matters related to an entity's financial status and performance. Because entities compete in both input and product markets, accounting information is essential for managers to plan and control activities. Information generated through the accounting process is required for business decision-making.

Bachelor of Science in Accounting

Mission

The mission of the Accounting Department is derived mainly from the larger vision and philosophy of the university and the college. Accordingly, the department is in pursuit of excellence in accounting education and professional practice via a rigorous academic program that promotes critical thinking, interpersonal skills, technical competence and, above all, ethical practice.

Goals

The goals of the program are to:

- Provide students with adequate accounting knowledge that qualifies them for employment in accounting practice and the profession
- Enable students to prepare, analyze and communicate accounting information using information technology to facilitate the decision-making process
- Develop skills of ethical reasoning, critical thinking and problem-solving
- Prepare students to conduct research in accounting and related areas

Objectives

The objectives of the program are to enable students to:

- Understand the conceptual framework of accounting and the mechanics of the accounting cycle
- Understand the core concepts of cost and management accounting and the uses of

accounting information in the decision-making process

- Understand the auditing standards, practices and rules of professional conduct
- Prepare financial statements for profit and non-profit organizations
- Use manual and computer-based tools to identify and analyze logical relations among accounting data
- Combine and consolidate financial information
- Make ethical and professional judgments in accounting and auditing
- Use accounting analytical tools to develop skills and critical thinking
- Understand the relevance and applicability of accounting models and theories
- Conduct research in accounting

Admission Requirements

The normal entry requirement is the UAE Secondary School Certificate, or an equivalent qualification, with a minimum average grade of 60 percent, & TOEFL certificate with a minimum score of 500.

Career Opportunities

A career in accounting offers the potential of a larger number of job openings than in many other disciplines. A qualification in accounting today opens the door to careers in business, NGOs and government units, preparing graduates for work in any of the following areas: financial reporting, public practice, strategic business planning, cost and management accounting, information systems, insolvency and reconstruction, accounting and finance consulting, and business analysis and evaluation. In addition to employment our graduates are equipped to pursue postgraduate study in accounting and finance

as well as professional certification, for example CPA, CMA, CFA, ACCA and CIA.

Graduation Requirements

Students will be awarded the Bachelor of Science in Accounting degree upon fulfillment of the following requirements:

- Successful completion of 126 credit hours, which normally takes eight semesters.
- 8 weeks of industrial internship (after the completion of 96 credit hours including seven Accounting compulsory courses)
- A minimum Cumulative Grade Point Average of 2.0.

Degree Requirements

The BSc in Accounting degree requires the completion of 126 credit hours distributed according to the following plan:

Type of Courses	Credit Hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Requirements	
(a) College Compulsory Courses	54
(b) College Elective Courses	9
3. Major Requirements	
(a) Major Compulsory Courses	36
(b) Major Electives Courses	3
Total Credit Hours	126

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Compulsory Courses (15 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
101000	Orientation	0	-
102110	Islamic Culture	3	-
102140	Communication Skills in Arabic Language	3	-
103110	Statistics	3	-
102130	Environmental Sciences	3	-
104110	Computer Applications	3	-

(b) University Elective Courses (9 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Qur'an	3	-
103130	Research Methodology	3	-
112110	Principles of Architecture & Art	3	-
112120	Principles of Interior Design	3	-
112130	Modern Technology and Society	3	-
113110	Internet Concepts	3	-
113120	Introduction to Information Systems	3	-
114110	Economic Concepts	3	-
114120	Entrepreneurship Development	3	-
115110	History of Science in Islam	3	-
115120	Scientific Pioneering	3	-
115130	General Psychology	3	-
115140	Principles of Mathematics	3	-
115150	The Art of Expression and Writing	3	-
115160	Emirates Society	3	-
115170	Education Technology	3	-
117110	General Chemistry	3	-
117120	Fundamental of Human Nutrition	3	-
117130	First Aid	3	-
117150	Applications of Remote Sensing	3	-

Course No.	Course Title	Cr. Hrs.	Prerequisite
118110	Principles of Ethics	3	-
118120	General Biology	3	-
118130	Oral Health	3	-
118140	General Principles of Epidemiology	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	-
119110	Communication Skills	3	-
119120	Introduction to Communication Sociology	3	-
119130	Information Society	3	-
120115	Legal Culture	3	-

COLLEGE REQUIREMENTS (63 Credit Hours)

a. College Compulsory Courses (54 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
110140	Math for Management	3	-
400393	Microeconomics	3	-
102211	Statistics for Business	3	103110
311102	PC Application	3	104110
400292	Principles of Accounting I	3	-
400513	Quantitative Analysis	3	102211, 110140
400394	Principles of Accounting II	3	400292
400396	Fundamentals of Finance	3	400292
400291	Introduction to Management	3	-
400408	Business Communication	3	400291
400395	Principles of Marketing	3	400291
400411	Business Law	3	400291
400615	Management Information Systems	3	400291, 306460
400409	Organizational Behavior	3	400291
400410	Macroeconomics	3	400393
306460	Data Base Management Systems	3	311102
310202	IT in Business	3	311102

Course No.	Course Title	Cr. Hrs.	Prerequisite
400516	Supervised Training	3	96 Cr. Hrs. incl. 7 Accounting core courses

b. College Elective Courses (9 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
400419	Business Ethics	3	400291
400512	Economic Development of GCC Countries	3	400410
400307	Business Research Methods	3	400291, 102211
400522	Managerial Economics	3	400410
400523	Public Relations	3	400408
400524	Feasibility Studies	3	400393, 400396

MAJOR REQUIREMENTS (39 Credit Hours)

Major Compulsory Courses (36 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
420401	Intermediate Accounting 1	3	400394
420501	Intermediate Accounting II	3	420401
420502	Managerial Accounting	3	420603
420602	Auditing	3	420401
420603	Cost Accounting	3	400394
420604	Advanced Accounting	3	420501
420705	Governmental Accounting	3	420401
420706	Advanced Auditing	3	420602
420707	Accounting Theory	3	420604
420810	Computerized Acct. Inf. Sys	3	311102, 420401
420802	Financial Management & Control	3	420604, 420502
420811	Graduation Project	3	102 credit hours

b. Major Elective Courses (3 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
420612	International Accounting	3	420401
420613	Islamic Accounting	3	420401
420714	Oil & Gas Accounting	3	420401
420716	Taxation Accounting	3	420401
420809	Topical Issues in Accounting	3	420401

Proposed Sequence of Study**Semester 1**

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110	Statistics	2	2	0	3	-
400291	Introduction to Management	3	0	0	3	-
xxxxxxx	University Elective Course 1	3	0	0	3	-

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
Total		15	2	1	15	

Semester 2

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
		Lec.	Lab	Tut	Cr. Hrs.	
104110	Computer Applications	2	2	0	3	-
117140	Environmental Sciences	3	0	0	3	-
102110	Principles of Accounting I	3	0	0	3	-
102211	Statistics for Business	3	0	0	3	103110
xxxxxxx	University Elective Course 2	3	0	0	3	-
Total		14	2	0	15	-

Semester 3

Course No	Course Name	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
311102	PC Applications/ Management	2	2	0	3	104110
400393	Microeconomics	3	0	0	3	-
400394	Principles of Accounting II	3	0	0	3	400292
400395	Principles of Marketing	3	0	0	3	400291
400396	Fundamentals of Finance	3	0	0	3	400291
xxxxxx	University Elective Course 3	3	0	0	3	-
Total		17	2	0	18	

Semester 4

Course No	Course Name	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
110140	Mathematics for Management	3	0	2	3	-
310202	IT in Business	2	2	0	3	311102
420401	Intermediate Accounting I	3	0	0	3	400394
400410	Macroeconomics	3	0	0	3	400393
400411	Business Law	3	0	0	3	-
xxxxxx	College Elective Course 1	3	0	0	3	-
Total		17	2	2	18	

Semester 5

Course No	Course Name	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
306460	Data Base Management Systems	2	2	0	3	400394
400408	Business Communications	3	0	0	3	400291
420501	Intermediate Accounting II	3	0	0	3	420401
400513	Quantitative Analysis	3	0	0	3	102211, 110140
420603	Cost Accounting	3	0	0	3	400394
xxxxxx	College Elective Course 2	3	0	0	3	-
Total		17	2	0	18	

Semester 6

Course No	Course Name	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
400409	Organizational Behavior	3	0	0	3	400291
400502	Management Information Systems	3	0	0	3	400291, 306460
420502	Managerial Accounting	3	0	0	3	420603
420602	Auditing	3	0	0	3	420401
420705	Governmental Accounting	3	0	0	3	420401
xxxxxxx	College Elective Course 1	3	0	0	3	-
Total		18	0	0	18	

Semester 7

Course No	Course Name	Contact & Credit Hrs				Prerequisite
		Lec.	Lab	Tut	Cr. Hrs.	
400516	Supervised Training	-	-	-	3	96 Cr. Hrs.
420604	Advanced Accounting	3	0	0	3	420501
420706	Advanced Auditing	3	0	0	3	420602
xxxxxx	Major Elective Course 1	3	0	0	3	-
Total		9	0	0	12	

Semester 8

Course No	Course Name	Contact & Credit Hrs				Prerequisite
		Lec.	Lab	Tut	Cr. Hrs.	
420707	Accounting Theory	3	0	0	3	420604
420802	Financial Management & Control	3	0	0	3	420604, 420502
420810	Computerized Accounting Info. Systems	2	2	0	3	420401, 311102
420811	Graduation Project	3	0	0	3	102 Cr. Hrs.
Total		11	2	0	12	

DEPARTMENT OF MARKETING

The BSc in Marketing degree program offered at AUST provides education of international standard and caters to the needs of all the employment sectors in the UAE and the GCC. Graduates from this program are capable individuals who can address the challenging issues of businesses and the dynamic market. The program also equips students with the academic credentials required to pursue higher education in the national and international universities.

Bachelor of Science in Marketing

Mission

The mission of the marketing degree program is derived mainly from the philosophy and vision of AUST. Hence, the program's mission is in line with the mission and objectives of the College of Business Administration. The focus of this mission is to impart high quality education that will develop the skills and knowledge of students in areas that will enable them to perform efficiently and effectively in their careers. Accordingly, both the structure of the course and the curricula are designed to achieve these ends.

Goals

The goals of the program are to enable students to:

- Gain the knowledge and understanding of theoretical and applied aspects of marketing, as well as specialized areas, that will enable them to perform effectively in a variety of positions in the marketing profession
- Analyze and communicate marketing knowledge using information technology to
- facilitate decision-making processes
- Develop the communication, teamwork, critical thinking and problem-solving skills required in marketing activities in organizations

- Conduct research in marketing and related areas

Objectives

The objectives of the program are to enable students to:

- Understand the role and practice of marketing within an organization and develop an understanding of theoretical and applied aspects of marketing
- Understand international and national marketing strategies
- Understand core concepts and comprehend and apply distribution strategies
- Understand core concepts, comprehend and be adept in service marketing
- Become proficient in integrated marketing communications and comprehend buyer-seller behavior within the context of the overall market environment
- Use computer-based tools to identify and analyze marketing data and information to facilitate decision-making processes
- Consolidate marketing information with the various marketing activities
- Communicate effectively and perform in and lead teams to achieve organizational objectives effectively
- Use marketing knowledge and information to develop the critical thinking and problem solving skills needed to function effectively in organizations
- Carry out research

Admission Requirements

The normal entry requirement is the UAE Secondary School Certificate, or an equivalent qualification, with a minimum average grade of 60 percent, & TOEFL certificate with a minimum score of 500.

Career Opportunities

Graduates of the BSc in Marketing degree program are equipped for employment in marketing departments in the following sectors: government, multinational subsidiaries, national companies (especially those operating in distribution), manufacturing, advertising and marketing research. In addition, there are employment opportunities in the banking and hospitality sectors, the travel industry, insurance companies, advertising agencies, the media and other organizations that have marketing departments.

Graduation Requirements

Students will be awarded the Bachelor of Science in Marketing degree upon fulfillment of the following requirements:

- Successful completion of 126 credit hours, which normally takes eight semesters
- 8 weeks of industrial internship (after the completion of 96 credit hours including seven marketing core courses), which is equivalent to three credit hours
- A minimum Cumulative Grade Point Average of 2.0

Degree Requirements

The BSc degree in Marketing requires the completion of 126 credit hours distributed according to the following plan:

Type of Courses	Credit Hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Requirements	
(a) College Required Courses	54
(b) College Elective Courses	9
3. Major Requirements	
(a) Major Required Courses	33
(b) Major Electives Courses	6
Total Credit Hours	126

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Compulsory Courses (15 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
101000	Orientation	0	-
102110	Islamic Culture	3	-
102140	Communication Skills in Arabic Language	3	-
103110	Statistics	3	-
102130	Environmental Sciences	3	-
104110	Computer Applications	3	-

(b) University Elective Courses (9 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Qur'an	3	-
103130	Research Methodology	3	-
112110	Principles of Architecture & Art	3	-
112120	Principles of Interior Design	3	-
112130	Modern Technology and Society	3	-
113110	Internet Concepts	3	-
113120	Introduction to Information Systems	3	-
114110	Economic Concepts	3	-
114120	Entrepreneurship Development	3	-
115110	History of Science in Islam	3	-
115120	Scientific Pioneering	3	-
115130	General Psychology	3	-
115140	Principle of Mathematics	3	-
115150	The Art of Expression and Writing	3	-
115160	Emirates Society	3	-
115170	Education Technology	3	-
117110	General Chemistry	3	-
117120	Fundamental of Human Nutrition	3	-
117130	First Aid	3	-
117150	Applications of Remote Sensing	3	-

Course No.	Course Title	Cr. Hrs.	Prerequisite
118110	Principles of Ethics	3	-
118120	General Biology	3	-
118130	Oral Health	3	-
118140	General Principles of Epidemiology	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	-
119110	Communication Skills	3	-
119120	Introduction to Communication Sociology	3	-
119130	Information Society	3	-
120115	Legal Culture	3	-

COLLEGE REQUIREMENTS (63 Credit Hours)

a. College Required Courses (54 Credit Hours)

Course No	Course Title	Cr. Hrs.	Prerequisite
110140	Math for Management	3	-
400393	Micro Economics (G.E)	3	-
102211	Statistics for Business	3	103110
311102	PC Application	3	104110
400292	Principles of Accounting I	3	-
400513	Quantitative Analysis	3	102211, 110140
400394	Principles of Accounting II	3	400292
400396	Fundamentals of Finance	3	400292
400291	Introduction to Management	3	-
400408	Business Communication	3	400291
400395	Principles of Marketing	3	400291
400411	Business Law	3	400291
400615	Management Information Systems	3	400291, 306460
400409	Organizational Behavior	3	400291
400410	Macroeconomics	3	400393
306460	Data Base Management Systems	3	311102
310202	IT in Business	3	311102

Course No	Course Title	Cr. Hrs.	Prerequisite
400516	Supervised Training	3	96 Cr. Hrs incl. 7 Marketing core courses

b. College Elective Courses (9 Credit Hours)

Course No	Course Title	Cr. Hr.	Prerequisite
400419	Business Ethics.	3	400291
400512	Economic Development of GCC Countries	3	400410
400307	Business Research Methods	3	400291, 102211
400522	Managerial Economics	3	400410
400523	Public Relations	3	400408
400524	Feasibility Studies	3	400393, 400396

MAJOR REQUIREMENTS (39 Credit Hours)

(a) Major Required Courses (33 Credit Hours)

Course No.	Course Title	Cr. Hr.	Prerequisite
430501	Marketing Research	3	102211, 103130
430602	Consumer Behavior	3	400395
430603	Advertising and Promotion	3	430602
430604	Marketing Channels	3	400395
430606	Personal Selling	3	400395, 400408
430706	Business to Business Marketing	3	400395
430707	Service Marketing	3	400395
430808	International Marketing	3	400395
430809	Marketing Management	3	430602, 430501
430810	Computer Application in Marketing	3	430809
430811	Graduation Project/Marketing	3	102 cr. hrs.

b. Major Elective Courses (6 Credit Hours)

Course No	Course Title	Cr. Hr	Prerequisite
430612	E-Marketing	3	400395
430613	Product and Brand Management	3	400395

Course No	Course Title	Cr. Hr	Prerequisite
410704	Purchasing and Material Management	3	400291, 400395
430714	Retail Marketing	3	400395
430715	Selected Topics in Marketing	3	400395

Proposed Sequence of Study

Semester 1

Course No	Course Title	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110	Statistics	2	2	0	3	-
400291	Introduction to Management	3	0	0	3	-
xxxxxxx	University Elective Course 1	3	0	0	3	-
Total		15	2	1	15	

Semester 2

Course No	Course Title	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
104110	Computer Applications	2	2	0	3	-
1101140	Mathematics for Management	3	0	2	3	-
102130	Environmental Sciences	3	0	0	3	-
400292	Principles of Accounting I	3	0	0	3	-
102211	Statistics for Business	3	0	0	3	103110
Total		17	2	2	18	

Semester 3

Course No	Course Title	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
311102	PC Applications/ Management	2	2	0	3	104110
400393	Microeconomics	3	0	0	3	-

Course No	Course Title	Contact & Credit Hrs				Prerequisite
400394	Principles of Accounting II	3	0	0	3	400292
400395	Principles of Marketing	3	0	0	3	400291
400396	Fundamentals of Finance	3	0	0	3	400291
xxxxxx	University Elective Course 2	3	0	0	3	-
Total		17	2	0	18	

Semester 4

Course No	Course Title	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
310202	IT in Business	2	2	0	3	311102
400408	Business Communications	3	0	0	3	400291
400410	Macroeconomics	3	0	0	3	400393
400411	Business Law	3	0	0	3	-
420604	Marketing Channels	3	0	0	3	400395
xxxxxx	College Elective Course 1	3	0	0	3	-
Total		17	2	0	18	

Semester 5

Course No	Course Title	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
306460	Data Base Management Systems	2	2	0	3	311102
400513	Quantitative Analysis	3	0	0	3	102211, 110140
430602	Consumer Behavior	3	0	0	3	400395
430606	Personal Selling	3	0	0	3	400395, 400408
xxxxxx	University Elective Course 3	3	0	0	3	-
xxxxxx	College Elective course 2	3	0	0	3	-
Total		17	2	0	18	

Semester 6

Course No	Course Title	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
400409	Organizational Behavior	3	0	0	3	400291
430501	Marketing Research	3	0	0	3	102211, 103130
430706	Business-to-Business Marketing	3	0	0	3	400395
430707	Service Marketing	3	0	0	3	400395
xxxxxxx	College Elective Course 3	3	0	0	3	-
Total		15	0	0	15	

Semester 7

Course No	Course Title	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
400516	Supervised Training	-	-	-	3	96 cr. hrs
400615	Management Information Systems	3	0	0	3	400291, 306460
430809	Marketing Management	3	0	0	3	430501, 430602
xxxxxxx	Major Elective Course 1	3	0	0	3	-
Total		9	0	0	12	

Semester 8

Course No	Course Title	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
430808	International Marketing	3	0	0	3	400395
430810	Computer Applications in Marketing	2	2	0	3	430809
xxxxxxx	Major Elective Course 2	3	0	0	3	
420811	Graduation Project/Marketing	3	0	0	3	Completion:102 Cr. Hrs
Total		11	2	0	12	

DEPARTMENT OF FINANCE

The BSc in Finance degree program is designed to develop students' technical and critical thinking and to provide them with an in-depth understanding of financial theory, analytical financial instruments, and dynamics of financial markets. The program prepares students for careers in finance in public, private, as well as non-profit organizations.

Bachelor of Science in Finance

Mission

The mission of the finance degree program is to provide an educational experience that develops the student's financial, technical, and critical thinking, communication skills, the ability to integrate both quantitative and qualitative factors into business and finance decisions, and to create and disseminate knowledge concerning value management in each of these fields.

Goals

The goals of the program are to:

- Deliver to students the functional aspects of all areas of finance
- Enable students to adapt to the changing environment of finance in the real world situation
- Build analytical skills based on critical thinking, reasoning and communication
- Enable students to further their studies in postgraduate and professional programs

Objectives

The objectives of the program are to enable students to:

- Gain an in-depth knowledge of the principles of finance

- Integrate knowledge of the various areas of finance to solve business and finance problems
- Develop a broader understanding of the functions of finance to facilitate effective decision-making processes
- Understand the principles of efficient financial management abilities and strategies
- Understand how changes in the business environment impact the various areas of finance
- Analyze and research business problems from the financial point of view
- Analyze current and emerging issues in finance
- Use financial analytical tools to evaluate financial markets behavior
- Be able to make financial projections for corporations, projects and financial institutions
- Demonstrate the proficiency in oral and written communication needed to make ethical and professional judgments in the financial world

Admission Requirements

The normal entry requirement for an applicant is the Secondary School Certificate, or an equivalent qualification, with a minimum average grade of 60 percent, & TOEFL certificate with a minimum score of 500.

Career Opportunities

The degree in finance adequately qualifies graduates for various corporate, financial, and management positions in areas such as Financial Analysis, Capital Budgeting, Cash and Risk Management, Portfolio Management, and Bank

Management. It also prepares entrepreneurs operating their own business.

Graduation Requirements

Students will be awarded the Bachelor of Science in Finance degree upon fulfillment of the following requirements:

- Successful completion of 126 credit hours, which normally takes eight semesters.
- 8 weeks of industrial internship (after the completion of 96 credit hours including seven finance core courses).
- A minimum Cumulative Grade Point Average of 2.0

Degree Requirements

The BSc degree in Finance requires the completion of 126 credit hours distributed according to the following plan:

Type of Courses	Credit Hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Requirements	
(a) College Required Courses	54
(b) College Elective Courses	9
3. Major Requirements	
(a) Major Required Courses	33
(b) Major Electives Courses	6
Total Credit Hours	126

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Required Courses (15 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
101000	Orientation	0	-
102110	Islamic Culture	3	-
102140	Communication Skills in Arabic Language	3	-
103110	Statistics	3	-
102130	Environmental Sciences	3	-
104110	Computer Applications	3	-

(b) University Elective Courses (9 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Qur'an	3	-
103130	Research Methodology	3	-
112110	Principles of Architecture & Art	3	-

Course No.	Course Title	Cr. Hrs.	Prerequisite
112120	Principles of Interior Design	3	-
112130	Modern Technology and Society	3	-
113110	Internet Concepts	3	-
113120	Introduction to Information Systems	3	-
114110	Economic Concepts	3	-
114120	Entrepreneurship Development	3	-
115110	History of Science in Islam	3	-
115120	Scientific Pioneering	3	-
115130	General Psychology	3	-
115140	Principles of Mathematics	3	-
115150	The Art of Expression and Writing	3	-
115160	Emirates Society	3	-
115170	Education Technology	3	-
117110	General Chemistry	3	-
117120	Fundamentals of Human Nutrition	3	-
117130	First Aid	3	-
117150	Applications of Remote Sensing	3	-
118110	Principles of Ethics	3	-
118120	General Biology	3	-
118130	Oral Health	3	-
118140	General Principles of Epidemiology	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	-
119110	Communication Skills	3	-
119120	Introduction to Communication Sociology	3	-
119130	Information Society	3	-
120115	Legal Culture	3	-

COLLEGE REQUIREMENTS (63 Credit Hours)**a. College Required Courses (54 Credit Hours)**

Course No	Course Title	Cr. Hrs.	Prerequisite
110140	Math for Management	3	-
400393	Microeconomics	3	-
102211	Statistics for Business	3	103110
311102	PC Application	3	104110
400292	Principles of Accounting I	3	-
400513	Quantitative Analysis	3	102211, 110140
400394	Principles of Accounting II	3	400292
400396	Fundamentals of Finance	3	400292
400291	Introduction to Management	3	-
400408	Business Communication	3	400291
400395	Principles of Marketing	3	400291
400411	Business Law	3	400291
400615	Management Information Systems	3	400291, 306460
400409	Organizational Behavior	3	400291
400410	Macroeconomics	3	400393
306460	Data Base Management Systems	3	311102
310202	IT in Business	3	311102
400516	Supervised Training	3	96 Cr. Hrs incl. 7 core Finance courses

b. College Elective Courses (9 Credit Hours)

Course No	Course Title	Cr. Hrs.	Prerequisite
400419	Business Ethics	3	400291
400512	Economic Development of GCC Countries	3	400410
400307	Business Research Methods	3	400291, 102211
400522	Managerial Economics	3	400410
400523	Public Relations	3	400408
400524	Feasibility Studies	3	400393, 400396

MAJOR REQUIREMENTS (39 Credit Hours)**(a) Major Required Courses (33 Credit Hours)**

Course No.	Course Title	Cr. Hrs.	Prerequisite
440501	Corporate Finance	3	400396
440602	Financial Risk & Insurance	3	440501
440603	Financial Planning and Control	3	400396
440604	Commercial Banking	3	400396
440705	Financial Markets	3	440604
440611	Portfolio Management & Theory	3	440705
440707	International Finance	3	440501
440808	Selected Topics in Finance	3	440501
440809	Investments	3	440602
440810	Computer Application in Finance	3	306460, 440501
440811	Graduation Project	3	102 Credit Hrs

b. Major Elective Courses (6 Credit Hours)

Course No.	Course Title	Cr. Hrs.	Prerequisite
440612	Personal Finance	3	400396
420401	Intermediate Accounting 1	3	400394
440715	Islamic Banking	3	440604
410707	Management of Fin. Institutions	3	400396, 400410
400420	Money & Financial Systems	3	400396

Proposed Sequence of Study**Semester 1**

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110	Statistics	2	2	0	3	-

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
400291	Introduction to Management	3	0	0	3	-
xxxxxxx	University Elective Course 1	3	0	0	3	-
Total		15	2	1	15	

Semester 2

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
104110	Computer Applications	2	2	0	3	-
110140	Mathematics for Management	3	0	2	3	-
102130	Environmental Sciences	3	0	0	3	-
400292	Principles of Accounting I	3	0	0	3	-
102211	Statistics for Business	3	0	0	3	103110
Total		17	2	2	18	

Semester 3

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
311102	PC Applications/ Management	2	2	0	3	104110
400393	Microeconomics	3	0	0	3	-
400394	Principles of Accounting II	3	0	0	3	400292
400395	Principles of Marketing	3	0	0	3	400291
400396	Fundamentals of Finance	3	0	0	3	400292
xxxxxxx	University Elective Course 2	3	0	0	3	-
Total		17	2	0	18	

Semester 4

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
110140	Math For Management	3	0	2	3	-
310202	IT in Business	2	2	0	3	311102
400409	Organizational Behavior	3	0	0	3	400291

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
400411	Business Law	3	0	0	3	-
440501	Corporate Finance	3	0	0	3	400396
Total		14	2	2	15	

Semester 5

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
306460	Data Base Management systems	2	2	0	3	311102
400408	Business Communications	3	0	0	3	400291
400513	Quantitative Analysis	3	0	0	3	102211, 110140
440603	Financial Planning & Control	3	0	0	3	400396
440604	Commercial Banking	3	0	0	3	400396
xxxxxxx	College Elective Course 2	3	0	0	3	-
Total		17	2	0	18	

Semester 6

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
400615	Management Information Systems	3	0	0	3	306460, 400291
440602	Financial Risk & Insurance	3	0	0	3	440501
440707	International Finance	3	0	0	3	440501
440808	Selected Topics in Finance	3	0	0	3	440501
xxxxxxx	Major Elective Course 1	3	0	0	3	-
Total		15	0	0	15	

Semester 7

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
400516	Supervised Training	-	-	-	3	96 Cr. Hrs.
440705	Financial Markets	3	0	0	3	440604
440809	Investments	3	0	0	3	440602

Course No.	Course Name	Contact & Credit Hrs				Prerequisite
440810	Computer Applications in Finance	3	0	0	3	306460, 440501
Total		9	0	0	12	

Semester 8

Course No.	Course Name	Contact & Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
440611	Portfolio Management & Theory	3	0	0	3	440705
xxxxxx	College Elective Course 3	3	3	0	3	
xxxxxx	Major Elective Course 2	3	0	0	3	
440811	Graduation Project/Finance	3	0	0	3	102 Cr. Hrs
Total		12	0	0	12	

Course Descriptions

Courses offered by the Management Department

400 291 Introduction to Management (3,0,0,3)

This introductory course provides an overview of the field of management. The topics covered are designed around the key functions of management: planning, organizing, leading, and controlling. Students are exposed to the development of management theories and approaches, managerial decision-making, business environment, business ethics and social responsibility.

400 307 Business Research Methods (3,0,0,3)

This course provides an introduction to research methods in social sciences in general and business administration in particular. The primary aim of the course is to equip students with the essential research techniques they would use in advanced specialized courses such as marketing research, feasibility studies and project planning, and the graduation project. The course will cover a range of topics including, in particular, research designs, sampling

theory, data collection tools, questionnaire development and program evaluation methodology. The course will also cover basic data analysis methods involving both exploratory and hypothesis testing statistical techniques.

Pre-requisites: 102 211, 400 291

400 408 Business Communications (3,0,0,3)

The course aims to equip students with effective business communication skills, providing thorough practice in writing business letters, memos, reports, resumes and job applications. In addition to developing written communication, the course teaches verbal communication skills, for example public speaking, interviewing and other forms of communication. The entire teaching process is focused on building effective communication skills.

Pre-requisite: 400 291

400 409 Organizational Behavior (3,0,0,3)

This course surveys the background and development of organizational behavior, and examines major conceptual

models in the field. A number of topics are explored in detail, including personality, perception, motivation, groups and teams, communication, leadership, conflict and negotiation, and organizational sources of stress and coping strategies. Issues relating to organizational change and development are given special attention.

Pre-requisite: 400 291

400 411 Business Law (3,0,0,3)

The aim of this course is to review basic legal principles and sources of contract law, background of law and legal theory. The following topics are covered in detail: formation of contracts, modifications, terminations, remedies, award law, pricing, patent, business organizations, company law, sales of goods, transfer of ownership rights, employment and health and safety laws.

Pre-requisite: 400 291

400 615 Management Information Systems (3,0,0,3)

This course provides an overview of computers and information processing. It covers the following topics in detail: management information system concepts, information processing applications, data handling process, data processing and automation, fundamentals of any system and system design, and development and implementation.

Pre-requisites: 400 291, 306460

400 419 Business Ethics (3,0,0,3)

The aim of this course is to provide comprehensive and systematic coverage of a wide range of ethical issues in all functional areas of business. Using cases, vignettes and discussion points, the course will examine the ethical problems involved in real-life business situations. Some of the major topics to be covered include: ethical theory and business practice, corporate social responsibility, rights and obligations of employees and employers, ethical

issues in international business, and social and economic justice.

Pre-requisite: 400 291

400 524 Feasibility Studies (3,0,0,3)

Feasibility studies and project evaluation have become increasingly important, since they signal the success of any industrial, tourism or investment project. This course is designed to introduce students to the concepts and process of feasibility studies and project evaluation. It explains how to prepare feasibility studies and project evaluation, and how to benefit from them in the investment decision-making process. Feasibility studies and project evaluation depend on collecting and analyzing marketing, technical, administrative and financial data and information.

Pre-requisites: 400 393, 400 396

410 501 Production and Operations Management (3,0,0,3)

This course is designed to cover the principles of production and operations management as they relate to both manufacturing and service operations. The course will examine the following topics: decision-making process, forecasting, operations strategy, production planning, scheduling, productivity, quality control, and future trends in production and operations management.

Pre-requisites: 103 110, 400 291

410 602 Human Resource Management (3,0,0,3)

The aim of this course is to survey the principles and practices in managing human resources. The course covers a number of basic topics, for example job analysis and job design techniques, human resource policies, human resource acquisition and maintenance strategies, recruitment, selection, development and training, compensation, health and safety issues and policies. The

topics of labor relations and collective bargaining also receive careful attention.

Pre-requisite: 400 291

410 603 International Business (3,0,0,3)

This course covers a number of topics of both a general and specific nature. It examines the objectives and motives of international companies (MNCs) for operating internationally, and the strategies they use to achieve global presence. Special attention is given to the following topics: theories of international trade, domestic trade, free trade and protectionism, tariffs, foreign exchange, foreign direct investments (FDI), international financial institutions, international corporate planning and competitive strategies.

Pre-requisites: 400 291, 400 410

410 704 Purchasing and Materials Management (3,0,0,3)

This course offers a survey of the principles and techniques used in purchasing and materials management. It examines the following topics: recognition of materials needs, the acquisition process and the overall supply management issues and policies. Within these broader topics, the course looks at techniques used in materials requirement planning, stock and inventory control, transportation, stores management, quality and quality assurance, JIT and TQM. The course also examines the purchasing and supply management processes and methods used by governments, non-profit and service organizations.

Pre-requisite: 410 501

410 706 Strategic Management (3,0,0,3)

This advanced course focuses on all aspects of the strategic management process, including decision-making, company objectives, strategies, implementation and outcome assessment. The course develops a thorough understanding among students of policy

formulation and evaluation with special attention to the capabilities and competencies of a firm. The course also addresses issues relating to resource analysis and allocation techniques, and the management of strategic change.

Pre-requisites: 400 291, 400 409

410 808 Organizational Theory and Design (3,0,0,3)

The primary aim of this course is to expose students to the evolution of organization theory, and the contribution of different schools of thought to the development of classical and contemporary theoretical perspectives. The topics of bureaucracy, power and politics, organizational structures and technology, and emerging design options will be extensively examined. The course also looks at the issues of information and control, organizational renewal and learning, techno-structural change and adaptive capacity of organizations. Case studies and actual examples from a range of firms will be used to investigate the application of organization theory to management issues.

Pre-requisite: 400 409

410 909 Selected Topics in Management (3,0,0,3)

This is an advanced course in management. Its primary aim is to offer a more thorough examination of selected topics. The course instructor will select topics keeping in view students' interests and the availability of teaching material and resources. In general, an attempt will be made to include topics that have received little attention in other management courses, or topics in new areas that are not covered in the prescribed syllabus. The choice of topics is expected to vary from semester to semester.

Pre-requisite: 410 706

410 612 Management of Small Business (3,0,0,3)

The course is designed to answer the fundamental question that students and aspiring entrepreneurs often

ask: how can I start and manage my own business? With this objective, the course discusses different types of businesses, legal organizations, accounting and financial requirements. Other topics covered in the course include: obtaining capital, controlling inventory, setting prices, staffing, marketing strategies, growth and expansion decisions and strategies.

Pre-requisite: 400 291

410 712 Total Quality Management (3,0,0,3)

This course offers an introduction to principles and philosophy of Total Quality Management. It draws upon the work of experts such as Edwards Deming, Joseph Juran, Philip Crosby and Genichi Taguchi to develop an understanding of the concepts of quality from the perspectives of customers and product/service organizations. The course also evaluates the criteria used in well-known quality awards (e.g., The Malcolm Balding National Quality Award, and ISO 9000, as well as local UAE quality awards), and reviews the performance of selected quality-award winning companies.

Pre-requisite: 410 501

400 513 Quantitative Analysis (2,2,0,3)

The aim of this course is to review basic quantitative methods used in business decision-making. The major focus of the course will be on decision-making under uncertainty and certainty such as linear programming. Some of the specific topics to be covered will include: problem formulation, graphic solutions and different forms of linear programming such as transportation and assignment models, queuing theory, decision analysis, inventory systems and forecasting.

Pre-requisites: 102 211, 110 140

Courses Offered by the Accounting Department

400 292 Principles of Accounting I (3,0,0,3)

Accounting is something that affects people in their personal lives just as much as it affects very large businesses. Financial accounting is concerned with the provision of accounting information to owners, investors and other external users. The term accounting may refer to different activities, for example collecting, recording, processing and communicating economic data to produce useful accounting information. This course is a study of the fundamental principles and procedures of accounting as applied to sole proprietorships, partnerships and corporations.

400 394 Principles of Accounting II (3,0,0,3)

The users of accounting information need complete and comparable information to assess company profitability and financial position. The course provides details on the preparation of financial statements (balance sheet, income statement, and statement of cash flow) as well as the accounting treatment of their components

420 401 Intermediate Accounting I (3,0,0,3)

Like other human activities, accounting is largely a product of its environment. Therefore, accounting objectives are not the same today as they were in the past. To provide managers and other interested parties with useful information, they must know how this information can be generated. "Accountants must act as well as think," therefore it is important for business administration students to understand how accounting reports are prepared, as well as why. The course places particular emphasis on valuation procedures and alternative accounting treatments of various assets and abilities.

Pre-requisite: 400 394

420 501 Intermediate Accounting II (3,0,0,3)

Like other human activities, accounting is largely a product of its environment. Therefore, accounting objectives are not the same today as they were in the past. To provide managers and other interested parties with useful information, they must know how this information can be generated. "Accountants must act as well as think," therefore it is important for business administration students to understand how accounting reports are prepared, as well as why. The course places particular emphasis on valuation procedures and alternative accounting treatments of various assets and abilities.

Pre-requisite: 420 401

420 502 Managerial Accounting (3,0,0,3)

Managers in every organization are better equipped to perform their duties when they have a reasonable grasp of accounting data. Decision-making which is "the choice of alternative courses of action" is the core of the management process, that depends ultimately on useful accounting information. This type of information will be provided through management accounting, which refers to accounting information developed for managers within an organization. The course is designed primarily for students who have studied basic accounting for two semesters. Emphasis is placed on accounting as a tool for planning and control.

Pre-requisite: 420 603

420 705 Governmental Accounting (3,0,0,3)

The aim of this course is to equip the students with the theory and practice of fund accounting in government units and not-for-profit organizations. In the process, the course discusses all issues related to the preparation of financial statements of the government units and non-profit organizations.

Pre-requisite: 420401

420 602 Auditing (3,0,0,3)

Auditing is interdisciplinary in its scope and methodology, encompassing accounting theory and applications, legal aspects, managerial issues, environmental factors and computer processing. In its modern sense, an audit is a process whereby the accounts of business entities and managerial performance are subjected to scrutiny to develop an opinion on fairness of financial statements and effectiveness of management. The general concern of auditing could be derived from the famous statement of Confucius: "The aim of the superior man is truth." This course is designed to introduce students to basic concepts and standards. Concentration is mainly on auditing standards, ethics, principles and procedures used by external auditors in conducting financial and managerial audit.

Pre-requisite: 420 401

420 603 Cost Accounting (3,0,0,3)

The relevance of information depends on the decision being made. Decision-making is essentially choosing among several courses of action. Accountants have an important role in the decision-making process, not as decision-makers but as collectors and reporters of relevant information. The accountant's role in decision-making is primarily that of a technical expert on cost analysis, cost control and cost reduction, information that will lead to the best decision on production, marketing, profitability, performance evaluation, transfer pricing and capital budgeting. The study of the basic concepts and practical aspects of cost accounting is the primary concentration of this course.

Pre-requisite: 400 394

420 604 Advanced Accounting (3,0,0,3)

In most business combinations, one company acquires control over the net assets of another. The transfer of control from one group of owners to another affects the economic interests of many people, including the

owners, managers, creditors and customers. Although the single proprietorship is the most common form of business in the Arab world, and although the corporate form of organization accounts for the largest volume of business, the partnership form is widely used by smaller business entities in the Arabian Gulf region. The study of partnership and consolidated financial statements is the primary concentration of this course. Fundamentals of fair value and equity accounting methods are reviewed.

Pre-requisite: 420 501

420 706 Advanced Auditing (3,0,0,3)

Many accounting students will choose a career in auditing, either in public accounting, private industry or government. These students need to acquire technical expertise and to understand the theoretical concepts underlying current auditing practice. This course is designed to acquaint the student of accounting with the advanced practical aspects of auditing procedures and techniques with reference to the method of their application in commercial, industrial and other profit making organizations, paying particular attention to assessment of risk, concept of internal control and assertions of assets and liabilities.

Pre-requisite: 420 602

420 802 Financial Management and Control (3,0,0,3)

This course aims to provide with an understanding of financial statements and the analytical tools available for use in properly managing and adding value to an organization. It focuses on analysis of financial and accounting information and its impact on financial decision-making and profit planning. The course uses some basic applications of statistics in analyzing the impact on financial markets and consequently setting up standards in the field of financial planning in order to ensure the financial stability.

Pre-requisites: 420 604, 420 502

420 707 Accounting Theory (3,0,0,3)

Accounting theory is concerned with the models, hypotheses and concepts that together form the foundation for financial accounting practice. This course traces the historical development of accounting to gain an understanding of how we arrived at current practices, together with the social, political and economic influences on accounting standards.

Pre-requisite: 420 604

420 809 Selected Topics in Accounting (3,0,0,3)

This course is to deal with a number of topics of a controversial nature in accounting. The course deals specifically with the theoretical basis and recent professional pronouncements related to some problems in financial reporting and disclosure, application and implications of accounting profit, profit-sharing under the Islamic accounting system, accounting for mergers and acquisitions, as well as accounting under inflationary conditions.

Pre-requisite: 420 401

420 810 Computerized Accounting Information Systems (2,2,0,3)

The computerized accounting information system combines the skill sets of two areas experiencing rapid growth and change - accounting and information technology. Electronic commerce, direct-business-to-business communication, paperless work process and many other technology-intensive innovations have created new challenges and opportunities for accountants who also have expertise in information systems. Many traditional accounting functions are now embodied in systems that require a different combination of technical and financial knowledge. The CAIS course is designed to provide the combination of knowledge and skill sets to meet the new challenges and opportunities of the information technology world.

Pre-requisites: 311 102, 420 401

420 612 International Accounting (3,0,0,3)

The global economy is best characterized by a new economic and corporate world in which national boundaries are losing their importance. Multinational and local firms need to be aware of the linkages, ramifications, conditions and demands of the global economy. This course looks at how accounting information that reflects this international reality for both external and internal users can be produced. International accounting takes in all the technical accounting problems in financial accounting, cost accounting, management accounting and auditing that have a bearing on the conduct of foreign operations.

Pre-requisite: 420 401

420 613 Islamic Accounting (3,0,0,3)

This course provides a broad framework of the structure of Islamic accounting thought. The conceptual framework of accounting, accounting policy, operationalization of terms, financial reporting standardization of accounting practice and profit and loss sharing in Islam on the most controversial issues at the academic and professional levels.

Pre-requisite: 420 401

420 714 Oil and Gas Accounting (3,0,0,3)

Since the early 1970s, oil revenues have transformed the Arabian Gulf region into a modern sophisticated industrialized economy. Crude oil exports, which are the preserve of the Arabian Gulf region, remain the mainstay of economic activity. Oil and gas accounting is concerned with the models and concepts that together form the foundation and practice of financial and cost accounting for oil and gas industry.

Pre-requisite: 420 401

420 716 Taxation Accounting (3,0,0,3)

Managers of local and multinational corporations face different tax systems in different countries that require adequate tax planning and knowledgeable people in the field of taxation accounting. Taxation of business does vary from one country to another. Not only are tax rates different, but also opinions differ as to definitions of taxable income and types of taxes to be used.

Pre-requisite: 420 401

Courses Offered by the Marketing Department:

400 395 Principles of Marketing (3,0,0,3)

This introductory course sheds light on the basic concepts of marketing, its varied definitions, origins and evolution through time. It also covers the main components of the marketing program (product, price, place and promotion) on which any attempts to plan marketing efforts rest.

Pre-requisite: 400 291

400 523 Public Relations (3,0,0,3)

The course represents a survey of the fundamental principles, tools and practices of the public relations profession in addition to the issues involved in designing and evaluating public relations programs to solve specific internal and external communication problems.

Pre-requisite: 400 408 / Pre-requisite: 400 292

430 707 Service Marketing (3,0,0,3)

The course explores the area of service marketing and identifies the main characteristics that set product and service marketing apart. As such the course represents an extension of the marketing management process beyond its traditional role in the physical products area.

Pre-requisite: 400 395

430 501 Marketing Research (3,0,0,3)

This course offers a closer review and examination of research techniques applicable to problem-solving and decision-making in marketing and other management fields. The course exposes the students to the complete research process starting with problem formulation and definition of key concepts and analytical techniques, data collection, analysis, interpretation and presentation of findings. Students are required to develop a major marketing research project using appropriate field techniques.

Pre-requisites: 102 211, 103 130

430 602 Consumer Behavior (3,0,0,3)

The course introduces students to the study of consumer behavior. In so doing, the course borrows key concepts and theories from the behavioral sciences and examines their relevance and usefulness in understanding shopping behavior. Specifically the course traces those forces that shape, constrain and color consumer's buying decisions and their implications for mapping out marketing strategies.

Pre-requisite: 400 395

430 603 Advertising and Promotion (3,0,0,3)

The prime focus of this course is on the communication function of marketing which is known in the marketing literature as the promotional mix, i.e. advertising, public relations, sales promotion and personal selling. As such the course provides an understanding as to how these variables interact in an integrated field.

Pre-requisite: 430 602

430 604 Marketing Channels (3,0,0,3)

The course follows an institutional approach to marketing by concentrating on the main institutions which are involved in making goods and services available for use and consumption. Given such a premise, the course sheds

light on these institutions and dwells on their nature, types, history, functions and patterns of development.

Pre-requisite: 400 395

430 706 Business-to-Business Marketing (3,0,0,3)

The focus of this course is on studying and analyzing the unique aspects of marketing goods and services to organizational buyers rather than to ultimate consumers. Towards this end the course constitutes a description and analysis of the institutions and functions of business markets.

Pre-requisite: 400 395

430 808 International Marketing (3,0,0,3)

The interdependence among countries has forced business organizations to practice marketing beyond domestic boundaries. This course addresses this issue and endeavors to expose the students to international marketing and the application of marketing techniques and strategies in a global environment.

Pre-requisite: 400 395

430 809 Marketing Management (3,0,0,3)

This is the capstone course in the marketing major. It is intended to help the students integrate the knowledge he acquired in other marketing courses. As such, it is a managerial decision-making process aimed at matching organizational strengths with market opportunities. The course looks at the relationships between the customer, competition and the company. It explores ways for the company to differentiate itself from competition by providing superior value to the customer.

Pre-requisites: 430 602, 430 501

430 810 Computer Applications in Marketing (2,2,0,3)

The course represents an attempt to explore the potential of certain computerized software and programs in

summarizing, organizing, interpreting and analyzing marketing data, in addition to the use of a host of advanced statistical packages in predicting specific marketing phenomena.

Pre-requisite: 430 809

430 612 Electronic Marketing (3,0,0,3)

The course introduces students to the Internet and Internet marketing, in a sense enabling them to use the Internet to market goods and services worldwide. Towards this end students will learn how to create and publish web pages, develop Web marketing skills, promote and sell products over the World Wide Web.

Pre-requisite: 400 395

430 613 Product and Brand Management (3,0,0,3)

The product (and/or service) plays a central role in the activities of all organizations for it is the medium through which they seek to achieve their objectives and at the same time satisfy their customers. This course is designed to shed light on issues relevant to product and brand management processes. Specifically the course focuses on two major problems: the development and introduction of new products/brands from the idea inception to commercialization, and the marketing of existing brands with emphasis on building, measuring and managing brand equity.

Pre-requisite: 400 395

430 714 Retail Marketing (3,0,0,3)

The course provides an overview of the field of retailing and endeavors to familiarize the student with the basic concepts and issues that are deemed pertinent in today's world of retailing and retail marketing. These include, but are not limited to, the nature and structure of retail industry, the determinants of successful retail marketing strategies and the fundamental principles of sound retail management.

Pre-requisite: 400 395

430 715 Selected Topics in Marketing (3,0,0,3)

This course caters for specific issues, topics and recent developments in marketing thought and practice that are new or controversial in nature and that have not adequately covered or addressed in other marketing courses.

Pre-requisite: 400 395

430 606 Personal Selling (3,0,0,3)

This course focuses on familiarizing students with the concepts, theory and practice of personal selling. Through emphasis on professional salesmanship, the course deals with interpersonal communication and understanding consumer motivation for buying as the foundation to effective selling.

Pre-requisites: 400 395, 400 408

Courses Offered by the Finance Department

400 396 Fundamentals of Finance (3,0,0,3)

This introductory course discusses in detail basic terms commonly used in finance. Topics covered include functions of financial management, financial analysis and planning, working capital management, the capital budgeting process and long term financing.

Pre-requisite: 400 292

440 501 Corporate Finance (3,0,0,3)

This course introduces financial issues from the corporate point of view. It includes the concept of net present value (NPV) and valuation of future cash flows. The course extends to the application of NPV in the capital budgeting decisions. The course covers the risk-return concept with the help of CAPM and APT theories. It also highlights long-term financial planning and capital structure decisions.

Pre-requisite: 400 396

440 603 Financial Planning and Control (3,0,0,3)

This course provides an understanding of financial statements and the analytical tools available for use in properly managing and adding value to an organization. It focuses on analysis of financial and accounting information and its impact on financial decision-making and profit planning. The course uses some basic applications of statistics in financial planning in order to ensure corporate financial stability.

Pre-requisite: 400 396

440 604 Commercial Banking (3,0,0,3)

This commercial bank management course will equip the students with good grounding in the banking industry by teaching both the theory and practice of commercial banking. It focuses on the dynamic and rapidly changing financial-services industry; it explores modern financial management decision-making and highlights the importance of adapting to change and creating value as the way for financial institutions to succeed. The following areas are explained: introduction to bank management, strategic and financial management and the measurement of bank performance, the portfolio risks of banking and their management, managing the bank lending functions, and capital adequacy in banking institutions.

Pre-requisite: 400 396

440 705 Financial Markets (3,0,0,3)

This course is designed to build an understanding of financial markets, institutions and market participants. The coverage includes various types of financial markets like foreign exchange markets, stock markets, derivative markets and bond markets. The specific topics covered include the determination of interest rates; fixed income securities, mortgages, foreign exchange, futures, options, and money markets; commercial banks, savings banks, and credit unions; insurance companies, securities firms,

finance companies, mutual funds, and pension funds. It also studies financial institution and market regulation, past and present banking crises, management and hedging of risk, central banking and monetary policy.

Pre-requisite: 440 604

440 707 International Finance (3,0,0,3)

This course is designed to introduce an overview of the environment of global finance, the international dimension of corporate finance, balance of payments and exchange market, the international monetary system, political risk, international cash management, international portfolio diversification, foreign direct investment and international and other developmental international financial issues.

Pre-requisite: 440 501

440 808 Selected Topics in Finance (3,0,0,3)

The primary aim of this course is to offer a more thorough examination of selected topics. The course instructor will select topics keeping in view topics of current interest and the availability of teaching material and resources. The choice of topics is expected to vary from semester to semester. In general, the course caters for specific issues, topics and recent developments in financial thought and practice that are new or controversial in nature and that have not been adequately covered or addressed in other finance courses.

Pre-requisite: 440 501

440 809 Investments (3,0,0,3)

This course develops advanced analytical and managerial skills in the field of investments. The topics covered include risk and returns, the analysis of different types of securities, basics of portfolio theory, modern investment theory, and portfolio selection and management. The course helps students learn how to make good investment decisions, recognize investment problems and deal with them.

Pre-requisite: 440 602

440 810 Computer Applications in Finance (2,2,0,3)

This course will equip students with the skills required to apply their acquired finance knowledge using computer applications and available software, like EXCEL. The following topics are covered using computers: accounting primer, cash management, financial ratios analysis, break-even analysis, EPS, P/E ratio, taxation, time-value of money, interest/discount rates, capital budgeting, PV, FV, NPV, IRR, loan repayment schedule, dividends, measurement of risk and returns, valuation of securities, cost of capital, credit-scoring models, yield measurement, and advanced models in finance.

Pre-requisites: 306460, 440 501

440 612 Personal Finance (3,0,0,3)

This personal finance course equips the student with financial knowledge and tools to maximize financial resources over an individual's lifetime. This course discusses the latest financial planning tools and techniques that enable an individual to achieve his/her financial goals. Financial and personal satisfaction is the result of an organized process referred to as personal money management, which is the focus of this course.

Pre-requisite: 400 396

440 715 Islamic Banking (3,0,0,3)

This course will equip students with a firm grounding in the banking industry. It teaches the theory and practice of Islamic banking within the backdrop of conventional banking. Focusing on the dynamic and rapidly changing financial services industry, it explores modern financial engineering for financial product development that is Shari'ah-compliant. The following areas are covered; introduction to Islamic economy and Islamic financial system, Islamic financial instruments, the measurement of bank performance, management of Islamic banks' investment risk, Shari'ah-compliant management of bank

financing functions, bank capital (theory, management and regulation), financial innovations, Information technology, and corporate restructuring in the financial services industry.

Pre-requisite: 440 604

440 611 Portfolio Management and Theory (3,0,0,3)

This course is designed to introduce an overview of portfolio management, more specifically securities and security analyses, risk and return, environment analyses, company analyses, bond analyses, options, rights, warrants and convertibles, futures, efficient-market theory, portfolio analyses and selection, capital market theory, managed portfolios and performance measurements.

Pre-requisite: 440 705

440 602 Financial Risk and Insurance (3,0,0,3)

This course explores various types of corporate and financial risks, analyzes them, and identifies methods to control them. Specific issues covered include risk identification and measurement, risk analysis and management, and relevance of corporate risk management from shareholders' value point of view. It also deals with the main tool to diffuse risk, i.e., insurance, describing the mechanics of insurance contracts and their pricing, risk pooling and risk diversification, and risk hedging with derivative contracts.

Pre-requisite: 440 501

400 420 Money and Financial System (3,0,0,3)

This course is designed to introduce basic economic and financial concepts related to money, banking and financial systems. It uses basic economic principles to introduce the structure of financial markets, financial institution management, the foreign exchange markets, the internationalization of financial markets and the role of monetary policy in the economy. This course offers

students a balanced picture of the interactions between money, the financial system and the economy.

Pre-requisite: 400 396

410 707 Management of Financial Institutions (3,0,0,3)

This course offers a detailed coverage of financial institutions and strategies involved in their effective management. The course looks at the modes of operations of different financial institutions and examines the strengths and limitations of each. Problems and issues relating to the management of assets and liabilities in financial institutions are also considered at length in this course. The role of non-bank financial institutions, such as insurance companies and credit unions is also covered.

Pre-requisites: 400 396, 400 410

400 393 Microeconomics (3,0,0,3)

This course is designed to introduce basic economic concepts related to individual decision-makers in the economy - households, businesses and governments - and how they interact. Meaning, nature and methods of economic study are introduced. Supply, demand and elasticity are used to analyze consumer and firm behaviors in different types of markets. The rationale for various public policies designed to modify the workings of markets is examined.

400 410 Macroeconomics (3,0,0,3)

This course is designed to introduce basic economic concepts related to aggregate economic relationships such as output and income, national income accounting, aggregate supply and aggregate demand, unemployment, inflation, economic growth and development, money and banking, and the international economy. The course emphasizes the main components of aggregate expenditure and determination of equilibrium level of income, in addition to the analysis of the effects of fiscal and monetary policies on the economy. It extends

understanding of the ability of governments to influence economic performance.

Pre-requisite: 400 393

400 522 Managerial Economics (3,0,0,3)

This course is designed to acquaint students of business administration with the economics of managerial decision-making, paying special attention to the criteria for rational decision making in private business, non-profit institutions and public agencies. The course emphasizes the application of economic theory and the tools of decision science to examine how an organization can achieve its objectives most efficiently. It is an application of economic theory and analysis to the managerial decision-making process.

Pre-requisites: 400 410, 400 393

400 512 Economic Development of GCC (3,0,0,3)

This course is designed to introduce the concepts, measurements and theories of broad-based sustainable development, as well as the relationships between economic development, human development and environment. Students will also become familiar with several theories of development, and the characteristics and the quality of life in GCC countries will be investigated and compared to those of other countries. The focus would be on the causes, problems and challenges associated with the development of GCC countries, such as population structure and localization policies, the feasibility of GCC states integration and the impact of oil and non-oil production on development.

Pre-requisite: 400 393

410 811, 420 811, 430 811, 440 811 Graduation Project (3,0,0,3)

This course takes the form of a dissertation completed by graduating students in partial fulfillment of BSc in Management, Accounting, Marketing and Finance degree

programs. Students choose an appropriate research project, justify it, work out the research methodology, and analyze, synthesize and evaluate information, then communicate significant knowledge and understanding. The proposed research should be related to the program. An academic advisor is assigned to advise the student at various stages of the research project. This course culminates in the preparation of a dissertation by each student. The course is an integral part of the curriculum, designed to train students to undertake scientific research and bridge the gap between theory and practice in management, accounting, marketing or finance.

Pre-requisite: 102 credit hours

400 516 Supervised Training (3,0,0,3)

After the completion of 96 credit hours, including seven major core courses. The aim of supervised training is to enable students to practice the learnt theories and concepts in a business organization. Students from any business discipline undergo a training period that is closely monitored by an instructor and the manager/supervisor of the organization to ensure that the student cultivates sound professional attitudes and ethics needed in work places.

Faculty members of the College of Business Administration

Sr. No.	Name	Academic Rank	Specialization	Degree	Date	University
1	Mohamed Ali Alshami, Dean	Dean	Economics	PhD	1995	Colorado School of Mines, USA
2	Rubeena Cetin , Head of Mark. Dept.	Assistant Professor.	Marketing	PhD	2002	Middle East Technical Univ., Turkey
3	Joseph George M. Lutta , Head of Mgt Dept	Assistant Professor.	Human Resources	PhD	2008	Louisiana State Univ., USA
4	Lilyan Gheyath Saleh, Head of Acct. Dept	Assistant Professor.	Accounting	PhD	1988	Free Univ. of Brussels (VUB), Belguim
5	Azeemuddin Subhani ,Head of Fin. Dept	Assistant Professor.	Islamic Finance	PhD	2007	McGill Univ./Montreal, Canada
6	John J. Ireland	Associate Professor	Marketing	PhD	1992	I.E.S.E. University of Navarra, Spain
7	Mazharul Haque Kazi	Associate Professor	Finance	PhD	2005	University of Western Sydney, Australia
8	Mohammed N. Chaker	Associate Professor	Economics	PhD	1994	University of Colorado, USA
9	Abdulkarim Ali Dahan	Assistant Professor.	Economics	PhD	1996	University of Arizona, USA
10	Ahmed Zain El Abideen	Assistant Professor.	Management	PhD	2001	Oumdrman University, Sudan
11	Majed El-Helou	Assistant Professor.	Management	MS	2002	Ottawa University, Canada
12	Olga Hordt	Assistant Professor.	Management	PhD	2006	University of Lveneberg, Germany
13	Srinivas Inguva	Assistant Professor.	Commerce	PhD	1990	Sri Venkatesvara University, India
14	Samia Abbas Ali Kargawil	Assistant Professor.	Business Management	PhD	2006	Birmingham University, UK
15	Wise Mainga	Assistant Professor.	Management	PhD	2000	Univ. of Bradford, UK
16	Rima Shishakly	Assistant Professor.	Management Information System	PhD	2006	University of Manchester, UK
17	Priya Maria Vaalentino	Assistant Professor.	Accounting & Finance	PhD	2000	Texas University, USA

College of

Information Technology

Introduction

The rapid growth in the development of computer hardware, software, information technology and the widespread applications in all aspects of life created a considerable demand for computer graduates in all specializations. The College of Information Technology has the reputation of offering quality teaching and training programs to prepare its students for a much needed career in the dynamic and rapidly evolving computing industry of today.

Mission Statement

- Participate in the overall mission of the University with commitment to high standards of teaching and training.
- Provide our graduates with the knowledge, training and skills to tackle emerging Information Technology (IT) problems.
- Break the barriers between academia and the market.
- Prepare students for graduate studies in different disciplines of computing.
- Contribute to the development of the UAE society and the region in the area of IT.

Degree Programs

The College offers four different Bachelor programs, which provide the student with an excellent foundation for satisfying his/her career requirements, or future study. They also provide the student with a sound theoretical and practical background. In addition, the College offers a Master program in Information Systems. All programs are accredited by the Ministry of Higher Education and Scientific Research.

Programs offered are:

1. Bachelor of Science in Information Technology / Networking & Security

2. Bachelor of Science in Information Technology / Databases & Web systems
3. Bachelor of Science in Information Systems / Project Management
4. Bachelor of Science in Information Systems / E-Business Management
5. Bachelor of Science in Computer Engineering
6. Bachelor of Science in Computer Science
7. Bachelor of Science in Multimedia & Web Development
8. Master of Science in Information Systems

Facilities

The College is equipped with the state-of-the-art computing facilities which are among the best in the region. These facilities are regularly upgraded. All University computers are connected through local and wide area networks. Multimedia facilities are provided in all University labs. Other facilities include electronics, digital systems and computer network labs. In addition to WINDOWS servers, there are dedicated LINUX, SQL and ORACLE servers. All staff and students computers are linked to the Internet. The laboratories as well as the computer equipment provide students with an excellent support in their lower and upper level undergraduate courses. The College also maintains a library of computer textbooks. This library is regularly updated with the latest books in the field, for the benefit of both students and faculty members.

Department of Information Systems

Introduction

The Department of Information Systems offers a Bachelor of Science in Information Systems degree with two concentrations; Project Management and E-Business Management which are a 4-years programs that require the completion of 123 credit hours and a Master program

in Information Systems which requires the completion of 33 credit hours. Both programs are accredited by the Ministry of Higher Education and Scientific Research.

Bachelor of Science in Information Systems

Mission

The mission of the Information Systems program is to provide quality education in the field of Information Systems based on internationally recognized standards for undergraduate programs; produce Information Systems professionals who can manage computer and communications technologies and information resources within organizations in the UAE and Gulf region; and prepare individuals for lifelong learning and research.

Program Educational Goals

The Bachelor of Science in Information Systems program has the following goals:

Provide students with up-to-date coverage of both core and specialized knowledge of IS methodologies and practices in order to get entry-level positions in organizations or pursue postgraduate studies and research.

Provide cutting-edge technical skills in order to propose IT solutions that meet market and societal needs in enhancing organizational competitiveness and improving decision taking processes.

Expose students of the program to ethical and professional principles within an IT environment.

Enhance students' communication and leadership skills.

Program Outcomes

There are nine Learning Outcomes related to the Information Systems major and one learning outcome associated to each concentration.

Graduates will be able to:

- IS1. Use general education knowledge of diverse fields particularly the business domain in understanding and building IS applications.
- IS2. Apply knowledge of core concepts, techniques and practices to IS applications.
- IS3. Use analytical and critical thinking skills to solve IS problems.
- IS4. Address information requirements and provide solutions that reflect current business needs and changes.
- IS5. Select and adopt emerging technologies for computerized business information systems.
- IS6. Manage information systems components to maintain business sustainability.
- IS7. Make decisions and conduct social responsibilities in an ethical and professional manner.
- IS8. Communicate effectively both orally and in writing.
- IS9. Function independently and as an effective member or a leader of a team.

Concentration in Project Management

IS-PM. Use and apply Project Management theories and practices in IS environment.

Concentration in E-Business Management

IS-eBM. Evaluate IT technologies to support an e-business solution.

Admission Requirements

The normal entry requirements for an applicant are the UAE Secondary School Certificate or an equivalent qualification with:

1. A minimum average grade of 60% for scientific sections.
2. A minimum average grade of 65% for arts sections.

Career Opportunities

Information system graduates are required to meet the demands of various stakeholders including industry, commerce, education, health, and government. Some graduates are employed in companies and research organizations, others in resource centers in schools, colleges and universities. There are opportunities in finance, in computing and telecommunications industries, as well as in the medical sector.

Degree requirement

The B.Sc. degree in Information Systems requires the completion of a 123 Cr. Hrs. distributed according to the following plan:

Type of Courses	Credit/hour
1. University General Education Courses	
(a) University Compulsory Courses	15
(b) University Elective Courses	9
2. Information Systems Program Compulsory Common Core Courses	
(a) General Compulsory Common Courses	24
(b) Information Systems Compulsory Common Core Courses	57
(c) Internship	3
3. Information Systems Program Concentration Courses	
(a) Compulsory Concentration Courses	9
(b) Elective Concentration Courses	6
Total Credit Hours	123

Job titles for Information Systems/Project Management graduates include systems analyst, business analyst, project manager, project business administrator, project coordinator, and **systems architect**.

Job titles for Information Systems/E-Business Management graduates include systems analyst, systems developer, systems manager, systems administrator, **systems architect**, systems security officer, e-business consultant, and e-business strategy manager.

Graduation requirements

Students at Ajman University of Science & Technology (AUST) are eligible for a bachelor in Information Systems after completion of 120 credits hours, which normally takes eight semesters. In addition, students must undertake 12 weeks of industrial training during summer sessions which is equivalent to 3 credit hours. The minimum cumulative grade point average for graduation is 2.0 for 123 total credits hours.

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Required Courses (15 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
101000	Orientation \CS	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110-	Statistics	2	2	0	3	-
104110	Computer Applications	2	2	0	3	-
117140	Environmental Sciences	3	0	0	3	-

(b)University Elective Courses (9 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112110	Principles of Architecture & Art	3	0	0	3	-
112120	Principles of Interior Design	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
113110	Internet Concepts	3	0	0	3	-
113120	Introduction to Information Systems	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of science in Islam	3	0	0	3	-
115120	Scientific pioneering	3	0	0	3	-
115130-	General psychology	3	0	0	3	-
115140	Principle of mathematics	3	0	0	3	-
115150	The Art of Expression and writing	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
115170	Education Technology	3	0	0	3	-
117110	General chemistry	3	0	0	3	-
117120	Fundamental of Human Nutrition	3	0	0	3	-
117130	First Aid	3	0	0	3	-
117150	Applications of Remote sensing	3	0	0	3	-

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
118110	Principles of Ethics	3	0	0	3	-
118120	General Biology	3	0	0	3	-
118130	Oral Health	3	0	0	3	-
118140	General principles of Epidemiology	3	0	0	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	0	0	3	-
119110	Communication Skills	3	0	0	3	-
119120	Introduction to Communication Sociology	3	0	0	3	-
119130	Information Society	3	0	0	3	-
120115	Legal Culture	3	0	0	3	-

Information Systems Program Compulsory Common Core Courses

(a) General Compulsory Common Courses (24 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
308202	Business Statistics	3	0	0	3	103110
308206	Communication Management	2	2	0	3	315103
400291	Introduction to Management	3	0	0	3	-
400292	Principles of Accounting	3	0	0	3	-
400395	Principles of Marketing	3	0	0	3	400291
400396	Fundamentals of Finance	3	0	0	3	400292
400409	Organizational Behavior	3	0	0	3	400291
410602	Human Resources Management	3	0	0	3	400409

(b) Information Systems Compulsory Common Core Courses (60 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
308201	Information Systems Management	3	0	0	3	315103
308203	Fundamentals of Computer Systems	2	2	0	3	50 Cr. Hrs
308205	Systems Analysis and Design	2	2	0	3	50 Cr. Hrs
308209	Business Process Management	3	0	2	3	308201
308307	Change Management	3	0	0	3	308209
308309	Knowledge Management	3	0	0	3	308209

308402	Business Intelligence and Data Warehousing	3	0	0	3	315302
308404	Information Systems Strategy and Acquisition	3	0	0	3	308307
308405	Information Systems Project	1	4	0	3	315307
308406	IT Resource Management	3	0	0	3	308307
308407	Information Systems Internship	0	0	0	3	117 Cr. Hrs
315102	Algorithms & Problem Solving	2	2	0	3	-
315103	IT in Business	2	2	0	3	104110 & 400291
315205	Fundamentals of Data Communications and Networking	2	2	0	3	315102
315302	Database Management Systems	2	2	0	3	50 Cr. Hrs
315303	Fundamentals of Information Security	3	0	0	3	315205
315304	Fundamentals of Web Systems	2	2	0	3	315102
315306	Computer Ethics and Professional Practices	3	0	0	3	315303
315307	IT Project Management	2	2	0	3	308205
315308	Enterprise Systems	3	0	0	3	308309

Information Systems Program Concentration Courses

(a) Compulsory Concentration Courses (9 Cr. Hrs.)

1 Concentration in Project Management

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
308411	IT Services and Operations Management	3	0	0	3	308209
308412	Project Planning, Scheduling and Cost Control	3	0	0	3	315307
308413	Project Quality and Risk Management	3	0	0	3	315307

3.2 Concentration in E-Business Management

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
308422	E-Marketing	3	0	0	3	400395
315322	Web Technologies	2	2	0	3	315304
315424	E-Commerce	2	2	0	3	315304

(b) Elective Concentration Courses (6 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
308408	Selected Topics in Information Systems	2	2	0	3	100 Cr. Hrs
308409	Individual Project	1	4	0	3	315307
308414	Customer Relationship Management	3	0	0	3	400395
308415	Enterprise Architecture	3	0	0	3	315308
308417	Selected Topics in IT Project Management	3	0	0	3	100 Cr. Hrs
308427	Selected Topics in E-Business Management	3	0	0	3	100 Cr. Hrs
315206	Human Computer Interaction	2	2	0	3	308205
315208	Computerized Accounting	2	2	0	3	400292
315321	Database Administration	2	2	0	3	315302
315421	Web Application Design and Dev.	2	2	0	3	315322
315422	Information Architecture	2	2	0	3	315302
315423	Advanced Database Design and Implementation	2	2	0	3	315302
315427	Advanced Web Topics	2	2	0	3	315322

Students are allowed to register a maximum of one elective course outside the proposed list after the approval of the Department Head.

Course Sequencing Plan.**FIRST SEMESTER**

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
104110	Computer Applications	2	2	0	3	-
117140	Environmental Sciences	3	0	0	3	-
400291	Introduction to Management	3	0	0	3	-
TOTAL		15	2	1	15	

SECOND SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
xxxxxx	University Elective I	3	0	0	3	-
xxxxxx	University Elective II	3	0	0	3	-
103110	Statistics	2	2	0	3	-
315102	Algorithms and Problem Solving	2	2	0	3	-
315103	IT in Business	2	2	0	3	104110 & 400291
TOTAL		12	6	0	15	

THIRD SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
xxxxxx	University Elective III	3	0	0	3	-
308201	Information Systems Management	3	0	0	3	315103
400292	Principles of Accounting	3	0	0	3	-
400395	Principles of Marketing	3	0	0	3	400291
400409	Organizational Behavior	3	0	0	3	400291
TOTAL		15	2	0	15	

FOURTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
308202	Business Statistics	3	0	0	3	103110
308206	Communication Management	2	2	0	3	315103
308209	Business Process Management	3	0	2	3	308201
315205	Fundamentals of Data Communications and Networking	2	2	0	3	308102
315304	Fundamentals of Web Systems	2	2	0	3	308102
TOTAL		12	6	2	15	

FIFTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
308203	Fundamentals of Computer Systems	2	2	0	3	50 Cr. Hrs
308205	System Analysis and Design	2	2	0	3	50 Cr. Hrs
315302	Database Management Systems	2	2	0	3	50 Cr. Hrs
315303	Fundamentals of Information Security	3	0	0	3	315205
410602	Human Resources Management	3	0	0	3	400409
TOTAL		12	6	0	15	

SIXTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
308307	Change Management	3	0	0	3	308209
308309	Knowledge Management	3	0	0	3	308209
315306	Computer Ethics and Professional Practices	3	0	0	3	315303
315307	IT Project Management	2	2	0	3	308205
400396	Fundamentals of Finance	3	0	0	3	400292
TOTAL		14	2	0	15	

SEVENTH SEMESTER**1. Concentration in Project Management**

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
xxxxxx	Concentration Elective I	x	x	0	3	xxxxxx
308402	Business Intelligence and Data warehousing	3	0	0	3	315302
308411	IT Services and Operations Management	3	0	0	3	308209
308412	Project Planning, Scheduling and Cost Control	3	0	0	3	315307
315308	Enterprise Systems	3	0	0	3	308309
TOTAL		x	x	0	15	

2. Concentration in E-Business Management

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
xxxxxx	Concentration Elective I	x	x	0	3	xxxxxx
308402	Business Intelligence and Data warehousing	3	0	0	3	315302
308422	E-Marketing	3	0	0	3	400395
315308	Enterprise Systems	3	0	0	3	308309
315322	Web Technologies	2	2	0	3	315304
TOTAL		x	x	0	15	

EIGHTH SEMESTER**1. Concentration in Project Management**

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
xxxxxx	Concentration Elective II	x	x	0	3	xxxxxx
308404	Information Systems Strategy and Acquisition	3	0	0	3	308307
308405	Information Systems Project	1	4	0	3	315307
308406	IT Resource Management	3	0	0	3	308307
308413	Project Quality and Risk Management	3	0	0	3	315307
TOTAL		x	x	0	15	

2. Concentration in E-Business Management

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
xxxxxx	Concentration Elective II	x	x	0	3	xxxxxx
308404	Information Systems Strategy and Acquisition	3	0	0	3	308307
308405	Information Systems Project	3	4	0	3	315307
308406	IT Resource Management	3	0	0	3	308307
315424	E-Commerce	2	2	0	3	315304
TOTAL		x	x	0	15	

The minimum number of credit required for Bachelor of Science in Information Systems degree is 120 Cr. Hrs.

In addition the student must complete a 12-week training period (3 Cr. Hrs.).

Department of Computer Engineering

Introduction

The Department of Computer Engineering offers a B.Sc. degree in Computer Engineering that was re-accredited for a further period of five years beginning December 2011. In the new study plan the total number of credit hours required for students to graduate is 140.

Program Mission

The mission of this program is to prepare computer engineers who are able to apply the theories and principles of science and mathematics to the design of computer hardware, software and networks in the emerging IT fields. Provide computer engineers capable of building prototypes, working both with hardware and software aspects of systems design and development. Prepare students for professional careers and to pursue advanced studies in Computer Engineering. This mission is in line with the overall mission of the University and the College as depicted in Table 1.1.

Program Educational Goals

The Bachelor of Science in Computer Engineering program has the following goals:

Provide knowledge and skills in hardware and software design & implementation.

Provide an understanding of how to implement and manage computer networks.

Develop an ability to communicate effectively orally and in writing.

Develop self-learning skills.

Program Outcomes

There are nine Learning Outcomes related to the Computer Engineering major.

Graduates will be able to:

- CE1. Demonstrate skills in analysis, design and implementation of digital systems.
- CE2. Analyze and explain the organization of and interaction among various parts of a computer system..
- CE3. Demonstrate an ability to design a software component and implement it using a programming language.
- CE4. Analyze, Identify and explain how computers communicate in a network.
- CE5. Demonstrate skills in implementing client/server based local area networks
- CE6. Build, secure and manage LANs using Routers and Firewalls.
- CE7. Communicate and explain a solution to a technical problem orally and in writing.
- CE8. Demonstrate self-learning skills by searching for information and acquiring knowledge independently..
- CE9. Demonstrate general education knowledge in diverse fields.

Admission Requirements

The normal entry requirements for applicants are the UAE Secondary School certificate (Grade 12), with a minimum overall score of 70% (scientific section) or an equivalent qualification certified by the Ministry of Education, UAE. In addition to this an applicant must have obtained a minimum score of 70% or grade C in Mathematics and Physics.

Career Opportunities

Graduates can find a wide range of job opportunities as Design Engineer (computer hardware, software and systems), Network Administrator, Network (Systems) Engineer, Network Programmer/Analyst, Network / Information Systems Manager.

Graduation requirements

Students at Ajman University of Science & Technology (AUST) are eligible for a Bachelor Degree in Computer Engineering after completion of 140 credit hours. This includes industrial training in summer sessions that is equivalent to 4 credit hours. The minimum cumulative grade point average for graduation is 2.0. For students transferring credits taken at other institutions, it is required that at least fifty percent of third and fourth year courses be completed through instruction at AUST.

Program Structure – (Revised June 2011)

The B.Sc. in Computer Engineering program requires completion of 140 Credit Hours and includes general education courses, free electives and program specific courses distributed as shown below:

Type of Courses	Credit hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Free Elective Courses	9
2. Major Requirements	
(a) Major General Education Requirements	6
(b) Major Compulsory Courses	94
(c) Major Electives	12
d) Internship	4
Total Credit Hours	140

Details of courses in each category and semester by semester course offerings are listed below.

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

Courses in this category are taught by faculty members from the College of University Requirements

A. University Required Courses (15 Cr.Hrs.)

Course No.	Course Title	Th.	Tut.	Lab.	Cr.Hrs.	Prerequisite
0101000	Orientation VCS	1	0	0	0	-
0102110	Islamic Culture	3	1	0	3	-
0102140	Communication Skills in Arabic Language	3	0	0	3	-
0103110	Statistics	2	0	2	3	-
0103120	Environmental Sciences	3	0	0	3	-
0104110	Computer Applications	2	0	2	3	-

B. University Elective Courses – Any three from the following (9 Cr.Hrs.)

Course No.	Course Title	Th.	Tut.	Lab.	Cr.Hrs.	Prerequisite
0102120	The Miraculousness of the Holy Koran	3	0	0	3	-
0112110	Principles of Architecture & Art	3	0	0	3	-
0112120	Principles of Interior Design	3	0	0	3	-
0112130	Modern Technology and Society	3	0	0	3	-
0113110	Internet Concepts	3	0	0	3	-
0113120	Introduction to Information System	3	0	0	3	-
0114110	Economic Concepts	3	0	0	3	-
0114120	Entrepreneurship Development	3	0	0	3	-
0115110	History of Science in Islam	3	0	0	3	-
0115120	Scientific Pioneering	3	0	0	3	-
0115130	General Psychology	3	0	0	3	-
0115140	Principle of Mathematics	3	0	0	3	-
0115150	The Art of Expression and Writing	3	0	0	3	-
0115160	Emirates Society	3	0	0	3	-
0115170	Education Technology	3	0	0	3	-
0117110	General Chemistry	3	0	0	3	-
0103130	Research Methodology	3	0	0	3	-
0117120	Fundamentals of Human Nutrition	3	0	0	3	-
0117150	Applications of Remote sensing & GIS.	3	0	0	3	-

Course No.	Course Title	Th.	Tut.	Lab.	Cr.Hrs.	Prerequisite
0117130	First Aid	3	0	0	3	-
0118110	Principles of Ethics	3	0	0	3	-
0118120	General Biology	3	0	0	3	-
0118130	Oral Health	3	0	0	3	-
0118140	General Principles of Epidemiology	3	0	0	3	-
0118150	CPR-Cardio Pulmonary Resuscitation	3	0	0	3	-
0119110	English Communication Skills	3	0	0	3	-
0119120	Introduction to Communication Sociology	3	0	0	3	-
0119130	Information Society	3	0	0	3	-
0120111	Legal Culture	3	0	0	3	-

MAJOR REQUIREMENTS

A. Major General Education Courses (6 Cr.Hrs.)

Courses in this category are taught by faculty members from the College of Education and Basic Sciences

No.	Course No.	Course Title	Theo.	Tut.	Lab.	Cr.	Prerequisite
1	217101	Engineering Mathematics I	3	2	0	3	-
2	217102	Engineering Mathematics II	3	2	0	3	217101

B. Major Requirements - College Courses (73 Cr.Hrs.)

Courses in this category are taught by faculty members from the College of Information Technology

No.	Course No.	Course Title	Theo.	Tut.	Lab.	Cr.	Prerequisite
1	312112	Computer Programming	2	0	2	3	0104110
2	312211	Programming for Engineers	2	0	2	3	312112
3	312215	Circuit Analysis	3	2	2	4	217101,217122
4	312242	Digital Logic Design	3	2	2	4	0104110
5	312246	Computer Organization & Architecture	3	0	0	3	312242
6	312251	Electronics I	3	2	2	4	312215
7	312303	Electronics II	2	0	2	3	312251
8	312321	Digital Systems Design	3	0	2	4	312242
9	312322	Instrumentation & Measurements	2	0	2	3	312251

No.	Course No.	Course Title	Theo.	Tut.	Lab.	Cr.	Prerequisite
10	312348	Microprocessor Systems	3	0	2	4	312246
11	312349	Embedded Systems	3	0	2	4	312348
12	312440	Digital Integrated Circuits	3	2	0	3	312251, 312242
13	312431	Project I	1	0	4	3	90 Cr. Hrs.
14	312432	Project II	1	0	4	3	312431
15	312446	Engineering Ethics	1	0	0	1	70 Cr. Hrs.
16	315202	Discrete Mathematics	3	0	0	3	217101
17	315204	Data Structures and Algorithms	2	0	2	3	312211
18	315205	Fundamentals of Data Communications & Networking	2	0	2	3	0104110 & 40 Cr. Hrs
19	315301	Operating Systems	2	0	2	3	312246
20	315302	Database Management Systems	2	0	2	3	312211
21	315303	Fundamentals of Information security	2	0	2	3	315205
22	315305	Fundamentals of Software Engineering	2	0	2	3	315204
23	315311	Advanced Computer Networks	2	0	2	3	315205

C. Major Requirements – courses offered by other colleges (21 Cr.Hrs.)

Courses in this category are taught by faculty members from the College of Education and Basic Sciences and College of Engineering.

No.	Course No.	Course Title	Theo.	Tut.	Lab.	Cr.	Prerequisite
1	212221	Signals and Systems	3	2	0	3	217203
2	212315	Principles of Communication	3	2	2	4	212221
3	217121	Engineering Physics I	3	2	2	4	-
4	217122	Engineering Physics II	3	2	2	4	-
5	217203	Engineering Mathematics III	3	2	0	3	217102
6	217204	Engineering Mathematics IV	3	2	0	3	217203

D. Major Electives – Any Four courses (12 Cr.Hrs.)

No.	Course No.	Course Title	Theo.	Tut.	Lab.	Cr.	Prerequisite
2	212434	Digital Signal Processing	3	2	0	3	212221
3	312430	Selected Topics in Computer Engineering	3	0	0	3	70 Cr. Hrs.
4	312453	Parallel Processing	3	0	0	3	312246

No.	Course No.	Course Title	Theo.	Tut.	Lab.	Cr.	Prerequisite
5	312470	Fuzzy Logic and Neural Networks	3	0	0	3	70 Cr. Hrs.
6	315312	Network Security	2	0	2	3	315303
7	315406	Computer Modeling and Simulation	2	0	2	3	70 Cr. Hrs
8	315411	Network Design and Implementation	2	0	2	3	315311
9	315412	Wireless and Mobile Computing	2	0	2	3	315312
10	315415	Network Management	2	0	2	3	315311
11	315416	Data Compression	2	0	2	3	315303
12	315417	Distributed Systems	3	0	0	3	315311

Note: Students may register for at most one course not listed above from courses offered by other departments within the college subject to approval of the academic advisor and the head of department.

SUGGESTED STUDENT PLAN FOR B.Sc. in COMPUTER ENGINEERING

Course Distribution according to Semesters (Revised June 2011)

FIRST SEMESTER

Course Code	Course Name	Contact Hours				Prerequisite
		Lec.	Tut.	Lab.	Cr. Hrs.	
101000	Orientation \CS*	1	0	0	0	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103120	Environmental Sciences	3	0	0	3	-
104110	Computer Applications	2	0	2	3	-
217101	Engineering Mathematics I	3	2	0	3	-
217121	Engineering Physics I	3	2	2	4	-
Total		14	4	4	16	

* Non-credit course

SECOND SEMESTER

Course Code	Course Name	Contact Hours				Prerequisite
		Lec.	Tut.	Lab.	Cr. Hrs.	
102110	Islamic Culture	3	1	0	3	-
103110	Statistics	2	0	2	3	-
217102	Engineering Mathematics II	3	2	0	3	217101
217122	Engineering Physics II	3	2	2	4	-
312112	Computer Programming	2	0	2	3	-
xxxxxx	University Elective I	3	0	0	3	-
Total		16	5	6	19	

THIRD SEMESTER

Course Code	Course Name	Contact Hours				Prerequisite
		Lec.	Tut.	Lab.	Cr. Hrs.	
217203	Engineering Mathematics III	3	2	0	3	217102
312215	Circuit Analysis	3	2	2	4	217101,217122
315202	Discrete Mathematics	3	0	0	3	217101
312211	Programming for Engineers	2	0	2	3	312112
312242	Digital Logic Design	3	2	2	4	104110
Total		14	6	6	17	

FOURTH SEMESTER

Course Code	Course Name	Contact Hours				Prerequisite
		Lec.	Tut.	Lab.	Cr. Hrs.	
217204	Engineering Mathematics IV	3	2	0	3	217203
312246	Computer Organization & Architecture	3	0	0	3	312242
312251	Electronics I	3	2	2	4	312215
315204	Data Structures and Algorithms	2	0	2	3	315202
315205	Fundamentals of Data Communications & Networking	2	0	2	3	104110 & 40 Cr. Hrs.
xxxxxx	University Elective II	3	0	0	3	-
Total		16	2	6	19	

FIFTH SEMESTER

Course Code	Course Name	Contact Hours				Prerequisite
		Lec.	Tut.	Lab.	Cr. Hrs.	
312303	Electronics II	2	0	2	3	312251
312348	Microprocessor Systems	3	0	2	4	312246
315303	Fundamentals of Information Security	3	0	0	3	315205
315311	Advanced Computer Networks	2	0	2	3	315205
xxxxxx	University Elective III	3	0	0	3	-
Total		13	0	6	16	

SIXTH SEMESTER

Course Code	Course Name	Contact Hours				Prerequisite
		Lec.	Tut.	Lab.	Cr. Hrs.	
212221	Signals and Systems	3	2	0	3	217203
312321	Digital Systems Design	3	0	2	4	312242
312322	Instrumentation & Measurements	2	0	2	3	312251
312349	Embedded Systems	3	0	2	4	312348
xxxxxx	Major Elective I	3	0	0	3	70 Cr. Hrs.
Total		14	2	6	17	

SUMMER SESSION

Internship training (3 credit hours)

SEVENTH SEMESTER

Course Code	Course Name	Contact Hours				Prerequisite
		Lec.	Tut.	Lab.	Cr. Hrs.	
212315	Principles of Communications	3	2	2	4	212221
312431	Project I	1	0	4	3	90 Cr. Hrs.
315301	Operating Systems	2	0	2	3	312246
315302	Database Management Systems	2	0	2	3	312211
315305	Fundamentals of Software Engineering	2	0	2	3	315204
xxxxxx	Major Elective II	3	0	0	3	70 Cr. Hrs.
Total		13	2	12	19	

Internship training (1 credit hour)

EIGHTH SEMESTER

Course Code	Course Name	Contact Hours				Prerequisite
		Lec.	Tut.	Lab.	Cr. Hrs.	
312432	Project II	1	0	4	3	312431
312440	Digital Integrated Circuits	3	2	0	3	312251, 312242
312446	Engineering Ethics	1	0	0	1	70 Cr. Hrs
xxxxxx	Major Elective III	3	0	0	3	70 Cr. Hrs.
xxxxxx	Major Elective IV	3	0	0	3	70 Cr. Hrs.
Total		11	0	4	13	

Department of Computer Science

Introduction

The Department of Computer Science at Ajman University of Science and Technology offers two programs: the Bachelor of Science in Computer Science and the Bachelor of Science in Information Technology which are 4-years programs accredited by the Ministry of Higher Education & Scientific Research and requires the completion of 126 and 123 credit hours respectively. Students enrolled in the Bachelor of Science in Information Technology can choose one of two tracks: Networking & Security or Database & Web Systems.

Bachelor of Science in Computer Science

Mission

Provide quality education in the field computer science that allows graduates of the program to pursue a rewarding career and adapt to evolving technologies in the computing field.

Program Educational Objectives

- Provide students with current core knowledge of computer science that allows them to

investigate and provide solutions to computer science related problems.

- Prepare students for professional career in computer science and related areas.
- Offer broad and in-depth curriculum that prepare students to pursue graduate studies or engage in life-long learning in computer science and related disciplines.

Program Outcomes

- An understanding of the theoretical foundations of computer science.
- Analytical and critical thinking ability for problem solving.
- An understanding of the principles of efficient program design techniques and strategies.
- Knowledge, skills and use of variety of system and application software, hardware, computational algorithms, programming languages and human computer interfaces techniques.
- Knowledge and skills to store retrieve and manipulate information.
- The ability to analyze, design, implement, test, and evaluate a computer-based system.
- The ability to work both independently and as team members.

- The ability to communicate effectively orally and in writing.
- An awareness of the ethical issues affecting computer science and the impact of computers on society.
- The ability to pursue postgraduate study and research.

Admission Requirements

The normal entry requirement for an applicant is the UAE Secondary School Certificate (scientific section) or an equivalent qualification with a minimum average grade of 60%.

Career Opportunities

Computer science graduates of Ajman University of Science & Technology can undertake a variety of careers &

jobs after graduation. Particular jobs and careers include: a software engineer (analysis, design, testing, evaluation, and maintenance of software), an applications software programmer, a systems software programmer, an algorithms design & analyst, a computer science teacher or trainer, a manager of an IT department, marketing of computer software & hardware, and pursuance of graduate studies & research.

Graduation requirements

Students at Ajman University of Science & Technology (AUST) are eligible for a Bachelor in Computer Science after completion of 126 credits hours, which normally takes eight semesters. In addition, students must undertake 12 weeks of industrial training in a summer session, which is equivalent to 3 credit hours. The minimum a cumulative grade point average for graduation is 2.0.

Degree requirement

The B.Sc. degree in Computer Science requires the completion of 126 Cr. Hrs. distributed according to the following plan:

Type of Courses	Credit/hour
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Requirements	
(a) College General Education Requirements	6
(b) College Specializations Requirements	18
3. Major Requirements	
(a) Major Requirements - College Courses	60
(b) Major Requirements- Non-College Courses	6
(c) Major Electives - College Courses	12
Total Credit Hours	126

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Required Courses (15 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110	Statistics	2	2	0	3	-
104110	Computer Applications	2	2	0	3	-
117140	Environmental Science	3	0	0	3	-

(b) University Elective Courses (9 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112110	Principles of Architecture & Art	3	0	0	3	-
112120	Principles of Interior Design	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
113110	Internet Concepts	3	0	0	3	-
113120	Introduction to Information Systems	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of science in Islam	3	0	0	3	-
115120	Scientific pioneering	3	0	0	3	-
115130	General psychology	3	0	0	3	-
115140	Principle of mathematics	3	0	0	3	-
115150	The Art of Expression and writing	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
115170	Education Technology	3	0	0	3	-
117110	General chemistry	3	0	0	3	-
117120	Fundamental of Human Nutrition	3	0	0	3	-
117130	First Aid	3	0	0	3	-
117150	Applications of Remote sensing	3	0	0	3	-

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
118110	Principles of Ethics	3	0	0	3	-
118120	General Biology	3	0	0	3	-
118130	Oral Health	3	0	0	3	-
118140	General principles of Epidemiology	3	0	0	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	0	0	3	-
119110	Communication Skills	3	0	0	3	-
119120	Introduction to Communication Sociology	3	0	0	3	-
119130	Information Society	3	0	0	3	-
120115	Legal Culture	3	0	0	3	-

COLLEGE REQUIREMENTS

(a) College General Education Requirements (6 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
300100-0	Mathematics I /C	3	0	2	3	-
300200-0	Mathematics II /C	3	0	2	3	300100

(b) College Specializations Requirements (18 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
310112-0	Programming I	2	2	2	3	
310211-0	Programming II	2	2	2	3	310112
311223-0	Data Structures & Algorithms	3	0	0	3	310211
311335-0	Software Engineering I	3	0	0	3	310211
311381-0	Computer Networks I	2	2	0	3	104110 & 40 Cr. Hrs.
311382-0	Computer Networks II	3	0	2	3	311381

MAJOR REQUIREMENTS

(a) Major Requirements -College Courses (60 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
310314-0	Computer Ethics	3	0	0	3	45 Cr. Hrs.
311221-6	Discrete Structures	3	0	2	3	300100, 104110
311242-6	Digital Logic Design	3	0	2	3	104110
311300-6	Training (Computer Science)	0	0	0	3	60 Cr. Hrs.
311319-0	Introduction to Formal Languages & Automata	3	0	0	3	311221
311321-0	Computer Graphics	2	2	0	3	310211
311323-0	Operational Research	3	0	0	3	103110
311332-0	Database Management Systems	2	2	0	3	310211
311336-0	Software Engineering II	3	0	0	3	311335
311342-0	Computer Architecture	3	0	0	3	312245
311422-0	Organization of Programming Languages	3	0	0	3	311223
311431-6	Computer Science Project	1	4	0	3	100 Cr. Hrs.
311435-0	Human Computer Interaction	3	0	0	3	310211
311442-0	Design & Analysis of Algorithms	3	0	0	3	311223
311451-6	Operating Systems	3	0	2	3	312245
311463-0	Database Design & Implementation	2	2	0	3	311332
311471-0	Artificial Intelligence	2	2	0	3	60 Cr.Hrs.
311472-0	Compiler Theory & Design	3	0	0	3	311223, 311319
312245-0	Computer Organization	2	2	0	3	310211, 311242
314241-0	Multimedia Technology	2	2	0	3	310112

(b) Major Requirements - Non-College courses (6 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
400291-0	Introduction to Management	3	0	0	3	-
400292-6	Principles of Accounting I	3	0	0	3	-

(c) Major Electives - College courses (12 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
310335-0	Data Mining	3	0	0	3	311332
310445-0	Selected Topics in Programming Languages	2	2	0	3	310211
310455-0	E-Commerce	3	0	0	3	314231
310466-0	Computer Security	3	0	0	3	311381
311248-0	Microprocessor Systems & Design	2	2	0	3	312245
311450-2	Selected Topics in Computer Science	2	2	0	3	60 Cr. Hrs.
311453-6	Parallel Processing	3	0	0	3	311342
311473-0	Computer Simulation	2	2	0	3	310 211, 60 Cr. Hrs.
311475-0	Expert Systems & Applications	2	2	0	3	311471
311478-0	Fault Tolerant Computing	3	0	0	3	311342
314231-0	Internet Programming	2	2	0	3	310112
314232-0	Web Development	2	2	0	3	314231
314242-0	Multimedia Authoring	2	2	0	3	314241
314332-0	Web Design	2	2	0	3	314232
314347-0	Computer Animation	2	2	0	3	314242
314370-0	Wireless Programming	2	2	0	3	310 211, 60 Cr. Hrs.
314477-0	Game Programming	2	2	0	3	310 211, 60 Cr. Hrs.

Note: A student can take one elective course from Computer Engineering, Information Systems, or Multimedia & Web Development curricula.

Course Sequencing Plan**FIRST SEMESTER**

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
104110	Computer Applications	2	2	0	3	-
300100	Mathematics I /C	3	0	2	3	-
117140	Environmental Sciences	3	0	0	3	-
TOTAL		15	2	3	15	

SECOND SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
103110	Statistics	2	2	0	3	-
310112	Programming I	2	2	2	3	-
300200	Mathematics II /C	3	0	2	3	300100
311242	Digital Logic Design	3	0	2	3	104110
xxxxxx	University Elective I	3	0	0	3	-
xxxxxx	University Elective II	3	0	0	3	-
TOTAL		16	4	6	18	

THIRD SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
310211	Programming II	2	2	2	3	310112
311221	Discrete Structures	3	0	2	3	300100, 104110
400292	Principles of Accounting I	3	0	0	3	-
400291	Introduction to Management	3	0	0	3	-
xxxxxx	University Elective III	3	0	0	3	-
TOTAL		14	2	4	15	

FOURTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
311223	Data Structures & Algorithms	3	0	0	3	310211
311335	Software Engineering I	3	0	0	3	310211

Course Code	Course Name	Credit Hours				Prerequisite
311323	Operational Research	3	0	0	3	103110
312245	Computer Organization	2	2	0	3	310211, 312242
314241	Multimedia Technology	2	2	0	3	310112
TOTAL		13	0	4	15	

Summer session: Industrial training for six weeks (1.5 Cr.Hrs.)

FIFTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
311319	Introduction to Formal Languages & Automata	3	0	0	3	311221
311332	Database Management Systems	2	2	0	3	310211
311422	Organization of Programming Languages	3	0	0	3	311223
311336	Software Engineering II	3	0	0	3	311335
311381	Computer Networks I	2	2	0	3	104110 & 40 Cr. Hrs.
TOTAL		13	0	4	15	

SIXTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
311342	Computer Architecture	3	0	0	3	312245
311442	Design & Analysis of Algorithms	3	0	0	3	311223
311463	Database Design & Implementation	2	2	0	3	311332
311472	Compiler Theory & Design	3	0	0	3	311223, 311319
311382	Computer Networks II	3	0	2	3	311381
TOTAL		14	2	2	15	

Summer Session: Industrial training for six weeks (1.5 Cr.Hrs.)

SEVENTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
311451	Operating Systems	3	0	2	3	312245

Course Code	Course Name	Credit Hours				Prerequisite
311471	Artificial Intelligence	2	2	0	3	60 Cr.Hrs.
311435	Human Computer Interaction	3	0	0	3	310211
xxxxxx	Major Elective I	x	x	0	3	xxxxxx
xxxxxx	Major Elective II	x	x	0	3	xxxxxx
TOTAL		x	x	2	15	

EIGHTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
311321	Computer Graphics	2	2	0	3	310211
311431	Computer Science Project	1	4	0	3	100 Cr. Hrs.
310314	Computer Ethics	3	0	0	3	45 Cr. Hrs.
xxxxxx	Major Elective III	x	x	0	3	xxxxxx
xxxxxx	Major Elective IV	x	x	0	3	xxxxxx
TOTAL		x	x	0	15	

The minimum number of credit required for Bachelor of Science degree is 123 Cr.Hrs plus, the student must complete a 12-week training period (3 Cr.Hrs.)

Bachelor of Science in Information Technology

Mission

The mission of the Information Technology program is to provide quality education in the field of information technology based on internationally recognized standards for undergraduate programs; produce information technology professionals who can deploy efficiently IT technologies and implement IT solutions according to market and society needs, particularly in the UAE and Gulf region; and prepare individuals for lifelong learning and research.

Program Educational Objectives

The Bachelor of Science in Information Technology program has the following goals:

- 1) Provide students with current core and specialized knowledge and skills of IT methodologies and practices that allow them to get entry-level positions in the IT job market or pursue postgraduate studies.
- 2) Provide technical skills as well as general education knowledge that allow graduates of the program to provide IT solutions that satisfy market and societal needs.
- 3) Offer broad and in-depth curriculum that prepare students to engage in life-long learning

and professional development in diverse areas of IT.

- 4) Expose students to the ethical and professional issues of working in an IT environment.
- 5) Train students to develop effective communication skills that allow them to communicate effectively orally and in writing; and work as productive members of a team.

Program Outcomes

Common Outcomes (All tracks)

Graduates will be able to:

- C1. **Demonstrate** general education knowledge in diverse fields.
- C2. **Demonstrate** an analytical and critical thinking ability for problem solving.
- C3. **Demonstrate** knowledge of fundamental concepts, principles and techniques of information technology.
- C4. **Analyze, identify, and define** the computing requirements that must be addressed to provide a solution to an IT problem.
- C5. **Manage** the information technology resources of an IT-based entity.
- C6. **Demonstrate** ethical and professional behavior in an information technology environment.
- C7. **Communicate** effectively both orally and in writing.
- C8. **Function** independently and as an effective member of a team.

Track Specific Outcomes

Networking & Security

Graduates will be able to:

- NS1. **Design** and **implement** basic network functionalities.
- NS2. **Maintain** and **administer** network systems.
- NS3. **Analyze** and **evaluate** network configurations and security needs.
- NS4. **Provide** solutions for network security needs.

NS5. **Integrate** security management within IT management.

Databases & Web Systems

Graduates will be able to,

- DW1. **Design** database-driven applications.
- DW2. **Implement** database-driven applications.
- DW3. **Design** web-based client/server systems.
- DW4. **Implement** web-based client/server systems.
- DW5. **Manage** a database application in an online-environment.

Admission Requirements

The normal entry requirement for an applicant is the U.A.E secondary school certificate (scientific section) or an equivalent qualification with a minimum average grade of 70% in addition to the English proficiency requirements.

Career Opportunities

Graduates of the Information Technology program can undertake a variety of job positions at both the managerial and technical levels. Job opportunities may include but not limited to: IT resources management; IT project management; professional IT consultant; professional teacher or trainer; marketing of software and hardware; and pursuing postgraduate study and research. For those specializing in networks and security, additional job opening may include: network administration and management; network security management; and building and designing networks. Graduate of Databases and Web Systems may find additional job opportunities in database administration and management; developing database applications; and developing web applications.

Graduation requirements

Students at Ajman University of Science & Technology (AUST) are eligible for a Bachelor in Information Technology in either track after the completion of 123 credits hours, which normally takes eight semesters or less (not counting summer semesters). Students must

undertake 12 weeks of internship in a summer session, which is equivalent to 3 credit hours. The minimum accumulative grade point average for graduation is 2.0.

Degree Requirements

The B.Sc. degree in Information Technology with its two tracks requires the completion of 123 Cr. Hrs. distributed according to the following plan for the two tracks:

Type of Courses	Credit/hour
1. University General Education Requirements	
(a) University Compulsory Courses	15
(b) University Elective Courses	9
2. Information Technology Program Common Compulsory Courses	
(a) General Courses	12
(b) Information Technology Core Courses	51
(c) Internship	3
3. Information Technology Program Track Courses	21
4. Information Technology Program Elective Courses	12
Total Credit Hours	123

University General Education Requirements

(a) University Required Courses (15 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110	Statistics	2	2	0	3	-
104110	Computer Applications	2	2	0	3	-
117140	Environmental Sciences	3	0	0	3	-

(b) University Elective Courses (9 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
112110	Principles of Architecture & Art	3	0	0	3	-
112120	Principles of Interior Design	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
113110	Internet Concepts	3	0	0	3	-
113120	Introduction to Information Systems	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of science in Islam	3	0	0	3	-
115120	Scientific pioneering	3	0	0	3	-
115130-	General psychology	3	0	0	3	-
115140	Principle of mathematics	3	0	0	3	-
115150	The Art of Expression and writing	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
115170	Education Technology	3	0	0	3	-
117110	General chemistry	3	0	0	3	-
117120	Fundamental of Human Nutrition	3	0	0	3	-
117130	First Aid	3	0	0	3	-
117150	Applications of Remote sensing	3	0	0	3	-
118110	Principles of Ethics	3	0	0	3	-
118120	General Biology	3	0	0	3	-
118130	Oral Health	3	0	0	3	-
118140	General principles of Epidemiology	3	0	0	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	0	0	3	-
119110	Communication Skills	3	0	0	3	-
119120	Introduction to Communication Sociology	3	0	0	3	-
119130	Information Society	3	0	0	3	-
120115	Legal Culture	3	0	0	3	-

MAJOR REQUIREMENTS

(a) Major Requirements - General Education Courses (12 Credit Hours.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
315101	Calculus for Information Technology	3	0	2	3	-
315207	Principles of Accounting	3	0	0	3	-
315208	Computerized Accounting	2	2	0	3	315207
315209	Principles of Management	3	0	0	3	-

(b) Major Requirements - Core Courses & Internship (54 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
315102	Algorithms and Problem Solving	2	2	0	3	-
315103	Information Technology in Business	2	2	0	3	104110
315201	Object Oriented programming	2	2	0	3	315102
315202	Discrete Mathematics	3	0	0	3	315101
315203	Computer Organization	3	0	0	3	104110
315204	Data Structures and Algorithms	2	2	0	3	315201, 315202
315205	Fundamentals of Data Communications and Networking	2	2	0	3	315203
315206	Human Computer Interaction	2	2	0	3	315305
315301	Operating Systems	2	2	0	3	315203
315302	Database Management Systems	2	2	0	3	315201
315303	Fundamentals of Information security	3	0	0	3	315205
315304	Fundamentals of Web Systems	2	2	0	3	315201
315305	Fundamentals of Software Engineering	2	2	0	3	315204
315306	Computer Ethics and Professional Practices	3	0	0	3	315303
315307	Information Technology Project Management	2	2	0	3	315305
315308	Enterprise Systems	3	0	0	3	315302
315401	Information Technology Project	1	4	0	3	315307, & 99 Cr. Hrs.
315402	Information Technology Internship				3	117 Cr. Hrs

(c) Major Requirements - Track Courses (21 Cr. Hrs.)**Networking and Security Track**

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
315311	Advanced Computer Networks	2	2	0	3	315205
315312	Network Security	2	2	0	3	315303
315411	Network Design and Implementation	2	2	0	3	315311
315412	Wireless and Mobile Computing	2	2	0	3	315312
315413	Network Operating Systems	2	2	0	3	315301
315414	Enterprise Security	3	0	0	3	315312
315415	Network Management	2	2	0	3	315311

Databases and Web Systems

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
315321	Database Administration	2	2	0	3	315302
315322	Web Technologies	2	2	0	3	315304
315421	Web Application Design and Development	2	2	0	3	315322
315422	Information Architecture	2	2	0	3	315302
315423	Advanced Database Design and Implementation	2	2	0	3	315302
315424	E-Commerce	2	2	0	3	315322
315425	Distributed and Object Oriented Databases	2	2	0	3	315423

**(d) Major Requirements (Both Tracks) - Elective Courses
(12 Cr. Hrs.)**

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
315403	Selected Topics in Information Technology	3	0	0	3	315307
315404	Individual Project	2	2	0	3	315307
315405	Knowledge Based Systems	2	2	0	3	315305
315406	Computer Modeling and Simulation	2	2	0	3	315308
315416	Data Compression	2	2	0	3	315303
315417	Distributed Systems	3	0	0	3	315311
315418	Wireless Network Security	3	0	0	3	315312
315426	Knowledge Management	3	0	0	3	315308

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
315427	Advanced Web Topics	2	2	0	3	315322
315428	Data Warehousing and Data Mining	3	0	0	3	315308

Proposed Sequence of Study

FIRST SEMESTER (Both Tracks)

Course Code	Course Name	Lec	Lab	Tut	Cr.Hrs.	Prerequisite
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
104110	Computer Applications	2	2	0	3	-
117140	Environmental Sciences	3	0	0	3	-
xxxxxx	University Elective I	3	0	0	3	-
TOTAL		15	2	1	15	

SECOND SEMESTER (Both Tracks)

Course Code	Course Name	Lec	Lab	Tut	Cr.Hrs.	Prerequisite
315101	Calculus for Information Technology	3	0	2	3	-
315102	Algorithms and Problem Solving	2	2	0	3	-
315103	Information Technology in Business	2	2	0	3	104110
xxxxxx	University Elective II	3	0	0	3	-
xxxxxx	University Elective III	3	0	0	3	-
TOTAL		13	4	2	15	

THIRD SEMESTER (Both Tracks)

Course Code	Course Name	Lec	Lab	Tut	Cr.Hrs.	Prerequisite
103110	Statistics	2	2	0	3	-
315201	Object Oriented Programming	2	2	0	3	315102
315202	Discrete Mathematics	3	0	0	3	315101
315203	Computer Organization	3	0	0	3	104110
400292	Principles of Accounting	3	0	0	3	-
TOTAL		13	4	0	15	

FOURTH SEMESTER (Both Tracks)

Course Code	Course Name	Lec	Lab	Tut	Cr.Hrs.	Prerequisite
315204	Data Structures and Algorithms	2	2	0	3	315201, 315202
315205	Fundamentals of Data Communications and Networking	2	2	0	3	315203
315304	Fundamentals of Web Systems	2	2	0	3	315201
315208	Computerized Accounting	2	2	0	3	400292
400291	Principles of Management	3	0	0	3	-
TOTAL		11	8	0	15	

FIFTH SEMESTER (Both Tracks)**1. Networking and Security Track**

Course Code	Course Name	Lec	Lab	Tut	Cr.Hrs.	Prerequisite
315301	Operating Systems	2	2	0	3	315203
315302	Database Management Systems	2	2	0	3	315201
315303	Fundamentals of Information Security	3	0	0	3	315205
315305	Fundamentals of Software Engineering	2	2	0	3	315204
315311	Advanced Computer Networks	2	2	0	3	315205
TOTAL		11	8	0	15	

2. Databases and Web Systems Track

Course Code	Course Name	Lec	Lab	Tut	Cr.Hrs.	Prerequisite
315301	Operating Systems	2	2	0	3	315203
315302	Database Management Systems	2	2	0	3	315201
315303	Fundamentals of Information Security	3	0	0	3	315205
315305	Fundamentals of Software Engineering	2	2	0	3	315204
315322	Web Technologies	2	2	0	3	315304
TOTAL		11	8	0	15	

SIXTH SEMESTER**1. Networking and Security Track**

Course Code	Course Name	Lec	Lab	Tut	Cr.Hrs.	Prerequisite
315206	Human Computer Interaction	2	2	0	3	315305
315306	Computer Ethics and Professional Practices	3	0	0	3	315303
315307	Information Technology Project Management	2	2	0	3	315305
315308	Enterprise Systems	3	0	0	3	315302
315312	Network Security	2	2	0	3	315303
TOTAL		12	6	0	15	

2. Databases and Web Systems Track

Course Code	Course Name	Lec	Lab	Tut	Cr.Hrs.	Prerequisite
315206	Human Computer Interaction	2	2	0	3	315305
315306	Computer Ethics and Professional Practices	3	0	0	3	315303
315307	Information Technology Project Management	2	2	0	3	315305
315308	Enterprise Systems	3	0	0	3	315302
315321	Database Administration	2	2	0	3	315302
TOTAL		12	6	0	15	

SEVENTH SEMESTER**1. Networking and Security Track**

Course Code	Course Name	Lec	Lab	Tut	Cr.Hrs.	Prerequisite
315411	Network Design and Implementation	2	2	0	3	315311
315412	Wireless and Mobile Computing	2	2	0	3	315312
315413	Network Operating Systems	2	2	0	3	315301
xxxxxx	Major Elective I	x	x	0	3	xxxxxx
xxxxxx	Major Elective II	x	x	0	3	xxxxxx
TOTAL		x	x	0	15	

2. Databases and Web Systems Track

Course Code	Course Name	Lec	Lab	Tut	Cr.Hrs.	Prerequisite
315421	Web Application Design and Development	2	2	0	3	315322
315422	Information Architecture	2	2	0	3	315302
315423	Advanced Database Design and Implementation	2	2	0	3	315302
xxxxxx	Major Elective I	x	x	0	3	xxxxxx
xxxxxx	Major Elective II	x	x	0	3	xxxxxx
TOTAL		x	x	0	15	

EIGHTH SEMESTER**1. Networking and Security Track**

Course Code	Course Name	Lec	Lab	Tut	Cr.Hrs.	Prerequisite
315401	Information Technology Project	1	4	0	3	315307, & 99 Cr. Hrs.
315414	Enterprise Security	3	0	0	3	315312
315415	Network Management	2	2	0	3	315311
xxxxxx	Major Elective III	x	x	0	3	xxxxxx
xxxxxx	Major Elective IV	x	x	0	3	xxxxxx
TOTAL		x	x	0	15	

2. Databases and Web systems Track

Course Code	Course Name	Lec	Lab	Tut	Cr.Hrs.	Prerequisite
315401	Information Technology Project	1	4	0	3	315307, & 99 Cr. Hrs.
315424	E-Commerce	2	2	0	3	315322
315425	Distributed and Object Oriented Databases	2	2	0	3	315423
xxxxxx	Major Elective III	x	x	0	3	xxxxxx
xxxxxx	Major Elective IV	x	x	0	3	xxxxxx
TOTAL		x	x	0	15	

Department of Multimedia and Web Development

Introduction

The Department of Multimedia and Web Development offers a Bachelor degree in Multimedia and Web Development which is normally a 4-year course that requires the completion of 126 credit hours. The program is accredited by the Ministry of Higher Education.

Bachelor of Science in Multimedia and Web Development

Mission

Provide quality education in field of multimedia and web development that allows graduates of the program to pursue a professional career in the use and development of multimedia and web technologies and adapt to evolving technologies in this area of computing

Program Educational Objectives

The objectives of the program are:

- Produce graduate with knowledge and skills that enable them to specialize in multimedia.
- Produce graduate with knowledge and skills that enable them to specialize in web development.
- Provide graduates with problem solving skills, communication skills and the ability to work in a team.
- Provide an environment in which students are exposed to the ethical and legal issues associated with the IT field.
- Prepare the student for graduate study and research

Program Outcomes

The Bachelor of Science in Multimedia and Web Development program aims to create graduates with the capability to:

- Analyze user needs, integrate the available technology, design and implement multimedia computing systems.
- Specify, develop multimedia system for a wide range of applications like the World Wide Web, imaging systems, animation and user interface.
- Develop, design and publish a web design project using industry standard software and applying overall industry design standards.
- Create a professional web site with e-commerce elements built in.
- Develop teamwork ability, communication skills, problem solving and design skills through projects presentations and assignments.
- Develop multimedia & web applications on a network-based system.
- Understand and practice computer ethics.
- Store, retrieve and manipulate multimedia objects.
- Write programs that manipulate multimedia objects.
- Pursue postgraduate studies.

Admission Requirements

The normal entry requirement for an applicant is the UAE Secondary School Certificate (scientific section) or an equivalent qualification with a minimum average grade of 70%.

Career Opportunities

Multimedia and web Development graduates of Ajman University of Science & Technology can undertake a variety of careers & jobs after graduation in the following fields: web site design, animation programming,

web authoring systems, multimedia programming, system design (integration of software and hardware components), video and audio processing, teaching & training, marketing of multimedia software & hardware products, and pursuance of graduates studies & research.

Graduation requirements

Students at Ajman University of Science & Technology (AUST) are eligible for a Bachelor in Multimedia and Web Development after completion of 126 credits

hours, which normally takes eight semesters. In addition, students must undertake 12 weeks of industrial training in a summer session, which is equivalent to 3 credit hours. The minimum a cumulative grade point average for graduation is 2.0.

Degree requirements

The B.Sc. degree in Multimedia and Web Development requires the completion of 126 Cr. Hrs. distributed according to the following plan:

Type of Courses	Credit/hour
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Requirements	
(a) College General Education Requirements	6
(b) College Specializations Requirements	18
3. Major Requirements	
(a) Major Requirements - College Courses	66
(b) Major Electives - College Courses	12
Total Credit Hours	126

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Required Courses (15 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
101000	Orientation \CS	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110-	Statistics	2	2	0	3	-
104110	Computer Applications	2	2	0	3	-
117140	Environmental Sciences	3	0	0	3	-

(b)University Elective Courses (9 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112110	Principles of Architecture & Art	3	0	0	3	-
112120	Principles of Interior Design	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
113110	Internet Concepts	3	0	0	3	-
113120	Introduction to Information Systems	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of science in Islam	3	0	0	3	-
115120	Scientific pioneering	3	0	0	3	-
115130	General psychology	3	0	0	3	-
115140	Principle of mathematics	3	0	0	3	-
115150	The Art of Expression and writing	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
115170	Education Technology	3	0	0	3	-
117110	General chemistry	3	0	0	3	-
117120	Fundamental of Human Nutrition	3	0	0	3	-
117130	First Aid	3	0	0	3	-
117150	Applications of Remote sensing	3	0	0	3	-
118110	Principles of Ethics	3	0	0	3	-
118120	General Biology	3	0	0	3	-
118130	Oral Health	3	0	0	3	-
118140	General principles of Epidemiology	3	0	0	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	0	0	3	-
119110	Communication Skills	3	0	0	3	-
119120	Introduction to Communication Sociology	3	0	0	3	-
119130	Information Society	3	0	0	3	-
120115	Legal Culture	3	0	0	3	-

COLLEGE REQUIREMENTS

College General Education Requirements (6 Cr.Hrs.)

Course No.	Course Title	Th.	Tut.	Lab.	Cr.Hrs.	Prerequisite
300100	Mathematics I / C	3	2	0	3	-
300200	Mathematics II / C	3	2	0	3	300100

(b) College Specializations Requirements (18 Cr. Hrs.)

Course No.	Course Title	Th.	Tut.	Lab.	Cr.Hrs.	Prerequisite
310112	Programming I	2	2	2	3	-
310211	Programming II	2	2	2	3	310112
310223	Data Structures & Algorithms	3	0	0	3	310211
311335	Software Engineering I	3	0	0	3	310211
311381	Computer Networks I	2	0	2	3	104110, 40 Cr. Hrs
311382	Computer Networks II	3	2	0	3	311381

MAJOR REQUIREMENTS

(a) Major Requirements -College Courses (66 Cr.Hrs)

Course No.	Course Title	Th.	Tut.	Lab.	Cr.Hrs.	Prerequisite
310314	Computer Ethics	3	0	0	3	45 Cr. Hrs.
310455	E-Commerce	3	0	0	3	314231
310466	Computer Security	3	0	0	3	311381
311321	Computer Graphics	2	0	2	3	310211
311332	Database Management Systems	2	0	2	3	310211
311435	Human Computer Interaction	3	0	0	3	310211
311451	Operating Systems	3	2	0	3	314245
314131	Internet Technology	2	0	2	3	104110
314210	Writing for the Web	3	0	0	3	60 Cr. Hrs.
314231	Internet Programming	2	0	2	3	310112 & 314131
314232	Web Development	2	0	2	3	314231
314241	Multimedia Technology	2	0	2	3	310112

Course No.	Course Title	Th.	Tut.	Lab.	Cr.Hrs.	Prerequisite
314242	Multimedia Authoring	2	0	2	3	314241
314245	Computer Org. and Architecture	2	0	2	3	310211
314300	Training (Multimedia)	-	-	-	3	60 Cr. Hrs.
314332	Web Design	2	0	2	3	314232
314336	Web Server Administration	2	0	2	3	311381
314345	Audio & Image Processing	2	0	2	3	314241 & 300200
314347	Computer Animation	2	0	2	3	314242
314370	Wireless Programming	2	0	2	3	310211
314430	Web Design Project	1	0	4	3	314332 & 80 Cr. Hrs.
314440	Multimedia Project	1	0	4	3	80 Cr. Hrs.

(b) Major Electives - College courses (12 Cr.Hrs.)

Course No.	Course Title	Th.	Tut.	Lab.	Cr.Hrs.	Prerequisite
310335	Data Mining	3	0	0	3	311332
311336	Software Engineering II	3	0	0	3	311335
311463	Database Design and Implementation	2	0	2	3	311332
311473	Computer Simulation	2	0	2	3	310211 & 60 Cr. Hrs.
314436	Advance Web Administration	2	0	2	3	314336
314445	Digital Photography	2	0	2	3	314242 & 314345
314447	Digital Video Production	2	0	2	3	314242 & 314345
314450	Selected Topics in Multimedia	2	0	2	3	60 Cr.Hrs.
580325	Web-Based Instruction	2	0	2	3	314332
310438	IS Project Management	3	0	0	3	311335

Course Sequencing Plan**FIRST SEMESTER**

Course No.	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
111000	Orientation	1	0	0	0	-
102110	Islamic Culture	2	2	0	3	-

Course No.	Course Name	Credit Hours				Prerequisite
102140	Communication Skills in Arabic Language	3	0	0	3	-
300100	Mathematics I / C	3	2	0	3	-
104110	Computer Applications	2	0	2	3	-
117140	Environmental Sciences	3	0	0	3	-
Total		14	4	2	15	

SECOND SEMESTER

Course No.	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
310112	Programming I	2	2	2	3	-
314131	Internet Technology	2	0	2	3	104110
103110	Statistics	2	0	2	3	-
300200	Mathematics II / C	3	0	0	3	300100
xxxxxx	University Elective I	3	0	0	3	-
Total		12	2	6	15	

THIRD SEMESTER

Course No.	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
310211	Programming II	2	2	2	3	310112
314231	Internet Programming	3	0	0	3	310112 & 314131
314241	Multimedia Technology	2	0	2	3	310112
xxxxxx	University Elective II	3	0	2	3	-
xxxxxx	University Elective III	3	0	0	3	-
Total		13	2	6	15	

FOURTH SEMESTER

Course No.	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
314232	Web Development	2	0	2	3	314231
311223	Data Structures & Algorithms	3	0	0	3	310211

Course No.	Course Name	Credit Hours				Prerequisite
311321	Computer Graphics	2	0	2	3	310211
314242	Multimedia Authoring	2	0	2	3	314241
311335	Software Engineering I	3	0	0	3	310211
314245	Computer Organization and Architecture	2	0	2	3	310211
Total		12	0	6	18	

Summer session: Industrial training for six weeks (1.5 Cr. Hrs.)

FIFTH SEMESTER

Course No.	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
311435	Human Computer Interaction	3	0	0	3	310211
310455	E-Commerce	3	0	0	3	314231
314210	Writing for the Web	3	0	0	3	60 Cr. Hrs.
311381	Computer Networks I	2	0	2	3	104110 & 40 Cr. Hrs.
314332	Web Design	2	0	2	3	314232
Total		13	0	4	15	

SIXTH SEMESTER

Course No.	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
311332	Database Management Systems	2	0	2	3	310211
311382	Computer Networks II	3	2	0	3	311381
314347	Computer Animation	2	0	2	3	314242
314345	Audio & Image Processing	2	0	2	3	314241 & 300200
310314	Computer Ethics	3	0	0	3	45 Cr. Hrs.
Total		12	2	6	15	

Summer Session: Industrial training for six weeks (1.5 Cr. Hrs.)

SEVENTH SEMESTER

Course No.	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
311451	Operating Systems	3	2	0	3	314245
310466	Computer Security	3	0	0	3	311381
314430	Web Design Project	1	0	4	3	314332 & 80 Cr. Hrs.
xxxxxx	Major Elective I	3	0	0	3	xxxxxx
xxxxxx	Major Elective II	3	0	0	3	xxxxxx
Total		13	2	4	15	

EIGHTH SEMESTER

Course No.	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr. Hrs.	
xxxxxx	Major Elective III	3	0	0	3	xxxxxx
xxxxxx	Major Elective IV	3	0	0	3	xxxxxx
314336	Web Server Administration	2	0	2	3	311381
314370	Wireless Programming	2	0	2	3	310211
314440	Multimedia Project	1	0	4	3	80 Cr. Hrs.
Total		11	0	8	15	

The minimum number of credit required for Bachelor of Science degree is 123 Cr. Hrs. In addition the student must complete a 12-week training period (3 Cr. Hrs.)

Course Catalog Description

300100 Mathematics I /C (3-0-2-3)

This course covers the essential mathematical topics that students specialized in computer sciences are expected to know. The first part of the course deals with plane analytic geometry. The second part covers the basic knowledge about matrices and determinants. The third part is designed to provide students with notions of real functions: limits, continuity, differentiability, and integration with applications on simple derivatives and integrals.

Prerequisite: none

300200 Mathematics II /C (3-0-2-3)

This course is a continuation of Mathematics (I). It is designed to extend student's background in Calculus. It covers algebraic properties of complex numbers, a detailed study of transcendental functions, an introduction to functions of two variables. A part of this course deals with methods of integration and their applications for computing areas and volumes. It also covers multiple integrals, curve length and surface areas. The last part covers numerical series with an emphasis on geometric series, tests of convergence, and Taylor series expansion of functions in the neighborhood of a point.

Prerequisite: 300100/C

308201 Information Systems Management (3-0-0-3)

Information systems management is the planning, acquisition, development and use of these systems. This course is designed to give students managerial view of information systems and its role in modern organizations to allow them to evaluate, adopt, and manage existing and new information systems. Topics include leadership issues, the CIO's responsibilities, information systems planning, essential technologies, managing operations, systems development, decision-making, collaboration, and knowledge work.

Prerequisite: 315103

308202 Business Statistics (3-0-0-3)

The first part of this course is a quick review of some basic concepts in probability and statistics. The second part deals with a deeper development in estimation and hypothesis testing of parameters, topics covered include interpretation of confidence intervals and hypothesis testing results, testing in paired samples, one and two-way analysis of variance. The third part develops statistical techniques that involve normalized data. The fourth part deals with nonparametric statistics, Simulation. The fifth part is an introduction to time series analysis and modeling.

Prerequisite: 103110

308203 Fundamentals of Computer Systems (2-2-0-3)

This course covers concepts of computer organization and architecture, main types of memory ; central processing unit, memory addressing; principles and concepts of modern operating systems; operating system services: processes and process management, memory management; file systems; multitasking and multithreading; operating system security and configuration; Input/output devices and control; virtualization of computing services.

Prerequisite: *Completion of 50 Cr. Hrs*

308205 Systems Analysis and Design (2-2-0-3)

System analysis and design are processes in which technical, organizational, and human aspects of information system are analyzed and changed with the intent of creating better systems to make businesses more productive, efficient, and competitive. All information systems projects require analysts to gather requirements, model the business needs, and create blueprints for how the system should be built. This course is designed to provide students with a core set of skills that all analysts need to know. Systems analysis and design using UML will be discussed.

Prerequisite: *Completion of 50 Cr. Hrs.*

308206 Communication Management (2-2-0-3)

Communication is a major success factor in business, especially with the enormous leap in communication technology recently enabled by IT and the growing complexity of today's business. This course focuses on the understanding of the role of communication, and how it can be enhanced using different IT approaches and technologies. The course will address communication on two main fronts, improving communication

skills for people, and using technology to leverage these skills. Students will learn how to communicate effectively from outside the organization as in job hunting, and resume writing, as well as from inside organizations as in message and report writing. Students will apply communication-related technology to implement their ideas.

Prerequisite: 315103

308209 Business Process Management (3-0-2-3)

The course introduces the methods and techniques required to analyze, design, implement, automate, and evaluate business processes. Structured along the phases of the Business Process Management (BPM) life cycle, students learn to analyze organizational performance from a process perspective, redesign processes using value-focused techniques, design workflows and implement them in BPM systems, simulate new process designs, and create process analytics applications. The course leads students from process discovery through conceptual and technical process design through the implementation of workflows to the structure of process-aware information systems.

Prerequisite: 308201

308307 Change Management (3-0-0-3)

Continuous change is inevitable in all organizations for technical, financial, or human reasons. Change management can make the difference between chaos and order, depending on how we understand and manage it. This course focuses on IT-related change ranging from small, systematic upgrades or improvements to the introduction of completely disruptive and innovative technologies leading to a paradigm shift. The students are introduced to the three main approaches of change management: individual perspective school, the group dynamics school, and the technical systems school. It identifies different elements of change and discusses how to effectively evaluate and control them. Besides theoretical component, students will be given case studies to build concrete understanding of real-life examples.

Prerequisite: 308209

308309 Knowledge Management (3-0-0-3)

The aim of this course is to introduce basic concepts, terminology, and techniques of Knowledge Management

(KM). Topics covered include: the origins and units of organizational knowledge; evolution of knowledge management; implementation and utilization of knowledge management systems, and how to measure their impact, outputs, and benefits.

Prerequisite: 308209

308402 Business Intelligence and Data Warehousing (3-0-0-3)

Today's IT deals with gigantic amount of information. The success of any organization greatly depends on its ability to process and understand its information and extract essential knowledge to help managers take well informed decisions. This course teaches students how to deal with information and how to build and maintain effective warehouse to extract important knowledge from it. The students are introduced to fundamentals of BI and DW and will learn effective modeling techniques and use them to extract business intelligence and present them to users.

Prerequisite: 315302

308404 Information Systems Strategy & Acquisition (3-0-0-3)

This advanced course examines how IT enables organizations to conduct business in radically different and more effective ways. The course defines high-level IT infrastructure and Information Systems that support the operational and strategic needs of organizations. It develops also a framework that will allow IS leaders to assess existing IT infrastructures and emerging technologies as well as how these enabling technologies might affect organizational strategy.

Prerequisite: 308307

308405 Information Systems Project (1-4-0-3)

The course aims to give students the opportunity to work in a guided but independent fashion to investigate a problem by making use of information technology knowledge, techniques, and methodologies acquired in the previous semesters to provide a suitable solution to an IT problem. The course also aims to enhance team work and communication skills, both oral and written.

Prerequisite: 315307

308406 IT Resource Management (3-0-0-3)

This course addresses the tactical/operational responsibilities and roles of the IT Management, and the governance considerations that link the IS-business organizations. The focus is on current/emerging issues in creating and coordinating the key activities necessary to manage the day-to-day operations of the IS function, and coordinating the skills and organizational IS infrastructure. Topics include: IT Value, Role of the CIO, IT Governance, Key IT Processes, Strategic Alignment Maturity, Managing Emerging Technologies, Organizational Considerations, and Outsourcing.

Prerequisite: 308307

308407 Information Systems Internship (3-0-0-3)

Internship familiarizes students with actual working environments. It gives students the opportunity to integrate their knowledge and skills learned in the course by applying it to real world problems encountered in business and industry. Internship also gives the student a feeling of what is involved in working on actual information technology problems and develop communication and team-work skills as well as ethical issues relation to IT.

Prerequisite: *Completion of 117 Credit Hours*

308408 Selected Topics in Information Systems (2-2-0-3)

This course aims to introduce students to new developments in the area of information systems not specifically covered in the curriculum and in which a faculty member has developed interest and proficiency. The intention is to provide a rapid response to current trends and to widen student's knowledge in different areas of IS. Specific content of the course will depend on the particular area taught at the time.

Prerequisite: *Completion of 100 Cr. Hrs*

308409 Individual Project (1-4-0-3)

This course aims to give students the opportunity to work *alone* in a guided but independent fashion to investigate a problem by making use of information systems knowledge, techniques, and methodologies acquired in the previous semesters to provide a suitable solution to an IT problem. The course also aims to develop communication skills, both oral and written.

Prerequisite: 315307

308411 IT Services and Operations Management (3-0-0-3)

This course provides a detailed, modular introduction to the concepts, terms, definitions, benefits, objectives, and relationships within core IT service management processes and functions, according to the ITIL best practice framework. It is based on principles described in ITIL's Service Support and Service Delivery Standards. It provides a practical understanding of ITIL key concepts, principles, processes, and functions.

Prerequisite: 308209

308412 Project Planning, Scheduling and Cost Control (3-0-0-3)

Most failures of projects are related to either *schedule delays*, or *cost overrun* or both. A balanced cost and time management is in the core of project management, and successful projects will need extensive attention to budget performance, which is strongly coupled to schedule. This course will explore recent methods and techniques which integrate technical, schedule, and cost objectives to enhance control on projects and ensure their success and timely termination. The course will allow students to get deep understanding of the many factors that affect project time and cost performance, and teaches them how to employ best practices, well known templates, methods and techniques to observe and control them.

Prerequisite: 315307

308413 Project Quality and Risk Management (3-0-0-3)

Project Quality and Risk management are forward looking disciplines, which try to identify potential future problems and plan for effective mitigation or avoidance techniques, leading to greater success in projects and business in general. While it covers all aspects of an organization, this course will introduce students to analytical and mathematical models to enable them measure and evaluate risks and quality related to IS projects.

Prerequisite: 315307

308414 Customer Relationship Management (3-0-0-3)

This course examines customer relationship management (CRM) as a key strategic process within all organizations. CRM is defined as the overall process of building and maintaining profitable customer relationships by delivering value and satisfaction to the customer. Focusing on process, strategy and technology, this course leads students from understanding the fundamentals of CRM through the implementation of CRM systems and analysis of customer data. It discusses the CRM philosophy as well as the systems in place that incorporate and integrate information from sales, marketing and service.

Prerequisite: 400395

308415 Enterprise Architecture (3-0-0-3)

Enterprise architecture is a conceptual blueprint that defines the structure and operation of an organization. The intent of enterprise architecture is to determine how an organization can most effectively achieve its current and future objectives. This course is designed to cover the concepts of enterprise architecture; the purpose and importance of architecture in the enterprise. It discusses current problems with establishing and maintaining architectures, and some methods to overcome these problems.

Prerequisite: 315308

308416 Information Architecture (2-2-0-3)

Information is the heart of knowledge and one of the main pillars of information systems. This course introduces fundamental concepts and methods of understanding and modeling data as well as extracting information out of it. It also shows how to represent large volume of information and allow users to comprehend and interact with it in an effective way. The course focuses on data modeling and architecture approaches allowing student to build effective information architecture. Then the student will learn how to interact with information using different labeling, navigation, and search strategies. Students will finally learn about information architecture in practice and its applications in large organizations.

Prerequisite: 315302

308417 Selected Topics in IT Project Management (3-0-0-3)

This course aims to introduce students to new developments in the area of Project Management in general and ICT enabled Project Management in specific, mainly new topics not specifically covered in the curriculum and in which a faculty member has developed interest and proficiency. The intention is to provide a rapid response to current trends and to widen student's knowledge in areas such as but not limited to: E-government, E-Transformation, Green Computing, Cloud Computing, Mobile Computing, C- Commerce. Specific content of the course will depend on the particular area taught at the time.

Prerequisite: *Completion of 100 Cr. Hrs.*

308422 E-marketing (3-0-0-3)

The course describes common strategies for the marketing of goods and services via the Internet range from public relations and corporate communications to advertising and electronic commerce. Students investigate and evaluate various marketing and communication strategies and tactics for the World Wide Web. Emphasis is placed on critical evaluation skills as well as Web site planning, development, design, and other factors which contribute to a Web site's success.

Prerequisite: 400395

308423 E-Commerce (2-2-0-3)

This course aims to expose students to the theory and practice of e-commerce. Topics covered are: Introduction to E-Commerce, E-Commerce Technology Infrastructure, Revenue models, Marketing on the web, Business-to-business online strategies, Web server hardware and software, E-Commerce Commercial Software, E-Commerce security, Payment Systems, and Planning for e-commerce business.

Prerequisite: 315304

308427 Selected Topics in E-Business Management (3-0-0-3)

This course aims to introduce students to new developments in the area of e-Business management not specifically covered in the curriculum. It also aims to provide students with additional knowledge in the selected topics.

Prerequisite: *Completion of 100 Credit Hours*

310112 Programming I (2-2-2-3)

This course is an introduction to computer programming and object-oriented thinking in the C++ programming language. Contents include: C++ program format, compiling and running programs, basic elements of C++, standard and file input/output, conditional control structures, looping control structures, predefined and user defined functions, arrays and strings.

Prerequisite: none

310211 Programming II (2-2-2-3)

This course extends the knowledge learned in *Programming I*. Contents include: user-defined simple data types, structures and arrays, classes and data abstractions, pointers, overloading and templates, recursion.

Prerequisite: 310112

310314 Computer Ethics (3-0-0-3)

The course is intended to teach students to become effective professionals in the computer field by examining many of the challenging legal, social and ethical issues surrounding computer technology and its use.

Prerequisite: 45 credit hours

310466 Computer Security (3-0-0-3)

Computer Security is the process through which information stored in a computer or in transit through a computer network or communication channels, is secured against internal and external threats of various forms: viruses, hackers, eavesdropping and fraud. The security is implemented to protect information confidentiality, authenticity, availability and integrity using encryption, firewalls and back up techniques.

Prerequisite: 311381

311221 Discrete Structures (3-0-2-3)

This course presents the mathematics underlying the technical aspects of computer science. It provides an introduction to the discrete mathematics and mathematical logic relevant to the area of computing. Topics include: introduction to set theory; propositional calculus; predicate calculus; induction; functions; and relations, finite state automata, counting, graphs and trees.

Prerequisite: 300100 & 104110

311223 Data Structures & Algorithms (3-0-0-3)

The course covers concepts of program performance (time and space complexity); abstract data types; recursion; abstract data structures: lists, stacks, queues, graphs, trees, binary search trees, priority queues, heaps, and operations on them and their applications; sorting; searching and hashing.

Prerequisite: 310211

311242 Digital Logic Design (3-0-2-3)

This course focuses on all techniques necessary to design digital circuits for a wide range of applications, including computer systems. Considerations such as cost and speed of the circuit realizations are essential to take into account. Topics include: combination logic; functional decomposition; circuit analysis and synthesis; logic arrays; sequential circuit analysis and memory devices.

Prerequisite: 104110

311300 Training CS (3-0-0-3)

Training familiarizes students with actual working environments. It gives students the opportunity to integrate their knowledge and skills learned in the course by applying it to real world problems encountered in business and industry. Training also gives the student a feeling of what is involved in working on actual information technology problems and develop communication skills.

Prerequisite: 60 credit hours

311311 Computational Mathematics (2-2-0-3)

Introduction to numerical methods and concepts used in problem solving, solution of linear systems, vector spaces and subspaces, linear transformations, Eigenvalues and Eigenvectors, solution of first and second order differential equations and conic sections.

Prerequisite: 300200/C

311319 Introduction To Formal Languages & Automata (3-0-0-3)

This course provides an introduction to the theory of formal languages and machines. We start by defining the 3 concepts: grammars, automata and languages. We present different classes of grammars with the Chomsky hierarchy of languages and corresponding machines. The first half of the course, up through the midterm is centered on regular languages and finite state automata. The second half will be spent mostly on context free languages of various types, but we will define push down automata. Turing machines and linear bound automata is introduced for context sensitive languages.

Prerequisite: 311221

311321 Computer Graphics (2-2-0-3)

This course is designed to give the students an understanding of computer graphics concepts, algorithms, and application. Topics include: Basic concepts, 2-D and 3-D modeling and transformations, viewing transformations, projections, clipping, and animation. Students will use OpenGL graphics API to reinforce concepts and implement graphics algorithms and applications in the lab.

Prerequisite: 310211

311323 Operations Research (3-0-0-3)

The aim of the course is to introduce the students to the techniques of operational research. Topics include: Linear mathematical models, graphical solution of LP models, simplex method, post-optimality analysis transportation model, statistical decision making, network analysis, and non-linear-programming.

Prerequisite: 103110

311332 Database Management Systems (2-2-0-3)

This course is designed to give a theoretical and practical background in database techniques. It covers: database concepts, data models, data dictionary, entity relationship diagrams, relational data model, converting E-R models to relational model, relational algebra, SQL language, and normalization.

The Oracle software is used in the Lab.

Prerequisite: 310211

311335 Software Engineering I (3-0-0-3)

Software engineering course is concerned with the theories, methods and tools which are needed to develop the software for these computers. It presents a broad perspective on software systems engineering, concentrating on widely-used techniques for developing large-scale software systems. The course covers a wide spectrum of software processes from initial requirements elicitation through design and development to system evolution. Graphical system models are described in the standard UML. Many case studies are provided.

Prerequisite: 310211

311336 Software Engineering II (3-0-0-3)

Computer software is the product that software engineers design and build. This is an intermediate course on software engineering topics. It is a continuation for the course of Software Engineering I. It covers Software

Validation and Testing Strategies and Tactics, Software Evolution, Software Reuse, and other Advanced Topics such as Web Engineering, Formal methods, Component-Based Development, and Reengineering. Students will be prepared to engineer high-quality Web applications. Many case studies are provided.

Prerequisite: 311335

311342 Computer Architecture (3-0-0-3)

This course deals with design alternatives in computer architecture: basic computer components and their functions, including central processing unit, arithmetic & logic unit, control unit, memory system organization (internal, external, and cache memories), Input /Output techniques (programmed I/O, interrupt I/O, and DMA).

Prerequisite: 312245

311381 Computer Networks I (2-2-0-3)

This course introduces the basic components of computer networks from software and hardware point of view. The role of physical components like network interface adapters, modems, cables, hubs and switches is explained. Basic network design using structured cabling and transmission of digital data as electronic signals is presented. The layered structure of network protocols is discussed. It emphasizes on protocol and interface specifications, in particular those adhering to OSI and TCP/IP reference models. The application layer protocols of TCP/IP such as HTTP, FTP, Telnet, and SMTP will be studied.

Prerequisite: 310211

311382 Computer Networks II (3-0-2-3)

This course covers wide area networks and its applications in detail. WAN protocols, Virtual Private Networks, Web Technologies, Web server installation and support are discussed. Wireless and mobile computing principles are introduced; Mobile data access and software for mobile

computing are covered in detail. Emerging technologies and performance evaluation of networks is also discussed.

Prerequisite: 311381

311422 Organization of Programming Languages (3-0-0-3)

This course is an investigation of the design and implementation of multi-purpose High-Level programming languages. It looks at concepts, not complete languages, touching on many programming languages. Students will learn what contributions each has made to the state of the art in language design. They will also learn about a variety of paradigms and be able to make critical evaluation of language features within those paradigms.

Prerequisite: 311223

311431 Project CS (1-4-0-3)

This course aims to give students the opportunity to work in a guided but independent fashion to investigate a problem by making use of computer science knowledge, techniques, and methodologies acquired in the previous semesters to provide a suitable software solution. The course also aims to enhance communication skills, both oral and written.

Prerequisite: 100 credit hours

311435 Human Computer Interaction (3-0-0-3)

The course highlights human-computer interaction strategies from a number of perspectives including that of the engineer, cognitive psychologist, and end-user. Major subjects include the design and evaluation of usable interfaces, matching computer systems with the cognitive capabilities of users, and an investigation of novel paradigms in HCI.

Prerequisite: 310211

311442 Design And Analysis Of Algorithms (3-0-0-3)

This course will discuss fundamental concepts and techniques for designing efficient algorithms and analyzing their performance. Topics include the basic classes of algorithms: Divide & conquer greedy methods, tree and graph traversals, backtracking, and dynamic programming. Some advanced topics in algorithms may be selected from other areas of computer science. Types of problems such as satisfiability, traveling salesman, knapsack, vertex cover and others will be studied. Understanding of the inherent complexity of problems: polynomial time, NP-completeness and approximation algorithms. The course provides proofs of NP completeness of some problems.

Prerequisite: 311223

311450 Selected Topics In Computer Science (2-2-0-3)

The purpose of this course is to introduce the student to new technologies and developments in the computer science field. Topics vary according to the area of computing considered for the course.

Prerequisite: 60 credit hours

311451 Operating Systems (3-0-2-3)

The course covers the principles and concepts of modern operating systems. Topics include: operating system services: processes and process management, memory management, file systems, Input/Output and device control, deadlocks. Case studies. Distributed systems.

Prerequisite: 312245

311463 Database Design & Implementation (2-2-0-3)

This course is designed to give students theoretical and practical knowledge concerning the design of database information systems. Topics include: extended E-R diagrams, physical design, and implementation aspects of databases (PL/SQL, forms & reports), Client-server models, and database connectivity. Managing multi-user

databases: Concurrency, Recovery, and Security; Query optimization; Distributed databases.

Prerequisite: 311332

311471 Artificial Intelligence (2-2-0-3)

The course aims to introduce the concepts and techniques of artificial intelligence. Topics include: intelligent systems, logic, prolog programming, search techniques, knowledge representation schemes (predicate logic, frames, and production rules), knowledge manipulation and inference, agents and multi-agents, machine planning, and machine learning.

Prerequisite: 60 credit hours

311472 Compiler Theory & Design (3-0-0-3)

The purpose of this course is to cover the underlying concepts and techniques used in compiler design. The notion of grammar is introduced to develop deterministic finite automata for scanning and top down or bottom up for parsing. The semantic analysis and IR are introduced. The translation phase generates the assembly languages as a tool to design the object code. The main objective of this course is to understand how most computer languages and software are designed. The project in course introduces the idea of software development. The student can implement any phase using any high level language.

Prerequisite: 311223 & 311319

311474 Computer Simulation (2-2-0-3)

This course aims to introduce students to elements and methodology of simulation. Topics include: basic concepts and types of simulation, discrete-event simulation, a review of probability and statistics relating to simulation, selecting input probability distributions, generation of random variants, design of simulation experiments and output analysis, verification and validation of simulation

models. Students are expected to submit a simulation project.

Prerequisite: 310211

311475 Expert Systems (2-2-0-3)

The course provides an understanding of the principles, design, development and operation of expert systems; Topics covered include: Knowledge representation with production rules; Inference using forward chaining and backward chaining; Uncertainty handling; Frame based expert systems; Fuzzy expert systems; Knowledge acquisition and data mining; Agents and multi-Agents systems. Practical assignments are used to emphasize these topics.

Prerequisite: 311471

312112 Computer Programming(2-2-0-3)

This course provides knowledge of problem solving and programming concepts using the C++ programming language. Contents include: the problem-solving process used to construct a computer program, C++ program format, compiling and running programs, basic elements of C++, standard and file input/output, conditional control structures, looping control structures, predefined functions, arrays and strings.

Prerequisites: None

312211 Programming for Engineers(2-2-0-3)

This course extends the programming concepts developed in the earlier course in programming and provides in-depth exposure to advanced programming techniques in C++ and the MATLAB programming environment. Contents include: Low-level Interfacing via C++, Graphics and GUI, Plotting with MATLAB. GUI in MATLAB. vectors and matrices, input/output, M-files: scripts and functions, control statements. Numerical Methods, Linear System Solvers, Circuit Analysis, Fourier Transform, multi-dimensional arrays, input/output from/

to various types of files, use of pre-defined and user-defined functions.

Prerequisites: Computer Programming - 312112

312215 Circuit Analysis(3-2-2-4)

Basic quantities: charge, current, voltage, resistance, energy and power. Analysis of series, parallel and series-parallel d.c. resistive circuits using Ohm's law, power law and Kirchoff's voltage and current laws. Operational amplifiers: characteristics and circuit analysis. Analysis of more complex circuits using loop and nodal methods, superposition, Thevenin's and Norton theorems. Transient analyses of RC, RL, and RLC circuits.

Prerequisites: Engineering Mathematics I
217101, Engineering Physics II 217122

312242 Digital Logic Design (3-2-2-4)

This course focuses on the techniques necessary to design digital logic circuits both combinational and sequential. Boolean algebra, k-maps, combinational building blocks such as multiplexors, demultiplexors, decoders. Arithmetic logic circuits such as adders, subtractors, multipliers, dividers and comparator. Timing and hazards in digital logic. Memory elements such as (SR, D, JK, T) latches/FFs. Registers, shifters, counters, RAMs, ROMs, timing issues and finite state machines.

Prerequisites: Computer applications 104110

312246 Computer Organization & Architecture(3-0-0-3)

This course covers the organization of the von Neumann machine, explains how instructions are fetched from memory and executed, how numerical values are represented in digital computers, identifies the main types of memory used and design of simple computer interface.

Prerequisites: Digital Logic Design 312242

312251 Electronics I(3-2-0-4)

Basic properties of semiconductor materials. Theory of operation and applications of p-n junction diodes, Zener diodes and photodiodes. Theory of operation, biasing circuits, and small signal analysis of Bipolar Junction Transistor and Junction Field Effect Transistor. Transistor configurations and two-port network representation of transistor, a.c. equivalent circuits. Analysis and design of transistor amplifier circuits.

Prerequisites: Circuit Analysis 312215

312300 Computer Engineering Internship

Internship familiarizes students with actual working environments. It gives students the opportunity to integrate their knowledge and skills acquired in various courses. Internship also gives the student a feeling of what is involved in working in a practical environment. It also provides an opportunity to develop communication and team-work skills as well as ethical issues relating to the profession.

Prerequisites: 75 Credit Hours

312303 Electronics II(2-2-0-3)

This course covers design and analysis of BJT and FET amplifier circuits, operational amplifiers and their applications in wave shaping, signal generation, filters, A/D and D/A converters. It also covers design of oscillator circuits and signal/waveform generators.

Prerequisites: Electronic Devices & Circuits - 211251

312321 Digital System Design (3-2-0-4)

This course introduces design methodologies for implementing digital systems in programmable logic. The course will build on the basics of digital logic from 2nd year. The students will learn how a Hardware Description Language (HDL) is used to describe and implement hardware. The topics will include (behavioral

modeling, dataflow modeling and structural modeling and writing test benches for design verification). The students also will learn about computer-aided synthesis and implementation for PLDs and FPGAs design with a focus on FPGA design flow. Laboratory exercises lead the students through the complete programmable logic design cycle. Each student will prototype a digital system starting with VHDL entry, functional and timing simulations, logic synthesis, device programming, and verification.

Prerequisites: Digital Logic Design 312242

312322 Instrumentation and Measurements(2-2-0-3)

Basic measurement concepts, sources and types of measurement errors, sources of noise and interference. DC and AC Bridges and their applications. Analog DC and AC meters. Oscilloscopes: types, specifications, operation, measurements with oscilloscopes. Electronic voltmeters, digital multimeters, electronic counters. Data acquisition and control using plug-in cards. Development of virtual instruments using LabVIEW. Transducers and their applications.

Prerequisites: Electronic I 312251

312348 Microprocessor Systems (3-2-0-4)

This course covers microprocessor architecture, system design and development, instruction set and buses. The Intel 80x86 family, real and protected mode, interrupts and interfacing techniques are explained. Advanced microprocessor system architectures such as the Intel Pentium will be discussed.

Prerequisites: Computer Organization & Architecture 312246

312349 Embedded Systems (3-2-0-4)

The goal of this course is to develop a comprehensive understanding of the technologies behind embedded systems, particularly, those using computing elements

(processors, DSP). The students develop an appreciation of the technological capabilities and limitations of the hardware, software components for building embedded systems using a microcontroller, and methods to evaluate design tradeoffs between different technology choices.

Prerequisites: Microprocessor Systems 312348

312430 Selected Topics in computer Engineering(3-0-0-3)

This course covers some advanced topics related to computer science and engineering that are not covered in any of the above mentioned courses and are considered useful addition learning material for students majoring in computer engineering. Course contents are approved by the departmental and college curriculum committees.

Prerequisites: 70 Credit Hours

312431 Project 1

The course aims to give students the opportunity to work in a guided but independent fashion to develop a solution to a problem by making use of knowledge, techniques, and methodologies acquired in the previous semesters. The course also aims to enhance team work and communication skills, both oral and written.

Prerequisites: 90 credit hours

312432 Project 2

The course aims to give students the opportunity to work in a guided but independent fashion to develop a solution to a problem by making use of knowledge, techniques, and methodologies acquired in the previous semesters. The course also aims to enhance team work and communication skills, both oral and written. Student may continue the work on project-1 subject to the approval of the advisor or define a new project.

Prerequisites: Project 1 312431

312440 Digital Integrated Circuits (3-0-2-3)

This course covers the, design, operation, and analysis of various digital integrated circuit families, MSI digital circuits, and memories.

Prerequisites: Electronic Devices and Circuits 211251-Digital Logic Design 312242

312446 Engineering Ethics (1-0-0-1)

The course is intended to teach students to become effective professionals in the engineering field by examining many of the challenging professional, legal, social and ethical issues surrounding computer technology and its use.

Prerequisites: 70 Cr. hours

312453 Parallel Processing (3-0-0-3)

This course introduces the underlying concepts of Parallel Processing techniques. Forms of parallelism, parallel algorithms and architectures for various applications, Case studies of parallel machines and their performance measures, software tools for parallel machines.

Prerequisites: Computer Organization & Architecture 312246

312470 Fuzzy Logic and Neural Networks (3-0-0-3)

Theory and applications of artificial neural networks and fuzzy logic: multi-layer perception, self-organization map, radial basis network, Hopfield network, recurrent network, fuzzy set theory, fuzzy logic control, adaptive fuzzy neural network, genetic algorithm, and evolution computing. Applications to control, pattern recognition, nonlinear system modeling, speech and image processing.

Prerequisites: 70 Credit Hours

314131 Internet Technology (2-2-0-3)

This course teaches students how to use Web browsers to access the services available on the Internet. Topics

covered in this course are the World Wide Web, Internet, electronic mail, Telnet, Gopher, FTP, legal issues, ethical issues, privacy, security, and etiquette. Students will also learn how to create simple basic Web pages.

Prerequisite: 104110

314210 Writing for the Web (3-0-0-3)

The course will teach students to adapt the written and oral communication skills they have already acquired to the challenge of electronic communications where elements of expression and forms are blended in new ways.

Prerequisite: 60 credit hours

314231 Internet Programming (2-2-0-3)

This course is an introduction to the programming tools and skills required to create Web applications. After reviewing the basic fundamentals of the Internet and the World Wide Web, some of the common Web programming tools are studied. These are markup languages: XHTML and XML, and scripting languages: JavaScript.

Prerequisite: 310112, 314131

314232 Web Development (2-2-0-3)

The main aim of the module is to continue on Web development by introducing the students to programming tools and skills required to maintain the server side on the Web. These tools include: Perl, Java Server Pages, PHP, ASP.Net and ways to access a database.

Prerequisite: 314231

314241 Multimedia Technology (2-2-0-3)

In this course, students will be introduced to principles and current technologies of multimedia systems and gain hands-on experience in this area. Issues in effectively representing, processing, and retrieving multimedia data

such as sound and music, graphics, image and video will be addressed.

Prerequisite: 310112

314242 Multimedia Authoring (2-2-0-3)

This course is designed to give students a fundamental understanding of computer authoring techniques used in multimedia and hypermedia production. Students will develop authoring skills using Flash, Macromedia Director and the Lingo authoring language. The emphasis of the course is on applying media design and development techniques to authoring systems and to nonlinear content presentations. Students are required to develop a multimedia authoring application.

Prerequisite: 314241

314245 Computer Organization and Computer Architecture (2-2-0-3)

This course is an introduction to the organization and design of hardware and software of digital computers. The course also includes coverage of some low level topics such as data representations.

Prerequisite: 310211

314300 Training (0-0-0-3)

Training familiarizes students with real world working environments. It prepares students to step into the industrial enterprise to integrate and apply their knowledge and skills to Multimedia/Web Development applications learned throughout the courses. Training gives the student a feeling of what is involved in working on actual IT problems. It also gives the student an opportunity to develop communication skills, and develop ability to work with team members.

Prerequisite: 60 credit hours

314332 Web Design (2-2-0-3)

This course teaches students the basics of the Web page and Web site design. The following topics will be covered. Designing WWW page layout, organization, and basic typography. Studying visual design theory and working with graphic tools Hypertext Markup (HTML) & XML. Cascading style sheet (CSS) design for accessibility.

Prerequisite: 314232

314336 Web Server Administration (2-2-0-3)

This course teaches foundational Web Server Competencies. Students will learn how to install, configure and administer Web Server Products and Services, including Security, in both Microsoft and UNIX environment. User management concepts, Domain Name System (DNS) services, Microsoft WINS, Samba, Telnet, and FTP will be addressed. Students also learn about choosing appropriate Internet system platforms and receive training on how to calculate throughput, choose appropriate Internet connections. By the end of this course, students will be able to provide essential TCP/IP services for any business interested in establishing an effective e-commerce presence.

Prerequisite: 311381

314345 Audio and Image processing (2-2-0-3)

Audio Processing: Introduction to Analogue and Digital Audio Systems, Sampling and transformation, Time stretching, Delay Lines, Sound Filtering and Composition, Audio File Format and Storage Devices. Image Processing: Digital Images, image Filtering, Image representation and transformation, enhancement techniques, segmentation, Image File Format and storage devices, and image coding.

Prerequisite: 314241 & 300200

314347 Computer Animation (2-2-0-3)

This course covers the concepts and techniques of 2D and 3D computer animation. The topics covered include

modeling 2D and 3D objects; rendering; animation techniques; composition and special effects and recording. Students will learn how to develop a story board on a computer-animated sequence using various modeling and animation tools. The course includes small projects leading to the production of a short computer animation by each student.

Prerequisite: 314242

314370 Wireless Programming (2-2-0-3)

The aim of the course is to develop programming skills for wireless devices using Java 2 Micro Edition, or J2ME, through the Mobile Information Device Profile, or MIDP. The course begins with a description of the J2ME architecture, focusing on wireless programming via the Connected, Limited Device Configuration, or CLDC, and the MIDP. Topics include: user-interface design; high- and low-level UI frameworks; using commands and events; MIDP Record Management System for limited persistent storage on the device; mobile networking; multithreading, both using the basic Thread/Runnable model and the CLDC's Timer and TimerTask classes.

Prerequisite: 310211

314430 Web Design Project (1-4-0-3)

The aim of the course is to give students the opportunity to create a Web application by integrating all knowledge and skills which will be learned by working as a member of a group of 2-3 students under the supervision of a faculty. Projects can be undertaken in the area of Web Site design and development, Data warehousing and data mining, e-commerce, and other related areas.

Prerequisite: 80 credit hours + 314332

314436 Advanced Web Admin (2-2-0-3)

This course teaches students how to implement mission-critical services on the Windows and Linux platforms. Students install and configure Web related product,

Newsgroup, e-mail and proxy servers; receive in-depth understanding of how to connect e-commerce databases to Web servers; and learn how to enable CGI on Windows and Linux. Students also learn about backup and load balancing issues, and receive foundational knowledge concerning Internet security.

Prerequisite: 314336

314440 Multimedia Project (1-4-0-3)

This course aims at integrating all knowledge and skills learned in the major to further develop the experience in the production of a multimedia product. Projects can be undertaken in the area of presentations, short animations, multimedia databases, audio and image processing, authoring, and other related areas. Students will work as members of small groups of 2-3 students under the supervision of a faculty.

Prerequisite: 80 credit hours

314445 Digital Photography (2-2-0-3)

This course concentrates on capturing and processing of digital images. Included in this course a survey of digital still cameras and other hybrid imaging devices; preparing of imagery for print via color management procedures; Immersive Imaging (QuickTime VR). It also includes advance techniques and issues related to still digital images.

Prerequisite: 314242 & 314345

314447 Digital Video Production (2-2-0-3)

This course aims to introduce students to the necessary technical skills required to originate basic digital video material for multimedia. It incorporates production and editing procedures for multimedia. Students will learn to produce and edit a short video sequence, including basic titling, superimpositions and effects for output to multimedia/CD/Web environments. The tools used may

change each semester depending upon the latest trends in the digital video production community.

Prerequisite: 314242 & 314345

314450 Selected Topics in Multimedia (2-2-0-3)

This course aims at introducing new developments in Multimedia not specifically covered in the curriculum and in which the instructor has developed interest and proficiency. The intention is to provide a rapid response to current trends and to widen student's knowledge in Multimedia field. Course content may change with department approval.

Prerequisite: 60 credit hours

315101 Calculus for Information Technology (3-0-2-3)

This course covers the essential mathematical topics, that students specialized in information technology needs. The first part of the course deals with plane analytic geometry. The second part covers the basic knowledge about matrices and determinants. The third part is designed to provide students with notions of real functions: limits, continuity, differentiability, and integration with applications on simple derivatives and integrals.

Prerequisite: None

315102 Algorithms and Problem Solving (2-2-0-3)

This course provides knowledge of problem solving and programming concepts using pseudocode code and a computer programming language. Topics covered: the problem- solving process; data types; variables, constants, and memory locations; simple sequential programs; basic input/output; selection and control structures, file input/output; arrays and strings; and user defined functions.

Prerequisite: None

315103 Information Technology in Business (2-2-0-3)

This course aims to cover a range of general information technology topics that will make the student appreciate the role of IT in business. Topics include: information technology fundamentals; information technologies; business applications; development processes; and ethical, societal and security issues.

Prerequisite: 104110

315201 Object Oriented Programming (2-2-0-3)

The primary objective of this course is to introduce the concepts of object-oriented programming: classes, objects, methods, object interaction, encapsulation, inheritance, abstraction, and polymorphism. Core sections of the Java language related to object oriented programming are introduced. This course is *not* meant as a comprehensive introduction to all of Java, the primary objective is to use Java to introduce concepts of object-oriented programming.

Prerequisite: 315102

315202 Discrete Mathematics (3-0-0-3)

This course covers fundamental mathematical concepts and reasoning along with problem solving techniques. Topics covered include propositional logic, predicate logic, inference, proof methods including induction, set operations, binary relations including order relations, and equivalence relations, graphs, trees, finite state machines, and functions.

Prerequisites: Engineering Mathematics I 217101

315204 Data Structures & Algorithms(2-2-0-3)

The course covers concepts of program performance (time and space complexity); abstract data types; recursion; abstract data structures: lists, stacks, queues, graphs, trees, binary search trees, priority queues, heaps, and operations on them and their applications; sorting; searching and hashing.

Prerequisites: Discrete Mathematics 315202

315205 Fundamentals of Data Communications and Networking(2-2-0-3)

This course introduces the data communication concepts and implementation from software and hardware point of view. It emphasizes on protocol and interface specifications, in particular those adhering to OSI and TCP/IP reference models. Physical, data link layers and Local area networks such as Ethernet and FDDI are covered. It covers also routing algorithms and the TCP/IP headers and addressing. The application layer protocols of TCP/IP such as HTTP, FTP, Telnet, and SMTP will be studied. The student will be able to understand the concept of protocols and all reference models, and writing project in LAN.

Prerequisite: 315102

315206 Human Computer Interaction (2-2-0-3)

This course presents principles and guidelines needed to develop high-quality user interfaces for interactive systems. Such user interfaces should take into consideration the needs and abilities of users in order to provide them with usable, useful, and enjoyable interactions. The heart of this course is a semester-long project, in which you will design, implement, and evaluate a user interface

Prerequisite: 308205

315208 Computerized Accounting (2-2-0-3)

The Computerized accounting information system joins together the skill sets of accounting and information technology. Information technology has created new challenges and opportunities for accountants who also have expertise in information systems. Many traditional accounting functions are now embodied in systems that require a different combination of technical and financial knowledge. The CAIS course is designed to provide this combination of knowledge and skill sets to meet the new challenges and opportunities of the information technology world. The main objective of the course is to introduce students to the design and implementation of a systematic structure for providing information for decision-making.

Prerequisite: 400292

315301 Operating Systems(2-2-0-3)

This course covers the principles and concepts of modern operating systems. Operating system services: processes and process management, memory management, file systems, Input/Output and device control, deadlocks, distributed systems, case studies.

Prerequisites: Computer Organization and Architecture 312246

315302 Database Management Systems (2-2-0-3)

This course is designed to give a theoretical and practical background in database techniques. It covers: database concepts, data models, data dictionary, entity relationship diagrams, relational data model, converting E-R models to relational model, SQL language, and normalization. The Oracle software is used in the Lab.

Prerequisite: *Completion of 50 Cr. Hrs.*

315303 Fundamentals of Information Security (3-0-0-3)

This course aims at introducing fundamental security concepts to students. Main security threats and related countermeasures are presented. Students will learn the importance of protecting information stored on computer systems from unauthorized access. The students will also learn how to encrypt and decrypt information, control access to objects and recommend a secure system implementation.

Prerequisite: 315205

315304 Fundamentals of Web Systems (2-2-0-3)

This course introduces the basics of Web systems and how it differs from desktop systems. Students will learn client-server architecture, and how it evolves to multitier system. The course will allow student to learn and use essential Web languages and technologies including XHTML, CSS, and XML. Students will apply this knowledge to generate essential web components like basic browser controls (buttons, links, and menus), forms and frames. They will also understand how these components are managed on the server side.

Prerequisite: 315102

315306 Computer Ethics and Professional Practices (3-0-0-3)

The course is intended to teach students to become effective professionals in the computer field by examining many of the challenging legal, social and ethical issues surrounding computer technology and its use.

Prerequisite: 315303

315307 Information Technology Project Management (2-2-0-3)

This course aims cover: characteristics of IT Project management, initiating an IT project; project planning; defining and managing project scope, structuring a project, project schedule and budget, managing project risk, project communication, tracking, and reporting, IT project quality management, ethics and professional practices, and project implementation.

Prerequisite: 308205

315308 Enterprise Systems (3-0-0-3)

This course introduces students to the new concept of enterprise systems and show its role in the industry as used by medium and large enterprises. Students will understand the main architectural components of today's enterprise and its infrastructure. The course also introduce different business domain concepts and workflow management and will help student make the link between development and implementation issues on one side and practical enterprise applications on the other side.

Prerequisite: 315426

315321 Database Administration (2-2-0-3)

This course prepares students to administer and maintain databases by applying best practices and procedures to any database platform. With general, platform independent approach, students will be able to work as database administrators to any of the major industrial databases including

Oracle, IBM DB2, Sybase, Microsoft and MySQL. Students will become familiar with DBA roles and responsibilities, be able to create a database environment with modeling and normalization as well as reporting while maintaining data integrity.

Prerequisite: 315302

315322 Web Technologies (2-2-0-3)

This course will introduce students to different Web technologies, languages, and frameworks. The student will review the dynamics of these technologies, their advantages and disadvantages. Students will also learn the applicability of each of these technologies in different Web application settings and environment. Students will also learn how to mix and match these technologies and investigate their compatibility and integration challenges.

Prerequisite: 315304

315421 Web Application Design and Dev. (2-2-0-3)

This course prepares students to apply different web technologies and integrate them into a web application. Topics covered include: Web applications and Rich Internet Applications (RIA), programmable Web applications, working with proxies, Yahoo and Google mash-up services, Creating a Web application, model view controller pattern, form design, validation and usability, User Interaction Effects and Animation, and Tagging and Rating the Web Application

Prerequisite: 315322

315423 Advanced Database Design and Implementation (2-2-0-3)

This course builds on top of the first DBMS course by introducing advanced database concepts to allow students to effectively design and implement industrial quality database. The course revisits SQL in a deeper, more practical approach, with a focus on its PL/SQL extension. The student will learn database in a client-server setting, and see how to manage multi-user databases. Students individually or a groups will be required to design and implement a working database.

Prerequisite: 315302

315427 Advanced Web Topics (2-2-0-3)

This course introduces students to the latest trends and technologies as used by today's information technology industry. The course focuses on advanced Web technologies that are strongly adapted as the next generation IT. Students will learn the role of Web 2.0 and Web 3.0 with special focus on Web services and Service-Oriented Architecture. The course will allow students to understand the current evolution from Personal Computing (1980s) to Network Computing (1990s) to Internet and Web (2000s) to today's trends of SaaS and cloud computing, Web tool kits, mash-ups, and social networking.

Prerequisite: 315322

400291 Introduction to Management (3-0-0-3)

This introductory course provides an overview of the field of management. The topics covered are designed around the key functions of management: planning, organizing, leading, and controlling. Students are exposed to the development of management theories and approaches, managerial decision-making, business environment, business ethics and social responsibility.

Prerequisite: *None*

400292 Principles of Accounting (3-0-0-3)

This course is a fundamental study of the principles and procedures of accounting as applied to sole proprietorships, partnership and corporations. The main objective of this course is to introduce the student to the basic concepts and practices of financial accounting. More specifically, it discusses the nature of financial accounting, which document to use and what and how information should be presented. Throughout the course, the emphasis will be on discussion of generally accepted accounting principles (GAAP)

Prerequisite: *None*

400395 Principles of Marketing (3-0-0-3)

The course is an introductory one. It sheds light on the basic concepts of marketing, its varied definitions, origins and evolution through time. It shall also cover the main components of the marketing program (product, price, place, and promotion) on which any attempts to plan the marketing efforts rests.

Prerequisite: 400291

400396 Fundamentals of Finance (3-0-0-3)

The purpose of this course is to provide students with three major things. First, by developing an understanding of the rapidly evolving and exciting theory of finance, it will enable the student to evaluate how close the firm's investment, financing, and dividend decisions come to its objective of maximizing shareholder wealth. Second, it will familiarize students with the ways in which analytical techniques are applied to a variety of problems in financial management. Third, the course will supply institutional material necessary for a solid understanding of the environment in which financial decisions are made.

Prerequisite: 400292

400409 Organizational Behavior (3-0-0-3)

This course covers: the basic concepts of Organizational Behavior, Organizational Structure, and Human Relations; Work design options, Group Behavior in Organizations, Teamwork in Organizations, Communication in Organizations, and Organizational Culture. Real-life case studies will be introduced.

Prerequisite: 400291

410602 Human Resources Management (3-0-0-3)

The aim of this course is to survey the principles and practices in managing human resources. The course covers a number of basic topics such as job analysis and job design techniques, human resource policies, human resources acquisition and maintenance strategies, recruitment, selection, development and training, compensation, health and safety issues and policies in the UAE. The topic of labor relations and collective bargaining in the UAE will also receive careful attention.

Prerequisite: 400409

315304 Fundamentals of Web Systems (2-2-0-3)

This course introduces the basics of Web systems and how it differs from desktop systems. Students will learn client-server architecture, and how it evolves to multitier system. The course will allow student to learn and use essential Web languages and technologies including XHTML, CSS, and XML. Students will apply this knowledge to generate essential web components like basic browser controls (buttons, links, and menus), forms and frames.

They will also understand how these components are managed on the server side.

Prerequisite: 315201

315307 Information Technology Project Management (2-2-0-3)

This course aims to cover: characteristics of IT Project management, initiating an IT project; project planning; defining and managing project scope, structuring a project, project schedule and budget, managing project risk, project communication, tracking, and reporting, IT project quality management, ethics and professional practices, and project implementation.

Prerequisite: 315305

315308 Enterprise Systems (3-0-0-3)

This course introduces students to the new concept of enterprise systems and show its role in the industry as used by medium and large enterprises. Students will understand the main architectural components of today's enterprise and its infrastructure. The course also introduces different business domain concepts and workflow management and will help student make the link between development and implementation issues on one side and practical enterprise applications on the other side.

Prerequisite: 315206

315401 Information Technology Project (1-4-0-3)

The course aims to give students the opportunity to work in a guided but independent fashion to investigate a problem by making use of information technology knowledge, techniques, and methodologies acquired in the previous semesters to provide a suitable solution to an IT problem. The course also aims to enhance team work and communication skills, both oral and written.

Prerequisite: 315307 & 99 Cr. Hrs.

315402 Information Technology Internship (3-0-0-3)

Internship familiarizes students with actual working environments. It gives students the opportunity to integrate their knowledge and skills learned in the course by applying it to real world problems encountered in business and industry. Internship also gives the student a feeling of what is involved in working on actual information technology problems and develop communication and team-work skills as well as ethical issues relation to IT.

Prerequisite: -117 Cr. Hrs.

315311 Advanced Computer Networks (2-2-0-3)

This course will cover the principles of networking with a focus on algorithms, protocols, and implementations for advanced networking services. We will examine a variety of ideas that were proposed to enhance the Internet, why some of these enhancements were successful while others were not. The emphasis in this course is on topics such as routing protocols, advanced routing and switching. It covers Internet architecture, congestion control, QoS, IPv6, and voice over IP. The student will use network simulators for some network models.

Prerequisite: 315205

315312 Network Security (2-2-0-3)

This course introduces students to main security concepts related to the protection of a network from known threats and attacks. This includes digital signatures, authentication protocols, IP & Web security and e-mail security. It also emphasizes the importance of using firewalls in order to secure a network. Packet-filtering routers, application and circuit-level gateways are presented. Advanced cryptographic algorithms are also discussed in details such as AES, MAC & hash operations and cipher modes.

Prerequisite: 315303

315411 Network Design & Implementation (2-2-0-3)

The aim of the course is for the student to design a LAN solution detailing structured cabling components, desktop and server hardware, network operating systems, and network administration tools. He can document the design solution with materials and equipment lists, cable installation drawings, telecommunications and server room layouts, software versions and compatibility lists, and budget requirements. Also he demonstrates design feasibility by implementing a LAN prototype with all required functionality including servers, workstations and network infrastructure. Defining a technical project plan and timeline for implementation, and discussing overall project benefits, possible technical issues and required resources to complete the project in this course.

Prerequisite: 315311

315412 Wireless and Mobile Computing (2-2-0-3)

This course presents the student with the latest in wireless technologies. The first part includes wireless networks such as, cellular and short range wireless technologies, protocols for wireless and wireless resources management. The second part includes mobile computing such as, VoIP on wireless, computing & programming over wireless. The student will study the legal and the private issues associated with wireless.

Prerequisite: 315312

315413 Network Operating Systems (2-2-0-3)

This course introduces network operating system NOS, which is the software that allows multiple computers to communicate, share files and hardware devices with one another. The course aims to provide the student with theoretical and practical knowledge of network operating systems. The student is exposed to some of the most commonly used network operating systems. The student will reinforce their theoretical knowledge in practical

sessions where they will install configure , manage and trouble-shoot network operating systems.

Prerequisite: 315301

315414 Enterprise Security (3-0-0-3)

This course aims at introducing students to enterprise security concepts, related risks and cost. It mainly presents a deep coverage of intrusion detection and prevention concepts, including architectures and a survey of most popular IDS implementations and deployments. Students are also introduced to the need of having proper security policies and procedures in order to handle threats properly in addition to forensics techniques to thwart computer attacks.

Prerequisite: 315312

315415 Network Management (2-2-0-3)

The course discusses typical architectures for network management including the management console, aggregators and device agents. This course introduces management paradigms and protocols (SNMP). Remote Monitoring (RMON), Network Management Tools and Systems are examined. The Web-Based Management and Network Management Applications are covered. Configuration of basic network resources and management of multiple servers' network and troubleshooting.

Prerequisite: 315311

315321 Database Administration (2-2-0-2)

This course prepares students to administer and maintain databases by applying best practices and procedures to any database platform. With general, platform independent approach, students will be able to work as database administrators to any of the major industrial databases including Oracle, IBM BD2, Sybase, Microsoft and MySQL. Students will become familiar with DBA roles and responsibilities, be able to create a database

environment with modeling and normalization as well as reporting while maintaining data integrity.

Prerequisite: 315302

315322 Web Technologies (2-2-0-3)

This course will introduce students to different Web technologies, languages, and frameworks. The student will review the dynamics of these technologies, their advantages and disadvantages. Students will also learn the applicability of each of these technologies in different Web application settings and environment. Students will also learn how to mix and match these technologies and investigate their compatibility and integration challenges.

Prerequisite: 315304

315421 Web Application Design and Development (2-2-0-3)

This course prepares students to apply different web technologies and integrate them into a web application. Topics covered include: Web applications and Rich Internet Applications (RIA), programmable Web applications, working with proxies, Yahoo and Google mash up services, Creating a Web application, model view controller pattern, from design, validation and usability, User Interaction Effects and Animation, and Tagging and Rating the Web Application.

Prerequisite: 315322

315422 Information Architecture (2-2-0-3)

Information is the heart of knowledge and one of the main pillars of information systems. This course introduces fundamental concepts and methods of understanding and modeling data as well as extracting information out of it. It also shows how to represent large volume of information and allow users to comprehend and interact with it in an effective way. The course focuses on data modeling and architecture approaches allowing student to build effective information architecture. Then

the student will learn how to interact with information using different labeling, navigation, and search strategies. Students will finally learn about information architecture in practice and its applications in large organizations.

Prerequisite: 315302

315423 Advanced Database Design & Implementation (2-2-0-3)

This course builds on top of the first DBMS course by introducing advanced database concepts to allow students to effectively design and implement industrial quality database. The course revisits SQL in a deeper, more practical approach, with a focus on its PL/SQL extension. The student will learn database in a client-server setting, and see how to manage multi-user databases. Students will be able to design and implement functional databases that include major components of an industrial database.

Prerequisite: 315302

315425 Distributed and Object Databases (2-2-0-3)

This course discusses new and emerging issues in the field of distributed database. It focuses on principles of db distribution from both data distribution approach and network technologies role in distribution. Students will have in depth coverage of advanced transaction model and workflow as well as parallel databases, distributed object DBMS, push-based technology, and mobile DBMS; all of which are pillars of enterprise information technology of today.

Prerequisite: 315423

315403 Selected Topics in Information Technology (3-0-0-3)

This course aims to introduce students to new developments in the area of information technology not specifically covered in the curriculum and in which a faculty member has developed interest and proficiency. The intention is to provide a rapid response to current

trends and to widen student's knowledge in areas such as but not limited to: information storage, retrieval, security, processing, or transition. Specific content of the course will depend on the particular area taught at the time.

Prerequisite: 315307

315404 Individual Project (2-2-0-3)

This course aims to give students the opportunity to work **alone** in a guided but independent fashion to investigate a problem by making use of information technology knowledge, techniques, and methodologies acquired in the previous semesters to provide a suitable solution to an IT problem. The course also aims to develop communication skills, both oral and written.

Prerequisite: 315307

315416 Data Compression (2-2-0-3)

The aim of this course is to introduce the theoretical underpinnings of data compression and cover many fundamental algorithms. Topics covered include: fundamentals of digital communication, communication channel, measure of information, encoding of source output, shannon's algorithms. discrete and continuous channel entropy coding, variable length code, channel noise, compression & codes, lossless compression algorithms, lossy compression algorithms, audio compression, image and video compression.

Prerequisite: 315303

315417 Distributed Systems (3-0-0-3)

The aims of this course are to study the fundamental characteristics of distributed systems. Topics covered will include: low-level basics including sockets, internet-based inter-process communications, and threading; remote-procedure-calls and remote-method-invocations; modern synchronous and asynchronous style client server systems and supporting processes; messaging and transactional systems; peer-to-peer and

grid technologies; supporting systems such as naming and directory services.

Prerequisite: 315311

315418 Wireless Network Security (3-0-0-3)

This course introduces students to modern wireless technologies (802.11, Bluetooth, RFID, ZIGBEE, and Infrared). It covers most aspects related to radio communication and various physical phenomenon in a wireless environment. It also surveys most wireless security issues across the OSI layers and technologies (1G, 2G, 2.5G and 3G). Students will also be introduced to basic and advanced security implementations (filtering by MAC, WAP, WAP2, VPN, RADIUS), including setting proper security procedures and policies.

Prerequisite: 315312

315426 Knowledge Management (3-0-0-3)

This aim of this course is to introduce basic concepts, terminology, and techniques of Knowledge Management (KM). Topics covered include: the origins and units of organizational knowledge; evolution of knowledge management; implementation and utilization of knowledge management systems, and how to measure their impact, outputs, and benefits.

Prerequisite: 315308

315427 Advanced Web Topics (2-2-0-3)

This course introduces students to the latest trends and technologies as used by today's information technology industry. The course focuses on advanced Web technologies that are strongly adapted as the next generation IT. Students will learn the role of Web 2.0 and Web 3.0 with special focus on Web services and Service-Oriented Architecture. The course will allow students to understand the current evolution from Personal Computing (1980s) to Network Computing (1990s) to Internet and Windows (2000s) to today's trends of

cloud computing, Web tool kits, mashups, and social networking.

Prerequisite: 315322

315428 Data Warehousing and Data Mining (3-0-0-3)

Today's IT deals with gigantic amount of information. The success of any organization greatly depends on its ability to process and understand its information and extract essential knowledge to help managers take well informed decisions. This course aims to introduce students to concepts and techniques of Data Warehousing and Data Mining. Topics covered include: data warehouse architecture, development life cycle, logical data modeling for a data warehouse, physical data design; Data mining concepts and tasks, data preprocessing and reduction, classification techniques, association analysis and algorithms, clustering analysis and algorithms, anomaly detection methods, and web mining.

Prerequisite: 315308

College of Information Technology List of Faculty

Name	Country	Degree	University	Academic Rank
AJMAN CAMPUS				
Dr. A. Araar	Algeria	PhD - Computer Science	Case Western Reserve Univ. / USA / 1991	Assoc. Professor
Dr. R. A. Mehdi	Iraq	PhD - Computer Science	Liverpool Univ. / UK / 1990	Assoc. Professor
Dr. S. Abbas Ali	Pakistan	PhD - Computer Engineering	London Univ. / UK / 1988	Assist. Professor
Dr. M. A. R. Al Hnaity	Jordan	PhD, Computer Information Systems	The Arab Academy of Banking & Financial Sciences / Jordan / 2008	Assist. Professor
Dr. K. A.S. Ammar	Libya	PhD - Computer Engineering	Univ. of Sherbrooke / Canada / 2001	Assist. Professor
Dr. M. M. El Khatib	Palestine	PhD - Mgt & Technology	University of Glamorgan / UK / 2005	Assist. Professor
Dr. M. Nachouki	Lebanon	PhD - Computer Science	Toulouse Univ. France / 1995	Assist. Professor
Mr. A. A. Mahmood	Iraq	Master - Electrical Engineering	Baghdad Univ. / Iraq / 1982	Lecturer
Mr. H. A. Sahyoun	Canada	Master - Computer Science	Univ. of Pittsburgh / USA / 1988	Lecturer
A. W. Abou Sharkh	Palestine	Bachelor - Computer Science	Ajman University/UAE/ 1995	Teach. Assistant
R. N. AlRae	Syria	Bachelor - Computer Engineering	Sharjah Uni./UAE/2007	Teach. Assistant
FUJAIRA CAMPUS				
Dr. M. A. Al- Ahmar	Syria	PhD. Expert Database Systems	Middle East Technical University /Turkey / 2001	Assist. Professor
Dr. A. Al- Nassiri	Iraq	PhD. Computer Science	Basrah- University/Iraq/ 1996	Assist. Professor
Mr. S. I. Ali Rizvi	Pakistan	MS computer science	International Islamic University Islamabad June/Pakistan / 2000	Lecturer

College of
Dentistry

The College of Dentistry (COD) was established in academic year 1997-1998 as the first oral and dental health teaching institution in the United Arab Emirates. The college's programs are tailored to meet the oral and dental health needs of the UAE community, focusing on the prevention of oral and dental disease.

Mission

The College of Dentistry reflects the mission of Ajman University of Science and Technology to provide dental educational programs in the UAE, to initiate and develop basic and clinical research and to offer high quality oral healthcare to meet the needs of the region. The College of Dentistry aims to prepare graduates who are highly qualified in dental sciences to deliver compassionate and ethical orofacial healthcare services.

Objectives

The College of Dentistry aims to:

- educate and train a new generation of oral health professionals to world-class standards
- implement a comprehensive oral healthcare program with emphasis on prevention
- provide community dentistry services that meet world-class standards
- initiate scientific research in oral health in collaboration with prestigious international dental and medical institutions, and companies related to dentistry

Degree Programs

The College of Dentistry currently offers two undergraduate dental programs, and a Master Program which are accredited by the UAE Ministry of Higher Education and Scientific Research. These are:

1. Doctor of Dental Surgery (DDS) degree (5 year program)

2. Diploma in Dental Hygiene (DipDH) (2.5 year program)
3. Master of Science in Restorative Dentistry (MSRD) (3 year program)

Facilities

The College of Dentistry is equipped to deliver world class dental education. Spacious lecture halls with audio-visual and video conferencing facilities provide students with an exciting learning experience. State-of-the-art laboratories with the latest medical and dental education equipment enhance students' knowledge and skills. The college's dental clinics have a contemporary design with modern dental units and x-ray rooms, and are provided with the latest dental materials, instruments and equipment. Free-of-charge comprehensive dental treatment for all patients ensures a regular flow of dental cases for clinical training, skills development and research requirements during the clinical phase of dental education programs.

Doctor of Dental Surgery (DDS) Degree Program

This is a five-year undergraduate program leading to the degree of Doctor of Dental Surgery (DDS). The study program and curriculum is at par with that of renowned international universities and dental institutes.

Program Objectives

The DDS program aims to:

1. educate and train a new generation of competent dental surgeons, who will be able to provide high quality comprehensive oral healthcare with emphasis on prevention
2. emphasize on the prevention and early detection of oral and dental diseases as an integral part of the curriculum

3. provide educational experiences for students using a comprehensive patient care model
4. provide community dentistry services that meet world-class standards
5. establish national recognition in term of academia by the concerned authorities and the public

Program Outcomes

The COD has specified learning outcomes based on the three dimensions of the work of a dentist. The definition of the three essential elements of a competent and reflective practitioner are:

- a) What the dentist is able to do - technical intelligence
- b) How a dentist approaches his/her practice - intellectual, emotional, analytical and creative intelligence
- c) The dentist as a professional - personal intelligence

Eleven domains related to the three essential elements have been identified. These are:

A. "What the dentist is able to do":

1. Clinical information-gathering - taking a full patient history, undertaking a comprehensive patient examination and arranging and interpreting appropriate investigations
2. Treatment planning - planning a suitable course of treatment in line with the patient's needs and wishes, and recognizing when referral is appropriate
3. Treatment procedures -carrying out specific treatment interventions required to restore/maintain the patient's oral health

These tasks represent the practical aspects of patient care, but the dentist brings much more than practical skills to the patient encounter.

B. "How a dentist approaches his/her practice" - or what a

dentist brings to the treatment of each patient:

1. Application of basic clinical sciences - using knowledge of the basic medical and clinical sciences to ensure appropriate diagnosis and treatment.
2. Clinical reasoning and judgment - using knowledge, evidence and professional judgment to arrive at solutions appropriate to the patient's needs and wishes.
3. Communication - demonstrating appropriate communication skills with patients, relatives and other healthcare professionals.
4. Health promotion - recognizing the importance of disease prevention and health promotion and conveying this as appropriate to individual patients and the wider community.
5. Attitudes, ethical stance and legal responsibilities - recognizing ethical, professional and legal responsibilities and displaying appropriate attitudes and behavior.
6. Information handling - demonstrating accurate record keeping and knowing where and how to source and analyze information relevant to effective clinical practice.

C. "The dentist as a professional":

1. Role of the dentist within the health service - understanding the different dimensions of the dental profession and accepting the responsibilities of being part of that profession.
2. Personal development - accepting responsibility for personal, career and continuing professional development.

Admission Requirements

Admission is based on the following requirements:

1. A UAE secondary school certificate, science section, or its equivalent, with a grade of not less than B (80 percent). Priority is given to students with higher grades in the following subjects:

- Biology
 - Physics
 - Chemistry
2. English proficiency test (TOEFL score of 500 or above, or the equivalent)
 3. Personal interview
 4. Health Fitness Certificate

Career Opportunities

Graduates of the College will have a wide range of career opportunities to choose from, in addition to continuing higher education (Masters and PhD degrees) in one of the following specialties:

- Endodontics
- Periodontics
- Prosthodontics
- Operative Dentistry
- Pediatric Dentistry
- Orthodontics
- Oral and Maxillofacial Surgery
- Oral Radiology and Oral Medicine
- Dental Public Health
- Implantology
- Aesthetic Dentistry
- Oral Pathology

Graduates may wish to take advanced courses in Oral Surgery, Implantology and other clinical specialties, or they may choose to work in research facilities.

Those who prefer to practice in UAE will be able to do so provided that they pass the UAE Licensing Exams. Graduates are subject to the regulations of the UAE licensing authorities with regard to the type of examination and certification criteria.

Graduation Requirements

Students will be awarded the Doctor of Dental Surgery (DDS) degree upon fulfillment of the following requirements:

1. Completing successfully the required credit hours (199 Credit Hours), including the University requirement courses, with an accumulative grade point average (AGPA) not less than C, otherwise students should take, during the following semester(s), clinical subjects as suggested by the academic advisor to fulfill this graduation requirement.
2. Completing successfully the required clinical cases during the clinical phase in addition to the mandatory two months internal clinical training during summer.
3. Submitting & defending a research project before an academic committee of the College.

Degree requirements

The Doctor of Dental Surgery (D.D.S.) degree requires the completion of 199 Credit Hours, distributed according to the following plan:

Type of Courses	Credit hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Requirements	175
TOTAL	199

UNIVERSITY REQUIREMENTS COURSES

(a) University required Courses (15 cr. Hrs)

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T	Cr/H	
0102110	Islamic Culture	3	–	3	xxx xxx
0102140	Communication skills in Arabic Language	3	–	3	xxx xxx
0103110	Statistics	2	2	3	xxx xxx
0117140	Environmental Sciences	3	–	3	xxx xxx
0104110	Computer Applications	2	2	3	xxx xxx

(b) University elective Courses (9 cr. Hrs)

The student has to register for three (03) courses, after consulting his/her academic advisor, as stated in the curriculum.

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112110	Principles of Architecture & Art	3	0	0	3	-
112120	Principles of Interior Design	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
113110	Internet Concepts	3	0	0	3	-
113120	Introduction to Information Systems	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of science in Islam	3	0	0	3	-
115120	Scientific pioneering	3	0	0	3	-
115130-	General psychology	3	0	0	3	-
115140	Principle of mathematics	3	0	0	3	-
115150	The Art of Expression and writing	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
115170	Education Technology	3	0	0	3	-
117110	General chemistry	3	0	0	3	-
117120	Fundamental of Human Nutrition	3	0	0	3	-

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
117130	First Aid	3	0	0	3	-
117150	Applications of Remote sensing	3	0	0	3	-
118110	Principles of Ethics	3	0	0	3	-
118120	General Biology	3	0	0	3	-
118130	Oral Health	3	0	0	3	-
118140	General principles of Epidemiology	3	0	0	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	0	0	3	-
119110	Communication Skills	3	0	0	3	-
119120	Introduction to Communication Sociology	3	0	0	3	-
119130	Information Society	3	0	0	3	-
120115	Legal Culture	3	0	0	3	-

Suggested Course sequencing

First Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T**	Cr/H	
0103110	Statistics	2	2	3	xxx xxx
0104110	Computer Applications	2	2	3	xxx xxx
0120101	Physics (Dentistry) *	3	-	3	xxx xxx
0700126	General Chemistry (Dentistry) *	2	2	3	xxx xxx
0801110	English for Special Purposes (Dentistry)	3	-	3	xxx xxx
0801111	Integrated Biological Sciences I *	2	2	3	xxx xxx
0801112	Histology & Cell Biology *	2	2	3	xxx xxx
Total		16	10	21	

Second Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T**	Cr/H	
0102140	Communication Skills in Arabic Language	3	-	3	xxx xxx
0700236	Biochemistry (Dentistry) *	3	2	4	0700126
0801121	Integrated Biological Sciences II *	3	2	4	0801111

Course Code	Course Title	Credit Hours			Prerequisite(s)
0801122	Oral Histology *	3	2	4	0801112
0801123	Head & Neck Anatomy I *	2	2	3	0801111
xxx xxx	Elective Course	3	-	3	xxx xxx
Total		17	8	21	

* THIS IS A FOUNDATIONAL COURSE FOR THE DDS PROGRAM. EVERY DENTAL STUDENT **MUST PASS** THIS COURSE BEFORE PROCEEDING TO THE CLINICAL COMPONENT OF THE DEGREE PROGRAM.

** Two (02) Practical Hours = 1 Credit Hour

Third Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T**	Cr/H	
0102110	Islamic Culture	3	-	3	xxx xxx
0700239	Pharmacology I (Dentistry) *	2	-	2	0801121
0801210	Psychology & Behavioral Sciences	3	-	3	xxx xxx
0801213	Head & Neck Anatomy II *	2	2	3	0801123
0801214	Microbiology & Immunology *	3	2	4	xxx xxx
0801215	Pathology *	3	1	3	0801112
0802213	Biomaterials *	2	1	2	0120101
Total		18	6	20	

Fourth Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T**	Cr/H	
0700240	Pharmacology II (Dentistry) *	2	-	2	0700239
0801226	General Medicine & Infectious Diseases *	4	1	4	0801214, 0801215
0801227	General Surgery & ENT *	2	1	2	0801123, 0801215
0802221	Introduction to Oral & Dental Diseases	2	2	3	0801215
0802222	Dental Anatomy & Occlusion *	3	2	4	0801123
0802228	Four Handed Dentistry & Infection Control *	2	-	2	0801214

Course Code	Course Title	Credit Hours			Prerequisite(s)
0804221	Oral Radiology I *	2	2	3	0120101, 0801123
Total		17	8	20	

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** Two (02) Practical Hours = 1 Credit Hour

Fifth Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T**	Cr/H	
0802315	Pre-Clinical Operative Dentistry I *	2	3	3	0802213, 0802222
0802316	Pre-Clinical Prosthodontics I *	2	6	4	0802213, 0802222
0802317	Pre-Clinical Endodontics I *	1	3	2	0802213, 0802222
0803311	Preventive Dentistry & Nutrition	3	2***	4	0801226, 0802221
0803312	Pre-Clinical Pediatric Dentistry I *	2	-	2	0802221
0804312	Pre-Clinical Periodontics I *	1	1	1	0801122
0804313	Pre-Clinical Oral Surgery I & Pain Control *	2	2	2	0700240, 0801210, 0801214, 0801227
0804314	Oral Pathology I *	2	2***	3	0801215, 0802221
Total		15	19	21	

Sixth Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T**	Cr/H	
0802325	Pre-Clinical Operative Dentistry II *	2	3	3	0802315
0802326	Pre-Clinical Prosthodontics II *	2	3	3	0802315, 0802316
0802327	Pre-Clinical Endodontics II *	1	3	2	0802317
0803322	Pre-Clinical Pediatric Dentistry II *	1	3	2	0803312
0803323	Pre-Clinical Orthodontics *	1	3	2	0801122, 0802222
0804322	Pre-Clinical Periodontics II *	1	3	2	0804312
0804323	Pre-Clinical Oral Surgery II & CPR *	3	2	3	0801226, 0804313
0804324	Oral Pathology II *	2	2***	3	0804314
Total		13	22	20	

* THIS IS A FOUNDATIONAL COURSE FOR THE DDS PROGRAM. EVERY DENTAL STUDENT **MUST PASS** THIS COURSE BEFORE PROCEEDING TO THE CLINICAL COMPONENT OF THE DEGREE PROGRAM.

** Three (03) Pre-clinical Training Hours=1 Credit Hour

*** Two (02) Practical Hours = 1 Credit Hour

Seventh Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	CI/T*	Cr/H	
0802415	Clinical Operative Dentistry I	1	4	2	
0802416	Clinical Prosthodontics I	1	4	2	All
0802417	Clinical Endodontics I	1	4	2	
0803412	Clinical Pediatric Dentistry I	1	4	2	Pre-Clinical
0803413	Clinical Orthodontics I	1	4	2	
0804410	Oral Diagnosis / Oral Medicine	2	4	3	
0804412	Clinical Periodontics I	1	4	2	Courses
0804413	Clinical Oral Surgery I	1	4	2	"and 0801210
0804411	Oral Radiology II	1	2**	2	0804221
Total		10	34	19	

** Two (02) Practical Hours = 1 Credit Hour

Eighth Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	CI/T*	Cr/H	
0103130	Research Methodology	3	-	3	0103110
0802425	Clinical Operative Dentistry II	1	4	2	0802415
0802426	Clinical Prosthodontics II	1	4	2	0802416
0802427	Clinical Endodontics II	1	4	2	0802417
0803422	Clinical Pediatric Dentistry II	1	4	2	0803412
0803423	Clinical Orthodontics II	1	4	2	0803413
0804422	Clinical Periodontics II	1	4	2	0804412
0804423	Clinical Oral Surgery II	1	4	2	0804413
Total		10	28	17	

* Four (04) Clinical Training Hours=1 Credit Hour

In-Campus Training Program *

This in-campus clinical training program is held at the end of the eighth semester.

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Cl/T*	Cr/H	
0805435	Internal Clinical Training Fourth Year	-	20	2	All Clinical Courses

Ninth Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Cl/T*	Cr/H	
0802510	Ethics	1	-	1	xxx xxx
0802511	Geriatric Dentistry	1	-	1	All Clinical Courses
0802519	Clinical Dentistry I	-	24	6	All Clinical Courses
0803510	Applied Biostatistics	2	-	2	0103110
0804515	Emergency Dental Care	1	4	2	All Clinical Courses
0804518	Implantology	1	1	1	All Clinical Courses
0805511	Treatment Planning & Seminars I	2	-	2	0804324, 0804410
xxx xxx	Elective Course	3	-	3	xxx xxx
Total		11	29	18	

Tenth Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Cl/T*	Cr/H	
0802529	Clinical Dentistry II	-	28	7	0802519
0804526	Hospital Dentistry	-	8	2	0804515
0804527	Lasers & Modern Technology	1	1	1	0804422, 0804423
0805521	Treatment Planning & Seminars II	2	-	2	0805511
0805522	Research Project	1	-	1	0803510
0805523	Practice Management	1	-	1	xxx xxx
0805524	Equipment Maintenance	1	1	1	xxx xxx
xxx xxx	Elective Course	3	-	3	xxx xxx
Total		9	38	18	

* Four (04) Clinical Training Hours= 1 Credit Hour

Internal Training Program *

The internal clinical training program is held at the end of the tenth semester.

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	CI/T*	Cr/H	
0805535	Internal Clinical Training Fifth Year	-	20	2	All Clinical Courses

Diploma in Dental Hygiene (DipDH) Program

The Diploma in Dental Hygiene (DipDH) is a two-and-a-half year program and study is undertaken in the College of Dentistry at AUST. The goal of the program is to facilitate the development of graduates with the contemporary knowledge and clinical skills required to work as hygienists in dental practice.

Objectives

The objectives of the program are to train students to:

1. conduct a clinical education program which provides quality dental hygiene care for patients and to develop competency in all professional skills required for dental hygiene
2. work as oral health professionals to increase patient awareness of oral hygiene education and appreciation of efforts for improvement of the patient's oral health
3. function within the dental team at an appropriate level and carry out treatment for patients delegated by the dentist with good collaboration
4. plan, implement and evaluate oral health promotional and educational activities for groups and individuals

5. carry out procedures to measure and assess the levels of oral health, oral hygiene and loss of periodontal attachment in the mouth

Admission Requirements

A total of forty female students will be selected based on the following criteria:

1. A UAE secondary school certificate, science section, or its equivalent, with a grade of not less than C (70 percent). Priority is given to students with a higher grade in the following subjects:
 - Biology
 - Physics
 - Chemistry
2. English proficiency test (minimum TOEFL score of 500, or the equivalent)
3. Personal interview
4. Health Fitness Certificate

If an applicant does not meet the above requirement, an individual evaluation is performed through the personal interview in accordance with AUST/COD policies. This individual evaluation measures the following:

- Manual Dexterity: ability to use hand(s) or terminal devices with coordination
- Fine Motor: ability to manipulate small objects with fingertips or adaptive devices

- Mobility: ability to maneuver in the laboratory and around instruments in patient-care settings
- Vision: ability to distinguish red, yellow, and blue colors; distinguish clear from cloudy and see through a microscope
- Hearing: ability to adapt with assistive devices such as a telephone receiver, hearing aid, etc.
- Speech: ability to communicate effectively in spoke English
- Writing: ability to communicate effectively in written English
- Reading: ability to read, understand and follow directions printed in English

If the student is accepted he/she will be registered in five courses for the Fall semester and must achieve a grade of at least "C" in each of the courses, otherwise his/her admission will be canceled. Students must sign a declaration stating that they must maintain a GPA of not less than 2.0 (C) in the first two academic semesters of the program. If a student fails to do so, he/she will be transferred to another program (as per AUST/COD policies) or have their registration canceled.

Career Opportunities

The program prepares students to be dental hygienists employed in private practices, community clinics, hospitals and educational institutions. Increasingly dental hygienists find employment with specialists, for example orthodontists, periodontists and prosthodontists.

Dental hygiene is an excellent choice of profession for a woman due to the fact that the working day can be arranged according to her needs. In addition it provides a high level of job satisfaction, security and a good income.

Graduation Requirements

Students will be awarded the Diploma in Dental Hygiene (DipDH) after fulfilling the following requirements:

1. Successful completion of the required credit hours (84), including the university requirement courses, with a Cumulative Grade Point Average (CGPA) of not less than 2.0. Any student who fails to fulfill this graduation requirement may repeat courses during the following semester(s), as recommended by their academic advisor
2. Successful completion of the required clinical cases during the clinical phase

Degree requirements

The Diploma in Dental Hygiene degree requires the completion of 84 Credit Hours, distributed according to the following plan:

Type of Courses	Credit hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Requirements	60
TOTAL	84

UNIVERSITY REQUIREMENTS COURSES

(a) University required Courses (15 cr. Hrs)

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T	Cr/H	
0102110	Islamic Culture	3	–	3	xxx xxx
0102140	Communication skills in Arabic Language	3	–	3	xxx xxx
0103110	Statistics	2	2	3	xxx xxx
0117140	Environmental Sciences	3	–	3	xxx xxx
0104110	Computer Applications	2	2	3	xxx xxx

(b) University elective Courses (9 cr. Hrs)

The student has to register for three (03) courses, after consulting his/her academic advisor, as stated in the curriculum.

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112110	Principles of Architecture & Art	3	0	0	3	-
112120	Principles of Interior Design	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
113110	Internet Concepts	3	0	0	3	-
113120	Introduction to Information Systems	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of science in Islam	3	0	0	3	-
115120	Scientific pioneering	3	0	0	3	-
115130-	General psychology	3	0	0	3	-
115140	Principle of mathematics	3	0	0	3	-
115150	The Art of Expression and writing	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
115170	Education Technology	3	0	0	3	-
117110	General chemistry	3	0	0	3	-
117120	Fundamental of Human Nutrition	3	0	0	3	-

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
117130	First Aid	3	0	0	3	-
117150	Applications of Remote sensing	3	0	0	3	-
118110	Principles of Ethics	3	0	0	3	-
118120	General Biology	3	0	0	3	-
118130	Oral Health	3	0	0	3	-
118140	General principles of Epidemiology	3	0	0	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	0	0	3	-
119110	Communication Skills	3	0	0	3	-
119120	Introduction to Communication Sociology	3	0	0	3	-
119130	Information Society	3	0	0	3	-
120115	Legal Culture	3	0	0	3	-

Suggested Course sequencing

First Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T*	Cr/H	
117140	Environmental Sciences	3	-	3	xxx xxx
104110	Computer Applications	2	2	3	xxx xxx
806111	Integrated Biological Sciences I	2	2	3	xxx xxx
806112	Histology & Cell Biology	2	1	2	xxx xxx
806113	Introduction to Biochemistry (Dental Hygiene)	2	-	2	xxx xxx
806114	Microbiology	1	2	2	xxx xxx
Total		12	7	15	

Second Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T*	Cr/H	
0801110	English for Special Purposes (Dentistry)	3	-	3	xxx xxx
0806121	Integrated Biological Sciences II	2	2	3	0806111
0806122	Oral Histology	2	2	3	0806112
0806124	Infection & Hazard Control	2	-	2	0806114

Course Code	Course Title	Credit Hours			Prerequisite(s)
0806125	Dental Anatomy & Physiology	2	2	3	0806111
0806126	Pre-Clinical Dental Hygiene	2	9**	5	xxx xxx
Total		13	15	19	

* Two (02) Practical Hours = 1 Credit Hour

** Three (03) Pre-Clinical Lab Hours= 1 Cr/H

Third Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T*	Cr/H	
0806212	General Pathology and Clinical Dental Pharmacology	3	-	3	0806113, 0806114 0806121
0806213	Anesthesiology	1	2	2	0806113, 0806121
0806215	Dental Materials	2	2	3	xxx xxx
0806216	Clinical Dental Hygiene I	1	8**	3	0806126
0806217	Periodontics	2	-	2	0806122
0806218	Oral Radiology	2	4	4	0806121
Total		11	16	17	

Fourth Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T**	Cr/H	
0801210	Psychology & Behavioral Sciences	3	-	3	xxx xxx
0806222	Oral Pathology	2	-	2	0806122, 0806212
0806223	Dental Office Emergencies	2	-	2	0806212, 0806213
0806224	Prevention & Nutrition for Health Sciences	3	-	3	0806121, 0806212
0806226	Clinical Dental Hygiene II	2	12	5	0806216
0806229	Fundamentals of Speech & Communication	2	-	2	xxx xxx
Total		14	12	17	

* Two (02) Practical Hours = 1 Credit Hour ** Four (04) Clinical Training Hours = 1 Cr/H

Fifth Semester

Course Code	Course Title	Credit Hours			Prerequisite(s)
		L/C	Lb/T*	Cr/H	
0102110	Islamic Culture	3	-	3	xxx xxx
0102140	Communication Skills in Arabic Language	3	-	3	xxx xxx
0806310	Research Project	1	-	1	0103130, 0806217, 0806222, 0806226
0806314	Dental Public Health & Ethics	2	2	3	0806223, 0806224
0806316	Clinical Dental Hygiene III	-	12**	3	0806226
0806317	Treatment Planning & Seminar	2	-	2	All 1st & 2nd Year Courses
0806319	Practice Management	1	-	1	xxx xxx
Total		12	14	16	

* Two (02) Practical Hours = 1 Credit Hour ** Four (04) Clinical Training Hours = 1 Cr/H

Course Descriptions for Undergraduate programs**120 101 Physics (Dentistry) (3-0-0-3)**

The course covers the basic principles of the generation, energy, conduction and measurement of electrical and mechanical forces. Pre-requisites: None

700 126 General Chemistry (Dentistry) (2-2-0-3)

This course provides dental students with basic knowledge in organic and inorganic general chemistry. Laboratory sessions serve as an introduction to the principles of qualitative analysis including ionic equilibrium, ionic separation and the identification of selected simple and complexions. Pre-requisites: None

700 236 Biochemistry (Dentistry) (3-2-0-4)

The course covers the study of the constituents of living cells and their chemical reactions. Emphasis is placed upon intermediary metabolism and biologically

important reactions of proteins, carbohydrates and lipids. The general chemistry of enzymes, blood constituents and hormones is also covered. Pre-requisite: 700 126

700 239 Pharmacology I (Dentistry) (2-0-0-2)

This course describes the principles of the pharmacokinetics and pharmacodynamics of biological actions, mechanism, uses, side effects, toxicity, interactions and adverse reaction of drugs acting on the autonomic nervous system, cardiovascular system, central nervous system, gastro-intestinal system, endocrine system, renal system, autotoxins, antibiotics and other anti-infective agents and anticancer drugs, with an emphasis on dental applications. Pre-requisite: 801 121

700 240 Pharmacology II (Dentistry) (2-0-0-2)

Continuation of Pharmacology I (Dentistry). Pre-requisite: 700 239

801 110 English for Special Purposes (Dentistry) (3-0-0-3)

This course is taught at the intermediate level in the student's major. The course provides practice in language skills while emphasizing the structures, vocabulary and registers appropriate to the student's field. There is also a review, continuing from English I, of structures in a general setting. Pre-requisites: None

801 111 Integrated Biological Sciences I (2-2-0-3)

This course provides dental students with basic principles of anatomy and an introduction to embryology - a foundation that is necessary for their further dental education and clinical practice. The course is intended primarily to help students understand the fundamentals of the structure of the human body and its development. The systemic arrangement of topics helps the student to better understand the subject and to correlate the structure and function of organs. Pre-requisites: None

801 112 Histology and Cell Biology (2-2-0-3)

This course describes the structural organization of cells, tissues and organ systems at the microscopic level, and includes the general principles of cell biology. Students are provided with a basic knowledge of general embryology and genetics. Pre-requisites: None

801 121 Integrated Biological Sciences II (3-2-0-4)

Continuation of Integrated Biological Sciences I. The course is intended to help dental students understand the basic concepts of anatomy and physiology simultaneously with emphasis on topics related to dental practice. The course covers the study of the main systems of the body with strong emphasis on practical aspects. Pre-requisite: 801 111

801 122 Oral Histology (3-2-0-4)

The course consists of a study of the development and structure of the oral cavity and teeth. The microscopic

organization of all oral organs and tissues are studied in detail. Pre-requisite: 801 112

801 123 Head and Neck Anatomy I (2-2-0-3)

The students study the normal structure and function of the oral cavity, head, neck, and nervous system, with areas of clinical importance. Pre-requisite: 801 111

801 210 Psychology and Behavioral Sciences (3-0-0-3)

This course introduces the science of mind and behavior, clinical psychology and the psychological relations between the dentist and the patient. Pre-requisites: None

801 213 Head and Neck Anatomy II (2-2-0-3)

This course deals with structures in the region of the neck as well as the neuroanatomy of the head and neck as related to dentistry. Laboratory sessions help students deepen their knowledge in areas related to dentistry through dissections. Pre-requisite: 801 123

801 214 Microbiology and Immunology (3-2-0-4)

The course covers:

- The fundamentals of microbiology with emphasis on oral microbiota, pathogens and defense mechanisms in the dental environment.
- The basics of immunology including the immune system and organisms of medical and dental significance.
- Virology: virus structure and classification, viral pathogenesis and mechanisms of host defense.
- Hygiene, covering pathogenesis of bacterial, infections, etiology, clinical picture, lab diagnosis, treatment, prevention and control of diseases caused by different bacteria.

Pre-requisites: None

801 215 Pathology (3-1-0-3)

The course covers the fundamentals of the basic disease processes of the body. Gross, microscopic and biochemical features of pathologic conditions of the organ systems are studied in detail in order to establish a sound foundation for clinical practice. Pre-requisite: 801 112

801 226 General Medicine and Infectious Diseases (4-1-0-4)

This comprehensive course covers topics specific to the medical field, with interest to medically - compromised patient as related to dental care. It also deals with diseases caused by microorganisms and related to dentistry. It introduces students to the means of transmission, features, diagnosis, prevention and treatment of infectious diseases. Pre-requisites: 801 214, 801 215

801 227 General Surgery and ENT (2-1-0-2)

This course introduces students to the basic principles of surgery, with emphasis on essentials of history and physical evaluation related to maxillofacial area. This course also includes knowledge on the diseases of the ENT as related to the oral cavity with emphasis on sensitive areas (ophthalmic nerve, sinus, etc.) Pre-requisites: 801 123, 801 215

802 213 Biomaterials (2-1-0-2)

The course allows students to understand the mechanical and physical properties of dental materials and their clinical applications. Biomechanical principles and latest advances in dental materials technology are integrated into appropriate dental specialties. Pre-requisite: 120 101

802 221 Introduction to Oral and Dental Diseases (2-2-0-3)

This is an introduction to the profession of dentistry with a summary of dental history to familiarize students with the

background to enable them to understand new issues and events through the ages. In addition this course provides students with knowledge and understanding of oral and dental diseases, their etiology, pathogenesis and the different stages of these lesions and their clinical manifestations. Pre-requisite: 801 215

802 222 Dental Anatomy and Occlusion (3-2-0-4)

This course deals with nomenclature and morphology of the natural dentition and includes laboratory exercises in the wax carving of anatomically accurate teeth. Analysis of occlusal patterns and correction of occlusal disharmonies are integrated with courses in operative dentistry, prosthodontics, periodontics and orthodontics. This course, based on biological and behavioral sciences, will give students a multi-disciplinary approach. Pre-requisite: 801 123

802 228 Four Handed Dentistry and Infection Control(2-0-0-2)

Topics include the review of medical history, transmission and pathogenesis, and oral and systemic manifestations. Students learn the mechanisms by which infectious diseases are transmitted and the risk for transmission in dental practice, such as HIV, viral hepatitis and others. Through lectures, demonstrations and clinical practice, students are trained to effectively utilize dental auxiliaries to improve the quality of service while preventing undue stress and fatigue. Pre-requisite: 801 214

802 315 Pre-Clinical Operative Dentistry I (2-3-0-3)

This course introduces concepts of the carious process, diagnosis and treatment of the dental disease. The course also covers cavity design, preparation, and insertion of various restorative materials. Pre-clinical laboratory sessions and clinical demonstrations help students to develop their skills. Pre-requisites: 802 213, 802 222

802 316 Pre-Clinical Prosthodontics I (2-6-0-4)

Students are introduced to basic principles in treating the partially or totally edentulous patient with removable dentures with focus on understanding the physical biomechanical characteristics of the denture components. The course also teaches the basic principles and techniques related to tooth preparation, impression techniques and crown-bridge confection. Laboratory sessions and demonstrations allow the students to gain more confidence. Pre-requisites: 802 213, 802 222

802 317 Pre-Clinical Endodontics I (1-3-0-2)

The course provides a clear understanding of the biological foundation of the pulp and periapical disease, the etiology and progression of the endodontic pathology and the diagnosis and root canal treatment with emphasis on radiographic interpretation of the pulp and periapical disease. Laboratory sessions help students to gain practical skills in endodontic procedures. Pre-requisites: 802 213, 802 222

802 325 Pre-Clinical Operative Dentistry II (2-3-0-3)

Lecture series focus on differential diagnosis and management of caries with emphasis on more complete and advanced techniques. Pre-requisite: 802 315

802 326 Pre-Clinical Prosthodontics II (2-3-0-3)

Students learn various methods and techniques for fixed and removable prosthodontics. Pre-requisites: 802315, 802316

802 327 Pre-Clinical Endodontics II (1-3-0-2)

The course deals with pathology, diagnosis and treatment of the dental pulp and periapical tissues. Students perform advanced root canal treatment during the laboratory sessions. Pre-requisite: 802 317

802 415 Clinical Operative Dentistry I (1-4-0-2)

Students apply their newly acquired skills in diagnosing and treating patients under the supervision of qualified staff members. Pre-requisites: All Pre-Clinical Courses

802 416 Clinical Prosthodontics I (1-4-0-2)

The course provides the students with concepts of clinical fixed and removable prosthodontics. Students treat a number of clinical cases of partial and full dentures, and concentrate on tooth preparation procedures and laboratory techniques. Pre-requisites: All Pre-Clinical Courses

802 417 Clinical Endodontics I (1-4-0-2)

The course covers in depth the pathology of the pulpal tissues and their clinical manifestations. Topics include pulpal and periapical emergencies, and differential diagnosis of the pulpal pathology. Students perform non-surgical endodontic therapy and learn to relieve pain in emergencies. Pre-requisites: All Pre-Clinical Courses

802 425 Clinical Operative Dentistry II (1-4-0-2)

This advanced operative dentistry course focuses on a full range of challenging cases as related to other disciplines. Students develop their clinical skills, using latest techniques in cosmetic dentistry. A lecturer is provided to fourth year students to emphasize more complex and sophisticated techniques. Pre-requisite: 802 415

802 426 Clinical Prosthodontics II (1-4-0-2)

Lecture course on advanced procedures in fixed and removable prosthodontics, with emphasis on occlusal registration, and integration of periodontal – endodontic considerations. Students perform complex clinical cases and accomplish all assigned laboratory procedures associated with the treatment of the above clinical cases. Pre-requisite: 802 416

802 427 Clinical Endodontics II (1-4-0-2)

This lecture course deals with advanced endodontic concepts, including peripheral surgery and endodontic-periodontic relationship. Students perform non-surgical root canal treatment on single and multi-rooted teeth, and learn how to assess the success and failure in endodontic treatments. Pre-requisite: 802 417

802 510 Ethics (1-0-0-1)

Introduction to the ethical responsibilities and principles of general biomedical ethics. Discussion of professional malpractice, legal and ethical responsibilities in fulfilling the doctors' obligations to the patients, the profession and the community. Pre-requisites: None

802 511 Geriatric Dentistry (1-0-0-1)

This course provides a framework for assessing the ageing process with evaluation of the psychological aspects and pathological changes. Comprehensive geriatric patient care will be discussed. Pre-requisites: All Clinical Courses

802 519 Clinical Dentistry I (0-24-0-6)

Students are assigned patients with a comprehensive approach to the dental practice, including patient and clinic management, stressing inter- and multidisciplinary treatment of more challenging cases. Emphasis is on comprehensive treatment planning, diagnosis and management of the medically compromised patient. Pre-requisites: All Clinical Courses

802 529 Clinical Dentistry II (0-28-0-7)

Continuation of Clinical Dentistry I. Pre-requisite: 802 519

803 311 Preventive Dentistry and Nutrition (3-2-0-4)

The preventive dentistry course introduces the student to the philosophy and methods of prevention, including information on etiology on dental caries, periodontal disease and methods of preventing and controlling

dental diseases through a preventive treatment plan and health education programs. This course provides the students with a basic knowledge of the essential nutrient materials in both health and disease, and discusses the role of the nutrition on the development, prevention and treatment of the oral and dental diseases. Pre-requisites: 801 226, 802 221

803 312 Pre-Clinical Pediatric Dentistry I (2-0-0-2)

The course focuses on development and growth of the orofacial structures of the child and adolescent and the diagnosis and treatment planning. Principles of child psychology and changing concepts in caries formation are introduced. Pre-requisite: 802 221

803 322 Pre-Clinical Pediatric Dentistry II (1-3-0-2)

The course introduces the principles of dentistry specific to the child and pays special attention to emotional development. Procedures and specific techniques are developed to manage dental conditions. Pre-requisite: 803 312

803 323 Pre-Clinical Orthodontics (1-3-0-2)

This course is an introduction to orthodontics, its terminology and scope. Topics include physiology of stomatognathic system, description of various malocclusions and systematic study of etiology of orthodontic problems. Pre-requisites: 801 122, 802 222

803 412 Clinical Pediatric Dentistry I (1-4-0-2)

Students develop their skills in clinical treatment of a wide variety of childhood conditions, with emphasis on tooth preparation and fabrication of the stainless steel crown. Pre-requisites: All Pre-Clinical Courses

803 413 Clinical Orthodontics I (1-4-0-2)

This course deals with the treatment of minor orthodontic procedures. Students learn to achieve

removable orthodontic appliances for correction of minor malocclusions. Pre-requisites: All Pre-Clinical Courses

803 422 Clinical Pediatric Dentistry II (1-4-0-2)

Students learn clinical procedures and specific techniques to manage the dental condition of the child patient, and perform clinical treatment for pediatric patients. Pre-requisite: 803 412

803 423 Clinical Orthodontics II (1-4-0-2)

This course introduces the systematic methods of recognizing, classifying and treatment planning of various types of malocclusions, with emphasis on analysis of the cephalometric X-ray in diagnosing clinical cases. Pre-requisite: 803 413

803 510 Applied Biostatistics (2-0-0-2)

This course provides dental students with the necessary background of specific statistics relevant to the medical/dental fields. Pre-requisite: 103 110

804 221 Oral Radiology I (2-2-0-3)

The course deals with the basic principles of x-ray production, the biological effects of ionizing radiation and radiation safety. It places emphasis on intra-oral and extra-oral radiographic techniques. Students learn to take and interpret oral radiographs, and perform initial screening examination and diagnosis. The course is integrated with the different dental specialties. Pre-requisites: 120 101, 801 123

804 312 Pre-Clinical Periodontics I (1-1-0-1)

The course provides the students with a basic understanding of the normal periodontium, early pathologic changes, their etiologic factors, and basic therapeutics and preventive procedures. Students learn to probe and examine gingival tissues, and develop proficiency in the use of instruments for calculus and root

planning in-patient-simulating units. Pre-requisite: 801 122

804 313 Pre-Clinical Oral Surgery I and Pain Control (2-2-0-3)

The course introduces the basic principles of surgery, which include the essentials of medical history and physical evaluation. Topics include fundamentals of asepsis, inflammation and repair, exodontia, and head and neck pathology. Students learn to master techniques of tooth removal and minor surgery procedures in the laboratory. It provides the understanding of pain and its management, and the academic aspects of administration of local anesthetics, nitrous oxide and intravenous sedation. Laboratory training help students to gain more practice and improve their skills. Pre-requisites: 700 240, 801 210, 801 214, 801 227

804 314 Oral Pathology I (2-2-0-3)

Students learn the fundamentals of basic disease process affecting the head and neck regions, and how to identify histopathological lesions. Pre-requisites: 801 215, 802 221

804 322 Pre-Clinical Periodontics II (1-3-0-2)

Lectures focus on the periodontal lesions, their etiologic factors, treatment planning and the management of the periodontal diseases. Pre-requisite: 804 312

804 323 Pre-Clinical Oral Surgery II and CPR (3-2-0-3)

Students learn the principles of tissue repair, pre-surgical health status evaluation, principles of surgical asepsis, uncomplicated and complicated exodontia. The course introduces the students to the basic life support. It focuses on the assessment and the early active management of the acute cardiac arrest. Students should be CPR certified before entering the clinical phase. Pre-requisites: 801 226, 804 313

804 324 Oral Pathology II (2-2-0-3)

This course provides a comprehensive clinical evaluation and management of oral mucosal diseases with emphasis on differential diagnosis and current therapeutic means. Pre-requisite: 804 314

804 410 Oral Diagnosis/Oral Medicine (2-4-0-3)

The course deals with training the students in developing a doctor-patient relationship and evaluating the patient, by taking a detailed case history and conducting extra- and intra-oral examination in the head and neck region. Based on discussion, students learn to arrive at a differential diagnosis, leading to the provisional diagnosis and framing the appropriate treatment plan. Pre-requisites: All Pre-Clinical Courses

804 411 Oral Radiology II (1-2-0-2)

The course deals with advanced techniques in dental radiology. Students learn how to assess clinical cases and make differential diagnosis. Pre-requisite: 804 221

804 412 Clinical Periodontics I (1-4-0-2)

Students initiate periodontal procedures on patients with gingivitis and early to moderate stages of periodontitis. Pre-requisites: All Pre-Clinical Courses

804 413 Clinical Oral Surgery I (1-4-0-2)

Students gain more experience in various minor surgical procedures and learn to manage emergency cases. The course introduces the student to assessment of surgery for impacted teeth, biopsies, suturing techniques and treatment of odontogenic infections. Pre-requisites: All Pre-Clinical Courses, 801210

804 422 Clinical Periodontics II (1-4-0-2)

This advanced clinical periodontics course focuses on objectives of periodontal therapy, treatment planning and treatment techniques, including preprosthetic

surgery, reconstructive and plastic surgery. Pre-requisite: 804 412

804 423 Clinical Oral Surgery II (1-4-0-2)

This course covers advanced oral surgery subjects, including fractures, cysts, benign and malignant neoplasm, TMJ disorders, and its surgical/medical management. Students gain additional experience in various clinical procedures along with physical diagnosis. Pre-requisite: 804 413

804 515 Emergency Dental Care (1-4-0-2)

Students gain experience in diagnosing and managing patients with acute dental emergencies, including placement of temporary restorations and performing emergency treatments. Pre-requisites: All Clinical Courses

804 518 Implantology (1-1-0-1)

This comprehensive lecture course presents the scientific basis and clinical applications of modern dental implantology techniques, and covers both surgical procedures and periodontic and prosthodontic considerations in implant dentistry. Students perform implantology procedures in a laboratory setting. Pre-requisites: All Clinical Courses

804 526 Hospital Dentistry (0-8-0-2)

Clinical rotations allow students to gain more experience in procedures and protocol related to hospital dentistry, operating room dentistry, anesthesia for dentistry and systemic patient management. Pre-requisite: 804 515

804 527 Lasers and Modern Technology (1-1-0-1)

Lectures and demonstrations provide students with latest technology in dental practice, using lasers in oral surgery, periodontics and operative dentistry. Pre-requisites: 804 422, 804 423

805 435 Internal Clinical Training Fourth Year(0-20-0-2)

Students are assigned patients with a comprehensive approach to the dental practice, including patient and clinic management, stressing inter- and multidisciplinary treatment of more challenging cases. Emphasis is on comprehensive treatment planning, diagnosis and management of the medically compromised patient. Pre-requisites: All Clinical Courses

805 511 Treatment Planning and Seminars I (2-0-0-2)

Topics covered review assessment of advanced clinical diagnosis and sequential comprehensive treatment plan, with special emphasis on the rationale for decision making. Students develop analytic skills in assessing the various treatment plans for patients seen during the comprehensive patient management sessions. Pre-requisites: 804 324, 804 410

805 521 Treatment Planning and Seminars II (2-0-0-2)

Topics related to advanced and newer concepts in the field are presented in a multidisciplinary series of seminars. Issues such as ethics in dentistry, health care delivery and practice management are also discussed. Pre-requisite: 805 511

805 522 Research Project (1-0-0-1)

Under the guidance of a college advisor, students choose, explore and develop an interest in a relevant specific field of basic sciences or dental sciences. Students learn how to read and evaluate scientific literature, gather data and subject it to critical analysis. Students present and defend their project before an academic committee. Pre-requisite: 103 130

805 523 Practice Management (1-0-0-1)

Review of topics essentials for new graduates, planning to establish a dental practice. Issues include referral mechanisms, recall systems, financing, purchasing

equipment and government regulations which affect dental practitioners. Pre-requisites: None

805 524 Equipment Maintenance (1-1-0-1)

This course introduces the students to the basic knowledge of a dental unit, parts and maintenance. Pre-requisites: None

805 535 Internal Clinical Training Fifth Year (0-20-0-2)

Similar to internal clinical training fourth year. Dental students are encouraged to take up complex multi-problems cases and work along a comprehensive treatment plan. Pre-requisites: All Clinical Courses

806 111 Integrated Biological Sciences I (2-2-0-3) 806 121 Integrated Biological Sciences II (2-2-0-3)

These courses provide students with basic principles of anatomy, and an introduction to embryology, a foundation that is necessary for their further dental education and clinical practice. The courses are intended primarily to help the students understand the fundamentals of human body structure and development. The systemic arrangement of the topics helps the student to better understand the subject, and to correlate structure and function of different organs. Pre-requisites: For 806 111 - none; for 806 121 - 806 111

806 112 Histology and Cell Biology (2-1-0-2) 806 122 Oral Histology (2-2-0-3)

These courses describe the structural organization of cells, tissues, and organ systems, at microscopic level, and include the general principles of cell biology. Students are provided with a basic knowledge of general histology, cell biology and oral histology. Pre-requisites: For 806 112 - none; for 806 122 - 806 112

806 113 Introduction to Biochemistry (Dental Hygiene) (2-0-0-2)

The course covers the study of the constituents of living cells and their chemical reactions. Emphasis is made on intermediary metabolism and biologically important reactions of proteins, carbohydrates and lipids. Also the general chemistry of enzymes, blood constituents and hormones are studied. Pre-requisites: None

806 114 Microbiology (1-2-0-2)

The course covers the fundamentals of microbiology with emphasis on oral microbiota, pathogens and defense mechanisms in the dental environment. Hygiene covering pathogenesis of bacterial, infections, etiology, clinical picture, lab diagnosis, treatment, prevention and control of diseases caused by different bacteria. Pre-requisites: None

806 124 Infection and Hazard Control (2-0-0-2)

The course discusses the basic concepts of infectious diseases spread, emphasis on the actual practice of infection control procedures. Specific infection control procedures used, supplies and equipment needed for disease prevention and dental office safety are explained. Pre-requisite: 806 114

806 125 Dental Anatomy and Physiology (2-2-0-3)

This course deals with nomenclature and morphology of the natural dentition and includes laboratory exercises in the wax carving of anatomically accurate teeth. Analysis of occlusal patterns and correction of occlusal disharmonies are integrated with courses in operative dentistry, prosthodontics, periodontics and orthodontics. Pre-requisite: 806 111

806 126 Pre-Clinical Dental Hygiene (2-9-0-5)

This course deals with an introduction to dental hygiene care. Laboratory instruction examines the use of

instruments, develops instrumentation techniques and introduces clinical experience. Pre-requisites: None

806 212 General Pathology and Clinical Dental Pharmacology (3-0-0-3)

The course describes the principles of the pharmacokinetics and pharmacodynamics of biological actions, mechanism, uses, side effects, toxicity, interactions and adverse reactions of drugs acting on the autonomic nervous system, cardiovascular system, central nervous system, gastro-intestinal system, endocrine system, renal system, autacoids, antibiotics and other anti-infective agents and anticancer drugs, with an emphasis on dental applications. Pre-requisites: 806 113, 806 114, 806 121

806 215 Dental Materials (2-2-0-3)

The course allows students to understand the mechanical and physical properties of dental materials and their clinical applications. Biomechanical principles and the latest advances in dental material technology are integrated into appropriate dental specialties. Pre-requisites: None

806 216 Clinical Dental Hygiene I (1-8-0-3)

Lectures and clinical practice in the area of preventive dentistry are offered. Students study the principles and procedures for prevention of oral disease including dietary control, oral hygiene measures and the use of fluorides and sealants. The principles and application of root planning are also emphasized. Pre-requisite: 806 126

806 217 Periodontics (2-0-0-2)

The course provides students with a basic understanding of the normal periodontium, early pathologic changes, their etiologic factors and basic therapeutics and preventive procedures. Students learn to probe and examine gingival tissues and develop proficiency in the

use of instruments for calculus and root planning in-patientsimulating units. Pre-requisite: 806 122

806 218 Oral Radiology (2-4-0-4)

The course deals with the basic principles of x-ray production, the biological effects of ionizing radiation and radiation safety, with special emphasis on intra-oral and extra-oral radiographic techniques. Students learn to take and interpret oral radiographs and perform initial screening examination and diagnosis. The course is integrated with the different dental specialties. Pre-requisite: 806 121

806 222 Oral Pathology (2-0-0-2)

Students learn the fundamentals of basic disease process affecting the head and neck regions, and how to identify the histopathological lesions. Pre-requisites: 806 122, 806 212

806 223 Dental Office Emergencies (2-0-0-2)

Students gain experience in diagnosing and managing patients with acute dental emergencies, including placement of temporary restorations and performing emergency treatments under the supervision of college members. Pre-requisites: 806 212, 806 213

806 224 Prevention and Nutrition for Health Sciences (3-0-0-3)

This course provides students with a basic knowledge of the essential nutrient materials in both health and disease and discusses the role of the nutrition on the development, prevention and treatment of oral and dental diseases. Pre-requisites: 806 121, 806 212

806 226 Clinical Dental Hygiene II (2-12-0-5)

Advanced lectures and demonstrations in the clinical practice of dental hygiene with clinic time devoted to experience in rendering preventive care are provided.

Lectures emphasize patients with special needs. Pre-requisite: 806 216

806 229 Fundamentals of Speech and Communication (2-0-0-2)

The course covers communication theory, interviewing, proficiencyinspeakingandlistening,andthedevelopment of informative and persuasive presentations. Theory, preparation, appropriate form and delivery techniques are studied and evaluated. Pre-requisites: None

806 314 Dental Public Health and Ethics (2-2-0-3)

This preventive dentistry course introduces the student to the philosophy and methods of prevention, providing information on etiology of dental caries, periodontal disease and methods of preventing and controlling dental disease through a preventive treatment plan and health education programs. There is also an introduction to the ethical responsibilities and principles of general biomedical ethics, as well as a discussion of professional malpractice, and the legal and ethical responsibilities of fulfilling the doctors' obligations to patients, the profession and the community. Pre-requisites: 806 223, 806 224

806 316 Clinical Dental Hygiene III (0-12-0-3)

Demonstrations are provided in advanced clinical skills with enhancement in clinics and hospitals. Pre-requisite: 806 226

806 319 Practice Management (1-0-0-1)

Review of topics essentials for new graduates planning to establish a dental practice. Issues include referral mechanisms, recall systems, financing, purchasing equipment and government regulations which affect dental practitioners. Pre-requisites: None

806 213 Anesthesiology (1-0-0-1)

The goal of this course is to learn the pharmacology and toxicology of dental local anesthetic drugs and the proper techniques of administration including sedation for dental procedures. This teaching course will present the complete pharmacology of local anesthetic agents, commonly employed injection techniques of the maxilla and mandible, the nerves involved, important landmarks to utilize, and the anticipated distribution of local anesthesia.

806 317 Treatment Planning & Seminar (2-0-0-2)

Problem-based learning (PBL) is an instructional strategy to help students acquire and integrate basic science,

behavioural, and clinical knowledge in the context of solving a patient problem. PBL is one of many instructional techniques used to teach problem solving. Problem-based learning course is designed to give the students the experience to apply lecture materials to life-like situations and allows the student to experience the process as seen in daily clinical practice.

806 310 Research Project (1-0-0-1)

Under the guidance of a college advisor, students choose, explore and develop an interest in a relevant specific field of basic sciences or dental sciences. Students learn how to read and evaluate scientific literature, gather data and subject it to critical analysis. Students present and defend their project before an academic committee.

List of Faculty**Ajman Campus**

No	Name	Rank	Specialization	Degree	Year	University
1	Abu – Fanas S. H.	Professor and Dean	Perio	Ph.D	1989	Manchester University
2	Alhadi D	Lecturer	Resto	M.D.S	1999	University of Leeds
3	AL Sammerae A. A. R	Lecturer	Prosth	M. Sc.	1995	Baghdad University
4	Al Taki A. A.	Associate Prof.	Ortho	Ph.D	2002	Marmara University
5	Desai S.	Lecturer	Oral Patho	M.D.S	1994	Karnataka University
6	Desai V.	Lecturer	Perio	M.D.S	1994	Karnataka University
7	Elkaseh A. M. A.	Assistant Prof.	Oral Surg	Facharzt	1997	Vienna University
8	Elmahdi A-b. M.	Lecturer	Oral Medicine	M. Sc	1995	Belfast University
9	El sayed M. A-A. M.	Assistant Prof.	Cons. & Endo	PhD	2002	Mainz University
10	Hamdi M. J.	Lecturer	Cons.	M. Sc	2000	Baghdad University
11	Hashim, R.	Assistant Prof.	Prev.	PhD	2005	Otago University, New Zealand
12	Hussain A. S.	Lecturer	Pedo	M.Sc	1993	Baghdad University
13	Ismail A. I.	Associate Prof.	Prosth	PhD	1973	Dundee University

No	Name	Rank	Specialization	Degree	Year	University
14	Elsubeihi. E.S.	Ass Professor	Prosth	PhD	2003	University of Toronto, Canada
15	El Sadek D.A.	Lecturer	Endo.	MScD	2011	Jordan University of Science and Technology
16	Khair Al-M. B.	Assistant Prof.	Biol.	PhD	1989	Russian Academy of Sciences
17	Naqi S. Z.	Lecturer	H. Anatomy	M.D.	2001	Aligarh Muslim University
18	Radhi A.R. A.H.	Assistant Prof.	Physio.	PhD	1983	Southampton University
19	Saeed M. H.	Assistant Prof.	Cons.	PhD	2003	Baghdad University
20	Suliman A-H. A-M	Professor	Oper.	PhD	1992	University of Iowa
21	Thomas S.	Associate Prof.	Oral Surg	M.D.S.	1998	Manipal Academy of Higher Education
22	Saleh A. M.	Assistant Prof.	Endo.	PhD	2005	Baghdad University
23	El-Masmari Hussein	Lecturer	Resto.	MSC	1993	University of Sheffield
24	Hussain F. N.	Lecturer	Oral Radiolgy	MSc	1991	Baghdad University
25	Alshayeb M	Lecturer	Oral Surg	MSc	2006	Jordan University of Science and Technology
26	Rashid F. M.	Lecturer	Dental Research	MSc	2008	Mcgill University
27	Gaballah K	Assistant Prof.	Oral Surg	PhD	2007	King's College London, University of London
28	Nouralla H.	Lecturer	Prosth	MSc	1987	Georgetown University, USA
29	Walia T.	Assistant Prof.	Pedo	PhD	2003	Royal College of Surgeons in England, UK
30	Khalil I	Professor	Prosth	DSO	1984	Paris 7 University, French
31	Fathy E. M.	Professor	Biol.	PhD	1983	Alexandria University
32	Luck Alexander.	Lecturer	Oral Medicine	MDS	2001	Rajivgandhi University, India.
33	Al-Mudaris Ban.	Assistant Prof.	Prosth	PhD	2006	Baghdad University
34	Abu -Fanas Ayman	Lecturer	Ortho	MSC	2010	Jordan University of Science and Technology
35	Nadeem G	Assistant Prof.	Integrated Biological Sciences	M.D.	2001	Aligarh Muslim University

Fujairah Campus

No	Name	Rank	Specialization	Degree	Year	University
1	Al-Aubi I. A	Lecturer	Cons.	MSc	2000	Baghdad University
2	Almuddaris M. F.	Associate Prof.	Anatomy	PhD	1978	McGill University
3	Altaher.A. R. H. M.	Associate Prof.	Physio	PhD	1987	University of London
4	Bhaskar S.	Lecturer	Pedo	M.D.S	1999	Rajiv Gandhi University of Health Sciences
5	Priya Sivan	Lecturer	Oral Pathology	M.D.S	2003	MGR University India
6	Shaban K.K	Assistant Prof.	Oral Surg	PhD	1987	University of Bordeaux I
7	Ur-rahman M. M.	Associate Prof.	Perio	PhD	1989	Hacettepe University
8	Razooki A.A.	Associate Prof.	Cons.	PhD	2005	University of Baghdad
9	Mathew Asok	Lecturer	Oral Medicine	MDS	2003	Nagpur University-India

College of
Engineering

Engineering is the profession of applying theories and fundamentals of pure science to solve practical problems and develop new equipment, instruments and techniques to meet the needs of society in a variety of areas such as electrical power, communication, control, IT, architecture, medicine, transportation and agriculture.

Mission

In line with the University's mission, the College of Engineering provides high quality engineering education. College programs focus on teaching students how the fundamental principles of engineering can be applied in real-world situations. Programs place special emphasis on developing the technical as well as generic skills of students so that they are well qualified for immediate employment in their area of specialization and are able to contribute effectively to the advancement of the community. The programs also seek to prepare students for graduate study in their area of specialization.

Objectives

The academic programs of the College of Engineering are designed to produce graduates who are:

- Competent engineers with sound knowledge and professional attitude
- Capable of applying theoretical knowledge to solve practical problems
- Equipped with skills required for productive engineering careers
- Able to perform as individuals and team members
- Proficient in oral and written communication
- Motivated for life-long learning throughout their careers
- Capable of pursuing graduate studies

Departments

- Department of Electrical Engineering

- Department of Biomedical Engineering
- Department of Architectural Engineering
- Department of Interior Design

Programs Offered

The College of Engineering offers the following programs:

Undergraduate Programs:

1. Bachelor of Science in Electrical Engineering (Electronics)
2. Bachelor of Science in Electrical Engineering (Communication)
3. Bachelor of Science in Electrical Engineering (Instrumentation and Control)
4. Bachelor of Science in Biomedical Engineering
5. Bachelor of Science in Architectural Engineering
6. Bachelor in Interior Design

Graduate Program:

- Master of Science in Architecture and Urban Studies

Admission Requirements to Undergraduate Programs

Admission to the College of Engineering requires a UAE secondary school certificate (science major) or its equivalent with a minimum grade of 70 percent for Electrical Engineering (electronics, communication, instrumentation and control), Biomedical Engineering and Architectural Engineering programs. For admission to the Interior Design program, the minimum acceptable grade is 60 percent (science or arts major).

For further information please refer to the University admissions policy.

Facilities

1- Academic Staff

College members hold terminal degrees from internationally-recognized universities and are well versed in their areas of specialization.

2- Laboratories

The College of Engineering has well-equipped laboratories which provide practical hands-on experience to engineering students of all specializations.

The specialized laboratories in the College are as follows:

- Electronics Laboratory
- Communication Laboratory
- Biomedical Laboratory
- Computer Aided Design Laboratory
- Power Electronics Laboratory
- Electromechanical Energy Conversion Laboratory
- Measurements Laboratory
- Digital Design Laboratory
- Control Laboratory
- Projects Laboratory

3-Studios

The College accommodates modern studios equipped with a variety of drawing, drafting and printing instruments and tools for architectural engineering and interior design students.

4- Lecture Rooms

Lecture rooms are equipped to facilitate the use of audiovisual aids such as overhead projectors, slide projectors, computer projection devices and video players. Many lecture rooms are also connected to the university computer network.

5- Other Facilities

College of Engineering students have access to a wide range of university facilities including computer labs, learning and information resources, a bookshop, sports and recreation facilities, cafeteria and clinics.

Training

External training is an essential part of the curriculum of all College of Engineering programs. Students are required to complete external training lasting from three to four months (depending on the program). The College has extensive links with local organizations such as engineering companies, hospitals, power plants, interior design companies and telecommunication firms, who offer on-site external training to AUST students. The aim of the external training program is to enable students to acquire practical skills, gain an understanding of the work environment and improve their communication skills.

Prior to the external training, students of Electrical and Biomedical Engineering programs take part in an internal training program to enhance their practical and professional skills. The internal training program for Architecture and Interior Design students is designed to enhance students' skills in free-hand drawing, coloring and rendering.

Bachelor of Science in Electrical Engineering (Electronics)

Modern life has become increasingly dependent on electronic devices and systems. Electronics Engineering plays a major role in a wide range of industries and is one of the fastest developing specialization fields. Competent electronics engineers are needed in a wide range of industries involving electronic equipment and systems. The electronics engineering specialization equips its graduates with technical knowledge and skills in areas such as electronic circuit design, microcontroller-

based systems, digital systems, instrumentation, control systems, CAD and integrated circuit applications.

Mission

The mission of the Electrical Engineering (Electronics) program is to provide high quality electronic engineering education to its students. It places special emphasis on developing the technical as well as generic skills of its students so that they are well qualified for immediate employment in their area of specialization and are able to contribute effectively to the advancement of the community. The program also aims to prepare its students for graduate study in electronics engineering.

Objectives

The Electrical Engineering (Electronics) program is designed to produce graduates who have:

1. strong foundation of basic sciences and mathematics and are able to apply this knowledge to analyze and solve engineering problems
2. broad theoretical as well as practical knowledge related to electronics engineering specialization
3. skills needed for designing, analyzing and trouble-shooting electronic circuits or systems
4. proficiency in computer-aided design tools and software packages to design projects or systems to meet specified requirements
5. good communication skills and ability to work effectively as team members
6. the generic skills needed to function in the multidisciplinary, diverse, competitive and fast-changing engineering environment of the UAE
7. abilities for critical thinking, lifelong learning, and updating of technical knowledge while working as professional engineers.

Admission Requirements

Admission to the electronics engineering specialization requires a UAE secondary school certificate (science major) or its equivalent with a minimum grade of 70 percent. For further information please refer to the university admissions policy.

Career Opportunities

Graduates of the electronics engineering specialization pursue careers in a wide range of industries and services, including the electronic and computer industries, industrial manufacturing plants, security control systems, design automation companies, product design and development companies and major service companies for electronic appliances.

Graduation Requirements

The Bachelor of Science Degree is awarded upon the fulfillment of the following:

1. Successful completion of all courses in the program curriculum (138 credit hours)
2. Successful completion of 2 weeks of internal training and 12 weeks of external training at engineering companies (4 credit hours)
3. The cumulative grade points average CGPA is at least 2.0

Degree requirement

The B.Sc. degree in Electrical Engineering (Electronics) requires the completion of 138 Cr. Hrs of course work, distributed according to the following plan, plus 4 credit hours of training (total of 142 credit hours):

Type of Courses	Credit hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Required Courses	33
3. EE Required Courses	56
4. Specialization Courses	19
5. Graduation Projects I & II	6
Total Credit Hours (course work)	138

University General Education Requirements

(a) University Required Courses (15 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110	Statistics	2	2	0	3	-
104110	Computer Applications	2	2	0	3	-
103120	Environmental Sciences	3	0	0	3	-

(b) University Elective Courses (9 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of Science in Islam	3	0	0	3	-
115120	Scientific Pioneering	3	0	0	3	-
115130	General Psychology	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
117130	First Aid	3	0	0	3	-
118120	General Biology	3	0	0	3	-

1. College Required Courses (33 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite(s)
217101	Engineering Mathematics I	3	0	2	3	---
217121	Engineering Physics I	3	2	2	4	---
217141	Chemistry for Engineers	2	2	0	3	---
213 140	Computer Programming	3	0	2	3	104110
217102	Engineering Mathematics II	3	0	2	3	217101
217122	Engineering Physics II	3	2	2	4	---
217150	Introduction to Engineering	1	0	1	1	---
217321	Report Writing & Presentation	3	0	1	3	217150
217203	Engineering Mathematics III	3	0	2	3	217102
217204	Engineering Mathematics IV	3	0	2	3	217203
217306	Random Signals and Stochastic Processes	3	0	0	3	212221 & 103110

2. EE Required Courses (56 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite (s)
213235	Logic Design	3	2	2	4	104110
213250	Engineering Analysis	3	0	2	3	213140
215211	Circuit Analysis I	3	2	2	4	217101 & 217122
211251	Electronic Devices & Circuits I	3	2	2	4	215211
212221	Signal and Systems	3	0	2	3	217203
215212	Circuit Analysis II	3	2	2	4	215211 & 217203
211352	Electronic Devices & Circuits II	3	2	2	4	211251
212315	Principles of Communications	3	2	2	4	212221
212385	Electromagnetic Fields & Wave Propagation	3	0	2	3	217122 & 217203
214352	Control Systems	3	2	2	4	212221
211367	Design with Integrated Circuits	3	2	0	4	211352
213333	Microprocessors and Microcontrollers	3	2	0	4	213235 & 213140
214322	Instrumentation and Measurements	3	2	0	4	211352, & 215212
215335	Electrical Machines & Power Systems	3	0	0	3	215212
216401	Engineering Management	2	0	0	2	217321
216402	Financial Management	2	0	0	2	217321

(b) Specialization Required Courses & Graduation Projects (16 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite (s)
211429	Power Electronics	3	2	0	4	211352 & 215212
211 410	Digital System Design	3	0	2	3	213235
211 418	VLSI Design	3	0	0	3	211352 & 213235
211491	Graduation Project I	1	4	0	3	Advisor's approval
211493	Graduation Project II	1	4	0	3	211491

(c) Specialization Electives Courses (9 Cr. Hrs.)

The student will take four of the following Specialization Electives as approved by the academic advisor. At least three of these courses must have the course code as 211 4xx.

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
211415	Digital Integrated Circuits	3	0	0	3	211352 & 211235
211433	Communication Electronics	3	0	0	3	211352, & 212315
211444	Optoelectronics	3	0	0	3	211352 & 212385
211462	Solid-State Electronics	3	0	0	3	211352
211486	Nanotechnology	3	0	0	3	211352
211490	Selected Topics in Electronics	3	0	0	3	211352
212434	Digital Signal Processing	3	0	2	3	212221
212 456	Communication & Switching Networks	3	2	0	4	212315
214451	Fuzzy Logic and Neural Networks	3	0	0	3	213235
214443	Industrial Control Systems	3	2	0	4	214352
214478	Power System Protection & Control	3	0	0	3	214352, 215335
211495	Directed Study in Electronics	3	0	0	3	211367+Advisor's approval

Study Plan**FIRST SEMESTER**

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
101 000	Orientation	1	--	--	0	---
217 101	Engineering Mathematics I	3	--	2	3	---

Course Code	Course Name	Credit Hours				Prerequisite
217 121	Engineering Physics I	3	2	2	4	---
217 141	Chemistry for Engineers	2	2	--	3	---
104 110	Computer Applications	2	2	--	3	---
102 140	Communication Skills in Arabic Language	3	--	--	3	---
217 150	Introduction to Engineering	1	--	1	1	---
TOTAL		15	6	5	17	

SECOND SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
213 140	Computer Programming	3	--	2	3	104 110
217 102	Engineering Mathematics II	3	--	2	3	217 101
217 122	Engineering Physics II	3	2	2	4	---
102 110	Islamic Culture	3	--	1	3	---
xxx xxx	University Elective I	3	-	--	3	Advisor's approval
TOTAL		15	2	7	16	

SUMMER SEMESTER

103120	Environmental Sciences	3	--	--	3	-----
xxx xxx	University Elective I	3	-	--	3	Advisor's approval
TOTAL		6	-	-	6	

THIRD SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
213 235	Logic Design	3	2	2	4	104 110
213 250	Engineering Analysis	3	--	2	3	213 140
215 211	Circuit Analysis I	3	2	2	4	217 101&217 122
217 203	Engineering Mathematics III	3	--	2	3	217 102
103 110	Statistics	2	2	--	3	---
TOTAL		14	6	8	17	

FOURTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
211 251	Electronic Devices & Circuits I	3	2	2	4	215 211
212 221	Signals and Systems	3	--	2	3	217 203
215 212	Circuit Analysis II	3	2	2	4	215 211 & 217 203
217 204	Engineering Mathematics IV	3	--	2	3	217 203
xxx xxx	University Elective II	3	--	--	3	Advisor's approval
TOTAL		15	4	8	17	

FIFTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
211 352	Electronic Devices & Circuits II	3	2	2	4	211 251
212 315	Principles of Communication	3	2	2	4	212 221
212 385	Electromagnetic Fields and Wave Propagation	3	--	2	3	217 122 & 217 203
213 333	Microprocessors & Microcontrollers	3	2	-	4	213 235 & 213 140
217 306	Random Signals and Stochastic Processes	3	--	--	3	212 221 & 103 110
TOTAL		15	6	6	18	

SIXTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
211 367	Design with Integrated Circuits	3	2	--	4	211 352
214 352	Control Systems	3	2	2	4	212 221
214 322	Instrumentation and Measurements	3	2	--	4	211 352 & 215 212
215 335	Electrical Machines and Power Systems	3	-	--	3	217 122 & 215 212
217 321	Report Writing & Presentation	3	-	1	3	217 150
TOTAL		15	6	3	18	

Summer Session: Training I (210400) for six weeks period

SEVENTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
211 429	Power Electronics	3	2	--	4	211 352 215 212
211 410	Digital System Design	3	--	2	3	213 235
211 491	Graduation Project I	1	4	--	3	Advisor's approval
211 4xx	Specialization Elective I	3	--	--	3	Advisor's approval
216 401	Engineering Management	2	--	--	2	217 321
TOTAL		12	6	2	15	

EIGHTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
211 418	VLSI Design	3	--	--	3	211 352&213 235
211 493	Graduation Project II	1	4	--	3	211 491
211 4xx	Specialization Elective II	3	--	--	3	Advisor's approval
21x 4xx	Specialization Elective III	3	--	--	3	Advisor's approval
216 402	Financial Management	2	--	--	2	217 321
TOTAL		12	4	--	14	

Summer Session: Training II (210400) for six weeks period

Bachelor of Science in Electrical Engineering (Communication)

Communication engineering is concerned with modern techniques of transmitting various forms of information. The information can be digital or analog and transmitted by wired or wireless media, for example radio waves, cables and optical fibers. Radio, television, telephone and computer networks are examples of communication systems. The widespread use of modern communication systems demands qualified communication engineers to deal with the various technical aspects of these

systems. The communication engineering specialization equips its graduates with technical knowledge and skills in areas such as communication systems, digital data communication, microwave engineering, satellite communication, mobile communication and computer networks.

Mission

The mission of the Electrical Engineering (Communication) program is to provide high quality communication engineering education to its students. It places special

emphasis on developing the technical as well as generic skills of its students so that they are well qualified for immediate employment in their area of specialization and can contribute effectively to the advancement of the community. It also aims to prepare its students for graduate study in communication engineering.

Objectives

The Electrical Engineering (Communication) program aims to produce graduates who have:

1. strong foundation of basic sciences and mathematics and are able to apply this knowledge to analyze and solve engineering problems
2. broad theoretical as well as practical knowledge related to communication engineering specialization
3. skills needed for designing, analyzing, and trouble-shooting communication circuits or systems
4. proficiency in computer aided design tools and software packages to design projects or systems to meet specified requirements
5. good communication skills and ability to work effectively as team members
6. the generic skills needed to function in the multidisciplinary, diverse, competitive and fast-changing engineering environment of the UAE
7. abilities for critical thinking, lifelong learning, and updating of technical knowledge while working as professional engineers

Admission Requirements

Admission to the Electrical Engineering (Communication) program requires a UAE secondary school certificate (science major) or its equivalent with a minimum grade

of 70 percent. For further information please refer to the university admission policy.

Career Opportunities

Graduates of the communication engineering specialization can pursue careers in a wide range of areas, such as:

- local or international telecommunication companies to work as design, maintenance or marketing engineers
- digital data communication industry including computer networks
- mobile telephone industry
- television and radio stations

Graduation Requirements

The Bachelor of Science Degree is awarded upon the fulfillment of the following:

1. Successful completion of all courses in the program curriculum (138 credit hours)
2. Successful completion of two weeks of internal training and 12 weeks of external training in engineering companies (4 credit hours)
3. The cumulative grade points average CGPA is at least 2.0

Degree requirement

The B.Sc. degree in Electrical Engineering (Communication) requires the completion of 138 Cr. Hrs of course work, distributed according to the following plan, plus 4 credit hours of training (total of 142 credit hours):

Type of Courses	Credit Hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Required Courses	33
3. EE Required Courses	56
4. Specialization Courses	19
5. Graduation Projects I & II	6
Total Credit Hours (course work)	138

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Required Courses (15 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110	Statistics	2	2	0	3	-
104110	Computer Applications	2	2	0	3	-
103120	Environmental Sciences	3	0	0	3	-

(b) University Elective Courses (9 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of Science in Islam	3	0	0	3	-
115120	Scientific Pioneering	3	0	0	3	-
115130-	General Psychology	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
117130	First Aid	3	0	0	3	-

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
118120	General Biology	3	0	0	3	-

1. College Required Courses (33 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite(s)
217101	Engineering Mathematics I	3	0	2	3	---
217121	Engineering Physics I	3	2	2	4	---
217141	Chemistry for Engineers	2	2	0	3	---
213 140	Computer Programming	3	0	2	3	104110
217102	Engineering Mathematics II	3	0	2	3	217101
217122	Engineering Physics II	3	2	2	4	---
217150	Introduction to Engineering	1	0	1	1	---
217321	Report Writing & Presentation	3	0	1	3	217150
217203	Engineering Mathematics III	3	0	2	3	217102
217204	Engineering Mathematics IV	3	0	2	3	217203
217306	Random Signals and Stochastic Processes	3	0	0	3	212221 & 103110

2. EE Required Courses (56 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite (s)
213235	Logic Design	3	2	2	4	104110
213250	Engineering Analysis	3	0	2	3	213140
215211	Circuit Analysis I	3	2	2	4	217101 & 217122
211251	Electronic Devices & Circuits I	3	2	2	4	215211
212221	Signal and Systems	3	0	2	3	217203
215212	Circuit Analysis II	3	2	2	4	215211 & 217203
211352	Electronic Devices & Circuits II	3	2	2	4	211251
212315	Principles of Communications	3	2	2	4	212221
212385	Electromagnetic Fields & Wave Propagation	3	0	2	3	217122 & 217203
214352	Control Systems	3	2	2	4	212221
211367	Design with Integrated Circuits	3	2	0	4	211352
213333	Microprocessors and Microcontrollers	3	2	0	4	213235 & 213140
214322	Instrumentation and Measurements	3	2	0	4	211352, & 215212
215335	Electrical Machines & Power Systems	3	0	0	3	215212

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite (s)
216401	Engineering Management	2	0	0	2	217321
216402	Financial Management	2	0	0	2	217321

(b) Specialization Required Courses & Graduation Projects (16 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
212424	Digital Communication	3	0	2	3	212315 217306
212434	Digital Signal Processing	3	0	2	3	212221
211 466	Microwave Engineering	3	2	0	4	212385
212491	Graduation Project I	1	4	0	3	Advisor's approval
212493	Graduation Project II	1	4	0	3	212491

(c) Specialization Electives Courses (9 Cr. Hrs.)

The student will take four of the following Specialization Electives as approved by the academic advisor. At least three of these courses must have the course code as 212 4xx.

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
211 410	Digital System Design	3	0	2	3	213235
211433	Communication Electronics	3	0	0	3	211352 & 212315
211444	Optoelectronics	3	0	0	3	211352 & 212385
212445	Radar Systems	3	0	0	3	212315 & 212385
212456	Communication & Switching Networks	3	2	0	4	212315
212461	Telecommunication Systems	3	0	0	3	212315
212467	Wireless Communications	3	0	0	3	212315 & 212385
212490	Selected Topics in Communication	3	0	0	3	212315
212495	Directed Study in Communication	3	0	0	3	212315+Advisor Approval
214443	Industrial Control Systems	3	2	0	4	214352
214451	Fuzzy Logic and Neural Networks	3	0	0	3	213235

Study Plan

FIRST SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
101 000	Orientation	1	--	--	0	---
217 101	Engineering Mathematics I	3	--	2	3	---
217 121	Engineering Physics I	3	2	2	4	---
217 141	Chemistry for Engineers	2	2	--	3	---
104 110	Computer Applications	2	2	--	3	---
102 140	Communication Skills in Arabic Language	3	--	--	3	---
217 150	Introduction to Engineering	1	--	1	1	---
TOTAL		15	6	5	17	

SECOND SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
213 140	Computer Programming	3	--	2	3	104 110
217 102	Engineering Mathematics II	3	--	2	3	217 101
217 122	Engineering Physics II	3	2	2	4	---
102 110	Islamic Culture	3	--	1	3	---
xxx xxx	University Elective I	3	0	--	3	Advisor's approval
TOTAL		15	2	7	16	

SUMMER SEMESTER

103 120	Environmental Sciences	3	--	--	3	-----
xxx xxx	University Elective I	3	0	--	3	Advisor's approval
TOTAL		6	0	0	6	

THIRD SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
213 235	Logic Design	3	2	2	4	104 110
213 250	Engineering Analysis	3	--	2	3	213 140
215 211	Circuit Analysis I	3	2	2	4	217 101&217 122
217 203	Engineering Mathematics III	3	--	2	3	217 102
103 110	Statistics	2	2	--	3	---
TOTAL		14	6	8	17	

FOURTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
211 251	Electronic Devices & Circuits I	3	2	2	4	215 211
212 221	Signals and Systems	3	--	2	3	217 203
215 212	Circuit Analysis II	3	2	2	4	215 211& 217 203
217 204	Engineering Mathematics IV	3	--	2	3	217 203
xxx xxx	University Elective II	3	--	--	3	Advisor's approval
TOTAL		15	4	8	17	

FIFTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
211 352	Electronic Devices & Circuits II	3	2	2	4	211 251
212 315	Principles of Communication	3	2	2	4	212 221
212 385	Electromagnetic Fields and Wave Propagation	3	--	2	3	217 122 & 217 203
213 333	Microprocessors & Microcontrollers	3	2	-	4	213 235 & 213 140
217 306	Random Signals and Stochastic Processes	3	--	--	3	212 221 & 103 110
TOTAL		15	6	6	18	

SIXTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
211 367	Design with Integrated Circuits	3	2	--	4	211 352
214 352	Control Systems	3	2	2	4	212 221
214 322	Instrumentation and Measurements	3	2	--	4	211 352 & 215 212
215 335	Electrical Machines and Power Systems	3	-	--	3	217 122 & 215 212
217 321	Report Writing & Presentation	3	0	1	3	217 150
TOTAL		15	6	3	18	

Summer Session: Training I (210400) for six weeks period

SEVENTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
212 424	Digital Communication	3	0	2	3	212 315 217 306
212 434	Digital Signal Processing	3	0	2	3	212 221
212 491	Graduation Project I	1	4	--	3	Advisor's approval
212 4xx	Specialization Elective I	3	--	--	3	Advisor's approval
216 401	Engineering Management	2	--	--	2	217 321
TOTAL		12	6	4	14	

EIGHTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
211 466	Microwave Engineering	3	2	-	4	212 385
212 493	Graduation Project II	1	4	--	3	212 491
212 4xx	Specialization Elective II	3	--	--	3	Advisor's approval
21x 4xx	Specialization Elective III	3	--	--	3	Advisor's approval
216 402	Financial Management	2	--	--	2	217 321
TOTAL		12	4	--	15	

Summer Session: Training II (210400) for six weeks period

Bachelor of Science in Electrical Engineering (Instrumentation and Control)

Considering the recent significant developments in the fields of instrumentation and control and the rapid industrialization of the UAE, the demand for engineers specializing in instrumentation and control engineering is on the rise. Instrumentation and control engineering has applications in modern industries which manufacture a variety of products. It also has extensive applications in various control systems encountered in everyday life. The Instrumentation and Control Engineering specialization prepares students to deal with modern techniques used in instrumentation and control systems. In addition to developing a strong theoretical basis, it provides students with the laboratory experience they need to enhance their practical skills. It also develops their generic skills so that upon graduation they are well prepared to start their professional careers.

Mission

To provide students with a broad theoretical knowledge base and equip them with strong practical application skills so that they can meet the competitive requirements of the job market in instrumentation and control engineering, and are well prepared to pursue higher study in this fast-developing field.

Objectives

The Electrical Engineering (Instrumentation and Control Engineering) program aims to produce graduates who have:

1. strong foundation of basic sciences and mathematics and are able to apply this knowledge to analyze and solve engineering problems
2. broad theoretical as well as practical knowledge related to instrumentation and control specialization
3. skills needed for designing, analyzing, and trouble-shooting circuits or systems utilized in instrumentation and control fields
4. proficiency in computer aided design tools and software packages to design projects or systems to meet specified requirements
5. good communication skills and ability to work effectively as team members
6. the generic skills needed to function in the multidisciplinary, diverse, competitive and fast-changing engineering environment of the UAE
7. abilities for critical thinking, lifelong learning, and updating of technical knowledge while working as professional engineers.

Admission Requirements

Admission to the Electrical Engineering (Instrumentation and Control Engineering) program requires a UAE secondary school certificate (science major) or its equivalent with a minimum grade of 70 percent. For further information please refer to the university admissions policy.

Career Opportunities

Graduates of the instrumentation and control engineering specialization can pursue careers in a wide range of areas, for example the petroleum industry, the chemical industry, power plants, the auto industry, robotics, the manufacturing industry and in engineering companies designing control systems for industry and smart homes.

Graduation Requirements

The Bachelor of Science Degree is awarded upon the fulfillment of the following:

1. Successful completion of all courses in the program curriculum (138 credit hours)
2. Successful completion of two weeks of internal training and 12 weeks of external training in engineering companies (4 credit hours)
3. The cumulative grade points average CGPA is at least 2.0

Degree requirement

The B.Sc. degree in Electrical Engineering (Instrumentation and Control) requires the completion of 138 Cr. Hrs of course work, distributed according to

the following plan, plus 4 credit hours of training (total of 142 credit hours):

Type of Courses	Credit hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Required Courses	33
3. EE Required Courses	56
4. Specialization Courses	19
5. Graduation projects I & II	6
Total Credit Hours (course work)	138

University General Education Requirements

(a) University Required Courses (15 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110	Statistics	2	2	0	3	-
104110	Computer Applications	2	2	0	3	-
103120	Environmental Sciences	3	0	0	3	-

(b) University Elective Courses (9 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of Science in Islam	3	0	0	3	-
115120	Scientific Pioneering	3	0	0	3	-

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
115130-	General Psychology	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
117130	First Aid	3	0	0	3	-
118120	General Biology	3	0	0	3	-

1. College Required Courses (33 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite(s)
217101	Engineering Mathematics I	3	0	2	3	---
217121	Engineering Physics I	3	2	2	4	---
217141	Chemistry for Engineers	2	2	0	3	---
213 140	Computer Programming	3	0	2	3	104110
217102	Engineering Mathematics II	3	0	2	3	217101
217122	Engineering Physics II	3	2	2	4	---
217150	Introduction to Engineering	1	0	1	1	---
217321	Report Writing & Presentation	3	0	1	3	217150
217203	Engineering Mathematics III	3	0	2	3	217102
217204	Engineering Mathematics IV	3	0	2	3	217203
217306	Random Signals and Stochastic Processes	3	0	0	3	212221 & 103110

2. EE Required Courses (56 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite (s)
213235	Logic Design	3	2	2	4	104110
213250	Engineering Analysis	3	0	2	3	213140
215211	Circuit Analysis I	3	2	2	4	217101 & 217122
211251	Electronic Devices & Circuits I	3	2	2	4	215211
212221	Signal and Systems	3	0	2	3	217203
215212	Circuit Analysis II	3	2	2	4	215211 & 217203
211352	Electronic Devices & Circuits II	3	2	2	4	211251
212315	Principles of Communications	3	2	2	4	212221
212385	Electromagnetic Fields & Wave Propagation	3	0	2	3	217122 & 217203
214352	Control Systems	3	2	2	4	212221

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite (s)
211367	Design with Integrated Circuits	3	2	0	4	211352
213333	Microprocessors and Microcontrollers	3	2	0	4	213235 & 213140
214322	Instrumentation and Measurements	3	2	0	4	211352, & 215212
215335	Electrical Machines & Power Systems	3	0	0	3	215212
216401	Engineering Management	2	0	0	2	217321
216402	Financial Management	2	0	0	2	217321

(b) Specialization Required Courses & Graduation Projects (16 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite (s)
214443	Industrial Control Systems	3	2	0	4	214352
214444	Computer-Based Instrumentation and control	2	2	0	3	213333
214478	Power System Protection and Control	3	0	0	3	214352 215335
214491	Graduation Project I	1	4	0	3	Advisor's approval
214493	Graduation Project II	1	4	0	3	211491

(c) Specialization Electives Courses (9 Cr. Hrs.)

The student will take four of the following Specialization Electives as approved by the academic advisor. At least three of these courses must have the course code as 211 4xx.

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
211 410	Digital System Design	3	0	2	3	213235
211429	Power Electronics	3	2	0	4	211352 & 215212
212434	Digital Signal Processing	3	0	2	3	212221
212456	Communication & Switching Networks	3	2	0	4	212315
214426	Intelligent Systems & Robotics	3	0	0	3	213333, 211352
214445	Digital Control Systems	3	0	0	3	212221, 214352
214451	Fuzzy Logic and Neural Networks	3	0	0	3	213235
214472	Biomedical Instrumentation	3	0	0	3	214322
214490	Selected Topics in Instrumentation & Control	3	0	0	3	214322
214495	Directed Study in Electronics	3	0	0	3	214322+Advisor's approval

Study Plan

FIRST SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
101 000	Orientation	1	--	--	0	---
217 101	Engineering Mathematics I	3	--	2	3	---
217 121	Engineering Physics I	3	2	2	4	---
217 141	Chemistry for Engineers	2	2	--	3	---
104 110	Computer Applications	2	2	--	3	---
102 140	Communication Skills in Arabic Language	3	--	--	3	---
217 150	Introduction to Engineering	1	--	1	1	---
TOTAL		15	6	5	17	

SECOND SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
213 140	Computer Programming	3	--	2	3	104 110
217 102	Engineering Mathematics II	3	--	2	3	217 101
217 122	Engineering Physics II	3	2	2	4	---
102 110	Islamic Culture	3	--	1	3	---
xxx xxx	University Elective I	3	--	--	3	Advisor's approval
TOTAL		15	2	7	16	

SUMMER SEMESTER

103 120	Environmental Sciences	3	--	--	3	---
xxx xxx	University Elective I	3	--	--	3	Advisor's approval
TOTAL		6	--	--	6	

THIRD SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
213 235	Logic Design	3	2	2	4	104 110
213 250	Engineering Analysis	3	--	2	3	213 140
215 211	Circuit Analysis I	3	2	2	4	217 101&217 122
217 203	Engineering Mathematics III	3	--	2	3	217 102
103 110	Statistics	2	2	--	3	---
TOTAL		14	6	8	17	

FOURTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
211 251	Electronic Devices & Circuits I	3	2	2	4	215 211
212 221	Signals and Systems	3	--	2	3	217 203
215 212	Circuit Analysis II	3	2	2	4	215 211& 217 203
217 204	Engineering Mathematics IV	3	--	2	3	217 203
xxx xxx	University Elective II	3	--	--	3	Advisor's approval
TOTAL		15	4	8	17	

FIFTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
211 352	Electronic Devices & Circuits II	3	2	2	4	211 251
212 315	Principles of Communication	3	2	2	4	212 221
212 385	Electromagnetic Fields and Wave Propagation	3	--	2	3	217 122 & 217 203
213 333	Microprocessors & Microcontrollers	3	2	-	4	213 235 & 213 140
217 306	Random Signals and Stochastic Processes	3	--	--	3	212 221 & 103 110
TOTAL		15	6	6	18	

SIXTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
211 367	Design with Integrated Circuits	3	2	--	4	211 352
214 352	Control Systems	3	2	2	4	212 221
214 322	Instrumentation and Measurements	3	2	--	4	211 352 & 215 212
215 335	Electrical Machines and Power Systems	3	-	--	3	217 122 & 215 212
217 321	Report Writing & Presentation	3	--	1	3	217 150
TOTAL		15	6	3	18	

Summer Session: Training I (210400) for six weeks period**SEVENTH SEMESTER**

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
214 443	Industrial Control Systems	3	2	-	4	214 352
214 444	Computer-Based Instrumentation and control	2	2	-	3	213 333
214 491	Graduation Project I	1	4	--	3	Advisor's approval
214 4xx	Specialization Elective I	3	--	--	3	Advisor's approval
216 401	Engineering Management	2	--	--	2	217 321
TOTAL		12	8	0	15	

EIGHTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr. Hrs.	
214 478	Power System Protection and Control	3	0	-	3	214 352 215 335
214 493	Graduation Project II	1	4	--	3	214 491
214 4xx	Specialization Elective II	3	--	--	3	Advisor's Approval
21x 4xx	Specialization Elective III	3	--	--	3	Advisor's Approval
216 402	Financial Management	2	--	--	2	217 321
TOTAL		12	4	--	14	

Summer Session: Training II (210400) for six weeks period

Course Descriptions

211 251 Electronic Devices and Circuits I (3-2:4)

Basic properties of semiconductor materials. Theory of operation and applications of p-n junction diodes, Zener diodes and photodiodes. Theory of operation, biasing circuits, and small signal analysis of bipolar junction transistor and junction field effect transistor. Transistor configurations and two-port network representation of transistor AC equivalent circuits. Analysis and design of transistor amplifier circuits. Pre-requisite: 215 211

211 352 Electronic Devices and Circuits II (3-2:4)

MOSFETs: theory of operation and characteristics of depletion and enhancement type MOSFETs, analysis of various biasing circuits. Small-signal model and AC analysis of amplifiers. Frequency response of amplifiers. Multistage amplifiers. Operational amplifiers and their applications. Feedback amplifiers and oscillator circuits. Power amplifiers. Pre-requisite: 211 251

211 367 Design with Integrated Circuits (3-2:4)

Design of power supplies using IC regulators. Design of analog signal conditioning circuits. Applications of ADC, DAC, and counter ICs. Optoisolators, triacs and control of high-voltage systems and actuators. Design of signal generators. Applications of commonly used ICs such as VCO, PLL, Timer IC, F/V and V/F ICs. Introduction to microcontrollers. Pre-requisite: 211 352

211 410 Digital System Design (3-0:3)

This course introduces design methodologies for implementing digital systems in programmable logic. The students will learn how a Hardware Description Language (HDL) is used to describe and implement hardware. The topics include behavioral modeling, dataflow modeling, structural modeling and design verification. Students will also learn about computer-aided synthesis and implementation for PLDs and FPGAs

design. Practical exercises lead the students through the complete programmable logic design cycle. Each student will prototype a digital system starting with VHDL entry, functional and timing simulations, logic synthesis, device programming, and verification. Prerequisite: 213 235

211 415 Digital Integrated Circuits (3-0:3)

Properties and definitions of digital ICs, ideal inverter. Logic families: RTL, DTL, TTL, STTL, ECL, I²L. Implementing different gates from logic families, CMOS and nMOS technologies and their applications. Astable, monostable, and bistable multivibrators, Schmitt trigger. Interfacing between logic families, and their comparison, BiCMOS technology. Memories. Pre-requisites: 211 352, 213 235

211 418 VLSI Design (3-0:3)

Introduction to VLSI design. Review of basic logic gates in CMOS. Analysis and review of transistors as switches. Silicon layers manufacturing process and lithography. CMOS, nMOS, pMOS, BiCOMS design. Pass transistors, TGs & MUXs building units, buffers and latches. CMOS configurations: dynamic CMOS, C2MOS. Stick diagrams, pattern diagrams, floor-planning and routing. DRAM, SRAM, ROM designs. Computer simulation using VHDL or Verilog. Pre-requisites: 211 352, 213 235

211 429 Power Electronics (3-2:4)

Introduction to power electronics and power electronic devices. Power diodes and power transistors BJTs, MOSFETs, IGBTs, and SITs. Thyristor, thyristor firing circuits, triggering circuits using UJTs and PUTs. Analysis and design of single-phase/three-phase half-wave/full wave uncontrolled/controlled rectifiers with resistive and inductive loads. AC voltage controllers: Principles of on-off and phase control, single-phase controllers with resistive load/inductive load. DC choppers: step-down and step-up operations. Three-phase inverters, DC and AC drives. Pre-requisites: 211 352, 215 212

211 433 Communication Electronics (3-0:3)

Communication Systems. Types of electronic communications. Amplitude modulation (AM) and demodulation circuits. Single sideband (SSB) communication circuits. Frequency modulation (FM) and demodulation circuits. Communication circuits: Oscillators, power amplifiers, mixers, impedance-matching networks, AGC circuit, squelch circuit. Radio transmitter and receiver circuits. TV transmitter and receiver circuits. Pre-requisites: 211 352, 212 315

211 444 Optoelectronics (3-0:3)

Fundamental concepts of optoelectronics. Interferometry and methods of testing optical systems. Optical detectors and electrooptical imaging systems. Light sources, principles of operation and applications of common lasers. Linear optics and electromagnetic propagation. Basic non-linear optics issues. Design of complete optical systems. Pre-requisites: 211 352, 212 385

211 462 Solid-State Electronics (3-0:3)

Basic physics and transport mechanisms inside semiconductors. Bipolar and Field Effect devices: I-V characteristics, dependence of performance limits on device and circuit parameters. Metal-semiconductor devices: physic of operation and high frequency performance enhancement. Optoelectronic devices: illumination-current relation, dependence of the performance on device structure and material parameters. Pre-requisite: 211 352

211 486 Nanotechnology (3-0:3)

Physics of Nanostructures: Electronic structure, optical properties, magnetic properties, transport phenomena, Hetrostructures. Generation and manipulation of Nanostructures: Top-down and Bottom-up methods. Characterization of Nanostructures: Optical microscopy, linear and non-linear spectroscopy. Nanostructure

Architecture. Applications of Nanotechnology. Pre-requisite: 211 352

211 490 Selected Topics in Electronics (3-0:3)

Topics of current interest in Electronics as selected by the faculty and approved by the EE Department. Pre-requisite: 211 352

211 495 Directed Study in Electronics (3-0:3)

Directed study in Electronics is conducted under the supervision of a faculty member. A student interested to undertake such a study shall submit a proposal outlining the description of the work to be performed with clearly defined objectives and intended outcomes. The study may include experimental investigation, computer simulation or completely theoretical research. The proposal must be approved by the concerned faculty and Chairman of the EE Department. Pre-requisite: 211 367, Advisor's Approval

212 221 Signals and Systems (3-0:3)

Continuous- and discrete-time signals and systems. Basic system properties. Linear Time-Invariant (LTI) systems. Properties of LTI systems. Convolution sum. Fourier series of periodic signals. Amplitude, phase, and power spectra. Fourier transform of non-periodic signals. Laplace transform, analysis of continuous-time LTI systems using Laplace transform. Z-Transform. Pre-requisite: 217 203

212 315 Principles of Communication (3-2:4)

Amplitude Modulation (AM): Modulation index, spectrum of AM signals, AM circuits. Single side band modulation, frequency division multiplexing. Frequency Modulation (FM): spectrum of FM signals, FM circuits. FM versus AM. Sampling, quantization, coding, pulse code modulation, delta modulation, time division multiplexing. Pre-requisite: 212 221

212 385 Electromagnetic Fields and Wave Propagation (3-0:3)

Time-varying fields and Maxwell's equations: Faraday's law, displacement current, Maxwell's equations in point and integral forms, interaction between fields and materials, boundary conditions. Uniform plane wave propagation: propagation in perfect dielectric, lossy dielectric, and conductors, Poynting vector and average power, polarization, reflection, and refraction of EM waves, input impedance for a medium of propagation, and SWR. Radio wave propagation: propagation paths, diffraction, and fading. Pre-requisites: 217 122, 217 203

212 424 Digital Communication (3-0:3)

Baseband Pulse Transmission: Analog Pulse Modulation (PAM, PWM and PPM), and TDM. Digital signaling over channels without and with ISI and AWGN. Pulse shaping, equalization, and eye-pattern. Noise in digital modulation techniques and error probability analysis. Matched filter and optimum receivers. Pass-band Digital Transmission: Signal and system models of binary and M-level ASK, FSK, PSK. Signal space representation and receiver model. Spread Spectrum Communication. Pre-requisite: 212 315, 217 306

212 434 Digital Signal Processing (3-0:3)

Introduction: Review of discrete-time signals and systems. Transform-domain representations of signals: Discrete-time Fourier Transform, Fast-Fourier Transform, applications of Z-Transform. Transform-domain representations of LTI systems: Types of transfer functions, stability condition and test. Frequency response of a Rational Transfer Function. Concept of filtering: Finite Impulse Response (FIR) and Infinite Impulse Response (IIR) Filters. Pre-requisite: 212 221

212 445 Radar Systems (3-0:3)

Introduction to modern Radar Systems; examples of simple radar systems and their applications. Radar block diagram. Overview of the Radar equation. Define radar frequencies, radar cross section (RCS). Design of a modern surveillance radar. Detection theory, matched filter detection. Range and range ambiguity. Doppler and velocity measurements. SAR design example and system implementation. Pre-requisites: 212 315, 212 385

212 456 Communication and Switching Networks (3-2:4)

Introduction to computer networks, protocol architecture and OSI reference model. Local Area Network (LAN): Topologies and transmission media. high-speed LAN. Token-Ring, FDDI. Circuit switching and packet switching, ISDN, DSL, packet switching network, X.25, frame relay, ATM. Internetworking devices. UDP, TCP architecture, basic protocol functions, Internet protocols, TCP/IP. Application Layer: client-server model, socket interface, SMTP, FTP, HTTP, and WWW. Wireless LAN. Pre-requisite: 212 315

212 461 Telecommunication Systems (3-0:3)

Introduction to telecommunication networks. Conventional TV transmission systems, high definition TV systems, digital video broadcast, other multimedia services. Telephony networks: circuit switching concept, essentials of traffic engineering, bases of network configurations, introduction to cellular phones. Satellite communication systems: link power budget calculation, Global Positioning Systems (GPS), Very Small Aperture Terminal (VSAT) Systems. Introduction to fiber optic based communication. Types of fiber, light sources and light detectors, fiber optic link design. Pre-requisites: 212 315

212 466 Microwave Engineering (3-2:4)

Time domain analysis of transmission lines. Bounce diagrams. Microwave transmission lines: Transmission

line equations and solutions, reflection coefficient and transmission coefficient, standing wave and S.W. ratio, line impedance and line admittance, Smith chart, impedance matching. Microwave waveguides and components: Rectangular and circular waveguides, microwave cavities, microwave hybrid circuits, directional couplers, circulators, and isolators. Striplines, microstrip lines, and an introduction to antennas. Pre-requisite: 212 385

212 467 Wireless Communications (3-0:3)

Introduction to cellular mobile radio systems: Cellular-concept system design fundamentals, trunking and grade of service. Mobile channel, large scale and small scale fading. Multiple access techniques for mobile communication. Modern wireless communication systems: Second-generation (2G) cellular networks, Third-generation (3G) and Fourth generation (4G) wireless systems. Pre-requisites: 212 315, 212 385

212 490 Selected Topics in Communication (3-0:3)

Topics of current interest in Communication as selected by the faculty and approved by the EE Department. Pre-requisites: 212 315

212 495 Directed Study in Communication (3-0:3)

Directed study in Communication is conducted under the supervision of a faculty member. A student interested to undertake such a study must submit a proposal outlining the description of the work to be performed with clearly defined objectives and intended outcomes. The study may include experimental investigation, computer simulation or completely theoretical research. The proposal must be approved by the concerned faculty and the Chairman of EE Department. Pre-requisite: 212 315, Advisor's Approval

213 140 Computer Programming (3-0:3)

Problem solving using flowcharts, structure of a C++ program, data types, operators, variables and constants.

Input and output, output formatting. IF and SWITCH, WHILE, DO-WHILE and FOR. Function definition and calling, library functions, arrays and strings, pointers, pointers and functions/arrays. Structures: accessing structure members, structures and functions. Enumeration, macros, file input/output. Pre-requisite: 104 110

213 235 Logic Design (3-2:4)

Basic theorems and properties of Boolean Algebra and boolean functions. Simplification of Boolean Functions: Karnaugh Map and Tabulation (Quine-McCluskey) Method. Product of Sums (POS) and Sum of Products (SOP) forms. Combinational logic circuits: Design and analysis procedures. Decoders, encoders, multiplexers, demultiplexers, ROM, PLA and PAL. Sequential logic circuits: Flip Flops (RS, D, JK, T), design procedure for clocked sequential circuits, counters. Registers and shift registers. Pre-requisite: 104 110

213 250 Engineering Analysis (3-0:3)

Developing C++ programs to solve electrical engineering problems. MATLAB programming environment, vectors and matrices, input/output, M-files: scripts and functions, control statements. Plotting with MATLAB. GUI in MATLAB. Introduction to SIMULINK. Electrical system modeling via SIMULINK. Introduction to LabVIEW. Development of Virtual Instruments using LabVIEW. Pre-requisite: 213 140

213 333 Microprocessors and Microcontrollers (3-2:4)

Introduction to microprocessor and its internal architecture. Typical microprocessor bus systems. Addressing modes and address decoding. Memory and I/O interface. Assembly language programming. Microcontrollers and embedded systems. Programming of microcontroller using C language. Interrupt processing and interrupt-based control. Microcontroller interfacing to real-world applications. Design and implementation of course projects using a microcontroller. Pre-requisites: 213 235, 213 140

214 322 Instrumentation and Measurements (3-2:4)

Basic measurement concepts, sources and types of measurement errors, sources of noise and interference. DC and AC Bridges and their applications. Analog DC and AC meters. Oscilloscopes: types, specifications, operation, measurements with oscilloscopes. Electronic voltmeters, digital multimeters, electronic counters. Transducers and their applications. Pre-requisites: 211 352, 215 212

214 352 Control Systems (3-2:4)

Introduction to Control Systems: Characteristics, time response, steady-state error. Open loop and closed loop concepts, transfer function, time domain, frequency domain, stability of linear feedback control systems, Root Locus method, Bode diagram. Design of feedback control systems: principles of design, design with the PD, PI, and PID controllers. Performance evaluation of feedback control systems. Compensation: phase-lead, phase-lag and lead-lag compensation. Pre-requisite: 212 221

214 426 Intelligent Systems and Robotics (3-0:3)

Introduction to robotics, applications of robots in industry and other workplaces, block diagram representation and explanation of various parts of a robot. Robot kinematics: Position and motion analysis of a robot with different degrees of freedom. Different types of sensors, characteristics and comparison of actuating systems, vision and voice systems, some commonly used programming languages for robots. Artificial Intelligence: the use of artificial intelligence in robots. Fuzzy logic and its applications in robotics. Pre-requisites: 211 352, 213 333

214 443 Industrial Control Systems (3-2:4)

Industrial control principles. Block diagram representation of industrial control systems. Application of analog and digital signal conditioning in industrial control. Thermal, optical, displacement, position, strain, motion, pressure, and flow sensors used in industrial control. Actuators

in industrial control. Data Logging, Supervisory Control, Computer-based Controllers. Introduction to Process Control Networks: Foundation Fieldbus and Profibus. Programmable Logic Controllers (PLCs). Sequential programming, Ladder diagrams. Pre-requisites: 214 352

214 444 Computer-Based Instrumentation and Control (2-2:3)

Introduction to PC-based instrumentation and control. Explanation of standard bus types: ISA, EISA, PCI, PXI busses. IEEE 488 (GPIB) and RS-232 standards. Hardware and software interrupts, programmable interrupt controllers, interrupt service routines, DMA control and DMA controllers. Parallel Port interfacing. Serial Port Interfacing. USB Port interfacing. Data acquisition and control using plug-in cards. Development of virtual instruments using LabVIEW, remote data transmission and control, telemetry. Applications for a variety of measurements involving different kinds of sensors/transducers. Pre-requisites: 213 333

214 445 Digital Control Systems (3-0:3)

Discrete-time signals and systems, solution of difference equations by Z-transform. Sampling and reconstruction, zero-order hold equivalence, sampled-data systems, stability tests, state-space methods. Control system design parameters: dynamic response parameters and steady-state parameters; conventional design tools: root-locus and Bode diagram; compensation: phase-lead, phase-lag, and PID controller. Second-order and high-order digital controller structures. Software and hardware implementations of digital controller. Pre-requisites: 212 221, 214 352

214 451 Fuzzy Logic and Neural Networks (3-0:3)

Fuzzy logic fundamentals, fuzzy sets, types of membership functions, linguistic variables, creation of fuzzy logic rule base, fuzzy logic operations, neural network fundamentals, neural type learning process, single

layer perceptron, artificial neural networks architectures, training algorithms, genetic algorithms and evolution computing, neuro-fuzzy technology, fuzzy control systems and applications. Pre-requisites: 213 235

214 472 Biomedical Instrumentation (3-0:3)

Biomedical sensors and transducers. Biopotential amplifiers, pre-amplifier circuits, instrumentation amplifier, isolation amplifiers, surge protection, input guarding, filters and signal conditioning circuits. Physiological recording systems ECG, EMG, EEG, ERG, etc. Blood pressure, flow and volume instrumentation systems. Clinical laboratory instrumentation. Pace-makers and Defibrillators, Electro-surgical, physiotherapy instruments. Spiro meters. Gas concentration and bio-electric impedance measurement techniques. Pre-requisite: 214 322

214 478 Power System Protection and Control (3-0:3)

Power system apparatus, representation of power system components in one-line diagram, Per Unit system. Load flow analysis, balanced three-phase faults and analysis of power system during short circuits. Primary and backup protection systems. Different types of protective relays and their operating principles. Protection of transmission lines, transformers, bus-bars, and generators. Pilot relaying, digital relays. Power system control: load frequency control, automatic generation control, reactive power and voltage control. Pre-requisite: 214 352, 215 335

214 490 Selected Topics in Instrumentation and Control (3-0:3)

Topics of current interest in Instrumentation and Control as selected by the faculty and approved by the EE Department. Pre-requisite: 214 322

214 495 Directed Study in Instrumentation and Control (3-0:3)

Directed study in Instrumentation and Control is conducted under the supervision of a faculty member. A student interested to undertake such a study shall submit a proposal outlining the description of the work to be performed with clearly defined objectives and intended outcomes. The study may include experimental investigation, computer simulation or completely theoretical research. The proposal must be approved by the concerned faculty and the Chairman of EE Department. Pre-requisite: 214 322, Advisor's Approval

215 211 Circuit Analysis I (3-2:4)

Basic quantities: charge, current, voltage, resistance, energy and power. Analysis of series, parallel and series-parallel DC resistive circuits using Ohm's law, power law and Kirchoff's voltage and current laws. Operational amplifiers: characteristics and circuit analysis. Analysis of more complex circuits using loop and nodal methods, superposition, Thevenin's and Norton theorems. Transient analyses of RC, RL, and RLC circuits. Pre-requisites: 217 101, 217 122

215 212 Circuit Analysis II (3-2:4)

AC circuits: introduction, impedance and admittance, phasors and phasor diagrams, series and parallel circuits, power and power factor correction. Steady-state response using phasor method. Nodal and loop analysis, application of circuit theorems. Frequency response, series and parallel resonance. Two-port networks. Magnetically-coupled circuits. Analysis of balanced three-phase circuits. Pre-requisites: 215 211, 217 203

215 335 Electrical Machines and Power System (3-0:3)

Magnetic circuits, ideal and practical transformers, instrument and autotransformers. DC motors and generators, DC motors speed control, voltage regulation,

performance and efficiency. AC machines, induction motors characteristics, synchronous generators. AC machines frequency and speed control. Servomotors and stepper motors. Power Systems: Generation, transmission, and distribution. Control of voltage, power, and frequency. Power system stability. Power system protection. Pre-requisites: 215 212

216 401 Engineering Management (2-0:2)

Presents an overview of the functions of engineering management and business fundamentals for engineering managers. The main focus of the course is on effective management of manpower, money, technology, facilities, and resources of an organization in order to achieve the desired business objectives. Pre-requisites: 217 321, Advisor's Approval

216 402 Financial Management (2-0:2)

This course introduces students to financial management concepts and develops their financial skills. The content of this course integrates both conceptual and mathematical information. Cases, comprehensive problems, and current events are analyzed and discussed throughout the course to provide students with hands on experience in the use and application of financial tools. Pre-requisites: 217 321, Advisor's Approval

217 101 Engineering Mathematics I (3-0:3)

Limits of functions, theorems about limits, evaluation of limit at a point and infinity, continuity. Derivatives of algebraic and trigonometric functions, maxima and minima, engineering applications of derivatives. Trigonometric functions, inverse trigonometric functions, hyperbolic functions, and inverse hyperbolic functions. Functions of several variables. Solution of systems of linear equations, eigenvalues and eigenvectors, engineering applications. Complex numbers, algebraic properties of complex numbers, absolute values, complex conjugate,

polar representation, powers and roots. Pre-requisites: None

217 102 Engineering Mathematics II (3-0:3)

The definite and indefinite integrals and their applications. Integration by parts, Integration using powers of trigonometric functions, Integration using trigonometric substitution, Integration by partial fractions. Integration of improper integrals. Double and triple integrals in rectangular and polar coordinates. Applications of multiple integrals in engineering. Infinite sequences, tests for convergence, power series expansion of functions, Taylor series, Laurent series, Fourier series and their applications in engineering. Pre-requisite: 217 101

217 121 Engineering Physics I (3-2:4)

Vectors, motion, and Newton's laws. Work, energy, momentum and conservation of momentum. Rotation of rigid bodies, dynamics of rotational motion. Equilibrium and elasticity. Stress and strain. Periodic motion. Fluid mechanics and its engineering applications. Thermodynamics and its engineering applications. Pre-requisites: None

217 122 Engineering Physics II (3-2:4)

Electric charge and electric field. Coulomb's law and Gauss's law with applications. Capacitance and dielectrics. DC circuits. Magnetic fields. Ampere's law and its applications. Electromagnetic induction, Faraday's law, Lenz's law, induced electric fields. Self- and mutual-inductance. Electromagnetic waves and Maxwell's equations. Optics and its engineering applications. Pre-requisites: None

217 141 Chemistry for Engineers (2-2:3)

Atoms, molecules, ions and formulas of ionic compounds. Electronic structure and the periodic table. Quantum numbers, energy levels and orbital. Orbital diagrams of atoms. Various types of bonds. Chemistry of metals and

transition metals. Chemistry of semiconductors, polymers, polymerization. Introduction to organic chemistry, bonding and types of hybridization in carbon atom, alkanes and cyclo alkanes, alkyl and halogen substituents. Alkenes and alkynes, Diels-Alder reaction, problems. Pre-requisites: None

217 150 Introduction to Engineering (1-0:1)

Engineering profession and the role of engineers in modern developments, engineering ethics, and engineering disciplines. Electrical engineering, importance of math and science to engineers. Engineering design and analysis, lab skills for engineers, computer skills for engineers. Engineering curriculum, curriculum planning and management. Critical thinking, soft skills for engineers, creativity, engineering communications. Pre-requisites: None

217 203 Engineering Mathematics III (3-0:3)

First order differential equations. Homogeneous linear second-order differential equations with constant and variable coefficients, non-homogeneous linear second-order differential equations with constant coefficients, higher-order linear differential equations with constant coefficients. Power series solution of differential equations. Laplace Transform, Inverse Laplace Transform. Application of Laplace Transform to solve ordinary differential equations. Introduction to partial differential equations (PDEs), first order PDEs, second order PDEs, boundary value problems, engineering applications. Pre-requisite: 217 102

217 204 Engineering Mathematics IV (3-0:3)

Vector Calculus: Dot and cross products, lines and planes in space, polar coordinate system, line integrals, Green's theorem, surface integrals. Complex Analysis: Complex functions, derivative of complex functions, analytic functions, Cauchy-Riemann equations, harmonic functions. Fourier analysis: Fourier Series, Fourier Integrals, Fourier series of even and odd functions with applications.

Discrete Mathematics and its engineering applications. Pre-requisite: 217 203

217 306 Random Signals and Stochastic Processes (3-0:3)

To understand random signals and stochastic processes and analyze any system with noise and random interference. The course covers concepts of probability, discrete and continuous random variables, multiple random variables, stationary and non-stationary processes, correlation and power spectral density, transmission of random process through linear filters, and optimum filtering. Applications in signal processing and communication systems. Pre-requisites: 103 110, 212 221

217 321 Report Writing and Presentation (3-0:3)

Writing of technical reports, brief reports and progress reports. Business communication: business letters and memos, executive summary, business reports. Oral presentation: planning, preparation of visuals and delivering of an oral presentation. Pre-requisite: 217 150

21x 491 Graduation Project I (1-4:3)

Teams of three to four students shall design, implement, test, and demonstrate their graduation project in two semesters. Graduation Project I is to be completed in first semester and includes a literature survey, action plan, design of complete project taking into account realistic constraints, computer simulation (if applicable), partial implementation and testing. Report writing and oral presentation. Pre-requisite: Advisor's Approval

21x 493 Graduation Project II (1-4:3)

It is continuation of Graduation Project I in the second semester. Students will complete the implementation and testing of remaining part of their design. They will integrate the complete project, test it and prepare a PCB. Report writing, oral presentation, poster presentation of project. Pre-requisite: 21x 491

Bachelor of Science in Biomedical Engineering

Mission

The mission of the biomedical engineering program is to produce graduates equipped with the theoretical knowledge and practical skills necessary for pursuing a successful professional career in the healthcare industry. The program also prepares its students for graduate studies.

Objectives

The objective of the biomedical engineering program is to produce graduates who are equipped with:

- a) knowledge and skills in engineering and life sciences which will enable them to bridge the gap between conventional engineering and life science for applications in healthcare and medicine
- b) technical skills required for using modern engineering tools necessary for engineering practice.
- c) skills to communicate effectively
- d) skills to work with professionals from a variety of backgrounds in multidisciplinary teams
- e) a strong sense of professional ethics
- f) skills and knowledge which will enable them to engage in life-long learning

Admission Requirements

Admission to the biomedical engineering program requires a UAE secondary school certificate (science major) or its equivalent with a minimum grade of 70 percent. For more information please refer to the university admissions policy.

Career Opportunities

Graduates will be qualified to work in the following areas:

- **Healthcare facilities:** biomedical engineering graduates are ideally suited to work as design and maintenance engineers for healthcare facilities such as hospitals and clinics
- **Manufacturer's representatives and sales engineers:** biomedical graduates have the technical knowledge required to communicate with a variety of health-care professionals, which enables them to act as representatives for manufacturers and suppliers of medical equipment and services
- **Design and development:** biomedical engineering graduates can work in companies on the design, development and testing of medical devices and systems.
- **Management:** program engineering graduates background in technology will allow them to be trained as managers in organizations dealing with healthcare and biological products
- **Consultancy:** biomedical engineering graduates are able to join consultancy agencies which provide advice for healthcare authorities regarding standards and quality evaluation of clinical facilities and services.

Graduation Requirements

The Bachelor of Science Degree is awarded upon the fulfillment of the following:

1. Successful completion of all courses in the curriculum
2. Successful completion of the equivalent of four months of engineering training
3. Cumulative Grade Point Average CGPA of at least 2.

Degree Requirement

The B.Sc. degree in biomedical engineering requires the completion of 141 Cr. Hrs. classified as follows:

Type of Courses	Credit hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Required Courses	30
4. Specialization Required Courses	68
4. Specialization Elective Courses	9
5 Biomedical Design Projects I & II	6
6. Engineering Training	4
Total Credit Hours	141

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Required Courses (15 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110	Statistics	2	2	0	3	-
104110	Computer Applications	2	2	0	3	-
103120	Environmental Sciences	3	0	0	3	-

(b) University Elective Courses (9 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112110	Principles of Architecture & Art	3	0	0	3	-
112120	Principles of Interior Design	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
113110	Internet Concepts	3	0	0	3	-

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
113120	Introduction to Information Systems	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of science in Islam	3	0	0	3	-
115120	Scientific pioneering	3	0	0	3	-
115130-	General psychology	3	0	0	3	-
115140	Principle of mathematics	3	0	0	3	-
115150	The Art of Expression and writing	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
115170	Education Technology	3	0	0	3	-
117110	General chemistry	3	0	0	3	-
117120	Fundamental of Human Nutrition	3	0	0	3	-
117130	First Aid	3	0	0	3	-
117150	Applications of Remote sensing	3	0	0	3	-
118110	Principles of Ethics	3	0	0	3	-
118120	General Biology	3	0	0	3	-
118130	Oral Health	3	0	0	3	-
118140	General principles of Epidemiology	3	0	0	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	0	0	3	-
119110	Communication Skills	3	0	0	3	-
119120	Introduction to Communication Sociology	3	0	0	3	-
119130	Information Society	3	0	0	3	-
120115	Legal Culture	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-

1. College Required Courses (34 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
210400	Engineering Training	4	0	0	4	
213235	Logic Design	3	2	2	4	104110
217101	Engineering Mathematics I	3	0	2	3	-----
217102	Engineering Mathematics II	3	0	2	3	217101

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
217121	Engineering Physics I	3	2	2	4	----
217122	Engineering Physics II	3	2	2	4	----
217141	Chemistry for Engineers	2	2	0	3	-----
217203	Engineering Mathematics III	3	0	2	3	217102
217204	Engineering Mathematics IV	3	0	2	3	217203
217321	Report Writing and Presentation	3	0	1	3	218151-6

(b) Specialization Required Courses (74 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
218118	Biochemistry	2	2	0	3	217 141
218141	Biology	3	2	0	4	
218151	Introduction to Biomedical Engineering	1	0	2	1	
218221	Computer Programming	3	0	2	3	104 110
218229	Circuit Analysis	3	2	2	4	217 101, 217 122
218233	Electronic Circuits	3	2	2	4	218 229
218242	Human Anatomy	2	2	0	3	218 141
218245	Human Physiology	2	2	0	3	218 242
218337-1	Microcontrollers and Computer Interfacing	3	2	0	4	213 235
218346	Electrophysiology	2	2	0	3	218 245
218355	Biomaterials Basics and Applications	3	0	2	3	217 141, 218 242
218356	Bio-mechanics	3	0	2	3	217 121, 218 242
218361	Medical Electronics	2	2	2	3	218 233, 218 245
218365	Medical Instrumentation I	3	0	0	3	218 361, 218 346
218375-6	Signals and Systems	3	0	2	3	217 203
218392	Biomedical Design	2	2	0	3	218 361
218466	Medical Instrumentation II	3	2	0	4	218 365
218471	Biomedical Imaging Systems. I	3	0	2	3	217 245
218472	Biomedical Imaging Systems. II	3	2	0	4	218 471
218476	Bio-Signal Processing	3	2	2	4	218 375-6
218496	Directed Study in Biomedical Engineering	3	0	2	3	Senior Standing
218498	Biomedical Design Project I	1	4	0	3	218392

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
218499	Biomedical Design Project II	1	4	0	3	218 498

c) Specialization Electives Courses (9 Cr. Hrs.)

The student will take two of the following Specialization Electives as approved by the academic advisor.

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
218512	Physiological Modeling and Control Systems	2	2	0	3	218 344
218515	Bio-fluid Mechanics	3	0	0	3	218 356
218513	IT and Computer Networks in Health-care	3	0	2	3	218 337-1
218516	Artificial Neural Networks and Fuzzy Logic	3	0	2	3	217 204
218517	Biomedical Image Processing	2	2	0	3	218 375-6
218511	Artificial Organs	3	0	0	3	218 344
218519	Selected Topics in Biomedical Engineering	3	0	0	3	Senior Standing
218514	Rehabilitation Engineering	3	0	0	3	218 365

Course Sequence

First Year

First Semester:

Course Code	Course Title	Credit Hrs	Lec. Hrs	Lab. Hrs	Tut. Hrs	Prerequisite
101 000	Orientation	0	1	0	0	--
217 101	Engineering Mathematics I	3	3	0	2	--
217 121	Engineering Physics I	4	3	2	2	--
217 141	Chemistry for Engineers	3	2	2	0	--
218 141	Biology	4	3	2	0	-
104 110	Computer Applications	3	2	2	0	-
		17	14	8	4	

Second Semester

Course Code	Course Title	Credit Hrs	Lec. Hrs	Lab. Hrs	Tut. Hrs	Prerequisite
103 130	Environmental science	3	3	0	0	--
217 102	Engineering Mathematics II	3	3	0	2	217 101
217 122	Engineering Physics II	4	3	2	2	--
218 118	Biochemistry	3	2	2	0	217 141
218 151	Introduction to Biomedical Engineering	1	1	0	2	--
		14	12	4	6	

Summer Semester

Course Code	Course Title	Credit Hrs	Lec. Hrs	Lab. Hrs	Tut. Hrs	Prerequisite
xxx xxx	University Elective I	3	3	0	0	Advisor's Approval
		3	3	0	0	

SECOND YEAR**First Semester**

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
103 110	Statistics	3	2	2	0	--
213 235	Logic Design	4	3	2	2	104 110
217 203	Engineering Mathematics III	3	3	0	2	217 102
218 229	Circuit Analysis	4	3	2	2	217 122 217 101
218 242	Human Anatomy	3	2	2	0	218 141
		17	13	8	6	

Second Semester

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
212 221	Signals and Systems	3	3	0	2	217 203
213 145	Computer Programming	3	3	0	2	104 110
217 204	Engineering Mathematics IV	3	3	0	2	217 203
218 233	Electronic Circuits	4	3	2	2	218 229
218 243	Human Physiology	3	2	2	0	218 242
		16	14	4	8	

THIRD YEAR

First Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
102 110	Islamic Culture	3	3	0	1	--
102 140	Communication Skills in Arabic Language	3	3	0	0	---
218 344	Electrophysiology	3	2	2	0	218 243
218 356	Bio-mechanics	3	3	0	2	217 121 218 242
218 361	Medical Electronics	3	2	2	2	218 233 218 243
University Elective I		3	3	0	0	
		18	16	4	5	

INTERNAL TRAINING (2 Weeks in Spring Break)

Second Semester:

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
218 354	Biomaterials Basics and Applications	3	3	0	2	217 141 218 242
218 365	Medical Instrumentation I	3	3	0	0	218 361 218 344
213 334	Microcontrollers and Computer Interface	4	3	2	0	213 235

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
218 391	Biomedical Design	3	2	2	0	218 361
xxx xxx	University Elective II	3	3	0	0	Advisor's Approval
		16	14	4	2	

210 400: ENGINEERING TRAINING I (6 Weeks in Summer)

FOURTH (FINAL) YEAR

First Semester

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
218 466	Medical Instrumentation II	4	3	2	0	218 365
218 471	Biomedical Imaging System I	3	3	0	2	218 243
218 476	Bio-Signal Processing	4	3	2	2	212 221
218 498	Biomedical Design Project I	3	1	4	0	218 391
xxx xxx	BME Elective I	3	3	0	0	Advisor's Approval
		17	13	8	4	

Second Semester

Course Code	Course Title	Credit Hrs.	Lec. Hrs.	Lab. Hrs.	Tut. Hrs.	Prerequisite
218 472	Biomedical Imaging System II	4	3	2	0	218 471
218 499	Biomedical Design Project II	3	1	4	0	218 498
218 497	Directed Studies in Biomedical Engineering	3	3	0	2	Department approval
xxx xxx	BME Elective II	3	3	0	0	Advisor's Approval
xxx xxx	BME Elective III	3	3	0	0	Advisor's Approval
		16	13	6	2	

210 400: ENGINEERING TRAINING II (6 Weeks in summer)

Course Descriptions

218 141 Biology (3-2-0,4)

Cell biology, cell membrane, mediated transport system, bulk transport, cytoplasm and nuclear cell biology, cell cycle and cell division, meiosis and gameto-genesis, primary tissues, connective tissues, muscle tissues, nerve tissues.

218 151 Introduction to Biomedical Engineering (1: 0: 2, 1)

History of biomedical engineering, disciplines of biomedical engineering, role of biomedical engineers in health care sector, challenges and future directions in biomedical engineering, moral and ethical issues in biomedical engineering, visits to hospitals, student seminars Pre-

218 229 Circuit Analysis (3: 2: 2,4)

Basic circuit variables, elements and Kirchoff's law, resistive circuit analysis and theorems, network theorems, time domain analysis, AC analysis, frequency characteristics of electric circuits, magnetic coupled circuits and two port elements. Pre-requisite: Engineering Physics II

104 110 Computer Application (2: 2: 0,3)

Introduction to information technology, operating systems, information systems, graphics and multimedia, networks and their uses, internet and information retrieval, electronic mail and news, computers and society, ethical issues, computer security issues.

213 235 Logic Design (3: 2: 2,4)

Basic theorems and properties of Boolean Algebra and boolean functions. Simplification of Boolean Functions: Karnaugh Map and Tabulation (Quine-McCluskey) Method. Product of Sums (POS) and Sum of Products (SOP) forms. Combinational logic circuits: design and

analysis procedures. Decoders, encoders, multiplexers, demultiplexers, ROM, PLA and PAL. Sequential logic circuits: Flip Flops (RS, D, JK, T), design procedure for clocked sequential circuits, counters. Registers and shift registers. Pre-requisite: Computer Applications

218 221 Computer Programming (3: 0: 2,3)

Flow charts and problem solving, data types, input output statements, C++ basics, functions, arrays and strings, pointers structures and unions, C++ preprocessor, MATLAB programming. Pre-requisite: Computer Applications

218 242 Human Anatomy (2: 2: 0,3)

An Introduction to the human body, the skeletal system, the axial skeleton and ribs, the appendicular skeleton, joints, the muscular system, thorax, abdomen, upper limb, lower limb Pre-requisite: Biology

218 243 Human Physiology (2: 2: 0,3)

Cell physiology, nervous system, muscles, cardiovascular systems, respiratory system, digestive system, urinary system, endocrine system. Pre-requisite: Human Anatomy

218 344 Electrophysiology (2: 2: 0,3)

Basics of electro-physiology, membrane models, resting potential, action potential, bio electrodes, the electrophysiology of bio potential signals- ECG, EEG, EMG, EOG, ERG etc. Pre-requisite: Human Physiology I

218 233 Electronics Circuits (3,2: 2,4)

Semiconductors and PN Junction, bipolar junction transistor (BJT) DC analysis, bipolar Junction Transistor (BJT) AC analysis, junction field effect transistor (JFET), biasing and amplifiers circuits. Pre-requisite: Circuit Analysis

218 337 Microprocessors and Microcontrollers (3: 2: 0,4)

The 8086 architecture and programming modes, assembly programming, the 8086 microprocessor instruction set, memory interface and I/O interface, interrupt processing, microcontrollers and applications. Pre-requisite: Logic Design

218 361 Medical Electronics (2: 2: 2,3)

Amplifiers and filters, bio-potential amplifiers, design of power system in medical electronics, oscillator circuits, Analog to digital converter (ADC), digital to analog converter (DAC) and data acquisition circuits. Pre-requisite: Electronic Circuits, Human Physiology I

218 356 Biomechanics (3: 0: 2,3)

Basics of anatomy and mechanics, applications involving forces and moments, statics and dynamics, Applications to human joints, Properties of deformable bodies, kinematics and kinetics, applications from real-life problems, contemporary issues: Motion analysis. Pre-requisite: Engineering Physics I, Human Anatomy

218 118 Biochemistry (2: 2: 0,3)

Structural organization and function of the major components of living cells, metabolism and energy production, and biosynthesis of small molecular weight compounds and macromolecules. Pre-requisite: Chemistry for Engineers

218 375 Signals and Systems (3: 0: 2,3)

Continuous- and discrete-time signals and systems. Basic system properties. Linear Time-Invariant (LTI) systems. Properties of LTI systems. Convolution sum. Fourier series of periodic signals. Amplitude, phase, and power spectra. Fourier transform of non-periodic signals. Laplace transform, analysis of continuous-time LTI systems using Laplace transform. Z-Transform. Pre-requisite: Engineering Mathematics III

218 365 Biomedical Instrumentation I (3: 0: 0,3)

Introduction to biomedical instrumentation, biomedical sensors and transducers, basic concepts of measurements and instrumentation, bio potential electrodes, clinical laboratory instrumentation. Pre-requisite: Medical Electronics, Human Physiology II

218 254 Biomaterials (3: 0: 2,3)

Introduction to biomaterials, structure and properties of materials, crystalline and non-crystalline materials, properties of biologic materials, biocompatibility, Metallic implant materials, ceramic implant materials, polymeric implant materials, composite implant materials. Pre-requisite: Chemistry for Engineers, Human Anatomy

218 376 Bio-signal Processing (3: 2: 2,4)

Nature of biomedical signals, frequency response, DFT, FFT, DCT, design of digital filters, nonlinear models of biomedical signals, DSP applications of bio-signals. Pre-requisite: Signals and Systems, Human Physiology II

218 466 Medical Instrumentation II (3: 2: 0,4)

Design procedure of medical equipment, bio-potential recording systems, blood pressure, flow and volume instrumentation systems, blood gas analyzers, pace-makers and defibrillators, electro-surgical, physiotherapy instruments, respiratory systems instruments. Pre-requisite: Medical Instrumentation I

218 391 Biomedical Design (2: 2: 2,3)

Amplifiers and filters, bio-potential amplifiers, design of power supplies, oscillator circuits, and biomedical data acquisition circuits, mini projects related to biomedical engineering applications. Pre-requisite: Medical Electronics

218 498 Biomedical Design Project I (1: 4: 0,3)

Teams of three to four students shall design, implement, test and demonstrate their graduation project in two semesters. Biomedical design Project I is to be completed in one semester and includes a literature survey, action plan, design of complete project taking into account realistic constraints, computer simulation (if applicable). Pre-requisite: Completion of 100 Credit Hours

218 499 Biomedical Design Project II (1: 4: 0,3)

It is continuation of biomedical design project I in the second semester. Students will complete the implementation and testing of remaining part of their design. They will integrate the complete project, test it, and prepare a PCB. Report writing, oral presentation, poster presentation, and project demonstration. Pre-requisite: Biomedical Design Project I

218 471 Biomedical Imaging System I (3: 0: 2,3)

Radioactivity, X -ray physics and imaging techniques, Computed tomography (CT imaging), introduction to SPECT and PET imaging techniques, biological effects of radiation and safe handling. Pre-requisite: Engineering Physics II, Human Anatomy

218 472 Biomedical Imaging System II (3: 2: 0,4)

Medical ultrasound imaging techniques, modes of operation, magnetic resonance imaging techniques (MRI), principles of operation, components of MRI machines, computer based reconstruction, biological effects of magnetic fields, static magnetic fields, radio frequency fields, gradient magnetic fields. Pre-requisite: Medical Imaging System I

218 458 Biomedical Safety (2: 0: 2,2)

Introduction to the types of hazards in hospitals and clinics, electrical hazards safety requirements of power distribution in hospitals, biological, safety codes and

standards for biomedical equipments and facilities, test instruments for checking safety parameters of medical instruments. Pre-requisite: Medical Instrumentation II

210 400 Engineering Training: 4Cr. Hrs

Pre-requisite: Approval of Academic Advisor

218 512 Physiological Modeling and Control (2: 2: 0,3)

Physiological modeling, static analysis of physiological systems, time domain analysis, frequency domain analysis, stability analysis. Pre-requisite: Human Physiology II

218 518 Tissue Engineering (3: 0: 0, 3)

Tissue engineering principles, cell, Intracellular signaling, control of cell growth, scaffolds, cell traction and migration, tissue regeneration and replacement, artificial organs, orthopedic tissue engineering, bioreactors and bio expansion. Pre-requisite: Biomaterials

218 511 Artificial Organs (3: 0: 0, 3)

Major types of artificial organs, artificial blood, artificial skin and dermal equivalents, artificial pancreas. Prosthetics and orthotics; artificial limbs, major joint implants, dental implants. Pre-requisite: Human Physiology II

218 515 Bio-fluid Mechanics (3: 0: 0, 3)

Fundamentals of fluid mechanics. Flow properties of blood, applications describing flow of air in the airways and flow of blood in large arteries. Pre-requisite: Biomechanics

218 513 IT and Computer Networks in Health-care (2: 2: 0,3)

Types and classification of computer networks, networks topology and wiring type, OSI layering model, design process of computer network, hospital information system, and modern application of computer networks in

health-care. Pre-requisite: Microprocessors and Computer Interfacing

218 514 Rehabilitation Engineering (3: 0: 0, 3)

Introduction to rehabilitation engineering, disability, rehabilitation engineering technology, assistive devices, physiological and biomedical measurement techniques, disability assessment, application of rehabilitation engineering, prosthetics and orthotics. Pre-requisite: Medical Instrumentation I

218 516 Artificial Neural Networks and Fuzzy Logic (3: 0: 0,3)

Fuzzy logic fundamentals, fuzzy sets, types of membership functions, linguistic variables, creation of fuzzy logic rule base, fuzzy logic operations, neural network fundamentals, neural type learning process, single layer perception, artificial neural networks architectures, training algorithms, genetic algorithms and evolution computing, neuro-fuzzy technology, fuzzy control systems and applications related to biomedical engineering. Pre-requisite: Engineering Mathematics I

218 517 Biomedical Image Processing (2: 2: 0,3)

Digital image fundamentals, image transforms image enhancement, image restoration, image segmentation, representation and description, recognition and interpretation, image compression. Pre-requisite: Signals and Systems

Bachelor of Science in Architectural Engineering

Mission

Architecture is the science and art of shaping the built environment and establishing habitable and enjoyable

communities. The architectural engineering program is a five-year course designed to equip students with a sound knowledge and understanding of building design, landscape design, structure, construction, history of architecture, heritage conservation as well as many other related subjects.

Objectives

The main objectives of the architectural engineering curriculum are to provide its students with:

- a. a strong foundation in basic skills to apply in their design process and presentations
- b. a broad theoretical and practical knowledge related to their practice of architectural design and building construction
- c. the skills and abilities for required for data collection, analysis, design and evaluation of architectural design projects
- d. the information and ability required to produce building construction drawings and working details
- e. the ability to utilize modern technology, for example computer aided design and other software application packages for architectural design, working drawings and presentation purposes in the field of architecture, urban design and urban planning
- f. good oral and written communication skills
- g. the ability to work effectively as members of a multidisciplinary team
- h. the ability to compete professionally and function successfully in the diverse and fast-developing architectural engineering environment of the UAE
- i. the knowledge to preserve both the built and natural environments, and the sensibility to understand the impact of architecture on its broader physical and cultural contexts, fulfilling

both their professional as well as their ethical responsibilities

- j. the ability for critical thinking and lifelong self-learning, so that they are capable of updating their technical knowledge while working as professional architects

Admission Requirements

Admission to the Architectural Engineering program requires a UAE secondary school certificate (science major), or its equivalent, with a minimum acceptable grade of 70 percent. For more information please refer to the university admissions policy.

Career Opportunities

Because of the multidisciplinary nature of the curriculum, graduates are qualified for employment in a variety of areas. They can work, for example, as designers and construction managers, or join city planning or community agencies and governmental authorities. Alternatively they can become building contractors. As graduates are trained in problem-solving they are able to adapt to a range of jobs in both the public and private sector.

Graduation Requirements

The Bachelor of Science in Architectural engineering is awarded upon fulfillment of the following:

1. Successful completion of all courses in the prescribed curriculum
2. Successful completion of four months' engineering training
3. The Cumulative Grade Point Average CGPA is at least 2.0.

Degree Requirement

The B.Sc. degree in Architectural Engineering requires the completion of 169 Cr. Hrs. circulated according to the following plan:

Type of Courses	Credit hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Required courses	9
4. Specialization required courses	117
4. Specialization Elective courses	9
5 Graduation projects I & II	10
Total Credit Hours	169

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Required Courses (15 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110-	Statistics	2	2	0	3	-
104110	Computer Applications	2	2	0	3	-
103120	Environmental Sciences	3	0	0	3	-

(b) University Elective Courses (9 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112110	Principles of Architecture & Art	3	0	0	3	-
112120	Principles of Interior Design	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
113110	Internet Concepts	3	0	0	3	-
113120	Introduction to Information Systems	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of science in Islam	3	0	0	3	-
115120	Scientific pioneering	3	0	0	3	-
115130-	General psychology	3	0	0	3	-
115140	Principle of mathematics	3	0	0	3	-
115150	The Art of Expression and writing	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
115170	Education Technology	3	0	0	3	-
117110	General chemistry	3	0	0	3	-
117120	Fundamental of Human Nutrition	3	0	0	3	-
117130	First Aid	3	0	0	3	-
117150	Applications of Remote sensing	3	0	0	3	-

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
118110	Principles of Ethics	3	0	0	3	-
118120	General Biology	3	0	0	3	-
118130	Oral Health	3	0	0	3	-
118140	General principles of Epidemiology	3	0	0	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	0	0	3	-
119110	Communication Skills	3	0	0	3	-
119120	Introduction to Communication Sociology	3	0	0	3	-
119130	Information Society	3	0	0	3	-
120115	Legal Culture	3	0	0	3	-

College Required Courses (9 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
201102	Engineering Graphics	2	2	0	3	---
217101	Engineering Mathematics I	3	0	2	3	---
270101	Building Sciences	3	0	0	3	---

(b) Specialization Required Courses & Graduation Projects (127 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
200101	Introduction to Design	1	4	0	3	
200102	Perspective, Shade & Shadows	1	4	0	3	201102
210300	Engineering Training	4	0	0	4	
270102	Architectural Design I	2	4	0	4	200101
270203	Architectural Design II	2	4	0	4	270102
270204	Architectural Design III	2	6	0	5	270203
270213	History & Theory of Arch. I	3	0	0	3	
270214	History & Theory of Arch. II	3	0	0	3	270213
270234	CAAD I	1	4	0	3	104110 & 201102
270335	CAAD II	1	4	0	3	270234
270305	Architectural Design IV	2	6	0	5	270204
270306	Architectural Design V	2	6	0	5	270305
270315	History & Theory of Arch. III	3	0	0	3	270214

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
270316	History & Theory of Arch. IV	3	0	0	3	270315
270346	Housing Design & Theory	3	0	0	3	270204
270356	Landscape Architecture	2	2	0	3	270203
270407	Architectural Design VI	2	6	0	5	270306
270447	Active Thermal Control	2	0	0	2	270101
270458	Urban Planning	3	0	0	3	270356
270459	Urban Design	2	6	0	5	270407
270460	Environmental Behavior	3	0	0	3	
270468	Heritage Conservation	3	0	0	3	270214
273511	Sustainable Architecture	3	0	0	3	270447
270559	Architectural Practice	3	0	0	3	
270589	Graduation Project I	3	4	0	5	270346&270459
270590	Graduation Project II	1	8	0	5	270589
271223	Building Construction I	2	2	0	3	201102
271224	Building Construction II	2	2	0	3	271223
271325	Building Construction & Technology	3	0	0	3	271224&275204
271326	Working Drawing I	1	4	0	3	271325
271327	Building Services	3	0	0	3	271325
271427	Working Drawing II	1	4	0	3	271326
271448	Lighting & Acoustics	3	0	0	3	270101
275203	Surveying for Architects	1	2	0	2	
275204	Structural Design for Architects I	3	0	0	3	270101&217101
275305	Structural Design for Architects II	3	0	0	3	275204
290103	Freehand Drawing	2	4	0	4	

(c) Specialization Electives courses (9 Cr.Hrs.)

The student will take three of the following Specialization Electives as approved by the academic advisor.

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
273500	Selected Topics in Architecture	3	0	0	3	
273501	Interior Design & Coloring	1	4	0	3	
273502	Real Estate Development	3	3	0	3	

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
273504	Photography	1	4	0	3	
273506	Advanced CAAD Applications	1	4	0	3	270335
273507	Research & Design Methods	3	0	0	3	
273508	Geographic Information Systems	1	4	0	3	270335
273509	Contemporary Arab Architecture	3	0	0	3	270316
273510	Interior Architecture	1	4	0	3	

Course Sequencing Plan

FIRST SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
	Orientation	1	0	0	0	
200101	Introduction to Design	1	4	0	3	
290103	Freehand Drawing I	2	4	0	4	
201102	Engineering Graphics	2	2	0	3	
270101	Building Sciences	3	0	0	3	
102140	Communication Skills in Arabic Language	3	0	0	3	
104110	Computer Applications	2	2	0	3	
TOTAL		14	12	0	19	

SECOND SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
270102	Architectural Design I	2	4	0	4	200101
200102	Perspective Shades & Shadow	1	4	0	3	201102
103120	Environmental Sciences	3	0	0	3	
217101	Engineering Math. I	3	0	2	3	
xxxxxx	University Elective I	3	0	0	3	
TOTAL		12	8	2	16	

THIRD SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
270203	Architectural Design II	2	4	0	4	270102
270213	History & Theory of Arch. I	3	0	0	3	
271223	Building Construction I	2	2	0	3	201102
275203	Surveying for Architects	1	2	0	2	
270234	CAAD I	1	4	0	3	201102&104110
-----	University Elective II	3	0	0	3	
TOTAL		12	12	0	18	

FOURTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
270204	Architectural Design III	2	6	0	5	270203
270214	History & Theory of Arch. II	3	0	0	3	270213
271224	Building Construction II	2	2	0	3	271223
275204	Structural Design for Architects I	3	0	0	3	270101&217101
270335	CAAD II	1	4	0	3	270234
TOTAL		11	12	0	17	

FIFTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
270305	Architectural Design IV	2	6	0	5	270204
270315	History & Theory of Arch. III	3	0	0	3	270214
271325	Building Construction & Technology	3	0	0	3	271224 275204
275305	Structural Design for Architects II	3	0	0	3	275204
270356	Landscape Arch.	2	2	0	3	270203
130130	Statistics	2	2	0	3	
TOTAL		15	10	0	20	

SIXTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
270306	Architectural Design V	2	6	0	5	270305
270316	History & Theory of Arch. IV	3	0	0	3	270315
271326	Working Drawings I	1	4	0	3	271325
271327	Building Services	3	0	0	3	271325
102110	Islamic Culture	3	0	1	3	
TOTAL		12	10	1	17	

SEVENTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
270407	Architectural Design VI	2	6	0	5	270306
270458	Urban Planning	3	0	0	3	270356
271427	Working Drawing II	1	4	0	3	271326
270447	Active Thermal Environmental Control	2	0	0	2	270101
270346	Housing Design & Theory	3	0	0	3	270204
TOTAL		11	10	0	16	

EIGHTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
270459	Urban Design	2	6	0	5	270407
270460	Environmental Behavior	3	0	0	3	-
271448	Lighting & Acoustics in Architecture	3	0	0	3	270101
270468	Heritage Conservation	3	0	0	3	270214
xxxxxx	University Elective III	3	0	0	3	
TOTAL		14	6	0	17	

NINTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
270589	Graduation Project I	3	4	0	5	270346 270459
270559	Architectural Practice	3	0	0	3	-
273511	Sustainable Architecture	3	0	0	3	270447-0
xxxxxx	Specialization Elective I	/	/	/	3	
TOTAL		12	4	0	14	

TENTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
270590	Graduation project II	1	8	0	5	270589
	Specialization Elective II	/	/	/	3	
	Specialization Elective III	/	/	/	3	
210300	Engineering Training	/	/	/	4	
TOTAL		/	/	/	15	

Course Descriptions (B.Sc. in Architectural Engineering)

200 101 Introduction to Design (1, 4, 0: 3)

pre-requisite: none

The course covers the development of the sensory perception of abstract form and its ultimate conversion into specific architectonic configurations, relevant to a variety of solutions to a specific problem and leading to the process of selection and decision making. Basic principles of aesthetics through the study of form, space, proportion, texture analysis of color theory conditioned by different media and materials are also covered.

200 102 Perspective, Shades and Shadows (1, 4, 0: 3)

pre-requisite: 201 102

The course covers one point and two points exterior and interior perspectives, and fundamentals of drawing shades and shadows as presented in two-dimensional and three-dimensional parallel-line drawings by applying projection.

201 102 Engineering Graphics (2, 2, 0: 3)

pre-requisite: none

The course covers the basics of 2-D and 3-D architectural drawing and presentation. Parallel-line drawings and orthogonal projections are covered. Drawing of all

architectural elements, renderings (abstraction, textures, and materials), and lettering are also practiced.

270 101 Building Sciences (3, 0, 0: 3)

pre-requisite: none

This course aims to familiarize students with the basic principles and means of measurement and design of technical aspects of building science. It also covers incorporating structural design, environmental principles, material science and human factors and how these topics rely upon and influence one another in architectural design.

270 102 Architectural Design I (2, 4, 0: 4)

pre-requisite: 200101

The course covers elements and principles of architectural design; form, space/volume, and function and their interrelationships, in addition to basic design requirements through a small-scale project(s) (e.g. single family house, studio).

270 203 Architectural Design II (2, 4, 0: 4)

pre-requisite: 270 102

The course covers simple and single-use architectural project(s); aspects of spatial arrangements, site, climate and traditions are to be examined. (e.g., kindergarten, small clinic, art workshop).

270 204 Architectural Design III (2, 6, 0: 5)

pre-requisite: 270 203

Design process, conceptualization, and creativity are practiced by students. The problem of space formation, and form/function interaction are also covered. Students handle design problems related to large span single-use spaces; issues of structural systems and light weight material are applied. Contextual design elements of site,

topography, climate and traditional architecture are identified, and conceptual design solution(s) analyzed.

270 213 History and Theory of Architecture I (3, 0, 0: 3)

pre-requisite: none

The course provides an overview of the prehistoric, early historic and classical periods. Emphasis is laid upon design concepts shaping both secular and religious buildings that made up the built environment. Comparative analysis of several buildings is presented in their contextual settings reflecting socioeconomic aspects, culture and traditions, climatic conditions, religious beliefs and building needs of societies.

270 214 History and Theory of Architecture II (3, 0, 0: 3)

pre-requisite: 270 213

The course provides an overview of the architecture of major periods of Western history, ranging from the Early Christian Period to the Renaissance. The course introduces students to the ancient philosophies relating to space, urban space and conceptual meaning in architectural design. Also presented are the concepts underlying heritage, ranging from the Early Christian era and passing through the Byzantine, Romanesque, Gothic and Renaissance eras.

271 223 Building Construction I (2, 2, 0: 3)

pre-requisite: 201 102

The course provides an overview of basic concepts and properties of building structural components and their materials. The course discusses elements and types of superstructure, substructure and foundations. It covers linear and planner, vertical and horizontal, structural systems and their members such as short-medium span roofing, flooring, walls, columns, girders and beams.

275 203 Surveying for Architects (1, 2, 0: 2)

pre-requisite: none

The course covers basic surveying, errors in surveying operations, distance measurements, chain surveying, angles measurements and bearings, coordinate geometry, leveling of profiles and cross section contour lines, areas and volume computations. Lab work includes the use of the theodolite and planimeter for area measurement.

271 224 Building Construction II (2, 2, 0: 3)

pre-requisite: 271 223

Topics covered include wood systems and carpentry and means of vertical circulation (stairs, elevators and escalators). The course provides an insight of materials and detailing of walls, floors, false ceilings, doors, windows, thermal insulation, sound isolation, water proofing and building joints.

275 204 Structural Design for Architects I (3, 0, 0: 3)

pre-requisites: 270 101 & 217 101

The course provides an introduction to the statics of structures and structural members and deals with supports and springs. It discusses the analysis of determinate and indeterminate structures.

270 234 CAAD I (1, 4, 0: 3)

pre-requisites: 104 110 & 201 102

The course covers the advantages of CAAD over the traditional design process, mastering AutoCAD 2000 software as a tool of CAAD design, and places emphasis on the 2D AutoCAD, with an introduction of 3D AutoCAD.

270 315 History and Theory of Architecture III (3, 0, 0: 3)

pre-requisite: 270 214

The course presents the social, political, economic and religious values that have helped the evolution of the built environment and the ensuring of significant architectural development. Examples of historical Islamic buildings of various countries are selected to analyze their unique design concepts. A study and comparative analysis is made of key elements of Islamic architecture: cities and buildings such as mosques, market, places and housing.

270 305 Architectural Design IV (2, 6, 0: 5)

pre-requisite: 270 204

The course offers a comprehensive approach to context in response to vital aspects in design process, site analysis/selection, environmental/climatic impacts, culture and tradition. Problem-solving techniques in terms of complexity, form of the circulation path, configuration of path-space interaction, structural system, and building form are manipulated by students throughout the course (e.g., recreational facilities, local library, bank).

271 325 Building Construction & Technology (3, 0, 0: 3)

pre-requisites: 271 224 & 275 204

The course covers advanced building systems and technologies, and means of deploying them in buildings. Emphasis is placed on prefabrication, modular coordination, mechanization, super structures and long spans in concrete, steel and wood.

275 305 Structural Design for Architects II (3, 0, 0: 3)

pre-requisite: 275 204

The course covers the strength of materials, the design of tension and compression members, beams and columns, with a major concentration on steel design.

270 335 CAAD II (1, 4, 0: 3)

Pre-requisite: 270 234

The course covers AutoCAD orders and tools, integrating presentation work through sharing (importing, exporting) drawing files with other presentation programs such as 3d Max and Photoshop. 3D Max and its implementation to basic architectural concepts is presented, including modeling and presentation, modeling tools, creating objects, primitives, compound objects, surfaces, modifiers, helpers, materials, textures, environmental controls, light and cameras. In addition maneuvering these capabilities and the creation of realistic images and scenes are also covered.

270 306 architectural Design V (2, 6, 0: 5)

pre-requisite: 270 305

The course introduces the manipulation of a complex multiuse/mixed-used project(s), and experimentation with the vocabulary of architectural form, space and order. Aspects of the interrelationship of architectural form and function are analyzed and evaluated to be applicable to the potential design concept. Expression in the context of traditional architecture is a considerable aspect for developing design solution(s).

270 316 History and Theory of Architecture IV (3, 0, 0: 3)

pre-requisite: 270 315

New theories in Architecture, based on revolutionary design concepts, unique built forms, the use of new materials and techniques are introduced. Emphasis is placed on understanding the process of design and building through the masterpieces of pioneering architects of selected historic eras. A review of the various early 19C revivals of historic forms and eclecticism, which triggered the rise of modern architecture, is presented. Post-modern theories and the current evolution of architectural theories are also explored.

271 326 Working Drawings 1 (1, 4, 0: 3)

pre-requisite: 271 325

The course covers the preparation of working drawings for an architectural project applying all theoretical and practical knowledge gained during the study of engineering graphics, building construction and related courses.

270 346 Housing Theory & Design (3, 0, 0: 3)

pre-requisite: 270 204

The course covers the major processes, design considerations and computations for accomplishing residential housing development projects. Other topics include phases of the development process, site evaluation considerations include those relating to boundary surveys, topographic evaluation, soil analysis, traffic evaluation, hydrographic analysis, plus environmental, aesthetic and cultural considerations.

270 356 Landscape Architecture (2, 2, 0: 3)

pre-requisite: 270 203

The course offers an introduction to the history and development of landscape architecture, and the technology and methods of landscape design. The processes of landscape design as applied to complex projects in landscape architecture, including proposal, programming, analysis, concept development and presentation are also covered.

271327 Building Services (3, 0, 0: 3)

pre-requisite: 271325

This course provides students with the knowledge of various aspects of building technical installations required. The course will cover various technical issues such as mechanical and sanitary in buildings, water and air quality, waste, fire protection and safety. In addition it will cover air conditioning systems, and electrical installations in buildings.

270 407 Architectural Design VI (2, 6, 0: 5)

pre-requisite: 270 306

The course covers process of developing a program for functional/environmental requirements of the determined project, setting up solutions for the concerned design problem and selecting the relevant site for the developed program. Taking into account the real needs of local society, students are also introduced to the process of analysis and synthesis, and evaluation of large scale design problems.

271 427 Working Drawings 2 (1, 4, 0: 3)

pre-requisite: 271 326

The course covers plans, layouts, schedules and details. Building systems such as architectural, structural, mechanical, electrical and telephone systems are also covered.

270 447 Active Thermal Environmental Control (2, 0, 0: 2)

pre-requisite: 270 101

The course covers the basics of active thermal systems and their technology, energy demand limits, heat loss and gain, calculations, measurements and applications, and offers a link up with architectural design.

271 448 Lighting & Acoustics in Architecture (3, 0, 0: 3)

pre-requisite: 270 101

The course introduces lighting and acoustic terms and means of measurement and design, characteristics of light and sound, building standards and materials.

270 458 Urban Planning (3, 0, 0: 3)

pre-requisite: 270 356

Course topics include the evolution of city form and structure, the development of order and organization in

cities, theories of planning, the politics of planning, social and cultural contexts, the planning process and models, and planning management and implementation.

270 459 Urban Design (2, 6, 0: 5)

pre-requisite: 270 407

The course introduces urban design concepts and urban scale architecture, urban design structure and elements, the urban design process; surveying, analysis and evaluation. Project management and presentation are also covered.

270 460 Environmental Behavior (n3,0,0:3)

The course teaches the students how to apply the psychological and aesthetic factors in the design projects. The course covers the psychological relationship between people and design. Introduction to psychology, perception in architectural elements, color psychology, space psychology, and the impact of psychology in balance, harmony, rhythm, and emphasis.

Pre-requisite: None

270 468 Heritage Conservation (3, 0, 0: 3)

pre-requisite: 270 214

The course introduces the history of the conservation movement, international and local conservation programs, regulatory instruments, methods and techniques. Case studies are presented, and conservation experience in the UAE is covered.

270 589 graduation project 1 (3, 4, 0: 5)

pre-requisites: 270 459 & 270 346

Students carry out a substantial work of design research presented as a short thesis report, entailing practical application to a researched topic of a specific building type (a complex multi-use design problem). Project selection

is based on the real needs of UAE society. Methodology in architectural design through a process of programming is covered, together with a literature review, data collection, statistics, case study critique, developed architectural program and schematic design concepts.

270 559 Architecture Practice (3, 0, 0: 3)

Pre-requisite: None

An overview to the professional practice in architecture in general with special emphasis on the UAE. Professionalism, the architect's role in the building process in real life, how architects work and get work, becoming and being an architect are also covered. Course topics also include code of ethics, team work, design and design approvals, decision making field investigation, engineers and other consultants, construction contractors, building contracts, bill of quantities and book of specifications, phases of construction and construction management process.

270 590 Graduation Project ii (1, 8, 0: 5)

Pre-requisite: 270 589

The course covers the development of the schematic concept formulated during Graduation Project I, the development of design preliminary drawings in accordance with the architectural design program formulated in Graduation Project I, rendering and presentation of the design final drawings, and the use of advanced CAAD application.

Sustainable Architecture

273 500 Selected topics in Architecture (3, 0, 0: 3)

Pre-requisite: None

Selected topics are researched and discussed according to the educational needs of the students involved.

273 501 Interior Design and Coloring (1, 4, 0: 3)

Pre-requisite: None

The course covers interior design and coloring with emphasis on water color technique, poster color and pencil color and interior space coloring.

273 506 Advanced CAAD Application (1, 4, 0: 3)

Pre-requisite: 270 335

The course concentrates on scientific study basics of the architectural graphic program (ArchiCAD). Principles of electronic drafting and its capabilities comparing most available drawing programs, especially AutoCAD and ArchiCAD is also covered, as are philosophy and characters in achieving general two- and three-dimensional engineering drawings.

273 507 Design AND Research Methods (3, 0, 0: 3) Pre-requisite: None

The course covers a comprehensive survey of qualitative and quantitative research methods and their method-specific hypothesis formulation, data acquisition, verification and analysis.

273508 geographic information systems (1, 4, 0: 3)

pre requisite 270335

The development and history of GIS, present applications of the technology. Essential elements of a Geographic Information System. Basic concepts and principles of Geographic Information Systems.

273504 photography (1, 4, 0: 3)

pre requisite none

This is an introductory course to photography. It deals with the principles of photography such as light exposures, compositions, and film developing. Types

and uses of cameras, lenses, flashes, filters, and other accessories are discussed and applied. The course also involves photographing buildings and students' projects, portfolio design, and the use of digital cameras.

273509 Research and Design Methods (3, 0, 0: 3)

pre requisite 270316

This course will introduce students with recent architectural trends and developments in the Arab World during the 20th century and the present time. Architectural changes and transformations from tradition to modernity during the 20th century are to be investigated. The different architectural trends and attitudes in Arab countries are explored through analyzing examples of the pioneers of contemporary Arab architecture, such as Fathy, Badran, Makkiyyeh and Chadirji.

273510 Interior Architecture (1, 4, 0: 3)

pre requisite none

This course will enhance students' skills in interior space drawing and coloring, identify color theories and how to apply in interior spaces, color plans with different techniques, develop basic color skills for residential and public spaces, and produce 3d's drawing using water color and poster color.

273511 Sustainable Architecture (3,0,0:3)

The course will give the student general background about sustainable development and its application in architecture through the impact in the main principles of good design and principles of sustainable design such as sustainable construction, environmental architecture, ecological building, green building, sustainable design, and sustainable urban design.

Pre-requisite: 270243 & 270447

273502 Real Estate Development (3, 0, 0: 3)

pre requisite none

The course will conduct market surveys and analysis studies, site consideration and selection, financial feasibility and documentation for real estate development. The students will be introduced to carry forth a real estate development project from the proposal (project formation) stage into final proposal. Manage project more effectively. Keep a project notebook, or digital file. Develop a scope of work, diagram workflow on a timeline, and use it to plan and manage activities effectively. Also, draw upon what they have learned in other courses.

Bachelor in Interior Design

Mission

The program is designed to develop and enhance students' artistic abilities, knowledge and skills to be able to design, supervise, and implement interior design projects.

Objectives

The Interior Design program aims to produce graduates who have:

- a) A foundation in basic skills and the ability to apply those skills in their design process and presentation
- b) skills and abilities required for data collection, analysis, design and evaluation of interior design projects including technical details
- c) The ability to utilize up-to-date technology in the field of interior design, for example computer-aided design and other software applications, and working drawings and presentations
- d) The ability to work as an efficient team member in multi-professional groups

- e) The ability to recognize environmental factors and cultural, traditional and heritage aspects
- f) ability of critical thinking and life-long learning
- g) gained basic information about interior environment, with the application of lighting, acoustics and human factors.

Admission Requirements

Admission to the Interior Design program requires a UAE Secondary School Certificate, or its equivalent, with a minimum acceptable grade of 60 percent. For more information please refer to the university admissions policy

Career Opportunities

As a creative, imaginative and artistic professional, the interior designer can expect to be working with clients, design and architectural firms or other professionals to develop design solutions that are safe, functional and attractive, and also meet the needs of the people who will use the space. To succeed, hard work prevails. Excellence will be the result of being energetic, technically proficient, visionary and dedicated to the profession.

Graduation Requirements

The Bachelor in Interior Design will be awarded upon the fulfillment of the following:

- Successful completion of all courses in the program curriculum (130 Credit Hours)
- Successful completion of four Credit Hours of Engineering Training
- A minimum cumulative GPA of 2.0

Degree requirement

The Bachelor degree in Interior Design requires the completion of 134 Cr. Hrs. distributed according to the following plan:

Type of Courses	Credit hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Required courses	6
4. Specialization required courses	95
5. Specialization Elective courses	9
Total Credit Hours	134

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Required Courses (15 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110-	Statistics	2	2	0	3	-
104110	Computer Applications	2	2	0	3	-
103120	Environmental Sciences	3	0	0	3	-

(b)University Elective Courses (9 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112110	Principles of Architecture & Art	3	0	0	3	-
112120	Principles of Interior Design	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
113110	Internet Concepts	3	0	0	3	-
113120	Introduction to Information Systems	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of science in Islam	3	0	0	3	-
115120	Scientific pioneering	3	0	0	3	-
115130	General psychology	3	0	0	3	-
115140	Principle of mathematics	3	0	0	3	-
115150	The Art of Expression and writing	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
115170	Education Technology	3	0	0	3	-
117110	General chemistry	3	0	0	3	-
117120	Fundamental of Human Nutrition	3	0	0	3	-
117130	First Aid	3	0	0	3	-
117150	Applications of Remote sensing	3	0	0	3	-
118110	Principles of Ethics	3	0	0	3	-
118120	General Biology	3	0	0	3	-
118130	Oral Health	3	0	0	3	-
118140	General principles of Epidemiology	3	0	0	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	0	0	3	-
119110	Communication Skills	3	0	0	3	-
119120	Introduction to Communication Sociology	3	0	0	3	-
119130	Information Society	3	0	0	3	-
120115	Legal Culture	3	0	0	3	-

College Required Courses (6 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
201102	Engineering Graphics	2	2	0	3	---
110140	Math for Management	3	0	2	3	---

(b) Specialization Required Courses & Graduation Projects (95 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
200101	Introduction to Design	1	---	4	3	---
200102	Perspective, Shades & Shadow	1	---	4	3	201102
270234	CAAD I	1	---	4	3	310100
270235	CAAD II	1	---	4	3	270234
290103	Freehand Drawing I	2	---	4	4	---
290104	Freehand Drawing II	1	---	2	2	290103
290105	Color in Interior Design	2	---	2	3	---
290111	Interior Design I	1	---	6	4	200101
290211	Workshop	1	---	4	3	201102 200102
290212	Interior Design II	1	---	6	4	290111
290213	Interior Design III	1	---	6	4	290212
290214	History of Interior Design I	3	---	0	3	---
290215	History of Interior Design II	3	---	0	3	290214
290216	Interior Construction I	2	---	2	3	201102 290212
290217	Furniture Design	1	---	4	3	290111
290222	Lighting & Acoustics in Interior Design	2	---	2	3	290111
290257	Psychology of Design	3	---	0	3	290212
290314	Interior Design IV	1	---	6	4	290213
290315	Interior Design V	1	---	6	4	290314
290316	Textile & Accessories	2	---	2	3	290105
290317	Interior Construction II	2	---	2	3	290216
290318	Interiors in the UAE	3	---	0	3	290213

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
290319	Working Drawings I	2	---	2	3	290317
290321	Interior Landscape	1	---	4	3	290213
290323	Practice in Interior Design	3	---	0	3	290213
290420	Working Drawings II	1	---	2	2	290319
298490	Graduation Project I	2	---	2	3	290315
298495	Graduation Project II	2	---	8	6	298490

(c) Specialization Electives Courses (9 Cr.Hrs.)

The student will take three of the following Specialization Electives as approved by the academic advisor.

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
290326	Selected Topics in Fur. Des	3	0	0	3	290217
290480	Islamic Interiors	3	0	0	3	----
290481	Interior Photography	1	4	0	3	----
290482	Advanced CAAD App.	1	4	0	3	270235
290483	Theory of Interior Design	3	0	0	3	290212
290484	Selected Topics in Interior Design	3	0	0	3	----
290485	Sustainability for Interior Design	3	0	0	3	----

Course Sequencing Plan

FIRST SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
	Orientation	1	0	0	0	
200101	Introduction to Design	1	4	0	3	---
201102	Engineering Graphics	2	2	0	3	---
290103	Freehand Drawing I	2	4	0	4	---
104110	Computer Applications	2	2	0	3	---
102110	Islamic culture	3	0	1	3	---
xxxxxx	University Elective I	3	0	0	3	---
TOTAL		14	12	1	19	

SECOND SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
290111	Interior Design I	1	6	0	4	200101
200102	Perspective, Shade & Shadow	1	4	0	3	201102
290104	Freehand Drawing II	1	2	0	2	290103
290105	Color in Interior Design	2	2	0	3	---
110140	Math. for Management	3	0	2	3	---
103120	Environmental Sciences	3	0	0	3	-----
TOTAL		11	14	2	18	

THIRD SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
290212	Interior Design II	1	6	0	4	290111
290214	History of Interior Design I	3	0	0	3	---
290211	Workshop	1	4	0	3	201102 200102
290217	Furniture Design	1	4	0	3	290111
290222	Lighting & Acoustics in Interior Design	2	2	0	3	290111
130130	Statistics	2	2	0	3	
TOTAL		10	18	0	19	

FOURTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
290213	Interior Design III	1	6	0	4	290212
290215	History of Interior Design II	3	0	0	3	290214
290216	Interior Construction I	2	2	0	3	201102 290212
290257	Psychology of Design	3	0	0	3	290212
270234	CAAD I	1	4	0	3	310100

Course Code	Course Name	Credit Hours				Prerequisite
102140	Communication Skills in Arabic Language	3	0	0	3	---
TOTAL		13	12	0	19	

FIFTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
290314	Interior Design IV	1	6	0	4	290213
290316	Textile & Accessories	2	2	0	3	290105
290317	Interior Construction II	2	2	0	3	290216
290318	Interiors in the UAE	3	0	0	3	290213
270235	CAAD II	1	4	0	3	270234
290323	Practice in Interior Design	3	0	0	3	290213
TOTAL		12	14	0	19	

SIXTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
290315	Interior Design V	1	6	0	4	290314
290319	Working Drawings I	2	2	0	3	290317
290321	Interior Landscape	1	4	0	3	290213
-----	Special Elective I	3	0	0	3	--
-----	Special Elective II	3	0	0	3	--
-----	University Elective II	3	0	0	3	---
TOTAL		13	12	0	19	

SEVENTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
298490	Graduation Project I	2	2	0	3	290315
290420	Working Drawings II	1	2	0	2	290319
xxxxxx	University Elective III	3	0	0	3	---

Course Code	Course Name	Credit Hours				Prerequisite
TOTAL		8	4	0	8	

EIGHTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Lab	Tut	Cr.Hrs.	
298495	Graduation Project II	2	8	0	6	298490
xxxxxx	Special Elective III	3	0	0	3	-----
TOTAL		--	--	0	9	

Course Descriptions

200 101 Introduction to Design (1-4-0: 3)

Pre-requisite: None

The course covers design elements; material symbols; techniques of surface treatments; treatments of interior spaces and volumes; small project: color drawings and scale- models.

200 102 Perspective, Shades & Shadow (1-4-0: 3)

Pre-requisite: Engineering Graphics - 201 102

The course covers shade and light for 2D drawings; basics for drawing perspectives; architectural rendering and shade and light for 3D drawings.

270 234 CAAD I (1-4-0: 3)

Pre-requisite: IT Fundamentals – 310 100

The course covers the advantages of CAAD over the traditional design process, mastering AutoCAD 2000 software as a tool of CAAD design and places emphasis on the 2D AutoCAD with an introduction of 3D AutoCAD.

270 335 CAAD II (1- 4-0: 3)

Pre-requisite: CAAD I – 270 234

The course covers AutoCAD orders and tools, integrating presentation work through sharing (importing, exporting) drawing files with other presentation programs such as 3d Max and Photoshop. 3D Max and its implementation to basic architectural concepts is presented, including modeling and presentation, modeling tools, creating objects, primitives, compound objects, surfaces, modifiers, helpers, materials, textures, environmental controls, light and cameras. In addition maneuvering these capabilities and the creation of realistic images and scenes are also covered in addition to the application of key frames animation, controllers and expressions to create movies with full architectural, artistic and environmental touching.

290 103 Freehand Drawing I (2-4-0: 4)

Pre-requisite: None

An introductory studio course aimed at exploring the wide variety of concepts, methods and theories of freehand drawing. Students are taught to draw still-lifes, interiors, buildings, landscapes and the human figure in color, and black and white.

290 104 Freehand Drawing II (1-2-0: 2)

Pre-requisite: Freehand Drawing I - 290 103

This studio course will expand on representational techniques and is aimed at exploring and investigating the wide variety of concepts, methods and theories of freehand drawing studied previously. Students are taught techniques to be used in the presentation of their design concepts.

290 105 Color in Interior Design (2-2-0: 3)

Pre-requisite: None

This course is planned to provide the student with information on how color plays a role in our lives and in design by examining the properties, theories, meanings and effects of color. It offers a cross-circular approach by making connections between the art, the science, the psychology and/or sociology of each aspect of color.

290 111 Interior Design I (1-6-0: 4)

Pre-requisite: Introduction to Design - 200 101

This course introduces students to the primary elements and principles of small residential spaces. Through simple functional assignments, such as bathrooms and kitchens, students begin to understand the design of interior spaces. Students are also introduced to wall treatments, flooring, ceiling and finishing materials.

290 211 Workshop (1-4-0: 3)

Pre-requisites: Engineering Graphics - 201 102 & Perspective, Shades & Shadows - 200 102

This course is planned to train the student in the execution of scale models. It enables students to gain knowledge in different materials and the ability to use workshop tools.

290 212 Interior Design II (1-6-0: 4)

Pre-requisite: Interior Design I - 290 111

This course deals with the interior design of residential places or retail environments. Students are also introduced to external finishing and cladding, with an emphasis on wall treatments, flooring and finishing materials.

290 213 Interior Design III (1-6-0: 4)

Pre-requisite: Interior Design II - 290 212

This course deals mainly with the implementation of design concepts in the public sector. These include retail, cafés, restaurants and hair salons. Students are also encouraged to develop their knowledge in materials, wall treatments and finishes.

290 214 HISTORY of Interior Design I (3-0-0: 3)

Pre-requisite: None

This course aims to provide students with the historical background to interior design. (pre-historic art, the historic periods of Egypt and Mesopotamia, Greek structures and art, Roman structures and art, Early Christian interiors, Byzantine structures and interiors, Romanesque interiors and Islamic structures and interiors).

290 215 History of Interior Design II 3-0-0: 3)

Pre-requisite: History of Interior Design I - 290 214

The course deals with the theoretical concepts of interior design and decoration of contemporary movements and developments, which led to modern features in interior design.

290 216 Interior Construction I (2-2-0: 3)

Pre-requisites: Engineering Graphics - 201 102 & Interior Design II 290 212

This course provides an understanding of the elements and materials of interior construction and the graphic methods used to communicate this information.

290 217 Furniture Design (1-4-0: 3)

Pre-requisite: Interior Design I - 290 111

This course aims to provide students with a historical study of furniture design through historical periods, while studio time is used for design exercises and model-making projects.

290 222 Lighting & Acoustics for Interior Design (2-2-0: 3)

Pre-requisite: Interior Design I - 290 111

This theoretical course aims to provide students with the basics of lighting and acoustics in interiors. The course covers the various types of lighting and acoustics available, acoustics in interior spaces and the effect of noise on human beings.

290 257 Psychology of Design (3-0-3)

Pre-requisite: Interior Design II - 290 212

This course deals with the psychological relationship between people and design. It explores the way design is directed at satisfying people's needs, and its impact on the creative process.

290 314 Interior Design IV (1-6-0: 4)

Pre-requisite: Interior Design III - 290 213

This course deals mainly with the implementation of design concepts in administrative buildings. These include public, private and executive offices. Students are also encouraged to develop their knowledge in creating environments suitable for high performance activities.

290 315 Interior Design V (1-6-0: 4)

Pre-requisite: Interior design IV - 290 314

This course deals mainly with the implementation of design concepts in commercial buildings. These include hotels, motels and resorts. Students are also encouraged to develop their knowledge in creating environments suitable for high performance activities, whilst acquiring knowledge in materials, wall treatments and finishes.

290 316 Textile & Accessories (2-2-0: 3)

Pre-requisite: Color in Interior Design – 290 105

The course gives the ideas and techniques needed for the use and application of textiles and accessories to create aesthetic and functional interior spaces. It also gives an understanding of dealing with different styles of textiles and accessories.

290 317 Interior Construction II (2-2-0: 3)

This course provides more advanced and specialized aspects of interior construction elements and systems, which define the space and provide character to interior spaces.

290480 Islamic interiors

A theoretical course covering major regional styles of the Islamic World, with special emphasis on the Arab World.

290 484 Selected Topics in Interior Design (3-2-0: 3)

Pre-requisite: None

This course consists of an advanced research project on problems related to interior design. The chosen topic is determined on the basis of the students' interest, under the supervision of a college member.

290 318 interiors in THE UAE (3-0-0: 3)

Pre-requisite: Interior Design III - 290 213

This theoretical course aims to provide the students with extensive knowledge on UAE traditional and contemporary interiors.

290 319 Working Drawings I (2-2-0: 3)

Pre-requisite: Interior Construction II - 290 317

This course is an introduction to construction and detail drawings. It enables students to gain knowledge of interior finishes, and to implement that knowledge in their drawings.

290 321 Interior Landscape (1-4-0: 3)

Pre-requisite: Interior Design III - 290 213

This course aims to provide students with the knowledge and skills for successful landscape design, with emphasis on planning, design, resources and technologies.

290 323 Practice in Interior Design (3-0-0: 3)

Pre-requisite: Interior Design III - 290 213

This course deals with the theoretical characteristics of business in the interior design field. Through the examination of the various factors of business practices, students would be well equipped to work successfully in the interior design field, as well as for future opportunities to set up their own design office.

290 420 Working Drawings II (1-2-0: 2)

Pre-requisite: Working Drawings I - 290 319

This course follows-up the construction and detail drawings course. It enables students to gain additional knowledge on basic interior detailing, millwork and cabinetry design. This course focuses on detailing, technical drawings, specifications and scheduling.

298490 Graduation Project I (2-2-0: 3)

Pre-requisite: Interior Design V - 290 315

This research oriented course enables the students to successfully develop in information gathering and analysis, to insure the success of their interior design graduation project.

298495 Graduation Project II (2-8-0: 6)

Pre-requisite: Graduation Project I - 298490

The course gives the student an opportunity to explore his ability and knowledge of dealing with actual existing project in interior design. By using the suitable furnishing requirements, student can create an aesthetic and functional interior design.

290 481 Interior Photography (1-4-0: 3)

Pre-requisite: None

The main goal of this course is to give students the useful tools of photography techniques necessary for documenting their work, and to enhance their artistic taste in general.

290 482 Advanced CAAD Application (1-4-0: 3)

Pre-requisite: CAAD II - 270 235

Three dimensional studies of architectural graphic programs principles of electronic drafting and its capabilities to achieve an outstanding result to student presentations, projects, and design concepts.

290 483 Theory of Interior Design (3-0-0: 3)

Pre-requisite: Interior design II - 290 212

This course is an introduction to the significant theories concerning interaction between people and their environments. It would include scientific explanatory theories about people, materials and systems in relationship to design.

290 326 Selected Topics in Furniture Design (1-4-0: 3)

Pre-requisite: Furniture Design - 290 217

This course will look at the unexplored possibilities of furniture design by means of approaching the subject in a different philosophical approach leading to the development of drawings and the construction of a scaled model or a prototype. Format includes class discussions, field trips and individual research Design of a chair and construction of half-scale prototype.

290 320 Interior Design Practical Training (4 Credit Hours)

Pre-requisite: None

The aim of this training is to enable students gaining basic professional interior design knowledge, such as; interior

finishing materials, suppliers, materials specification, bill of quantity, cost estimation.

290 485 Sustainability for Interior Design (3 Credit Hours)

Pre-requisite: None

The aim of this course is to introduce the concept and principles of sustainability to interior design students. Practical examples will be considered where sustainability issues are integrated in design and in projects.

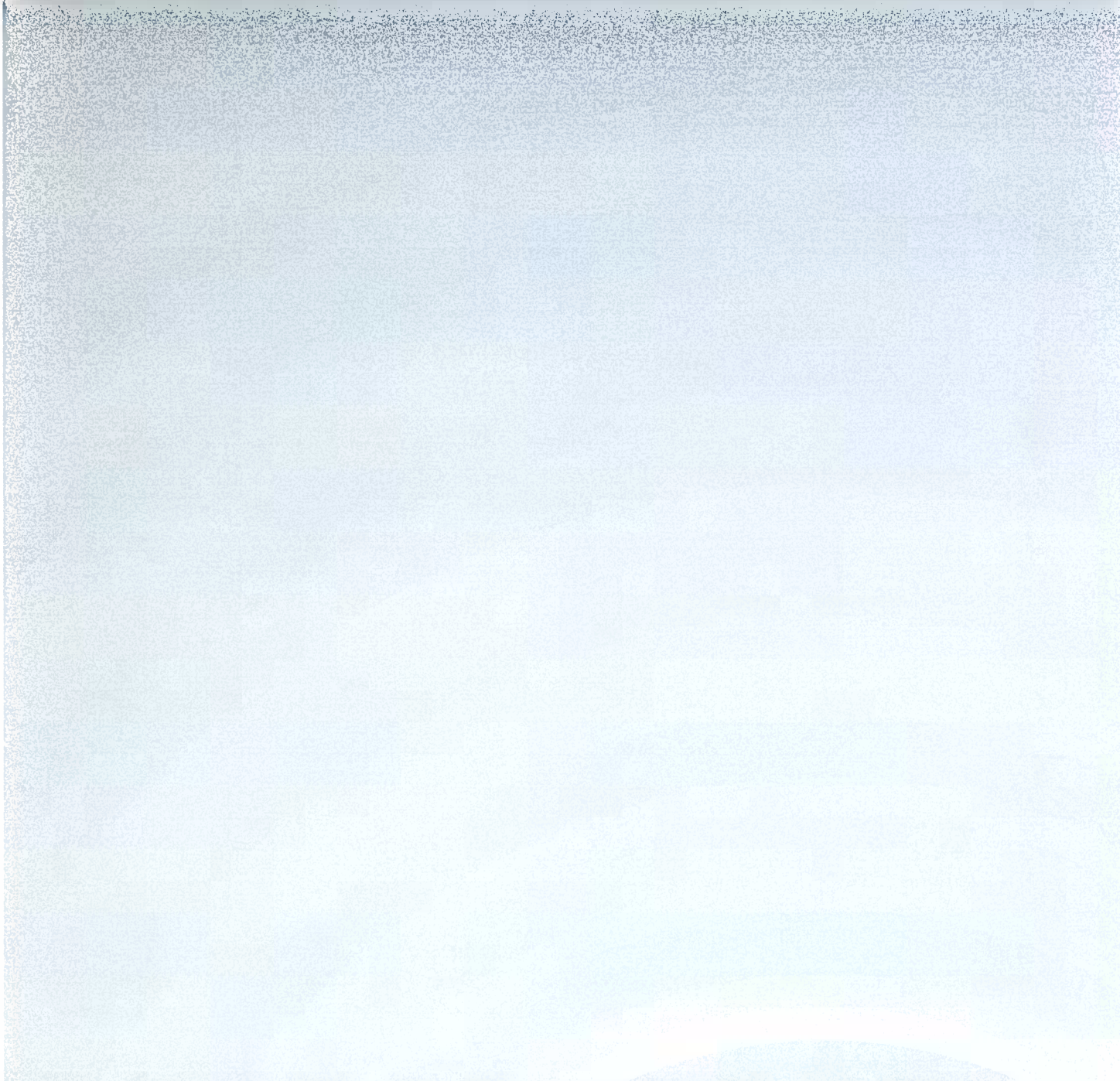
290484 Selected topics in interior design (3-0-0:3)

This course consists of an advanced research project on problems related to interior design. The chosen topic is determined on the basis of the student's interest, under the supervision of a college member.

Faculty members

Name	Rank	Specialization	Degree	Year	University
Prof. Fahar G. Hayati, Dean	Ph.D	Electronics	Professor	1971	University of Edinburgh
Prof. Dr. Ali Abou- Elnour	Ph.D.	Microwave Electronics	Professor	1994	Technical University Hamburg- Harburg (Germany)
Prof. Mustahsan Mir	Ph.D.	Electrical Engineering	Professor	1983	University of Michigan, USA
Dr. Mohamed Akmal	Ph.D.	Communication	Assistant	2011	(UK)
Dr. Jehad Awad	Ph.D.	Urban Design	Associate Professor	1996	University of Stuttgart , Germany
Dr. Abdulmounim Taha	Ph.D.	Interior Design & Decoration	Associate Professor	1989	Pennsylvania Uni. USA
Dr. Ayman Tawfiq	Ph.D.	Electrical Engineering, Communication	Associate Professor	1995	Ph.D. University of Victoria, Canada
Dr. Mohammed Arar	Ph.D.	Architecture "Urban Environmental Studies"	Assistant Professor	1995	Rensselaer Polytechnic Institute, New York , USA
Dr. Mohsen El Fadl	Ph.D.	Interior Environment	Assistant Professor	1993	Helwan University, Egypt
Dr. Ahmed Imran	Ph.D.	Biomechanics	Assistant Professor	1998	University of Oxford, UK
Dr. Sahar Kharrufa	Ph.D.	Architectural Eng.	Associate Professor	1985	Bath University ,UK
Dr. Jamal El Samannodi	Ph.D.	Interior Design	Associate Professor	2000	Channel France & Egypt, France
Dr. Zulfiqar Ali Memon	Ph.D.	Electrical Engineering, Robotics	Assistant Professor	1991	Brunel University of West London, UK
Dr. Emad Moshtaha	Ph.D.	Architectural Eng.	Assistant Professor	2006	Hokkaido Univ. Japan
Dr. Mohamed Nasor	Ph.D.	Biomedical Engineering	Assistant Professor	1998	Uni. of Dublin, Trinity Col. Dublin, Ireland
Dr. Majeed Pournizam	Ph.D.	Bioengineering	Assistant Professor	1994	University of Strathclyde, UK
Dr. Bassim Saleh	Ph.D.	Architecture Environmental Passive Control	Assistant Professor	1985	Strathclyde Glasgow, Uk

Name	Rank	Specialization	Degree	Year	University
Dr. Najlaa Sami	Ph.D.	Interior Design	Assistant Professor	2001	Helwan Univ. / Egypt
Dr. Rabah Saoud	Ph.D.	Architectural Eng.	Assistant Professor	1996	University of Manchester, UK
Dr. Mohammed Sherzad	Ph.D.	Desert Architecture	Assistant Professor	2006	Oxford Brookes University, UK
Dr. Samir Tozin	Ph.D.	Electrical Engineering, Communication	Assistant Professor	2004	Syracuse University, USA
Dr. Hasan Zidan	Ph.D.	Electrical Engineering, Control	Assistant Professor	2001	Kyushu Institute of Technology (KIT), Japan
Mr. Anas Najimeddin Ali	M.Sc.	Electrical Engineering	Lecturer	1992	Saddam University, Iraq
Mr. Mujeeb Al Rahman	M.Sc.	Biomedical Instrumentation	Lecturer	2002	VTU, India
Dr. Buzaid Boudiaf	Ph.D.	Architectural Eng.	Lecturer	2010	Wolverhampton University, UK
Mr. Emanuela Corti	M.Sc.	Furniture & Textile Design	Lecturer	2005	Milan's Polytechnic / Italy
Mr. Wael Hamdan	M.Sc.	Interior Design	Lecturer	1993	Jordanian Univ.
Mr. Wael Hamdan	M.Sc.	Interior Design	Lecturer	1993	Jordanian Univ.
Mr. Sahar Makki	M.Sc.	Architectural Eng.	Lecturer	2006	Sudan University
Mr. Ivan Parati	M.Sc.	Product Design	Lecturer	2007	Politecnico Di Milano / Italy
Mr. Mona Salama	M.Sc.	Architectural Eng.(Urban & Regional Planning)	Lecturer	2004	Al Najah National University, Nablus, Palestine
Mr. Harpreet Seth	M.Sc.	Master in Arch.(Urban Design)	Lecturer	1992	School of Planning & Arch. India
Mr. Micheal Shwarz	M.Sc.	Architectural Eng.	Lecturer	1991	Art Academy Frankfurt/Germany



College of

**Information,
Mass Communication
& Humanities**

The College of Information, Mass Communication and Humanities strives to produce graduates who are able to innovate as well as develop life-long learning capacities.

Mission

The mission of the College of Information, Mass Communication and Humanities is to provide a foundation in academic and professional education via programs designed to raise the intellectual and creative potential of students.

Degree Programs

The college is composed of two academic Departments:

- Department of English Language and Translation
- Department of Mass Communication

The College offers the following six programs, each of which requires four years of study:

- BA in English Language and Translation
- BA in English Language and Translation (Translation for Media)
- BA in Mass Communication with four major concentrations:
 - Public Relations & Advertising
 - Radio & Television
 - Graphic Design
 - Electronic & Printed Press

Students enrolled in one of the major concentrations of BA program in Mass Communication are also required to enroll in a Minor program which must be one of the other four major concentrations listed above.

Note: The four BA programs in Mass Communication are taught in Arabic Language and therefore their details will be given in the second part of the Catalogue which concerns Programs taught in Arabic Language.

Facilities

The College is equipped with the following facilities which are dedicated for teaching English Language, translation, information and mass communication courses. These facilities include:

- The Television & Radio Studios which are audio-visual labs used for multi-media purposes.
- The Multimedia labs are used for the Multi Project Unit.
- The Internet Labs are an important media source used for teaching courses for internet applications.
- The Macintosh Labs are equipped for helping to design newspapers, magazines, etc.
- The College has also a television channel in which students are being trained.
- The College has a television channel in which students are being trained.

English Language and Translation Department

The English Language & Translation Department has three main areas of responsibility:

- to realize the University's philosophy and vision by linking theory to practice, and academic knowledge to business fields,
- to prepare cadres with constructive and innovative tools to face the challenges of communication and information age and better serve society,
- to offer students the benefits of the conventional , multi-media and virtual technologies.

Bachelor of Arts in English Language and Translation

Mission

The mission of the English Language and Translation program of is two-fold. Firstly, it aims to provide students with the academic and professional knowledge they need to become responsible citizens. Secondly, it seeks to bridge the gap between the academic community and society at large, thus contributing to the development of the nation.

Program Outcomes

By the end of the program, students are expected to

- demonstrate proficiency in listening comprehension and communicative skills
- write essays and research papers and use critical thinking skills
- translate texts of various registers (media, legal, financial, literary, etc.) from English- Arabic- English and utilize translation software programs in the translation process
- work as consecutive interpreters and demonstrate the use of note-taking techniques, shorthand conventions, consecutive interpreting strategies and professional ethics

Admission Requirements

- A UAE high school certificate, or its equivalent, with a minimum grade of 60 percent
- A minimum score of 500 in the Test of English as a Foreign Language (TOEFL) examination, or its equivalent

Career Opportunities

Graduates are equipped to take up careers which include:

- News and conference translators and interpreters
- Public relations, personnel and executive officers

- Sworn-in legal translators/interpreters

Graduation Requirements

The degree of Bachelor in English language and Translation is awarded upon the fulfillment of the following:

- successful completion of 126 credit hours, which normally takes eight semesters,
- a minimum cumulative grade point average CGPA of 2.0.

Degree Requirements

The BA degree in English Language and Translation requires the completion of 126 Credit Hours distributed according to the following plan:

Type of Courses	Credit/hour
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. Major Requirements	
(a) Major Requirements	93
(b) Major Electives	9
Total Credit Hours	126

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Required Courses (15 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
101000	Orientation	1	0	0	0	-
102110	Islamic Culture	3	0	1	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110	Statistics	2	2	0	3	-
103120	Environmental Sciences	3	0	0	3	-
104110	Computer Applications	2	2	0	3	-

(b) University Elective Courses (9 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112110	Principles of Architecture & Art	3	0	0	3	-
112120	Principles of Interior Design	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
113110	Internet Concepts	2	2	0	3	-
113120	Introduction to Information Systems	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of science in Islam	3	0	0	3	-
115120	Scientific pioneering	3	0	0	3	-
115130	General psychology	3	0	0	3	-
115140	Principle of mathematics	3	0	0	3	-
115150	The Art of Expression and writing	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
115170	Education Technology	3	0	0	3	-
117110	General Chemistry	2	2	0	3	-
117120	Fundamentals of Human Nutrition	3	0	0	3	-
117130	First Aid	3	0	0	3	-

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
103120	Energy, Water & Environment	3	0	0	3	-
117150	Applications of Remote sensing	3	0	0	3	-
118110	Principles of Ethics	3	0	0	3	-
118120	General Biology	2	2	0	3	-
118130	Oral Health	3	0	0	3	-
118140	General Principles of Epidemiology	3	0	0	3	-
118150	CPR-Cardio Pulmonary Resuscitation	2	2	0	3	-
119110	Communication Skills	3	0	0	3	-
119120	Introduction to Communication Sociology	3	0	0	3	-
119130	Information Society	3	0	0	3	-
120115	Legal Culture	3	0	0	3	-

MAJOR REQUIREMENTS

(a) Major Requirements (93Cr .Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
610101	English Writing Skills	3	0	0	3	-
610102	English Listening Skills	3	0	0	3	-
610103	English Speaking Skills	3	0	0	3	-
610104	English Lexis	3	0	0	3	
610105	Arabic Grammar	3	0	0	3	102140
610106	English Grammar I	3	0	0	3	610101
610208	Advanced English Reading Skills	3	0	0	3	
610209	Advanced English Writing Skills	3	0	0	3	610101
610210	English Grammar II	3	0	0	3	610206
610211	English –Arabic Translation (I)	3	0	0	3	
610212	Introduction to Linguistics	3	0	0	3	
610213	English –Arabic Translation (II)	3	0	0	3	610211
610214	English Language and Culture	3	0	0	3	
610215	Arabic-English Translation (I)	3	0	0	3	610211
610316	Arabic-English Translation(II)	3	0	0	3	610215

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
610317	Linguistics II	3	0	0	3	610212
610318	Contrastive Analysis	3	0	0	3	610212
610319	Language of Media	3	0	0	3	610213
610320	Translation of Legal Texts	3	0	0	3	610213
610321	Discourse Analysis	3	0	0	3	610317
610322	Consecutive Interpreting I	3	0	0	3	610213
610323	Introduction to English Literary Genres	3	0	0	3	
610324	Translation of Financial Texts	3	0	0	3	610211
610325	Translation Theory	3	0	0	3	610316
610426	Linguistics III	3	0	0	3	610317
610427	Literary Translation	3	0	0	3	610316
610428	Consecutive Interpreting II	3	0	0	3	610322
610429	Introduction to Computer Assisted Translation	3	0	0	3	610322
610431	Translation Project	3	0	0	3	610325
610432	Sociolinguistics	3	0	0	3	610321
610433	Training	3	0	0	3	Completion of 75 Cr. Hrs.

(b) Major Electives (9 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
610334	Critical Theories in Communication & Translation	3	0	0	3	610211
610335	French I	3	0	0	3	
610336	Translation for Electronic Media	3	0	0	3	
610437	Translation for specialized press	3	0	0	3	-
610438	French II	3	0	0	3	610335
610439	Survey of 20th -Century English Literature	3	0	0	3	610323

Suggested Course sequencing

FIRST SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
101000	Orientation	1	0	0	0	-

Course Code	Course Name	Credit Hours				Prerequisite
102110	Islamic Studies	3	1	0	3	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
103110-2	Statistics	2	0	2	3	-
104110	Computer Applications	2	0	2	3	-
103120	Environmental Sciences	3	0	0	3	-
610101	English Writing Skills	3	0	0	3	-
TOTAL		17	1	4	18	

SECOND SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
610102	English Listening Skills	3	0	0	3	-
610103	English Speaking Skills	3	0	0	3	-
610104	English Lexis	3	0	0	3	
610105	Arabic Grammar	3	0	0	3	102140
610106	English Grammar I	3	0	0	3	
TOTAL		15	0	0	15	

THIRD SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
610208	Advanced English Reading Skills	3	0	0	3	-
610209	Advanced English Writing Skills	3	0	0	3	610101
610210	English Grammar II	3	0	0	3	610206
610211	English –Arabic Translation (I)	3	0	0	3	-
xxxxxx	University Elective	3	0	0	3	-
TOTAL		15	0	0	15	

FOURTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
610212	Introduction to Linguistics	3	0	0	3	-
610213	English –Arabic Translation (II)	3	0	0	3	0610211
610214	English Language and Culture	3	0	0	3	-
610215	Arabic-English Translation (I)	3	0	0	3	0610211
xxxxxx	University Elective	3	0	0	3	-
TOTAL		15	0	0	15	

FIFTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
610316	Arabic-English Translation(II)	3	0	0	3	610215
610317	Linguistics II	3	0	0	3	610212
610318	Contrastive Analysis	3	0	0	3	610212
610319	Language of Media	3	0	0	3	610213
610320	Translation of Legal Texts	3	0	0	3	610213
xxxxxx	University Elective	3	0	0	3	-
TOTAL		18	0	0	18	

SIXTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
610321	Discourse Analysis	3	0	0	3	610317
610322	Consecutive Interpreting I	3	0	0	3	610213
610323	Introduction to English Literary Genres	3	0	0	3	-
610324	Translation of Financial Texts	3	0	0	3	610211
610325	Translation Theory	3	0	0	3	610316
xxxxxx	Major Elective	3	0	0	3	-
TOTAL		18	0	0	18	

SEVENTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
610426	Linguistics III	3	0	0	3	610317
610427	Literary Translation	3	0	0	3	610316
610428	Consecutive Interpreting II	3	0	0	3	610322
610429	Introduction to Computer Assisted Translation	3	0	0	3	610322
xxxxxx	Major Elective	3	0	0	3	-
TOTAL		15	0	0	15	

EIGHTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
610431	Translation Project	3	0	0	3	0610325
610432	Sociolinguistics	3	0	0	3	610321
610433	Training	3	0	0	3	Completion of 75 Hrs
xxxxxx	Major Elective	3	0	0	3	-
TOTAL		12	0	0	12	

B.A. in English Language & Translation/ Media Translation

Mission

The Program mission is to participate in meeting the needs of community in providing well-educated individuals whose contribution to society will be beneficial.

Program Educational Objectives

The program aims to enable students to

- acquire competence in translation and communication skills,
- acquire linguistic skills and knowledge and familiarity with the cultures of both languages,
- acquire technological and research knowledge in the field of media translation

Program Outcomes

By completing the program successfully the students are expected to

- demonstrate ability to translate for various media
- apply the required translation strategies in translating media items
- utilize the linguistic skills and the cultural knowledge of both languages

Admission Requirements

- UAE National High School Certificate with a minimum score of 60% or its equivalent.
- Test of English as a Foreign Language (TOEFL) with a minimum score of 500 or its equivalent.

Career Opportunities

Our graduates may take up the following jobs

- Media Translator

- News Conference Translator
- Legal Translator

Graduation requirements

The degree of Bachelor in English language and Translation. Media Translation is awarded upon the fulfillment of the following:

- successful completion of 126 credit hours, which normally takes eight semesters,
- a minimum cumulative grade point average CGPA of 2.0.

Degree requirements

The B.A. degree in English Language and Translation. Media Translation requires completion of 123 Cr. Hrs. distributed according to the following plan:

Type of Courses	Credit/hour
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. Major Requirements	
(a) Major Requirements	93
(b) Major Electives	9
Total Credit Hours	126

University Requirements

1. University Compulsory Courses (15 Cr. Hrs.)

No.	Course No.	Course Title	Cr. Hrs.	Prerequisite
1	0101000	Orientation	0	None
2	0102110	Islamic Studies	3	None
3	0102140	Communication Skills in Arabic	3	None
4	0104110	Computer Applications	3	None
5	0103110	Statistics	3	None
6	0103140	Environmental Sciences	3	None

2. University Elective Courses (9 Cr. Hrs)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The Miraculousness of the Holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112110	Principles of Architecture & Art	3	0	0	3	-
112120	Principles of Interior Design	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
113110	Internet Concepts	2	2	0	3	-
113120	Introduction to Information Systems	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of science in Islam	3	0	0	3	-
115120	Scientific pioneering	3	0	0	3	-
115130	General psychology	3	0	0	3	-
115140	Principle of mathematics	3	0	0	3	-
115150	The Art of Expression and writing	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
115170	Education Technology	3	0	0	3	-
117110	General Chemistry	2	2	0	3	-
117120	Fundamentals of Human Nutrition	3	0	0	3	-
117130	First Aid	3	0	0	3	-

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
103120	Energy, Water & Environment	3	0	0	3	-
117150	Applications of Remote sensing	3	0	0	3	-
118110	Principles of Ethics	3	0	0	3	-
118120	General Biology	2	2	0	3	-
118130	Oral Health	3	0	0	3	-
118140	General Principles of Epidemiology	3	0	0	3	-
118150	CPR-Cardio Pulmonary Resuscitation	2	2	0	3	-
119110	Communication Skills	3	0	0	3	-
119120	Introduction to Communication Sociology	3	0	0	3	-
119130	Information Society	3	0	0	3	-
120115	Legal Culture	3	0	0	3	-

College Requirements

3. College Compulsory Courses (93 Cr. Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Pre-requisite
610 101	English Writing Skills	3	0	0	3	-
610 102	English Listening Skills	3	0	0	3	-
610 103	English Speaking Skills	3	0	0	3	-
610 104	English Lexis	3	0	0	3	-
610 205	Arabic Grammar	3	0	0	3	102140
610 208	Advanced English Reading Skills	3	0	0	3	-
610 209	Advanced English Writing Skills	3	0	0	3	610101
610 211	English-Arabic Translation 1	3	0	0	3	-
610 322	Consecutive Interpreting 1	3	0	0	3	620215
610 325	Translation Theory	3	0	0	3	620216
610 334	Critical Theories in Communication and Translation	3	0	0	3	620215
610 336	Translation for Electronic Media	3	0	0	3	-
610 428	Consecutive Interpreting 2	3	0	0	3	610 322
610 429	Introduction to Computer-Assisted Translation					620215
610 432	Sociolinguistics	3	0	0	3	620 318

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Pre-requisite
620 101	Study Skills	3	0	0	3	-
620 107	Advanced English Grammar	3	0	0	3	-
620 210	Introduction to Mass Communication and Public Relations	3	0	0	3	-
620 212	Readings in Mass Communication	3	0	0	3	-
620 213	Culture and Institutions of the English-Speaking World	3	0	0	3	-
620 214	Arabic-English Contrastive linguistics	3	0	0	3	-
620 215	Media Translation (English>Arabic)	3	0	0	3	610 211
620 216	Media Translation (Arabic>English)	3	0	0	3	-
620 318	Media Discourse	3	0	0	3	-
620 322	Interactive Multimedia	3	0	0	3	610 211
620 323	Advanced Issues in Translation Theory	3	0	0	3	610 325
620 352	Screen Translation	3	0	0	3	610 336
620 426	Training	3	0	0	3	75 HRS
620 427	Media Law and Ethics	3	0	0	3	-
620 430	Project in Translation for Media	3	0	0	3	620 323
620 431	Mass Media in the UAE and the Gulf	3	0	0	3	620 427

4. College Elective Courses (9 Cr. Hrs.)

Course No.	Course Title	Cr. Hrs.	Prerequisite
0610320	Translation of Legal Texts	3	-
0610321	Discourse Analysis	3	-
0610324	Translation of Financial Texts	3	-
0620435	Special Topics in Communication and Public Relations	3	-
0620436	Arab and International Communication	3	-

Suggested Four-Year Study Plan

FIRST SEMESTER

Course Code	Course Name	Credit Hours				Pre-requisite
		Lec	Lab	Tut	Cr.Hrs.	
101 000	Orientation	1	0	0	0	-

Course Code	Course Name	Credit Hours				Pre-requisite
102 110	Islamic Culture	3	0	1	3	-
102 140	Communication Skills in Arabic Language	3	0	0	3	-
103 110-2	Statistics	2	2	0	3	-
103 120	Environmental Science	3	0	0	3	-
104 110	Computer Applications	2	2	0	3	-
620 101	Study Skills	3	0	0	3	-
TOTAL		16	4	1	18	

SECOND SEMESTER

Course Code	Course Name	Credit Hours				Pre-requisite
		Lec	Tut	Lab	Cr.Hrs.	
610 101	English Writing Skills	3	0	0	3	-
610 102	English Listening Skills	3	0	0	3	-
610 103	English Speaking Skills	3	0	0	3	-
610 104	English Lexis	3	0	0	3	-
610 105	Arabic Grammar	3	0	0	3	102 140
620 107	Advanced English Grammar	3	0	0	3	-
TOTAL		18	0	0	18	

THIRD SEMESTER

Course Code	Course Name	Credit Hours				Pre-requisite
		Lec	Tut	Lab	Cr.Hrs.	
610 208	Advanced English Reading Skills	3	0	0	3	-
610 209	Advanced English Writing Skills	3	0	0	3	610 101
620 210	Introduction to Mass Communication and Public Relations	3	0	0	3	-
610 211	English-Arabic Translation	3	0	0	3	-
620 212	Readings in Mass Communication	3	0	0	3	-
xxx xxx	University Elective Course	3	0	0	3	-
TOTAL		18	0	0	18	

FOURTH SEMESTER

Course Code	Course Name	Credit Hours				Pre-requisite
		Lec	Tut	Lab	Cr.Hrs.	
620 213	Culture and Institutions of the English-Speaking World	3	0	0	3	-
620 214	Arabic-English Contrastive Linguistics	3	0	0	3	-
620 215	Media Translation (English>Arabic)	3	0	0	3	610 211
620 216	Media Translation (Arabic>English)	3	0	0	3	-
xxx xxx	University Elective Course	3	0	0	3	--
TOTAL		15	0	0	15	

FIFTH SEMESTER

Course Code	Course Name	Credit Hours				Pre-requisite
		Lec	Tut	Lab	Cr.Hrs	
620 318	Media Discourse	3	0	0	3	620 215
610 322	Consecutive Interpreting 1	3	0	0	3	620 215
610 325	Translation Theory	3	0	0	3	620 216
610 334	Critical Theories in Communication and Translation	3	0	0	3	620 215
xxx xxx	University Elective Course	3	0	0	3	
TOTAL		15	0	0	15	

SIXTH SEMESTER

Course Code	Course Name	Credit Hours				Pre-requisite
		Lec	Tut	Lab	Cr.Hrs	
610 336	Translation for Electronic Media	3	0	0	3	-
610 428	Consecutive Interpreting 2	3	0	0	3	610 322
610 429	Introduction to Computer-Assisted Translation	3	0	0	3	-
610 432	Sociolinguistics	3	0	0	3	-
xxx xxx	Major Elective Course	3	0	0	3	
TOTAL		15	0	0	15	

SEVENTH SEMESTER

Course Code	Course Name	Credit Hours				Pre-requisite
		Lec	Tut	Lab	Cr.Hrs	
620 322	Interactive Multimedia	3	0	0	3	610211
620 323	Advanced Issues in Translation Theory	3	0	0	3	610 325
620 352	Screen Translation	3	0	0	3	610336
620 426	Training	3	0	0	3	75 HRS
XXXXXX	Major Elective Course	3	0	0	3	
TOTAL		15	0	0	15	

EIGHTH SEMESTER

Course Code	Course Name	Credit Hours				Pre-requisite
		Lec	Tut	Lab	Cr.Hrs	
620 427	Media Law and Ethics	3	0	0	3	620 318
620 430	Project in Translation for Media	3	0	0	3	620 323
620 431	Mass Media in the UAE and the Gulf	3	0	0	3	620 427
xxx xxx	Major Elective Course	3	0	0	3	
TOTAL		12	0	0	12	

Course Descriptions**610101 English Writing Skills (3-0-0-3)**

The course is designed to develop students' proficiency in writing academic essays using rhetorical modes such as analysis, classification, comparison and contrast. The course focuses on organization and logical development as well as lexical accuracy. A special emphasis is put on thesis statements and coherence.

610 102 English Listening Skills (3-0-0-3)

This course is designed for advanced students of English as a Foreign Language. The course uses lectures and readings on topics of universal interest in the fields of anthropology, history, sociology, communication

and biology which provide stimulating content-based springboards for developing listening comprehension, note taking and academic study skills.

Pre-requisite: None

610 103 English Speaking Skills (3-0-0-3)

This course aims at expanding students' oral communication skills and fluency in using appropriate verbal and nonverbal language and conversation management techniques. Students are given ample opportunities to express their ideas (orally) in a variety of social, business and academic situations.

Pre-requisite: None

610 208 Advanced English Reading Skills (3-0-0-3)

In this course, students will examine extensive readings in a variety of styles. The vocabulary in the readings includes words students typically encounter during their university study. Students will be required to read articles and extract information from various forms of charts, graphs and illustrations.

Pre-requisite: None

610 104 English Lexis (3-0-0-3)

This course is designed to improve students' English vocabulary and help them learn how to use them in context. Strategies for enlarging students' vocabulary, organizing a vocabulary notebook and revising vocabulary are presented. Practice in the use of dictionaries is also given. Vocabulary-related concepts such as collocation, connotation, idioms, phrasal verbs, and some theme-based vocabulary are also introduced.

Pre-requisite: None

610 105 Arabic Grammar (3-0-0-3)

This course deals with the study of al-iaraab and al-binaa in Arabic in addition to the following topics: reasons for establishing grammar science, study of sentences and styles, types of sentences in Arabic and their significance, the Five Verbs, the 'Weak Verbs,' Active-passive relations and all their configurations, and Arabic numbers.

Pre-requisite: 102 140

610 106 English Grammar (I) (3-0-0-3)

This course is designed to help students at an intermediate level improve their accuracy and extend their range of expression. The course focuses on the grammatical problems encountered by students and encourages them to find their own answers. There are activities at each step, using authentic written and spoken data. Some of the concepts and ideas introduced in this course

will be given more attention in "English Grammar II." Pre-requisite: 610 101

620107 Advanced English Grammar (3-0-0-3)

This course is designed to introduce more features of English grammar appropriate to an upper-intermediate level of study with challenging exercises that engender creative, independent use of target structures. It concentrates on main lexical categories and grammatical categories. Other topics include sentences and their parts, subordination and coordination, etc.

Pre-requisite: None

610208 Advanced English Reading Skills (3-0-0-3)

In this course, students will examine extensive readings in a variety of styles. The vocabulary in the readings includes words students typically encounter during their university study. Students will be required to read articles and extract information from various forms of charts, graphs and illustrations.

Pre-requisite: None

610209 Advanced English Writing Skills (3-0-0-3)

This course builds upon the skills acquired in "English Writing Skills" to further develop students' critical thinking and academic writing competencies. The course devotes a good part of the semester to the skills of writing summaries, critiques, and syntheses; paraphrasing and using quotations. It then leads students through the process of writing a research paper.

Pre-requisite: 610 101

610 210 English Grammar (II) (3-0-0-3)

This course is designed to introduce more features of English grammar appropriate to an upper-intermediate level of study with challenging exercises that engender creative, independent use of target structures. It

concentrates on main lexical categories and grammatical categories. Other topics include sentences and their parts, subordination and coordination, etc.

Pre-requisite: 610 106

610 211 English-Arabic Translation I (3-0-0-3)

This course is designed to equip students with the basic skills of translation with special focus on translating from English into Arabic. It covers various registers including social, scientific and others.

Pre-requisite: None

610 212 Introduction to Linguistics (3-0-0-3)

This course introduces students to the basic concepts and issues in linguistics, and investigates the nature of human language and its main features. It also familiarizes them with the procedures of analyzing a language at various phonetic and phonological levels taking English as an example.

Pre-requisite: None

610 213 English-Arabic Translation II (3-0-0-3)

This course is a continuation of English-Arabic Translation I. It is designed to further students' knowledge of the various translation strategies and their ability to apply them to various English text genres.

Pre-requisite: 610 211

610 214 English Language and Culture (3-0-0-3)

This course offers students an opportunity to learn about culture and daily life in countries where English is spoken as a first language. It explores topics such as geography and history, traditions and superstitions, fashion, food and drink, law and order, music and sport from the point of view of young people. Students are encouraged to

compare their own culture to that in Britain, Ireland, Canada, the US, Australia and New Zealand.

Pre-requisite: None

610 215 Arabic-English Translation I (3-0-0-3)

This course is designed to equip students with the basic skills of translation with special focus on translating from Arabic into English. It covers selected text genres for translation including social, scientific, etc.

Pre-requisite: 610 211

610 316 Arabic- English Translation II (3-0-0-3)

This course is a continuation of the course Arabic – English Translation I and is designed to further students' knowledge and ability to apply the various translation strategies when faced with Arabic texts.

Pre-requisite: 610 215

0610 317 Linguistics II (3-0-0-3)

This course is a continuation of Introduction to Linguistics. Emphasis will be placed on morphology and syntax. The course covers the core areas of the subject: words and sentences, word classes, word structure, affixes, inflectional and derivational paradigms, immediate constituents of morphemes, conditioning (phonological and morphological), processes of word formation, basic sentence patterns, noun and verb phrases, parts of speech modification, etc.

Pre-requisite: 610 212

610 318 Contrastive Analysis (3-0-0-3)

This course provides students with some insights into the differences between English and Arabic at the phonological, morphological, syntactic, semantic and discourse levels. It further familiarizes students with

the methodology of analyzing errors made by Arabic speakers in their attempts to learn English.

Pre-requisite: 610 212

610 319 Language of Media (3-0-0-3)

This course introduces students to the linguistic varieties used in various media. It aims to develop a reasonable command of the language of media. It also offers students the opportunity to develop an understanding of cultural differences between English and Arabic and how to tackle them when translating. Translation strategies and media skills are given a reasonable emphasis.

Pre-requisite: 610 213

610 320 Translation of Legal Texts (3-0-0-3)

This course develops students' knowledge of legal terms and matters on an international basis, and explores such topics as pollution, maritime law, civil rights, with translation of key documents. It also gives students practice in the translation of contracts from English into Arabic. The emphasis is on the overall structure of contracts and their lexical features.

Pre-requisite: 610 213

610 321 Discourse Analysis (3-0-0-3)

This course introduces students to concepts in discourse analysis such as the definition of discourse analysis, text and context, schema theory speech acts, relevance theory, politeness, conversation analysis, cohesion and coherence and the differences between spoken English and written discourse.

Pre-requisite: 610 317

610 322 Consecutive Interpreting I (3-0-0-3)

This course is designed to provide students with the skills of content analysis, note-taking techniques, public

speaking, presentation skills, sight translation and other skills pertinent to consecutive interpreting from English to Arabic. It is also designed to help students use standard methods of recording information when listening to source language texts. The course also aims at raising students' awareness of the differences between the spoken and the written mode.

Pre-requisite: 610 213

610 323 Introduction to English Literary Genres (3-0-0-3)

This course introduces students to the study of English literary genres: fiction, drama and poetry, giving them insights into the nature of literary discourse. It develops the language skills and critical thinking necessary for analyzing and appreciating English literature and culture.

Pre-requisite: None

610 324 Translation of Financial Texts (3-0-0-3)

This course offers students an opportunity to understand the nature of financial texts and the related translation strategies which will help them produce cohesive translated Arabic texts. It provides students with reasonable financial and linguistic knowledge and skills deemed essential for translators of financial texts.

Pre-requisite: 610 211

610325 Translation Theory (3-0-0-3)

This course addresses itself to issues in translation theory. It deals with equivalence and context as major concepts in translation, and discusses different types and methods of translation from literal to free translations. It also deals with naturalization, cultural approximation and descriptive translation as major translation strategies. Further, it discusses certain aspects of translation from English into Arabic.

Pre-requisite: 610316

610 426 Linguistics III (3-0-0-3)

This course introduces students to linguistic notions which have immediate bearing on translation. Topics include semantics, pragmatics and stylistics. It starts with a review of basic semantic concepts notably reference, denotation, connotation, sense relations, and the role of semantics in the study of language. The course also deals with semantic fields and various types of meaning. The students will also be involved in the study of the degree of lexical equivalence in synonymy, quasi-synonymy, polysemy, etc.

Pre-requisite: 610 317

610 427 Literary Translation (3-0-0-3)

The course introduces students to the nature and problems of literary translation based on English texts from different periods and genres to highlight such issues as the nature of equivalence, English literary genres, loss and compensation, the translation of metaphors, style, culture, ideology and ethics.

Pre-requisite: 610 316

610 428 Consecutive Interpreting II (3-0-0-3)

This course is mainly geared towards developing students' skills in consecutive interpreting from English to Arabic, making full use of the skills they have already acquired from the introduction to Consecutive Interpreting.

Pre-requisite: 610 322

610 429 Introduction to Computer-Assisted Translation (3-00-3)

This course introduces students to the realm of computer-assisted translation (CAT), including the original and the latest techniques and technology. It will examine basic problems and approaches, and emphasize the way in which CAT research relies on ideas drawn from, and

progress made in, other areas such as translation theory and theoretical linguistics.

Pre-requisite: 610 322

610 431 Translation Project (3-0-0-3)

This course aims at giving students the chance to gain hands-on experience. Students choose a text of 5,000-8,000 words on an appropriate subject and carry out an annotated translation preferably from English into Arabic or from Arabic into English. Furthermore, they investigate translation problems emanating from their study of the society they live in.

Pre-requisite: 610 325

610432 Sociolinguistics (3-0-0-3)

This course is designed to familiarize students with the cultural and social settings of the English Language. The course will introduce students to the basic concepts and approaches involved in the study of the links between language and society. It provides students with theoretical and practical knowledge about linguistic variation and relates it to social variables. Students will also learn how and why language varies as it is adapted to suit the subject matter, medium, purpose or attitude.

Pre-requisite: 620 321

610 433 Training (3-0-0-3)

This course is designed to give students the opportunity for practical training in their prospective careers. Students are prepared to work as professionals, practicing interpreting and translation of various kinds, and carrying out tasks under supervision and guidance from academic and field supervisors.

Pre-requisite: Completion of 75 Credit Hours

610 334 Critical Theories in Communication and Translation (3-0-0-3)

The course surveys selected critical theories of mass communication and translation. It covers various approaches to study the nature and the impact of ideology in mass media. It specifically emphasizes sociological and philosophical bases in order to understand mechanisms of communication in multiple contexts. Among critical theories, the course discusses Marxism, psychoanalysis, structuralism, semiology, cultural studies, post-colonialism and postmodernism.

Pre-requisite: 610 211

610 335 French I (3-0-0-3)

This course targets the fundamental language needs of students and gives them the necessary tools for immediate communication at this beginner level. The four language skills are tackled in a variety of exercises and the related language functions introduced in listening comprehension are practiced in the speaking class with a particular focus on pronunciation and communication. Student CD's, the multimedia laboratory, the language resources room and the Internet are used to develop learner autonomy and communicative competence.

Pre-requisite: None

610 336 Translation for Electronic Media (3-0-0-3)

This course is designed for students who are interested in audio/visual communication and translation. It provides translation strategies, helping students to translate between Arabic and English in radio and TV. There is a functional element to the course. The multimedia laboratory, the language resource room, CD-ROMs, the Internet and other virtual technologies are used to develop learners' translation skills.

Pre-requisite: None

610 437 Translation for Specialized Press (3-0-0-3)

This course deals with the translation of items taken from press tackling special issues, for example women, cars, fishing, cooking, etc. It also covers items taken from bulletins and other regular press releases made by international, regional and local organizations.

Pre-requisite: None

610 438 French II (3-0-0-3)

This course continues from French I. It targets the fundamental needs of students at this level and gives them the necessary tools for immediate oral and written communication. This is achieved through a gradual progression approach. The four language skills are tackled in a variety of exercises and the related language functions introduced in listening comprehension are practiced in the speaking class with a particular focus on pronunciation and communication. Student CD's, the multimedia laboratory, the language resources room and the Internet are used to develop the learner's autonomy and communicative competence.

Pre-requisite: 610 335

610 439 Survey of Twentieth Century Literature in English (3-0-0-3)

This course deals with aspects of British and American literature which reflect the events that had shaped twentieth-century literature and consciousness. It focuses on prominent writers who dealt with the concerns of the period: World War I, imagism, industrialization, modernism and the absurd.

Pre-requisite: 610 323

620101 Study Skills (3-0-0-3)

This course covers the skills which relate directly to the needs of most university students: improving reading efficiency, taking notes, preparing for seminars research techniques, how to organize and present essay, and preparing for examinations

Pre-requisite: None

620210 Introduction to Mass Communication and Public Relation (3-0-0-3)

The course is designed to provide students with a basic understanding of mass communication and public relations concepts, processes, historical development, practices and effects. It also surveys the history of mass media forms (print, radio, TV, Cinema and internet) and their impact on human communication..

Pre-requisite: None

620212 Readings in Mass Communication (3-0-0-3)

This course is a basic introduction for familiarizing students with media texts in English in the fields of communication, journalism, radio, and TV. The course is concerned with the products of Western school in the media with various fields and branches especially American and British.

Pre-requisite: None

0620213 Culture & Institutions of the English – Speaking World (3-0-0-3)

This course offers an opportunity for students to learn about culture and daily life in the different countries around the world where English is spoken as first language. It explores topics such as geography and history, traditions and superstitions, fashion, food and drink, law and order, music and sport from the point of view of young people, and students are encouraged to

compare their own cultural experience with that in Britain, Ireland, Canada, the USA, Australia and New Zealand.

Pre-requisite: None

620215 Media Translation (English>Arabic) (3-0-0-3)

This course aims at providing students with basic strategies needed in translating various media texts to enable them to produce cohesive and coherent translated texts. It is designed to improve the students' general knowledge, linguistic and technological skills in the field of communication.

Pre-requisite: 610211

620216 Media Translation (Arabic>English) (3-0-0-3)

This course aims at developing the students' skills in translating from Arabic into English with special emphasis on the field of media. The course includes the translation of more specialized texts on subjects such as economics, sports, current affairs, etc. It also includes the translation of foreign newspaper editorials, opinion articles. Students will also be trained to translate media texts taken from internet websites.

Pre-requisite: None

0620318 Media Discourse (3-0-0-3)

This course introduces students to the linguistic varieties used in the various media. It aims at developing a reasonable command of the critical analysis of the language of media. It also offers students the opportunity to develop an understanding of cultural differences between English and Arabic and how to tackle them when translating. Translation strategies and media skills are given a reasonable emphasis.

Pre-requisite: None

0620 322 Interactive Multimedia (3-0-0-3)

This course is designed to enable students to understand and apply the interactive multimedia technology in translating into Arabic. The course focuses more on proper use of modern interactive technologies in English-Arabic Multimedia translation. The Internet laboratory and the interactive Multimedia studio are utilized to develop the students technical skills

Pre-requisite: 610211

620 323 Advanced Issues in Translation Theory (3-0-0-3)

This course focuses on the need to provide students with the required research knowledge and skills in inter media translation and its theories. This course exposes students to a combination of research in translation theory and media translation practice in issues like gender and number, culture, localization, globalization, etc.

Pre-requisite: 610325

620 352 Screen Translation (3-0-0-3)

This course deals with the translation between Arabic and English of visual media items into print material. These include the translation of TV documentaries and series, cinema and TV films, feature films and news items and commentaries on TV. The course is an initial step towards providing students with the tools required in specialized media translation.

Pre-requisite: 610336

620426 Training (3-0-0-3)

This course is designed to give students the opportunity for practical training in their prospective careers. The students are prepared to work as professionals practicing interpreting and media translation of various kinds and tasks under supervision and guidance from both the academic and the field supervisors..

Pre-requisite: Completion of 75 Credit Hours

620427 Media Law & Ethics (3-0-0-3)

This course deals with regulations and ethics that control media systems and profession, such as licensing, censorship, media criminal and civil responsibility right of personal reply, retraction and codes of ethics. The course reviews in detail models of media laws.

Pre-requisite: None

620430 Project in Translation for Media (3-0-0-3)

This course aims at giving the students the chance to gain hands on experience media and translation. The students should choose a text of about 5000-8000 words on an appropriate media subject and carry out an annotated translation preferably from English into Arabic.. Furthermore, they should investigate translation problems emerging from their media studies of the society they live in..

Pre-requisite: 620323

620335 Special Topics in Communication and Public Relations (3-0-0-3)

This course offers an experimental and temporary base to explore topics not included in the established curriculum. These courses vary from one semester to another to cover the most recent developments in communication, whether technological and/or social. Students are required to take part in data collection and discussions of communication-related topics.

Pre-requisite: None

620431 Mass Media in the UAE and the Gulf (3-0-0-3)

The course examines historical, political, and cultural conditions under which mass media has emerged in the region. It also discusses the different development phases

of the media; particularly the main big newspapers, radio and TV stations, news agencies, etc.

Pre-requisite: 620427

620436 Arab and International Communication (3-0-0-3)

This course provides students with information on the history, birth, and development of Arab and foreign methods of communication. It also discusses the historical

dimension of the Arab and international media and its methods, formal institutions, international resources for global communication and the role of space satellites in communication operations with emphasis on modern international media aspects such as media globalization and media methods in a society of information.

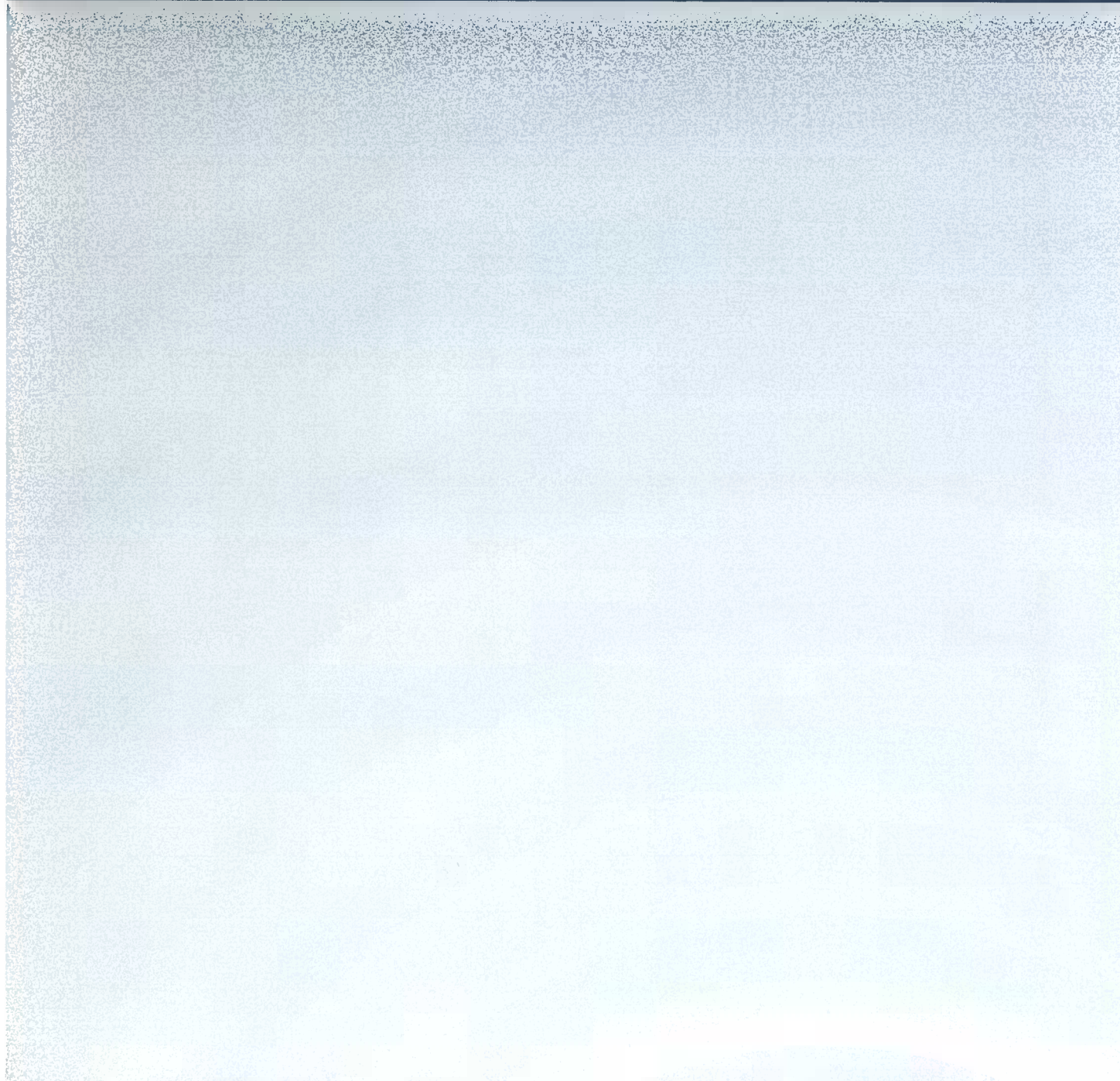
Pre-requisite: None

List of Faculty

Name	Rank	Specialization	University	year
Al Khaja Khalid Abdul Rahman	Associate Professor	Applied Linguistics	Salford University - UK	1989
Al Sahab Sahab Abdul Aziz	Associate Professor	Applied Linguistics	Baghdad University- Iraq	1998
Safi El Jil Abdelaziz	Associate Professor	Arabic Language and its Literature	Um Al Qura University -Saudi Arabia	1995
Henidi Khalid Abdu Gawad	Associate Professor	Radio & Television	Cairo University- Egypt	1994
Al-Hassan Aboudi Jawad	Associate Professor	Linguistics and Translation	Salford University- UK	1986
Bin Bouza Saleh	Associate Professor	Information and Mass Communication Science	Algiers University- Algeria	1993
Al Tameemi Abdullah	Assistant Professor	Mass Media	Al Azhar University -Egypt	2003
Salama Hussam Ali	Assistant Professor	Information and Mass Communication	Zaqaziq University- Egypt	1999
Al-Nuaimi Abdulhaq Basher	Assistant Professor	English Language and Linguistics	Mosul University- Iraq	-2003
Danani AbdulMalik	Assistant Professor	Journalism	Mustansiriya University- Iraq	2004
Abdullatif Tarek Ismail	Assistant Professor	Graphic Design	Helwan University Braunschweig University- Egypt-Germany	1999
Al Taei Mustafa Hameed	Assistant Professor	Mass Media	Baghdad University- Iraq	1998
Al-Nassery Shaaban Hasan	Assistant Professor	Journalism	Baghdad University- Sudan	2005

Name	Rank	Specialization	University	year
Al Khaja Khalid Abdul Rahman	Associate Professor	Applied Linguistics	Salford University - UK	1989
Osman Safa Mahmoud	Assistant Professor	Radio & Television	Cairo University- Egypt	2007
Al-Delimi Dawood Salman Matar	Assistant Professor	Mass Communication	Baghdad University - Sudan	1996
Dawood Abdu Mohamed	Assistant Professor	Mass Media and Public Relations	International African University- Sudan	2007
Maryam AlAjami Mohammed	Assistant Professor	Mass Media	Omdurman University- Sudan	2007
Bin Thalab Abdul Raouf Abdulla	Lecturer	TESOL	Moray House College of Education- UK	1990
Lazim Hashim	Lecturer	TEFL	Basrah University- Iraq	1981
Hamid Saeed Mohammed	Lecturer	Radio & Television	Omdurman Islamic University- Sudan	2004

Name	Rank	Specialization	University	year
Abbass Yass Khudier	Professor	Mass Communication	Budapest University- Hungary	1985
Almahi Abdullah	Assistant Professor	English Literature	Exeter University- UK	1986
Hussein Basher Salih	Associate Professor	Mass Communication	Ohio University- USA	1986
Skr Ahmed	Assistant Professor	Graphic Design	Ain Shams University= Egypt	2003
Abdelwahab Abdel Basit	Assistant Professor	Mass Communication	Azhar University- Egypt	2003
El Sayed Salim Shayma	Assistant Professor	Public Relations	Ain Shams University- Egypt	2005
Adam Yassien	Assistant Professor	Mass Communication	Omdurman University- Sudan	2007



College of

Pharmacy and Health Sciences

The College of Pharmacy and Health Sciences (COPHS) was founded in accordance with the university's policy of establishing an innovative medical environment which embraces health sciences, i.e. dentistry, medical technology, nursing, etc., in addition to pharmacy. The establishment of COPHS is intended to meet the demand for pharmacists in hospitals and community pharmacies, and to provide manpower for the increasing number of private pharmacies and the growing pharmaceutical industry in the UAE and the region.

Mission

The mission of the College of Pharmacy and Health Sciences is to create an environment that promotes excellence in pharmaceutical education, practice and research. It is committed to the continuous improvement of its programs to keep abreast with the rapid advances in the profession of pharmacy and the provision of pharmaceutical care. It strives to prepare students to become competent, reliable and ethical health care professionals.

Degree Programs

The College offers the following two programs:

1. Bachelor of Pharmacy (BPharm)
2. Master of Science in Pharmacy

Facilities

Laboratory Facilities

The college has several laboratories, covering the various branches of pharmaceutical science, which have the latest equipment. These laboratories have the instrumental apparatus which will enable students to gain sound practical skills as well as integrate theoretical study with real practical methods and techniques.

Computer Facilities

The college receives full technical support and assistance from the University Computer Center which provides its services round the year to administrators, staff and students. The computer laboratories at the center are well-equipped and are available for use throughout the day; they are administered by trained staff who assist in solving problems and answering queries.

Bachelor of Pharmacy

Program Objectives

1. To prepare students for the practice of pharmacy by providing them with the scientific background, clinical and technical skills that they will need to successfully complete their program of study.
2. To provide an educational environment that enables students to acquire the behavior, and moral and ethical attitudes they will need to practice the profession competently and ethically.

Program Outcomes

The intended outcomes of the program are that students will be able to:

1. Demonstrate knowledge of the basic and clinical science background of pharmacy practice
2. Implement the processes of compounding and dispensing medications, interpreting prescription orders and applying calculations related to the compounding and dispensing of medicines
3. Demonstrate knowledge of the basic skills and techniques involved in drug manufacture and development, drug design and screening and quality assurance of pharmaceutical products
4. Demonstrate knowledge of the rational use of herbal supplements, fundamentals of phytotherapy and the hazards of poisonous and abused natural products

5. Participate in patient care by influencing optimal drug choice and dosage through effective communication with health care providers and patients
6. Display legal, moral and ethical attitudes and behaviors consistent with the standards of the profession
7. Demonstrate the ability to lead and to function both independently and as a member of a team
8. Develop self-learning skills, problem solving and critical thinking abilities and the ability to retrieve, evaluate and manage information in the literature
9. Demonstrate the ability to write clear and organized reports, and to present oral communications
10. Develop the necessary skills in information use and management to educate health care professionals and the public in optimal drug therapy

Admission Requirements

Prospective candidates seeking admission to the Bachelor of Pharmacy (BPharm) program should fulfill the following requirements:

- Secondary school certificate (science section), or its equivalent, with a minimum grade of 70 percent, approved by the UAE Ministry of Education
- A score of 500 or higher in the TOEFL English proficiency test, or the equivalent
- Personal interview
- Demonstration of good conduct and maturity

Please see the university admission requirements for more detail.

Career Opportunities

The curriculum is designed and continuously improved with the aim of preparing graduates to be able to effectively deliver pharmaceutical services in the private sector as well as in governmental agencies. Pharmacy

graduates have the opportunity to work in different placements related to pharmacy profession:

- Community pharmacies
- Hospital pharmacies
- Pharmaceutical industry
- Pharmaceutical scientific laboratories
- Wholesale drug stores
- Medical representations
- Pharmaceutical administration
- Food control and analysis
- Pharmaceutical education and research

Graduation Requirements

The degree of Bachelor of Pharmacy (BPharm) will be awarded after successful completion of least one hundred and fifty credit hours (150 Credit Hours), including the university requirement courses. The period of study normally takes eight regular semesters and two-three summer semesters. In addition, every student should have field training in community pharmacies, hospital pharmacies and pharmaceutical industry of not less than 600 contact hours which is equivalent to 15 credit hours. The minimum cumulative grade point average (CGPA) for graduation is 2.0.

Degree Requirements

The pharmacy student will be awarded the degree of Bachelor of Pharmacy (BPharm) after the successful completion of at least 150 Credit Hours, including the university requirement courses, distributed according to the following plan:

Type of Courses	Credit/hour
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. College Requirements	
(a) College Required Courses	108
(b) College Required Training Courses	15
(c) College Electives Courses	3
Total Credit Hours	150

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

(a) University Required Courses (15 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
101000-0	Orientation	1	0	0	0	-
102110-0	Islamic Culture	3	0	1	3	-
102140-0	Communication Skills in Arabic Language	3	0	0	3	-
103110-1	Statistics	2	2	0	3	-
103120	Environmental Sciences	3	0	0	3	-
104110-0	Computer Applications	2	2	0	3	-

(b) University Elective Courses (9 Cr.Hrs.)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
102120	The miraculousness of the holy Koran	3	0	0	3	-
103130	Research Methodology	3	0	0	3	-
112110	Principles of Architecture & Art	3	0	0	3	-
112120	Principles of Interior Design	3	0	0	3	-
112130	Modern Technology and Society	3	0	0	3	-
113110	Internet Concepts	3	0	0	3	-
113120	Introduction to Information Systems	3	0	0	3	-
114110	Economic Concepts	3	0	0	3	-
114120	Entrepreneurship Development	3	0	0	3	-
115110	History of science in Islam	3	0	0	3	-

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
115120	Scientific pioneering	3	0	0	3	-
115130	General psychology	3	0	0	3	-
115140	Principle of mathematics	3	0	0	3	-
115150	The Art of Expression and writing	3	0	0	3	-
115160	Emirates Society	3	0	0	3	-
115170	Education Technology	3	0	0	3	-
117110	General chemistry	3	0	0	3	-
117120	Fundamental of Human Nutrition	3	0	0	3	-
117130	First Aid	3	0	0	3	-
117140	Energy, Water & Environment	3	0	0	3	-
117150	Applications of Remote sensing	3	0	0	3	-
118110	Principles of Ethics	3	0	0	3	-
118120	General Biology	3	0	0	3	-
118130	Oral Health	3	0	0	3	-
118140	General principles of Epidemiology	3	0	0	3	-
118150	CPR-Cardio Pulmonary Resuscitation	3	0	0	3	-
119110	Communication Skills	3	0	0	3	-
119120	Introduction to Communication Sociology	3	0	0	3	-
119130	Information Society	3	0	0	3	-
120115	Legal Culture	3	0	0	3	-

COLLEGE REQUIREMENTS

(a) Required Courses:

1. Department of Pharmaceutics

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
700111	Introduction to Pharmacy	2	2	0	3	xxxxx
700112	Physical Pharmacy I	2	2	0	3	700111
700212	Physical Pharmacy II	2	2	0	3	700112
700213	Pharmaceutical Dosage Forms I	2	2	0	3	700112
700214	Pharmaceutical Dosage Forms II	2	2	0	3	700213

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
700311	Biopharmaceutics and Pharmacokinetics I	2	2	0	3	700214+ 700422
700312	Biopharmaceutics and Pharmacokinetics II	2	2	0	3	700311
700413	Pharmaceutical Technology	3	2	0	4	700212 + 700214
700415	Pharmaceutical Technology Training	2	2	0	3	700413

2. Department of Pharmaceutical Chemistry and Pharmacognosy

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
700124	Pharmaceutical Botany	2	2	2	3	xxxxx
700127	General Pharmacognosy	3	2	0	4	700124
700128	Pharmaceutical Organic Chemistry I	2	2	0	3	xxxxx
700129	Pharmaceutical Organic Chemistry II	2	2	0	3	700128
700222	Pharmaceutical Analytical Chemistry I	2	2	0	3	700128
700223	Pharmaceutical Analytical Chemistry II	2	2	0	3	700222
700321	Phytochemistry	3	2	0	4	700127+700425
700323	Medicinal and Pharmaceutical Chemistry I	2	2	0	3	700129+700333
700324	Medicinal and Pharmaceutical Chemistry II	2	2	0	3	700323
700422	Instrumental Analysis I	2	2	0	3	700223
700425	Instrumental Analysis II	2	2	0	3	700422

3. Department of Pharmacology and Toxicology

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
700135	Principles of Human Anatomy and Physiology I	3	2	0	4	xxxxx
700136	Principles of Human Anatomy and Physiology II	2	2	0	3	700135
700231	Biochemistry I	2	2	0	3	700129
700232	Biochemistry II	2	2	0	3	700231
700235	Pharmacology and Therapeutics I	2	2	0	3	700136
700238	Pharmacology and Therapeutics II	2	2	0	3	700235
700331	Pharmacology and Therapeutics III	2	2	0	3	700238
700333	Pharmaceutical Microbiology and Immunology	3	2	0	4	700231
700432	Toxicology and Chemotherapy	3	0	0	3	700331+801318
700434	Bioassays and Drug Screening	2	2	0	3	130130+700331

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
801318	Pathology / Pharmacy	2	0	0	2	700333

4. Department of Clinical Pharmacy

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
700314	Community Pharmacy Training I	0	0	0	3	Completion of 30 CH
700315	Hospital Pharmacy Training	0	0	0	3	700331
700316	Community Pharmacy Training II	0	0	0	3	700314+700442
700317	Clinical Pharmacy Training	0	0	0	3	700442+700418
700416	Pharmaceutical Legislations	1	0	0	1	700432
700417	Marketing and Sales	1	0	0	1	700442
700418	OTC Drugs and Products	2	2	0	3	700331
700442	Clinical Pharmacy I	2	2	0	3	700312+700331
700443	Clinical Pharmacy II and First Aid	2	2	0	3	700442

(b) College Elective Courses:

Students have to study one course of the following (3 Cr. Hrs)

Course No.	Course Title	Th.	Lab.	Tut.	Cr. Hrs.	Prerequisite
700515	Pharm. Biotechnology	2	2	0	3	700232
700522	Phytotherapy	2	2	0	3	700321
700527	Nuclear Pharmacy	2	2	0	3	700331
700534	Clinical Microbiology	2	2	0	3	700333
700535	Gene Therapy	2	2	0	3	700232 + 700333

Suggested Study Plan

First Year:

Fall Semester:

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs	Pre-req.
104110	Computer Applications	2	2	0	3	xxxxx
700111	Introduction to Pharmacy	2	2	0	3	xxxxx

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs	Pre-req.
700124	Pharmaceutical Botany	2	2	2	3	xxxxx
700128	Pharmaceutical Organic Chemistry-I	2	2	0	3	xxxxx
700135	Principles of Human Anatomy and Physiology-I	3	2	0	4	xxxxx
Total		11	10	0	16	

Spring Semester:

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs	Pre-req.
700112	Physical Pharmacy-I	2	2	0	3	700111
700127	General Pharmacognosy	3	2	0	4	700124
700129	Pharmaceutical Organic Chemistry-II	2	2	0	3	700128
700136	Principles of Human Anatomy & Physiology-II	2	2	0	3	700135
700222	Pharmaceutical Analytical Chemistry I	2	2	0	3	700128
Total		11	10	0	16	

Summer Semester:

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs	Pre-req.
102130	Environmental Sciences	3	0	0	3	-
xxxxxx	University Elective course I	3	0	0	3	-
Total		6	0	0	6	

Second Year:**Fall Semester:**

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs	Pre-req.
700212	Physical Pharmacy II	2	2	0	3	700112
700213	Pharmaceutical Dosage Forms I	2	2	0	3	700112
700223	Pharmaceutical Analytical Chemistry II	2	2	0	3	700222
700231	Biochemistry I	2	2	0	3	700129
700235	Pharmacology and Therapeutics I	2	2	0	3	700136
700314	Community Pharmacy Training-I	0	0	0	3	after 30 Crd.Hrs+700111
Total		10	10	0	18	

Spring Semester:

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs	Pre-req.
700214	Pharmaceutical Dosage Forms II	2	2	0	3	700213
700232	Biochemistry II	2	2	0	3	700231
700238	Pharmacology and Therapeutics II	2	2	0	3	700235
700333	Pharmaceutical Microbiology and Immunology	3	2	0	4	700231
700422	Instrumental Analysis I	2	2	0	3	700223
Total		11	10	0	16	

Summer Semester:

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs	Pre-req.
103110	Statistics	3	-	0	3	Xxxxx
102110	Islamic Culture	3	0	0	3	Xxxxx
Total		6	0	0	6	

Third Year:**Fall Semester:**

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs	Pre-req.
700311	Biopharmaceutics & Pharmacokinetics I	2	2	0	3	700214+ 700422
700323	Medicinal and Pharmaceutical Chemistry I	2	2	0	3	700129+700333
700331	Pharmacology and Therapeutics III	2	2	0	3	700238
700425	Instrumental Analysis II	2	2	0	3	700422
801318	Pathology / Pharmacy	2	0	0	2	700333
xxxxxx	University elective course II	3	0	0	3	Xxxxx
Total		13	8	0	17	

Spring Semester:

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs.	Pre-req.
102140	Communication skills in Arabic Language	3	0	0	3	Xxxxx
700312	Biopharmaceutics and Pharmacokinetics II	2	2	0	3	700311
700321	Phytochemistry	3	2	0	4	700127+700425
700324	Medicinal and Pharmaceutical Chemistry II	2	2	0	3	700323

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs.	Pre-req.
700413	Pharmaceutical Technology	3	2	0	4	700212 + 700214
Total		12	10	0	17	

Summer Semester:

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs	Pre-req.
xxxxxx	University Elective course III	3	0	0	3	Xxxxx
Total		3	0	0	3	

Fourth Year:**Fall Semester:**

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs	Pre-req.
700315	Hospital Pharmacy Training	0	0	0	3	700331
700415	Pharmaceutical Technology Training	0	0	0	3	700413
700418	OTC Drugs and Products	2	2	0	3	700331
700432	Toxicology & Chemotherapy	3	0	0	3	700331+801318
700442	Clinical Pharmacy I	2	2	0	3	700312+700331
xxxxxx	College Elective course	2	2	0	3	after 115 Crd.Hrs
Total		9	6	0	18	

Spring Semester:

Course No.	Course Title	Th.	Lab.	Tut.	Cr.Hrs	Pre-req.
700316	Community Pharmacy Training-II	0	0	0	3	700314+700442
700317	Clinical Pharmacy Training	0	0	0	3	700442+700418
700416	Pharmaceutical Legislations	1	0	0	1	700432
700417	Marketing & Sales	1	0	0	1	700442
700421	Project	2	2	0	3	after 115 Crd.Hrs
700434	Bioassays and Drug Screening	2	2	0	3	130130+700331
700443	Clinical Pharmacy-II & First Aid	3	0	0	3	700442
Total		9	4	0	17	

Course Descriptions

Department of Pharmaceutics

700 111 Introduction to Pharmacy (2-2-3)

This course provides an introduction to prescriptions, general dispensing procedures, dosage forms with special emphasis on pharmaceutical solutions and basic techniques of compounding simple solutions. The course also includes definitions, Latin terms, weighing and measuring and basic pharmaceutical calculations.

Pre-requisite: None

700 112 Physical Pharmacy I (2-2-3)

The course comprises the application of physicochemical principles to pharmaceutical systems. It covers basic physical pharmacy concepts: solubility distribution phenomena, buffers, isotonic solution, phase equilibria and phase rule.

Pre-requisite: 700 111

700 212 Physical Pharmacy II (2-2-3)

This course aims to provide students with basic knowledge of physicochemical principles in pharmacy and their possible applications in explaining characteristics and behavior of pharmaceutical dispersed systems such as colloids, suspensions, emulsions, ointments, pastes, creams and aerosols.

Pre-requisite: 700 112

700 213 Pharmaceutical Dosage Forms I (2-2-3)

The course comprises principles and techniques involved in the formulation, preparation and evaluation of solid dosage forms. It covers physical properties of powders, preparation of bulk and divided powders, as well as effervescent and non-effervescent granules and method of tablet and capsule manufacture. The course also covers

rectal drug absorption, formulation and evaluation of suppositories.

Pre-requisite: 700 112

700 214 Pharmaceutical Dosage Forms II (2-2-3)

This course covers sterile products including parenterals and ophthalmic preparations; their advantages and disadvantages formulations, quality control tests and various sterilization procedures. In addition to aseptic techniques applied during the preparations of sterile products. The course also includes an introduction to sustained released products, packaging as well as basic principles of drug stability, and routes of drug degradation and various means of avoiding them.

Pre-requisite: 700 213

700 311 Bio-pharmaceutics and Pharmacokinetics I (2-2-3)

This course provides the basic principles required for understanding the concentration-time course of a drug in the body and hence prepares students to understand various factors that can influence it. It is important to be aware of the factors which can influence this concentration-time course and hence modify the effectiveness and safety of the drug. Factors involved include physicochemical, pharmaceutical ones, or those such as physiological or pathological factors related to the patient's condition. It also provides basic methods for assessing bio-availability and bio-equivalency of drug products which are considered vital tools for quality control tests. Bio-pharmaceutical aspects of new drug delivery systems will also be highlighted.

Pre-requisites: 700 214, 700 422

700 312 Bio-pharmaceutics and Pharmacokinetics II(2-2-3)

The course will introduce the student to the changes in drug absorption, distribution and elimination with time following one compartment IV bolus, oral absorption and IV infusion. The lectures will provide students with principles of the linear and non-linear pharmacokinetic models and their application. The principles of clinical pharmacokinetics are also introduced in order to be able to formulate or modify drug dose-regimens according to the need of patients.

Pre-requisite: 700 311

700 413 Pharmaceutical Technology (3-2-4)

This course comprises the design of pharmaceutical plants as well as the design and operation of clean rooms with special emphasis on quality assurance and good manufacturing practice guidelines. The course also covers theoretical background and practical demonstration of different manufacturing unit processes: heat transfer, filtration, particle size reduction, particle size analysis, mechanisms of mixing, powder flow, granulation, drying, tableting and capsulation. In addition the course covers packaging materials used in pharmacy. Pre-requisite: 700 212, 700 214.

700 415 Pharmaceutical Technology Training (3-3)

The course provides the student with basic training in large scale manufacturing of pharmaceutical dosage forms and quality control tests conducted for such dosage forms. It also covers quality assurance and good manufacturing practice guidelines followed during large scale manufacturing of various pharmaceutical dosage forms. Pre-requisite: 700 413

**700 515 Pharmaceutical Bio-technology
(College Elective Course) (3-3)**

The course introduces the student to the background of biotechnology and its application in various scientific fields. The course also covers the different methods adopted for preparation of biotechnology products and their evaluation, handling and storage.

Pre-requisite: 700 232

**DEPARTMENT of PHARMACEUTICAL CHEMISTRY
and PHARMACOGNOSY****700 124 Pharmaceutical Botany (2-2-3)**

This course deals with the study of the medicinal plants and their botanical structure such as cell differentiation, cell contents and the general study of the plant organs macroscopically and microscopically.

Pre-requisite: None

700 127 General Pharmacognosy (3-2-4)

Pharmacognosy is the subject that deals with the general study of important medicinal plants. The study includes their origin, morphology, histology, constituents and use. The drugs are classified into groups according to their main therapeutic values.

Pre-requisite: 700 124

700 128 Pharmaceutical Organic Chemistry I (2-2-3)

This course presents the fundamental of certain topics in organic chemistry. It covers some important areas in organic chemistry, which include aliphatic and aromatic hydrocarbons, alkyl and aryl halides, alcohols, ethers and epoxides. It emphasizes the pharmaceutical importance of these functional groups.

Pre-requisites: None

700 129 Pharmaceutical Organic Chemistry II (2-2-3)

This course is a continuation of Pharm. Organic Chemistry I. The course includes basic chemical reactions and mechanisms, Stereo-chemistry, phenols, aldehydes, ketones, and carboxylic acid and acid derivatives, properties and reactions of dysfunctional compounds, amines, aromatic and heterocyclic compounds, and introduction to organic natural products. Laboratory work concerns specific chemical reactions, organic synthesis and identification of organic compounds.

Pre-requisite: 700 128

700 222 Pharmaceutical Analytical Chemistry I (2-2-3)

The course covers chemical purity and its control; pharmacopoeial standards and specifications, theoretical basis and practical applications of quantitative analysis of pharmaceutical compounds applying volumetric methods based on acid-base, diazotization, complexation and non-aqueous titrations.

Pre-requisite: 700 128

700 223 Pharmaceutical Analytical Chemistry II (2-2-3)

A continuation of Pharmaceutical Analytical Chemistry I, this course covers volumetric analysis based on oxidation-reduction and precipitation as well as gravimetric analysis.

Pre-requisite: 700 222

700 321 Phytochemistry (3-2-4)

This course covers the study of the chemistry of crude drugs such as volatile oils, glycosides, alkaloids bitter Principles, resins and saponins, etc. The study covers the biosynthesis, the chemical and physical properties, identification tests, and methods of isolation and methods of assays.

Pre-requisites: 700 127, 700 425

700 323 Medicinal and Pharmaceutical Chemistry I(2-2-3)

This course covers the basic principles of medicinal chemistry. It deals with the relationship between chemical structure and biologic activity. Topics covered include the effect of physicochemical properties on biologic response, the effect of molecular modification on receptor binding, and drug metabolism. The second part of the course is devoted to the study of chemotherapeutic agents including antibiotics, synthetic antibacterial agents and antifungal and antiviral agents.

Pre-requisites: 700 129, 700 333

700 324 Medicinal and Pharmaceutical Chemistry II (2-2-3)

This course covers the chemistry, structural features and structure – activity relationships of the major classes of pharmacotherapeutic agents. The course adopts a pharmacological classification, but within each class the emphasis is on the chemical basis of drug action. Topics covered include adrenergic and cholinergic drugs, CNS depressants, analgesics, antihistamines, local anesthetics and cardiovascular drugs.

Pre-requisite: 700 323

700 422 Instrumental Analysis I (2-2-3)

The course provides an introduction to the instrumental methods of analysis including spectroscopic methods of analysis such as UV – VIS and fluorimetry; in addition to the following electro chemical methods: conductometry, potentiometry, amperometry and polarography. Pre-requisite: 700 223

700 425 Instrumental Analysis II (2-2-3)

This course aims to introduce students to application of the concept of applying instrumentation for the separation of mixtures as well as the qualitative and quantitative analysis of medicinal and pharmaceutical formulations.

The course covers different chromatographic methods and techniques (PC, TLC, IEC, CC, GPC, GC, HPLC) in addition to infra-red spectroscopy, nuclear magnetic resonance and mass spectroscopy. Pre-requisite: 700 422

700 522 Phytotherapy (College Elective Course) (3-3)

The course covers medicinal plants and other naturally-occurring medicinal compounds intended for treatment of different ailments of the human body. The study includes knowledge of active constituents of these natural products, suggested pharmacokinetic and pharmacodynamic effects of these constituents, as well as the appropriate dosage forms for administration of their preparations. Monographs on Materia Medica of selected medicinal herbs are also included in the study. Pre-requisite: 700 321 after 115 Credit Hours

700 527 Nuclear Pharmacy (College Elective Course)(3-3)

The course provides a comprehensive discussion of the fundamentals of the field of nuclear pharmacy. It covers the formulation and application of radiopharmaceuticals. Topics include the preparation, and quality control of clinically useful radiopharmaceuticals. Procedures and techniques involved in handling, disposition, and use of radioisotopes in nuclear pharmacy practice will be discussed. Diagnostic and therapeutic uses of radiopharmaceuticals and their adverse reaction are included. Pre-requisite: 115 Credit Hours

DEPARTMENT of PHARMACOLOGY and TOXICOLOGY

700 135 Principles of Anatomy and Physiology I (3-2-4)

This course provides students with a broad knowledge of the structure and functions of the human body. The course includes the structure and function of the normal cell; tissues in general, their different types, microscopic characteristics, locations, distribution and functions in the human body and of the different organ system and their respective roles and function in the organization

of the body. Gross anatomy is treated in its broadest aspects and includes the human skull and the different systems; muscular, respiratory, digestive, cardiovascular, nervous and reproductive. The physiology is integrated with anatomy for each system of the human body. Topics which are covered in detail include the organization, regulation and function of the muscular, gastrointestinal, respiratory, cardiovascular, renal, endocrine, nervous and reproductive systems. Clinical applications related to these systems are mentioned.

Pre-requisite: None

700 136 Principles of Human Anatomy and Physiology II(2-2-3)

Continuation of Principles of Anatomy and Physiology I (700 135) Pre-requisite: 700 135

700 231 Biochemistry I (2-2-3)

The course covers the study of the structure and function of the biological constituents of living cells and their chemical reactions. Emphasis is made on the structure and function of carbohydrates, proteins, nucleic acids, lipids and vitamins. Enzyme kinetics and enzyme-catalyzed reactions are also covered. Pre-requisite: 700 129

700 232 Biochemistry II (2-2-3)

The study of the metabolism and biochemical energetics is covered in the course with emphasis on intermediary metabolism of proteins, carbohydrates and lipids. The course also includes the biosynthesis of biologically important macromolecules such as proteins, lipids, and nucleic acids. Special topics including hormones, nutrition, starvation, obesity, and molecular basis of human diseases are also covered. Pre-requisite: 700 231

700 235 Pharmacology and Therapeutics I (2-2-3)

The course covers General Pharmacology: Principles of drug action, routes of administration of drugs, passage of drugs across cell membranes and factors affecting the dosage and action of drugs. The autonomic nervous system: Introduction, sympathomimetics, sympathetic depressants, parasympathomimetics, parasympathetic depressants and drugs acting on autonomic ganglia. Skeletal muscle relaxants. Drugs acting on respiratory system. Autacoids and local hormones are also covered. Pre-requisite: 700 136

700 238 Pharmacology and Therapeutics II (2-2-3)

This course covers the action of drugs on the cardiovascular system (CVS), renal system, haematopoietic system and in the gastrointestinal tract (G.I.T). Pre-requisite: 700 235

700 331 Pharmacology and Therapeutics III (2-2-3)

The course covers the action of drugs on the central nervous system and the endocrine system. Pre-requisite: 700 238

700 333 Pharmaceutical Microbiology and Immunology(3-2-4)

This course covers five areas: General microbiology: sterilization of pharmaceuticals, preservatives and preservation of pharmaceutical dosage forms and industrial microbiology. Topics covered include: immunology - mainly immunity and infection, immune system and hypersensitivity; hygiene - pathogenesis of bacterial infections, etiology, clinical picture, lab diagnosis, treatment, prevention and control of diseases caused by the different bacteria; virology - general properties of viruses; food microbiology - microorganisms associated with food and water. Pre-requisite: 700 231

700 432 Toxicology and Chemotherapy (2-2-3)

This course covers the adverse and toxic effects of drugs and many other chemicals that may be responsible for

household, environmental and industrial intoxication. It also covers heavy metals toxicity and its management, common poisons and their antidotes, air pollutants, solvents and vapours and toxicity of pesticides. Chemotherapy covers the classification mechanism of action, clinical indications and adverse effects of anti-infective agents. These include antimicrobials, antiviral, antifungal, anthelmintics, antitubercular and antileprotic agents. Pre-requisites: 700 311, 801 318

700 434 Bioassays and Drug Screening (2-2-3)

This course covers the collection, classification and summarization of data, graphical presentation and the survey of basic distribution, estimations and significance tests. The course covers general methods of bioassay and drug screening of local hormones and drugs acting on ANS, CNS, CVS, NMJ, GIT and the respiratory system. It also deals with the design and analysis of pharmacological experiments.

Pre-requisites: 700 331, 103 110

801 318 Pathology (2-2)

The course covers the fundamentals of the basic disease processes of the body: gross, microscopic and biochemical features of pathologic conditions of the organ systems are studied in detail in order to establish a sound foundation for pharmaceutical and clinical practice.

Pre-requisite: 700 333

700 534 Clinical Microbiology (College Elective Course) (2-2-3)

The course provides students with basic knowledge of the important signs, symptoms and etiology of diseases as well as mechanisms of preventing infection and the means of identifying and diagnosing causative agents.

Pre-requisite: 700 333

700 535 Gene Therapy (College Elective Course) (3-3)

The course is designed to provide students with a clear understanding of how human genes causing disease can be identified, and the impact of this on diagnosis, prevention and treatment. Methods used to isolate genes involved in disease and types of gene therapy treatment will also be discussed. The course deals with the basic science of gene therapy, gene delivery vectors, expression of transferred genes, and current gene therapy protocols in humans. Regulatory issues concerning biomaterials will also be addressed. Recognition of the advantages, disadvantages and limitations of gene therapy will be included.

Pre-requisites: 700 232, 700 333 after 115 Credit Hours

DEPARTMENT of CLINICAL PHARMACY**700 442 Clinical Pharmacy I (2-2-3)**

The course builds on the prior knowledge gained in pharmacology, biopharmaceutics and kinetics. The overall aim of the module is to develop the skills that students require to understand new aspects of pharmacy practice and the concept of pharmaceutical care. Upon completion of the course, students should be able to demonstrate sound knowledge and understanding of the pathophysiology of major organ diseases, namely, the cardiovascular, respiratory, and endocrine systems. Furthermore, the course is designed to enable students to: analyze and review a patient's case history in the light of pathophysiology of disease; critically evaluate literature and data relating to the clinical use of medicines; identify independently different medical abbreviation and terminology and acquire effective skills in reading, writing, speaking and listening to enable them to communicate effectively with doctors and other healthcare professionals.

Pre-requisites: 700 312 and 700 331

700 443 Clinical Pharmacy II and First Aid (2-2-3)

The course builds on the prior knowledge gained in Clinical Pharmacy I. The overall aim of the module is to help students to access the knowledge base and skills required for assessment of pharmaceutical needs of patients in either primary or secondary healthcare settings and to understand how major diseases are managed, including the options available for drug therapy. The importance of establishing therapeutic goals for the patient will be emphasized throughout the course. The first aid section of this course is designed to educate students as to the correct procedures to be followed in the emergency care of a sick or injured person. The course is designed with great emphasis on the skills and knowledge critical to saving life and minimizing the severity of injury or sudden illness. Safety awareness and accident prevention are emphasized throughout the course.

Pre-requisite: 700 442

700 418 OTC Drug and Products (2-2-3)

The course is designed to provide the student with a solid knowledge of OTC drugs in all aspects with the objective of graduating a patient-oriented pharmacist. This will include monitoring, screening and evaluating drug treatment regimens either in community or hospital settings. In particular, symptoms associated with common diseases will be considered with respect to: possible causes; symptoms and signs; treatment available; counseling points; and when to refer to doctors. This course is also designed to enable students to decide on the diagnosis of a complaint through the use of questioning techniques; recognize and evaluate the symptoms of minor ailments; select a suitable treatment, if any, and give appropriate advice; assess "danger symptoms" and judge when it is appropriate to refer the patient; and choose an effective level of communication with patients and other healthcare professionals.

Pre-requisites: 700 312 and 700 331

700 416 Pharmaceutical Legislations (1-1)

This course is designed to acquaint students with the legal and ethical basis of pharmacy practice. The course emphasizes the pharmacist's responsibility to care for patients and to respect patients as autonomous individuals. A detailed presentation of the laws that govern and affect the practice of pharmacy in UAE is included. Major topics include general legal principles, non-controlled and controlled prescription requirements and over-the-counter drug requirements.

Pre-requisite: 700 416

700 417 Marketing and Sales (1-1)

This course is designed to provide pharmacy students with the basic principles and theories of marketing as well as the principles of management and administration of a pharmacy in community and institutional settings. The course will cover all aspects of selling including applying standard criteria to evaluate the quality of selling, retail selling and product planning.

Pre-requisite: 700 442

700 314 Community Pharmacy Training I (3-3)**700 316 Community Pharmacy Training II (3-3)**

Through the utilization of selected community pharmacies and competency based objectives, the student will gain an appreciation for the profession of pharmacy as practiced in the community and develop the professional attitudes, judgment and skills needed to function in this setting. These courses are designed to enable students to: acquire advanced knowledge and proficiency in community pharmacy management, process prescriptions in an efficient manner compatible with advanced skills, acquire additional exposure to pharmacy operations and to different practitioners' disease approach, develop the skills necessary to provide pharmaceutical care services and acquire increased

proficiency in counseling patients on health and drug-related matters.

Pre-requisites: for 700 314: 700 111, 30 hours Pre-requisites: for 700 316: 700 314, 700 442

700 315 Hospital Pharmacy Training (3-3)

This training is designed to provide students with the principles of pharmacy practice in a hospital setting. The training program aims to enable the students to acquire practice experience in various areas of hospital pharmacy including: understanding the basic layout of the pharmacy department in a hospital setting; understanding the system of referral, identifying and reporting any possible drug interactions and mastering the administrative part of hospital pharmacy services.

Pre-requisite: 700 333

700 317 Clinical Pharmacy Training (3-3)

This course is designed to provide the students with professional practice experience in clinical pharmacy. This includes acquiring the following competencies: independently reviewing and analyzing a patient's case history and identifying possible problems associated with the use of medicines, actively participating in drug choice and in the design of dosage regimens to ensure optimal drug therapy.

Pre-requisites: 700 418, 700 442

700 421 Project (2-2-3)

This course is designed to acquaint the student with the techniques involved in the development of a project in the basic, pharmaceutical or clinical sciences. The project will be assigned and the student will be expected to perform literature reviews and other work deemed necessary by the college instructor to produce an acceptable final written report

Pre-requisite: 115 Credit Hours

LIST OF FACULTY

Ajman Campus

No	Name	Rank	Specialization	Degree	Year	University
1	Prof. Dr. Abdel Azim Ahmed Ali	Dean, Professor and Head of Dept. of Pharmaceutics, Professor	Pharmaceutics	PhD	1973	Bradford University, UK
2	Prof. Dr. Nageeb Abdul Galil Mohamed Hassan	Head, Dept. of Pharmacology and Toxicology, Professor	Clinical Pharmacology	PhD	1994	University of Manchester, UK
3	Dr. Yasser El-Shabrawy	Head of Dept. of Chemistry & Pharmacognosy, Assistant Professor	Analytical Chemistry	PhD	1995	University of Georgia, USA, and Mansoura University, Egypt
4	Prof. Dr. Zakeya Metwally Mohamed	Professor	Microbiology	PhD	1976	Alexandria University, Alexandria, Egypt
5	Dr. Abduekmula R. Abduekmula	Associate Professor	Clinical Pharmacy	PhD	2003	University of Sunderland, UK
6	Dr. Abdul Azim Elsheikh Madani	Associate Professor	Med. Chemistry	PhD	1974	University of London, UK
7	Dr. Samir Issa Bloukh	Assistant Professor	Virology	PhD	1991	University of Manchester, UK
8	Dr. Farah Hamad Farah Ahmed	Assistant Professor	Pharmaceutics	PhD	1982	University of Nottingham, UK
9	Dr. Elhadi Noureldayem Mahmoud	Associate Professor	Pharmacognosy, Phytochemistry	PhD	1985	University of Strathclyde Glasgow, UK
10	Dr. Moyad Jamal Said Shahwan	Assistant Professor	Clinical Biochemistry	PhD	2000	Aligarh University, India
11	Mr. Medhat Mohamed Mostafa	Assistant Professor	Chemistry	PhD	2007	Banha University, Egypt
12	Dr. Nihal Abdulla Ibrahim	Assistant Professor	Clinical Physiology	PhD	2010	Alexandria University, Alexandria, Egypt
13	Dr. Yaseen Khalid Al Hariri	Lecturer	Clinical Pharmacy	MSc	2007	University of Science Malaysia, Malaysia

No	Name	Rank	Specialization	Degree	Year	University
14	Dr. Zelal Jaber Kharaba	Lecturer	Envirofood- Nutritional Medicine and Protection	MSc	2008	Hohenheim University, Germany
15	Dr. Iman saeed Salman	Chairman, Central Training Committee, Lecturer	Clinical Pharmacy	PharmD	2008	Purdue University, USA
16	Ms. Sundos Qassim Alebrahim	Teaching Assistant	Pharmacy	B.Pharm	2003	AUST
17	Ms. Sawsan Deeb Mohammed Shanableh	Teaching Assistant	Pharmacy	B.Pharm	2004	AUST
18	Mr. Ibrahim Mohamed Taher	Teaching Assistant	Pharmacy	B.Pharm	1983	Al Mansoura University, Egypt
19	Mr. Hamed Abu Sara	Lab Technician	Microbiology, Chemistry & Zoology	B.Sc.	1998	Bangalore University, India
20	Mr. Basil Hassan Alemam	Lab Technician	Chemistry	B.Sc.	1980	Damascus University, Syria
21	Mr. Mamduh Mohamad Eldmerdash	Lab Technician	Quality Production	B.Sc.	1987	Zagazig University, Egypt
22	Mr. Mohammed Siddiq Mohajir	Lab Technician	Chemistry	B.Sc.	1984	Osmania University, India
23	Mr. Ahmed Raheem	Lab Technician	Chemistry	B.Sc.	1989	Almosul University, Iraq

Fujairah Campus

No	Name	Rank	Specialization	Degree	Year	University
1	Dr. Sumia Sir-Elkhatim Mohamed Ibrahim	Deputy Dean, Associate Professor	Pharmaceutical Sciences	PhD	1991	University of Florida, USA
2	Dr. Ibrahim Mohammed Abu Al Futuh	Associate Professor	Pharmacognosy	PhD	1975	University of Bath, UK
3	Dr. Babiker Mohamed Ahmed El-Haj	Assistant Professor	Pharmaceutical Chemistry	PhD	1982	University of London, UK
4	Dr. Yousef Isaaq Sulaiman	Assistant Professor	pharmacology	PhD	2007	Florida A&M University, Tallahassee

No	Name	Rank	Specialization	Degree	Year	University
5	Dr. Samah Anabousi	Assistant Professor	Pharmaceutics	PhD	2006	Saarland University, Germany
7	Nader A.H. Abu Mukhaimer	Teaching Assistant	Pharmacy	B.Sc	1998	University of Applied Science and Technology, Jordan
9	Miran Abdel Ghani Al-Halabi	Teaching Assistant	Pharmacy	B.Pharm	2001	AUST
10	Mohamed Abdel Gadir	Teaching Assistant	Chemical Engineering Technology	B.Sc	1993	Algazeera University, Sudan

College of
Education and Basic Sciences

Introduction

The College of Education & Basic Sciences (CEBS) is the founding college of Ajman University of Science & Technology (AUST), and remains at the center of undergraduate learning. The college offers a professional education that is disciplinary and rooted in humanistic tradition and it carries on that tradition through its work. As a part of a leading university, the college is a national leader in enhancing educational practice. The college programs help students gain both a high-level education and a practical experience for the real world.

The College of Education and Basic Sciences offers four Bachelor Programs in Education, a Professional Graduate Diploma in Teaching, and service courses in Basic Sciences such as Mathematics, Physics, and Statistics for students enrolled in the other colleges of the University.

In this part, we cover only the two bachelor programs that are taught in English Language which are These are:

- Bachelor of Education in Teaching English as a Foreign Language
- Bachelor in Educational Technology

The programs which are taught in Arabic Language are briefly described afterwards and will be fully covered in Arabic in the second part of this Catalogue. Those programs are:

- Professional Diploma in Teaching (Graduate Program)
- Bachelor of Education in Teacher Training Program in Arabic Language & Islamic Studies
- Bachelor of Education in Teacher Training Program in Mathematics & Science
- Bachelor of Education/Teacher of Arabic & Islamic Studies
- Bachelor of Education/Teacher of Mathematics & Science

- Professional Graduate Diploma in Teaching (different specializations)

Department of TEFL

The Department of Teaching English as a Foreign Language (TEFL) offers a four-year accredited Bachelor Degree program in Education in Teaching English as a Foreign Language.

Mission

The mission of the TEFL program is to provide the local society and the various educational institutions with qualified English language teachers and to promote relations with other English departments and language centers in the UAE and the region to exchange ideas, information, experience and research findings.

Objectives

The TEFL program, through a host of carefully studied and analyzed courses, aims to achieve the following objectives:

1. Develop students' language proficiency skills
2. Develop students' knowledge of language and linguistics
3. Develop students' educational and instructional skills
4. Develop students' research skills
5. Develop students' awareness of the native and target culture and literature

Program Outcomes

At the end of the program, students are expected to:

1. Use English language proficiently
2. Create suitable conditions for teaching/learning a foreign language

3. Evaluate current theories, methods, and issues in the field of language learning, teaching and testing
4. Evaluate EFL course books, learning activities and/or other supplementary materials
5. Use a variety of teaching aids and modern technology in the language classroom
6. Identify and analyze the characteristics of the learner's language development
7. Analyze and identify learners' learning strategies
8. Base classroom teaching practices on theoretical principles
9. Analyze various systems (sound, grammar, etc.) of the English language
10. Show an awareness of English literature and culture
11. Carry out basic research in English language teaching
12. Write and implement effective lesson plans
13. Associate with Arabic and Islamic culture and literature

Admission Requirements

To be admitted to the program, each applicant should have a certified UAE secondary school certificate, or its equivalent, with a minimum average grade of 60 percent. In addition the applicant should hold an English proficiency certificate with a minimum score of 500 for TOEFL or 5.0 for IELTS. Admission is also dependent upon the successful outcome of an interview during which the applicant's physical and personal capabilities for joining the teaching profession are assessed

Career Opportunities

In today's globalized world there is an increasing demand for English language teachers across the UAE and the region. The AUST bachelor degree in TEFL provides students with a thorough grounding in many areas of

teaching English as a foreign language and prepares them for a career in a variety of educational environments. Graduates can also have a good opportunity in various work fields as they acquire communication skills in addition to the foreign language competence through their study at this program.

Graduation Requirements

- The completion of 126 credit hours listed in the study plan.
- Cumulative GPA of at least 2.0.

Degree Requirements

The Bachelor in Education in Teaching English as a Foreign Language degree requires students to successfully complete 126 credit hours: University Required Courses (24 credit hours), College Required Courses (27 credit hours), and Major Required Courses (75 credit hours), as follows:

Type of Courses	Credit hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. Faculty Requirements	
(a) Faculty General Education Courses	6
(b) Faculty Required Courses	18
(c) Faculty Elective Courses	3
3. Major Requirements	
(a) Major Required Courses	63
(b) Major Elective Courses	12
Total Credit Hours	126

a. University Required Courses (15 Credit hours)

Course Number	Course Title	Credit hrs	Prerequisites
0101000	Orientation	0	None
0102110	Islamic Culture	3	None
0102140	Communication Skills in Arabic Language	3	None
0104110	Computer Applications	3	None
0103110	Statistics/Arts	3	None
0103120	Environmental Sciences	3	None

b. University Elective Courses (9 Cr. Hrs.)

Course Number	Course Title	Credit hrs	Prerequisites
102120-1	The Miraculousness of the Holy Koran	3	None
0103130	Research Methodology	3	None
112110-0	Principles of Architecture & Art	3	None
112120-0	Principles of Interior Design	3	None
112130-0	Modern Technology and Society	3	None
113110-0	Internet Concepts	3	None
113120-0	Introduction to Information Systems	3	None
114110-0	Economic Concepts	3	None
114120-0	Entrepreneurship Development	3	None
115110-0	History of science in Islam	3	None
115120-0	Scientific Pioneering	3	None
115130-0	General Psychology	3	None
115140-0	Principle of Mathematics	3	None
115150-0	The Art of Expression and Writing	3	None
115160-0	Emirates Society	3	None
115170-0	Education Technology	3	None
117110-0	General Chemistry	3	None
117120-0	Fundamental of Human Nutrition	3	None
117130-0	First Aid	3	None
117140-0	Energy, Water & Environment	3	None

Course Number	Course Title	Credit hrs	Prerequisites
117150-0	Applications of Remote Sensing	3	None
118110-0	Principles of Ethics	3	None
118120-0	General Biology	3	None
118130-0	Oral Health	3	None
118140-0	General Principles of Epidemiology	3	None
118150-0	CPR-Cardio Pulmonary Resuscitation	3	None
119110-0	Communication Skills	3	None
119120-0	Introduction to Communication Sociology	3	None
119130-0	Information Society	3	None
120115-0	Legal Culture	3	None

c. Faculty General Education Courses (6 Credit hours)

Number	Course Title	Credit hrs	Prerequisites
0500222	Technology in Education	3	0104110
0560102	Study Skills	3	None

d. Faculty Required Courses (18 Credit hours)

Number	Course Title	Credit hrs	Prerequisites
0512101	Developmental Psychology	3	None
0511102	Const. and Dev. of Curriculum	3	None
0511101	Educational Foundation	3	None
0511308	School/Class Management	3	None
0512203	Educational Psychology	3	0512101
0511309	Educational Evaluation	3	0511102

e. Faculty Elective Courses (3 Credit hours)

Number	Course Title	Credit hrs	Prerequisites
0511204	Teaching Profession and Teacher Role	3	None
0511205	Education and Society Problems	3	None

f. Major Required Courses (63 Credit hours)

Course Number	Course Title	Credit hrs	Prerequisites
560201	2nd Language Acquisition	3	None
560202	Methodology I	3	None
560208	Grammar of English	3	None
560301	Contrastive and Error Analysis	3	560201
560302	Methodology II	3	560202
560303	Applied Linguistics	3	560201
560304	Pedagogical Grammar	3	560302
560305	Children's Literature (TEFL)	3	None
560306	Discourse Analysis for Language Teachers	3	None
560308	Phonetics and Phonology	3	610212
560401	Introduction to Textbook Analysis	3	560202
560402	Methodology III	3	560302
560403	Testing in EFL	3	511309
511410	Practical Training	9	560302
610101	English Writing Skills		None
610209	Advanced English Writing Skills	3	610101
610212	Introduction to Linguistics	3	None
610323	Introduction to English Literary Genres	3	None
610439	Survey of 20th -Century English Literature	3	610323

g. Major Elective Courses (12 Credit hours)

Number	Course Title	Credit hrs	Prerequisites
560203	Integrating Technology in EFL Classroom	3	104110
560204	Islamic Heritage	3	None
560205	Advanced English Listening and Speaking	3	None
560206	Readings in L2 Culture	3	None
560207	Short Stories	3	610323
560307	Language Learning and Teaching Strategies	3	560202
610204	Advanced English Reading Skills	3	None
610412	Arabic-English Translation I	3	None

Proposed Sequence of Study

FIRST SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
101000	Orientation	1	0	0	0	None
102110	Islamic Culture	3	0	1	3	None
102140	Communication Skills in Arabic Language	3	0	0	3	None
104110	Computer Applications	2	2	0	3	None
511101	Foundational Education	3	0	0	3	None
xxxxxx	University Elective Course I	3	0	0	3	None
TOTAL		15	2	1	15	

SECOND SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
103110	Statistics	2	2	0	3	None
500102	Study Skills	3	0	0	3	None
512101	Developmental Psychology	3	0	0	3	None
610101	English Writing Skills	3	0	0	3	None
Xxxxxx	University Elective Course II	2	2	0	3	None
Xxxxxx	University Elective Course III	3	0	0	3	None
TOTAL		16	4	0	18	

Second Year (First Semester)

THIRD SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
511102	Construction and Development of Curriculum	3	0	0	3	511101
560202	Methodology I	3	0	0	3	None
610209	Advanced English Writing Skills	3	0	0	3	610101
610307	Grammar of English	3	0	0	3	None

Course Code	Course Name	Credit Hours				Prerequisite
610323	Introduction to English Literary Genres	3	0	0	3	None
*****	Major Elective Course I	3	0	0	3	-
TOTAL		18	0	0	18	

FOURTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
102130	Environmental Sciences	3	0	0	3	None
512203	Educational Psychology	3	0	0	3	512101
500222	Technology in Education	2	0	2	3	104110
560201	2nd Language Acquisition	3	0	0	3	None
610212	Introduction to Linguistics	3	0	0	3	None
*****	University Elective Course IV	3	0	0	3	None
TOTAL		17	0	2	18	

FIFTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
511308	Schools-Classroom Management	3	0	0	3	None
560301	Contrastive and Error Analysis	3	0	0	3	560201
560305	Children Literature (TEFL)	3	0	0	3	None
560302	Methodology II	3	0	0	3	560202
560303	Applied Linguistics	3	0	0	3	560201
Xxxxxx	Faculty r Elective I	3	0	0	3	None
TOTAL		18	0	0	18	

SIXTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
511309	Educational Evaluation	3	0	0	3	511102
560304	Pedagogical Grammar	3	0	0	3	560302

Course Code	Course Name	Credit Hours				Prerequisite
560306	Discourse Analysis for Language Teachers	3	0	0	3	None
560308	Phonetics and Phonology	3	0	0	3	610212
610439	Survey of 20th –Century English Literature	3	0	0	3	610323
Xxxxxx	Major Elective II	3	0	0	3	-
TOTAL		18	0	0	18	

SEVENTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
560401	Introduction to Textbook Analysis	3	0	0	3	560202
560402	Methodology III	3	0	0	3	560302
560403	Testing in EFL	3	0	0	3	511309
Xxxxxx	Major I Elective III	3	0	0	3	-
TOTAL		12	0	0	12	

EIGHTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
Xxxxxx	Major I Elective IV	3	0	0	3	-
511410	Training	0	0	18	9	560302
TOTAL		3	0	0	12	

Course Descriptions

560 102 Study Skills

This course covers the skills that relate directly to the needs of most university students such as: improving reading efficiency, taking notes, managing their studies, doing basic research, organizing and preparing assignments, and learning through discussions.

560 201 Second Language Acquisition (SLA)

The course reviews the different theories of second language acquisition and their application to classroom practices. It also examines some of the major factors that influence the acquisition of English as a second language. It further examines the strategies employed by the second language learners in the process of learning. The learners' errors and the second language students' specific learning situations are the main topics for detailed discussions in this course of study.

560 202 Methodology 1

The course touches upon the underlying principles of current language learning theories and shows their influence on classroom practices. At the same time, the course provides students with a historical and theoretical background about the major approaches and methods of teaching foreign languages and their classroom applications. Attention is directed at the communicative and eclectic approaches. Students are exposed to practical applications of major teaching methods through microteaching. Towards the end of the course, students are introduced to lesson planning.

560 203 Integrating Technology in EFL Classroom

This course develops the students' skills in using modern technologies in learning and teaching English as a foreign language. Students are expected to use such tools to access materials, do projects, and create a good language

learning context to meet their potential students' individual language needs.

560 204 Islamic Heritage

This course aims at developing the students' understanding of the *Islamic civilization*. It also familiarizes students with the Islamic concepts and values and encourages them to apply these educational concepts to their life. The course focuses on the Islamic ethics and the life and works of some prominent Muslim scholars who have left a great impact not only on the Islamic civilization but also on the global civilizations, as a whole.

560 205 Advanced English Listening and Speaking

Advanced Speaking and Listening is a course designed for upper-intermediate to advanced students. The course aims at developing students' fluency and accuracy in oral communication. Students learn how to take notes as well as prepare and organize good presentations. Students are expected to master various oral skills such as expressing positive and/or negative views, debating, negotiating, etc. Students are also exposed to complex listening materials. This includes longer conversations and academic lectures in which students practice academic note-taking, outlining, and summarizing ideas while listening.

560 206 Readings in L2 Culture

Readings in L2 Culture helps L2 learners to widen their horizons of thinking and sharpen their views of the world through the study of some aspects of English culture and the culture of some other countries. The course is an integration of advanced reading skills, culture, and methodology. Through target reading passages, students are acquainted with various aspects of L2 culture and language and, hence, students are expected to develop an awareness of and sensitivity towards the values and traditions of other people across the globe.

560 207 Short Stories

This course builds on its prerequisite "Introduction to English Literary Genres" which introduces students to short story as one such genre. It provides further understanding of the elements of short story and the characteristics which distinguish it from long fiction. As it deals exclusively with this particular genre, the course allows students the opportunity to read a good number of English short stories that vary in complexity and techniques. Discussion will focus on the analysis of the elements of short fiction, language, and cultural issues.

560 208 Grammar of English

This course is designed to help students improve their linguistic accuracy and extend their range of expressions. It focuses on the grammatical problems encountered by students and encourages them to find their own answers. It also focuses on various features of English grammar with challenging exercises that engender creative, independent use of target structures.

560 301 Contrastive and Error Analysis

This course provides students with some insights into the differences between English and Arabic at the phonological, morphological, syntactic, semantic, and discourse levels. It further familiarizes students with the methodology of analyzing errors made by Arabic speakers in their attempt to learn English.

560 302 Methodology II

This course is a continuation of Methodology I. It gives students first hand experience of lesson planning with an emphasis on the nature of presentation, practice, and interactive activities. The primary objective of this course is to focus on both the theoretical and the practical aspects of teaching the four basic language skills (listening, speaking, reading, and writing) in addition to other aspects of teaching English as a foreign language.

The course focuses on classroom-related issues such as error correction, asking questions in the classroom, etc.

560 303 Applied Linguistics

This course introduces students to the field of applied linguistics. It familiarizes students with applied linguistic investigation of some issues in the areas of language teaching and learning. It further familiarizes students with some key terms and concepts in these areas.

560 304 Pedagogical Grammar

This course aims at developing students' understanding of the role of English grammar in language development. It focuses on acquainting students with various techniques, methods, and approaches to teaching grammar. The course also reviews some basic grammar concepts that are likely to be taught in schools. It further helps students develop comprehensive lesson plans.

560 305 Children's Literature

This course deals with the nature of children's literature and the specific ways of making children's narratives and poems interesting and appealing. Students are exposed to many examples of children's literature such as poems, folktales, fantasies, realistic stories and biographies. The literary samples chosen for this course reflect the type of literature taught in Grades 1 - 9. The literary samples help students understand Western society and its cultural, moral, religious and aesthetic values as they are reflected in stories, poems, fairy tales, etc.

560 306 Discourse Analysis for Language Teachers

In this course, students are introduced to the field of discourse analysis and its relevance to language teaching. The course covers interesting issues such as the nature and scope of discourse analysis, spoken language, written language, differences between speech and grammar, cohesion, and coherence. The course gives special

attention to the implications of discourse analysis in teaching English as a foreign language.

560 307 Language Learning and Teaching Strategies

This course aims at giving students the opportunity to learn, practice, and apply different learning and teaching strategies. The strategies comprise direct strategies (memory, cognitive, compensation strategies) and indirect strategies (metacognitive, affective, and social strategies). The students also learn how to apply these strategies to learning and teaching of the four language skills, and how further enhance their learning and teaching experiences by considering learner differences.

560 308 Phonetics and Phonology

This course introduces students to the analysis of English pronunciation and the scientific study of speech sounds. Theoretical principles underlying the articulation of speech sounds and their organization into syllables and words are combined with practical exercises designed to improve students' knowledge.

560 401 Introduction to Textbook Analysis

In this course, students are acquainted with the analysis of EFL textbooks in order to be able to identify their strengths, pitfalls, relevance, appropriateness, degree of complexity, etc. with a particular emphasis on school textbooks. Students are also familiarized with a variety of textbook analysis systems and checklists used in material evaluation.

560 402 Methodology III

The course gives students a good background on how children learn language and how to support children in their endeavor to learn a second language. It presents explicit instructions in selecting, adapting, creating, and evaluating classroom activities.

560 403 Testing in EFL

The course examines different types of English tests including vocabulary, grammar, pronunciation, reading, writing, speaking, and listening. It also considers such related issues as concepts of validity and reliability, principles of test administration, etc.

511 410 Practical Training

This course takes the form of an extensive practicum in schools. The focus in this course is, primarily, on learning from the practical experience of preparing and teaching lessons. The course also introduces trainees to core skills involved in teaching English as a foreign language. Students are expected to observe classes, teach lessons, and participate in professional activities under the supervision of university supervisors and cooperating teachers.

610 101 English Writing Skills

The course is designed to develop students' proficiency in writing academic essays using rhetorical modes such as analysis, classification, comparison, and contrast. The course focuses on the organization and logical development of ideas as well as on language accuracy. A special emphasis is put on cohesion and coherence.

610 204 Advanced English Reading Skills

In this course, students examine extensive readings in a variety of styles. The vocabulary in the readings includes words students typically encounter during their university study. Students are required to read articles and extract information from various forms of charts, graphs, and illustrations.

610 209 Advanced English Writing Skills

This course builds upon the skills acquired in the English Writing Skills course to further develop students' critical thinking and academic writing competencies. The course

devotes part of the semester to the skills required to write summaries, critiques, and syntheses. It also focuses on writing a research paper with special attention to paraphrasing, using quotation, referencing, etc.

610 212 Introduction to Linguistics

This course introduces students to the basic concepts and issues in linguistics. It also focuses on the nature of human language and its main features. The course familiarizes students with the procedures of analyzing a language at various phonetic and phonological levels taking English as an example.

610 323 Introduction to English Literary Genres

This course introduces students to the study of English literary genres, fiction, drama, and poetry, giving them insights into the nature of literary discourse. It develops the language skills and critical thinking necessary for analyzing and appreciating English literature and culture.

610 412 Arabic-English Translation I

This course is designed to equip students with the basic skills of translation with special focus on translating from Arabic into English. It covers various registers including the social, scientific, etc.

610 439 Survey of 20th English Literature

This course deals with aspects of British and American literature that reflect the events that have shaped twentieth-century literature and consciousness. It focuses on prominent writers who dealt with the concerns of the periods: World War I, imagism, industrialization, modernism, and the absurd.

Department of Educational Technology

Bachelor of Educational Technology Degree

The Bachelor of Educational Technology program seeks to provide its students with the knowledge and skills necessary for promoting instruction and training. The new technologies pose challenges and yet offer opportunities for rethinking education. The Department of Educational Technology (DET) will enable its graduates to participate effectively and efficiently in reshaping public and private organizations to face the technological and socio-cultural challenges of the 21st century

Mission

It is the philosophy of the DET to involve its stakeholders in evaluating and developing the program's mission, goals and learning outcomes, and determining the level of importance of professional competencies recognized by the Association for Educational Communications and Technology (ACET) Stakeholders are also encouraged to participate in and offer real-life experience to the department's students through the practicum courses and field training. In addition they are involved in the process of graduate performance assessment where their feedback is used for program development and/or modifications when required.

The DET program gives special attention to practical experience. Integration of theory with practice is of great importance when designing, developing and implementing each course. The department places emphasis on the application of knowledge and skills acquired in instruction and training contexts. In addition, the department observes the practice of sharing students' comprehensive portfolios of educational technology projects and materials with organizations and agencies, for the benefit of both parties.

Objectives

DET graduates are expected to master the professional competencies in design, development, utilization, management and evaluation within the instructional and work environments. The objectives enable students to:

- Analyze learner needs and performance in learning and work environments
- Design optimal conditions for learning and performance in instructional and working settings
- Design and develop technology-based instructional and professional products including multimedia-based projects, Web-Based Instruction (WBI) and Web-Based Training (WBT) courses and performance aids.
- Make decisions concerning the selection of technologies most appropriate to support learning using their knowledge of the strengths and weaknesses, costs and development time required by various instructional technologies
- Plan and manage instructional design projects, resource support systems and services, delivery systems, web based learning management systems and information sources in various learning and training contexts
- Evaluate learner performance, the quality of instructional and training programs, instructional technology projects and technology-based learning materials
- Use techniques and strategies to facilitate appropriate use of innovations in selected organizations and to integrate these innovations within the structure and behavior of the organizations
- Recognize technology policies and regulations adopted by society and evaluate their impact on utilization, applications and integration of instructional technologies

- Teach productivity tools for the production of professional and instructional materials

Admission Requirements

To be admitted at the educational technology program, applicants must have a UAE secondary school certificate, or its equivalent, with a minimum grade of not less than 60 percent. English is the medium of instruction and applicants are required to satisfy the TOEFL requirements. For further information please refer to the university admissions policy.

Career Opportunities

Graduates of the program are qualified to utilize their knowledge and competencies in the following areas:

- Higher education institutions, including universities and community colleges
 - Private and government training agencies
 - Schools and school districts
 - Industry, health, army and government agencies, and business corporations
 - Training and educational software development agencies
 - Media centers
 - Learning resource centers, including libraries
 - Evaluation, performance assessment and quality assurance agencies
- Graduates are qualified to assume responsibility in the following positions:
- Instructional designer
 - Training program designer and manager
 - Performance technology specialist
 - Training and educational software designer and developer
 - Multimedia professional materials developer and designer
 - Distance learning program designer and manager

- Computer instructor
- School district technology expert and coordinator
- Media specialist
- Technology project manager
- Software, technology and program evaluator

Graduation and Degree Requirements

The Bachelor Degree in Educational Technology is awarded upon the fulfillment of the following:

- A minimum of 120 credits, including the following, are required:
1. A minimum of general education courses (30 credits).
 - a. University required courses (15 credits).
 - b. University elective courses (9 credits).
 2. Faculty Required Courses (15)

- a. College general education (6 credits).
 - b. A minimum of college required courses (9 credits).
 - c. A minimum of department courses (81 credits).
 - d. Department required courses (69 credits).
 - e. Department elective courses (12 credits).
- Successful completion of a practicum course (3 credits)
 - A final CGPA (Cumulative Grade Point Average) of not less than 2.0

Degree Requirements

The Bachelor Of Educational Technology requires students to successfully complete 120 credit hours: University Required Courses (24 credit hours), College Required Courses (27 credit hours), and Major Required Courses (75 credit hours), as follows:

Type of Courses	Credit hours
1. University General Education Requirements	
(a) University Required Courses	15
(b) University Elective Courses	9
2. Faculty Requirements	
(a) Faculty General Education Courses	6
(b) Faculty Required Courses	9
3. Major Requirements	
(a) Major Required Courses	69
(b) Major Elective Courses	12
Total Credit Hours	120

a. University Required Courses (15 Credit hours)

Course Number	Course Title	Credit hrs	Prerequisites
0101000	Orientation	0	None
0102110	Islamic Culture	3	None
0102140	Communication Skills in Arabic Language	3	None
0104110	Computer Applications	3	None
0103110	Statistics/Arts	3	None
0120130	Environmental Sciences	3	None

b. University Elective Courses (9 Cr. Hrs.)

Course Number	Course Title	Credit hrs	Prerequisites
102120-1	The Miraculousness of the Holy Koran	3	None
0103130	Research Methodology	3	None
112110-0	Principles of Architecture & Art	3	None
112120-0	Principles of Interior Design	3	None
112130-0	Modern Technology and Society	3	None
113110-0	Internet Concepts	3	None
113120-0	Introduction to Information Systems	3	None
114110-0	Economic Concepts	3	None
114120-0	Entrepreneurship Development	3	None
115110-0	History of science in Islam	3	None
115120-0	Scientific Pioneering	3	None
115130-0	General Psychology	3	None
115140-0	Principle of Mathematics	3	None
115150-0	The Art of Expression and Writing	3	None
115160-0	Emirates Society	3	None
115170-0	Education Technology	3	None
117110-0	General Chemistry	3	None
117120-0	Fundamental of Human Nutrition	3	None
117130-0	First Aid	3	None
117140-0	Energy, Water & Environment	3	None

Course Number	Course Title	Credit hrs	Prerequisites
117150-0	Applications of Remote Sensing	3	None
118110-0	Principles of Ethics	3	None
118120-0	General Biology	3	None
118130-0	Oral Health	3	None
118140-0	General Principles of Epidemiology	3	None
118150-0	CPR-Cardio Pulmonary Resuscitation	3	None
119110-0	Communication Skills	3	None
119120-0	Introduction to Communication Sociology	3	None
119130-0	Information Society	3	None
120115-0	Legal Culture	3	None

c. Faculty General Education Courses (6 Credit hours)

Number	Course Title	Cr. hrs	Prerequisites
314112	Programming 1/ Educational Technology	3	
500102	Study Skills	3	

d. Faculty Required Courses (9 Credit hours)

Number	Course Title	Credit hrs	Prerequisites
0511102	Const. and Dev. of Curriculum	3	
0511309	Educational Evaluation	3	
512203	Educational Psychology	3	

f. Major Required Courses (69 Credit hours)

Number	Course Title	Credit hrs	Prerequisites
580111	Instructional Print and Audio Media	3	-
580112	Modern Educational Technology	3	-
580121	Introd. to Instructional System Analysis & Design	3	-
580122	Introduction to Distance Education	3	-
580123	Instructional Visual Media	3	580111
580211	Instructional System Analysis And Design	3	580121

Number	Course Title	Credit hrs	Prerequisites
580212	Interactive Multimedia Development	3	580123
580213	Educational Technology and Training	3	-
580221	Multimedia for Learning	3	580212
580222	Training Strategies	3	580213
580223	Individualized learning Models	3	-
580224	Networks & Communication Sys. in Distance Learning	3	580122
580225	Application Of Psychology In Instruction & Training	3	514212
580311	Learning Resource Center Development & Evaluation	3	-
580312	Evaluation in Educational Technology	3	580211
580314	Selection & evaluation of Comp-Based Instruction Software	3	580212
580315	Web Page Design	3	580224
580321	Instructional Design Project	3	580312
580322	Learning Resource Center Administration	3	580311
580325	Web-based Instruction	3	580315
580412	Integration of Technology into Instruction & Training	3	580222+580312
580421	Practicum	3	-
580422	Graduation Project	3	-

g. Major Elective Courses (12 Credit hours)

A: INSTRUCTIONAL MEDIA DEVELOPMENT DOMAIN

Number	Course Title	Credit hrs	Prerequisites
580510	Instructional Graphic Design	3	580111
580511	Instructional Videography	3	580123
580512	Animation in Multimedia	3	580212
580521	Simulation and Games	3	580314

B: TEACHING AND LEARNING WITH COMPUTER BASED TECHNOLOGIES DOMAIN

Number	Course Title	Credit hrs	Prerequisites
580520	Database Application for Educational Management	3	
580521	Simulation and Games	3	580221
580522	Computer Based Training	3	580323
580323	Computer-Based Collaborative Instruction	3	580325

C: DISTANCE LEARNING DOMAIN

Number	Course Title	Credit hrs	Prerequisites
580530	Instructional Web Authoring Systems	3	580122
580531	Web Programming Languages	3	580224
580532	Inform. Management & Distance Learning Technologies	3	580315
580323	Computer-Based Collaborative Instruction	3	580212+580312+ 580224 580212+580312+ 580224

D: TRAINING AND EDUCATIONAL TECHNOLOGY DOMAIN

Number	Course Title	Credit hrs	Prerequisites
580540	Educational Technology & Human Resource Development	3	
580541	Design and Management of Training Projects	3	280213
580522	Computer-Based Training	3	580222
580532	Inform. Management & Distance Learning Technologies	3	

Suggested study plan**FIRST SEMESTER**

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
101000	Orientation	1	0	0	0	-
102140	Communication Skills in Arabic Language	3	0	0	3	-
104110	Computer Applications	2	0	2	3	-
102110	Islamic Studies	3	0	0	3	-

Course Code	Course Name	Credit Hours				Prerequisite
xxxxxx	University electives-1	3	0	0	3	-
500102	Study Skills	3	0	0	3	-
TOTAL		15	0	2	15	

SECOND SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
103110	Statistics	2	0	2	3	-
xxxxxx	University electives-2	3	0	0	3	-
xxxxxx	University electives-3	3	0	0	3	
580111	Instructional Print and Audio Media	1	0	4	3	
580112	Modern Educational Technology	3	0	0	3	
TOTAL		12	0	6	15	

THIRD SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
314112	Programming 1 / Educational Technology	3	0	0	3	-
512203	Educational Psychology	3	0	0	3	-
580121	Introd. to Instructional System Analysis & Design	3	0	3	3	-
580122	Introduction to Distance Education	3	0	0	3	-
580123	Instructional Visual Media	1	0	4	3	580111
TOTAL		13	0	4	15	

FOURTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
511101	Curriculum Construction & Development	3	0	0	3	-
580211	Instructional System Analysis And Design	3	0	0	3	580121
580212	Introduction to Interactive Multimedia Development	1	0	4	3	580123
580213	Educational Technology and Training	3	0	0	3	-

Course Code	Course Name	Credit Hours				Prerequisite
580224	Networks & Communication Sys. in Distance Learning	2	0	2	3	580122
TOTAL		12	0	6	15	

FIFTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
511309	Educational Evaluation	3	0	0	3	512218
580221	Multimedia for Learning	2	0	2	3	580212
580225	Application of Psychology in Instruction & Training	3	0	0	3	-
580311	Learning Resource Center Development & Evaluation	2	0	2	3	-
580315	Web Page Design	2	0	2	3	580224
xxxxxx	Departmental Elective course I	2	0	2	3	Required Domain courses
TOTAL		14	0	8	18	

SIXTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
102130	Environmental Sciences	3	0	0	3	-
580222	Training Strategies	3	0	0	3	580213
580223	Individualized learning Models	3	0	0	3	-
580312	Evaluation in Educational Technology	3	0	0	3	511309
580325	Web-based Instruction	2	0	2	3	580315
xxxxxx	Department Elective course II	2	0	2	3	Required Domain courses
TOTAL		16	0	4	18	

SEVENTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
580314	Selection & evaluation of Comp.-Based Instruction Software	3	0	0	3	580212

Course Code	Course Name	Credit Hours				Prerequisite
580321	Instructional Design Project	3	0	0	3	580211
580322	Learning Resource Center Administration	3	0	0	3	580311
580412	Integration of Technology into Instruction & Training	3	0	0	3	580222+580312
xxxxxx	Department Elective course III	2	0	2	3	Required Domain courses
TOTAL		14	0	2	15	

EIGHTH SEMESTER

Course Code	Course Name	Credit Hours				Prerequisite
		Lec	Tut	Lab	Cr.Hrs.	
580421	Practicum	3	0	0	3	-
580422	Graduation Project	3	0	0	3	-
xxxxxx	Department Elective course IV	2	0	2	3	Required Domain courses
TOTAL		8	0	2	9	

Course Descriptions

580 111 Instructional Print and Audio Media

This entry-level course will introduce students to the design and development of effective print and presentation instructional materials. Students will develop advanced skills in word processing, desktop publishing and electronic presentation application software.

580 112 Modern Educational Technology

This introductory course surveys the field of educational technology through the historical development of computer technology, an overview of modern classroom applications and an examination of trends and issues surrounding the use of computer technology for teaching and learning.

580 121 Introduction to Instructional System Analysis and Design

This course serves to introduce and provide experience in the concepts and processes of instructional systems analysis and design. The major components of instructional design models, along with their respective functions, will be presented. This is an introductory course which provides both the information for and application of skills and techniques necessary in the analysis, design, development and evaluation of effective instructional products.

580 122 Introduction to Distance Education

The purpose of this course is to investigate principles for distance education, strategies for delivering content online and tools for delivery. The course explores the central issues involved in distance education, from print-based correspondence courses to more contemporary, digital approaches. The primary focus will be on the use of Internet, e-mail, authoring instruction for the World Wide

Web, electronic bulletin boards, conferencing systems and video teleconferencing.

580 123 Instructional Visual Media

Students will acquire and create digital still and motion visuals that meet instructional needs. They will learn about visual literacy and fair use guidelines and develop skills with hardware, software and design techniques.

580 211 Instructional System Analysis and Design

This course represents a mix of theory and practical development. Students will examine components of a predominant ISD model and implement it in the development of self-based instructional units. To accomplish this goal, students will participate in the instructional design process: identifying the need for instruction, examining learner characteristics, conducting task analysis, writing instructional objectives, determining the instructional sequence and objectives, selecting instructional messages and conducting formative evaluation.

580 212 Introduction to Interactive Multimedia Development

Students will be actively involved in learning and designing dynamic multimedia products using presentation programs. The course will encourage hands-on participation and group learning as students research the internet and peripherals such as CD-ROM, camcorder, scanner and digital photography.

580 213 Educational Technology and Training

This introductory course provides experience in the concepts of process training and analysis of various aspects of training systems. Students will have the opportunity to experience the major components of training systems and models. The course provides both introductory information and practice in the application

of skills and techniques necessary in analysis, design, development and evaluation of effective training procedures.

580 221 Multimedia for Learning

This course focuses on the design and evaluation of multimedia in learning and teaching environments, aspects related to human learning, and the design of interactive multimedia technology to support learning and knowledge construction. It examines different types of interactive multimedia learning environments, strategic approaches to education multimedia design and presentation design. The course involves a practical component in which students design a scaled-down educational multimedia environment.

580 222 Training Strategies 580 312 Evaluation in Educational Technology

This course builds upon concepts gained in the "Educational Technology and Training" course and focuses on determining training strategies that: 1) align with an organization's business needs and 2) are based on the characteristics and effective utilization of various training methods.

580 223 Individualized Learning Models

In this course students explore the history, purpose and learning theory basis of individualized learning. They compare and contrast expository and inquiry approaches, evaluate instruction based on both approaches, consider design and development issues and explore current issues and emerging trends in individualized learning.

580 224 Networks and Communication Systems in Distance Learning

This course presents the design of distance-learning networking and data communications via a combination

of live TV lectures, web labs, web lectures posted on the web and e-mail.

580 225 Application of Psychology in Instruction and Training

This course will examine the theories of learning and the practical application of these theories in instruction and training. Drawing upon the main themes of these theories, the role of media and technology in teaching and learning, and the planning, design and delivery of technology-based instruction will be explored.

580 311 Learning Resource Center Development and Evaluation

This course is designed to provide students with the knowledge and skills necessary for the development and evaluation processes of learning resource centers. Students will be introduced to the concept of the learning resource center, its philosophy, objectives, levels, planning, development and evaluation. Students will be required to set up a plan for instituting a learning resource center at a specified level. The course also provides information and guidelines regarding the cyber library and its services.

580312 Evaluation in Educational- Technology

This course explores current trends, issues and assessment/evaluation methods in modern educational technology. Emphasis will be placed on applying the processes of student assessment and program evaluation to determine the outcomes of educational technology application. In addition the relevance of a broad selection of evaluation criteria are assessed, and the question of how evaluation might be applied to determine formative, summative and Criterion-Referenced Measurement (CRM) outcomes of student learning through technology use is addressed.

580 314 Selection and Evaluation of Computer-Based Instruction Software

This course will explore techniques for selecting and evaluating educational software products and Internet-based resources in terms of quality, effectiveness, educational benefits, instructional uses(s) and ease of implementation. In addition to conducting evaluations of educational software and Internet-based resources, students will evaluate hardware system requirements and install/download applications for use.

580 315 Web Page Design

In this course students will critically evaluate web sites, develop expertise in website design, and skills in website development using HTML and web authoring software. They will design, develop and publish a simple personal website in addition to a more complex informational or instructional one.

580 321 Instructional Design Project

During this course, students will complete the design of an instructional program for an existing instructional problem. Students will identify an instructional problem, conduct a needs analysis and design the instructional plan to include evaluation measures as a solution to the problem.

580 322 Learning Resource Administration

This course covers the following concepts: media quarters, facilities, collections, equipment and services. The course also discusses principles of organization and administration of learning resource centers and media centers and programs. Students are expected to familiarize themselves with learning and media centers in the field.

(580325) Web-based Instruction:

This course is an introduction to the principles of Web-Based Instruction (WBI) and its role in creating learning environments that utilize the attributes and powerful resources of the Internet. Emphasis will be placed on pedagogical, technological, organizational, institutional, and ethical issues related to the design, development, and delivery of WBI. Online course will be constructed as a project in this course for the purpose of providing a developmentally appropriate academic experience integrated with current learning theories and better practices in education.

(580412) Integration of Technology into Instruction and Training:

In this course students explore technology integration in instruction and training in a specific discipline, apply the NTEQ model for integrating technology in instruction, and evaluate the application of the model. They also develop expertise with tools and techniques for learner-centered and teacher-directed technology integration.

(580421) Practicum:

On- site experience relates closely theory and practice, under supervision of qualified person (s). Students under the supervision of a practicum supervisor and a faculty coordinator are responsible for planning and carrying out a "Plan of Work". Students maintain and submit logs, journals, and other documentations of the experience.

(580422) Graduation Project:

The course is intended as a vehicle by which the students can show the competencies of the ET major that has been mastered. This involves the completion of a significant project in which educational technology concepts and techniques are used. Students should try to clearly show that they have used what was learned in their area of concentration.

(580510) Instructional Graphic Design:

This course will focus on computer graphics production used in the development of instructional materials by examining of the principles of graphic design, typography, and production techniques as they apply to electronic delivery systems. Students will develop an awareness of the visual aspects of communicating information and exercise that awareness through practice using design tools, primarily Adobe Photoshop.

(580511) Instructional Videography:

In this course students participate in the pre-production, production, and post-production phases of the digital video production process to develop technically and aesthetically sound video programs that meet instructional needs.

(580512) Animation in Multimedia:

In this course students consider purposes for using animation in instructional multimedia, explore various ways of creating animation, and develop expertise with software packages for creating digital animation through a series of hands-on projects.

(580520) Database Application for Educational Management:

In this course, students will explore the uses of databases for the management of educational information. They will gain skills in the development of computer-based databases and will design, develop, and plan for the implementation of an educational database.

(580521) Simulations and Games:

In the course students will consider issues related to the design of simulations and games, evaluate commercially produced simulations and games, explore a variety of software for development of simulations and games, and develop expertise with specific software packages. They

will design and develop technically simple, instructionally sound simulations and games.

(580522) Computer-Based Training:

Students will design and develop computer-based training; following an instructional design process can be used for all media (computer-based training, Web-based training, Distance Education). Students will examine major types of media that are popular for delivery systems today, the benefits and drawbacks of each, and walk through the processes of needs assessment, instructional design, development and implementation, and evaluation.

(580530) Instructional Web Authoring Systems:

This course will explore methodologies in comparing and selecting authoring systems for distance education. The course will focus on effective instructional strategies in distance education and both asynchronous and synchronous deliveries will be explored.

(580531) Web Programming Languages:

In this course students will explore, compare, and contrast client-side and server-side Web programming languages. They will develop intermediate level skills with coding and troubleshooting a client-side scripting language. They will design and develop an instructional application that incorporates a client-side scripting language.

(580532) Information Management and Distance Learning Technologies:

This course will explore the component processes and strategies that comprise distance education, to include teaching and learning, communication, management of information, course design, program planning and delivery. Students will explore administrative, instructional, and technical issues associated with integrated delivery systems

(580540) Educational Technology and Human Resource Development:

This course will introduce organizational factors that affect training and development systems, ways to identify training needs in an organization, strategies for maximizing trainee's learning, methods of measuring training effectiveness, strategies for developing and training leaders, and management and executive development approaches.

(580541) Design and Management of Training Projects:

Students will explore the unique responsibilities of project management for an instructional design project, which includes project planning, timeline and budget development, selecting team members, tracking project progress, managing simple and complex projects, and using a project management productivity tool.

(580323) Computer-Based Collaborative Instruction:

In this course, students will develop an understanding of the concept of collaborative learning (collaborative instruction) and how collaborative learning activities are implemented. They will evaluate both asynchronous and synchronous communication tools for collaborative learning and plan, facilitate, and evaluate computer-based collaborative learning activities.

Bachelor of Education in Teacher Training Program in Mathematics & Science

The Department of Mathematics and Sciences shoulders the responsibility of teaching all courses of Mathematics and Physics at the different colleges of the university. Basically, the department offers a Bachelor degree in Education – Teaching Mathematics and Sciences. The program is accredited by the ministry of higher education

and scientific research. This program is provided in Arabic Language.

Admission Requirements

Certified UAE secondary school certificate or its equivalent, with a minimum average grade 60 percent.

Passing an interview that is run by the college.

Graduation requirements

Students are required to complete a total of 132 credit hours and a minimum of 2.0 GPA out of 4.0.

Students should successfully pass 42 courses.

Bachelor of Education in Teacher Training Program in Arabic Language & Islamic Studies

The Arabic and Islamic Studies program aims at academically preparing a generation of graduates; holders of a college degree in Arabic Language and Islamic Studies who are able to participate in the enrichment of the intellectual, cultural, and educational institutions in and out of the UAE. The program reflects the diversity and complexity of the Arabic/Islamic culture and civilization. While studying Arabic Language and Islamic Studies, the students will learn about the linguistics and culture of Arabic across history. They will also learn about the teaching methodology of Arabic language and Islamic studies and using the educational technology and its applications. It helps students realize how Arabic language has grown over centuries. Arabic Language and Islamic Studies can set students off on many career paths; they can become lecturers or teachers. This field, in addition to the teaching profession, can help graduates join the fields of business, journalism, etc. Moreover, the program is accredited by the Ministry of Higher Education

and Scientific Research. This program is introduced in Arabic Language.

Admission Requirements

Certified UAE secondary school certificate or its equivalent, with a minimum average grade 60 percent. Passing an interview that is run by the college.

Graduation requirements

Students are required to complete a total of 132 credit hours and a minimum of 2.0 GPA out of 4.0.

Students should successfully pass 42 courses.

Professional Diploma in Teaching (Graduate Program)

The program of Professional Diploma in Teaching aims at qualifying graduates with a bachelor degree for working in the field of education. The program provides the learners with knowledge and education skills in the methodology

of teaching, the teaching profession, and educational evaluation. Moreover, the program is accredited by the Ministry of Higher Education and Scientific Research. This program is introduced in Arabic Language.

Admission Requirements

- 1- Certified Bachelor degree from an accredited university or its equivalent.
- 2- Passing an interview that is run by the college.

Graduation requirements

- 1- Graduate students are required to complete a total of 24 credit hours and a minimum of 2.0 GPA out of 4.0.
- 2- Graduate students should successfully pass 7 courses including the course of practical training and an optional course. The practical training course weights 6 credit hours while all other 6 courses weigh 3 credit hours each.

Faculty Members

Ajman Campus

Name	Rank	Specialization	Degree	year	University
Prof. Dr. Ibrahim Rajab Gherfal, Dean.	Professor	Educational Technology / Psychology	PhD	1982	Catholic Univ. of America.
Prof. Dr. Cheikh Ould Hamoud, Head of Department of Math&Science.	Professor	Mathematics	PhD	1998	Univ. of Mohammed V - Agdal / Morocco
Dr. Mazen Ahmed Jaradat, Head of Department of Arabic & Islamic studies	Associate Professor	Arabic Language	PhD	1993	Ain Shams Univ, Egypt
Dr. Basim Nashat Al-Samarrai, Head of Ed. Tech. Department	Associate Professor	Edu. Psychology	PhD	1983	Indiana Univ. / USA
Dr. Amin Abdullah Al-Mekhlafi, Head of TEFL Department	Associate Professor	TEFL	PhD	1998	Florida Univ. / USA

Name	Rank	Specialization	Degree	year	University
Pro. Dr. Samir Hadid	Professor	Mathematics	PhD	1979	London Univ.
Prof.Dr. Kubais S. A.Fahady	Professor	Mathematics	PhD	1972	The Univ. of Hull / UK
Prof. Dr. Hashim S. M. Manna	Professor	Arabic Language	PhD	1986	Univ. of London
Dr. Muzahim Bani T. Al-ubaidi	Associate Professor	Mathematics	PhD	1993	The Hungarian Committee
Prof.Dr. Ababakr Ali El-Saddik	Professor	Islamic Studies	PhD	1990	Al Azhar Univ. / Egypt
Dr. Mohamad Eqbal Farhat	Associate Professor	Islamic Studies	PhD	1998	Al Zaytona Univ. / Tunisia
Dr. Abdul Kareem A. Yaseen	Associate Professor	Mathematics	PhD	1987	Wales Univ. / UK
Dr. Atef Fayez Abd El Kader	Assistant Professor	Physics	PhD	1998	The Queens Univ / UK
Dr. Said Mohammady	Assistant Professor	Mathematics	PhD	1988	*Ain Shams Univ. *Buatch Univ/ France
Dr. Najah Shabib	Assistant Professor	Education	PhD	2001	Wales Univ. / UK
Dr.Waled Sayed Emam	Assistant Professor	Physics	PhD	2004	Syracuse Univ. / USA
Dr. Randa Abdou Soliman	Assistant Professor	Curricula & Methodology/ TEFL	PhD	2011	Alexandria Univ. / Egypt
Dr. Rasha Mohamed Abdellah	Assistant Professor	Education	PhD	2009	Ain Shams Univ. / Egypt
Dr. Ghassan Mohamed Alchikh	Assistant Professor	Islamic Studies	PhD	2012	Damascus Univ. / Syria
Mr. Tareq Moh'd N. Abu Sa'a	Lecturer	Mathematics	Master -	1982	Middle East Technical Univ. Turkey
Mr. Salim Abdul M. Al-Ajeel	Lecturer	Physics	Master -	1989	Baghdad Univ.
Ms. Sumaya A. Hussain	Lecturer	Education (Math)	Master -	1994	Baghdad/Iraq
Mr. Mohammed A. I. Jadallah	Lecturer	Education (Arabic)	Master -	2003	Sudan Univ.
Mr. Mahmoud Ibrahim Y. khrais	Lecturer	Mathematics	Master -	1982	Sam Houston

ACADEMIC CALENDAR 2012-2013

Academic Calendar for the Fall Semester Academic Year 2012 – 2013

Day	Date	Event
Monday	August 27	10:00: TOEFL exam
Wednesday	August 29	Faculty members report to work
Wed-Thurs.	August 29-30	Examinations for Incomplete Removal
		Period for accepting credit transfer requests
		Period for accepting changing major requests
Thursday	August 30	11:00: The Deans welcome the new students
		12:00-13:00: Tour of the Campus & AUST Units
		13:00-14:00: Tutorial session on course registration for new students
Sun -Thurs.	Sept. 2 - 6	Course registration for continuing & new students
Sunday	September 9	Beginning of Classes
Sun. -Thurs.	Sept. 9 - 13	Add & Drop Period
Thursday	September 13	Last date for registration suspension with 100% refund
Sun. – Thurs.	Sept. 16 - 27	Suspension registration period with 50% refund
Thursday	October 4	Last date for dropping courses without academic penalty
Tuesday	October 30	Beginning of Mid-term Examinations
Sunday	November 4	Beginning of Admission Period for Spring Semester 2012-2013
Thursday	November 22	Last date for dropping courses with academic penalty (W)
Sun. – Thurs.	Nov. 25 - Dec. 6	Survey of Course & Academic Advising Assessment
		Early Registration for Spring Semester 2012-2013
Sun. – Thurs.	Dec.16 - Jan. 3, 2013	Fall-Semester Vacation
Sat. - Thurs.	Jan. 12 - 24, 2013	Final Examinations Period
Tuesday	January 29	Last date for requesting incomplete
		10:00: Colleges Council Meeting
Wednesday	January 30	13:00 : Scientific and Academic Council Meeting
Thursday	January 31	Announcement of Final Examinations Results

Public holidays will be scheduled accordingly by officials Department of Admissions & Registration

Academic Calendar for the Spring Semester Academic Year 2012 - 2013

Day	Date	Event
Wednesday	January 30	10:00 a.m.: TOEFL exam
Thursday	January 31	11:00: The Deans welcome the new students 12:00-13:00: Tour of the Campus & AUST Units 13:00-14:00: Tutorial session on course registration for new students
Sun. - Thurs.	Feb. 3 – 7	Course registration for continuing & new students
		Examinations for Incomplete Removal
		Period for accepting credit transfer requests
		Period for accepting changing major requests
Sunday	February 10	Beginning of classes
Sun.-Thurs.	Feb. 10 - 14	Add & Drop Period
Thursday	February 14	Last date for registration suspension with 100% refund
Sun. - Thurs.	Feb. 17 - 28	Suspension registration period with 50% refund
Thursday	March 7	Last date for dropping courses without academic penalty
Sun. - Thurs.	March 31 – April 11	Spring- Semester Vacation
Sunday	April 14	Beginning of Mid-term Examinations
		Beginning of Admission Period for Fall Semester 2013-2014
Thursday	May 9	Last date for dropping courses with academic penalty (W)
Sun. - Thurs.	May 5 – 16	Survey of Course & Academic Advising Assessment
		Early Registration for Summer Semester 2012-2013
Sun. - Thurs.	May 19 – 30	Early Registration for Fall Semester 2013-2014
Sat. - Thurs.	June 8 – 20	Final Examinations Period
Monday	June 24	Last date for requesting Incomplete
Tuesday	June 25	10:00 : Colleges Council Meeting
Wednesday	June 26	13:00: Scientific and Academic Council Meeting
Thursday	June 27	Announcement of Final Examinations Results
		Late Registration for Summer Semester 2012-2013
Sunday	July 7	Beginning of Summer Vacation

Public holidays will be scheduled accordingly by officials

Department of Admissions & Registration

Academic Calendar for the Summer 1 Semester Academic Year 2012 - 2013

Day	Date	Event
Sunday	June 30	Beginning of classes
Sun-Mon.	June 30 - July 1	Add & Drop Period
Sunday	July 14	Beginning of Mid-term Examinations
Thursday	July 18	Last date for dropping courses with academic penalty (W)
Sat. - Sun.	August 3 - 4	Final Examinations Period
Wednesday	August 7	11:00: Colleges Council Meeting 13:00: Scientific and Academic Council Meeting
Thursday	August 8	Announcement of Final Examinations Results

NB: 2 hours per class session

Academic Calendar for the Summer 2 Semester (Field Training) Academic Year 2012 - 2013

Day	Date	Event
Sunday	August 11	Beginning of 6 - week training session
Thursday	September 19	End of 6 - week training session
Sunday	September 29	Announcement of Field Training results

Public holidays will be scheduled accordingly by officials.



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