جامعة عجمان
AJMAN UNIVERSITY

# UNDERGRADUATE STUDENT CATALOG

# 2017-2018

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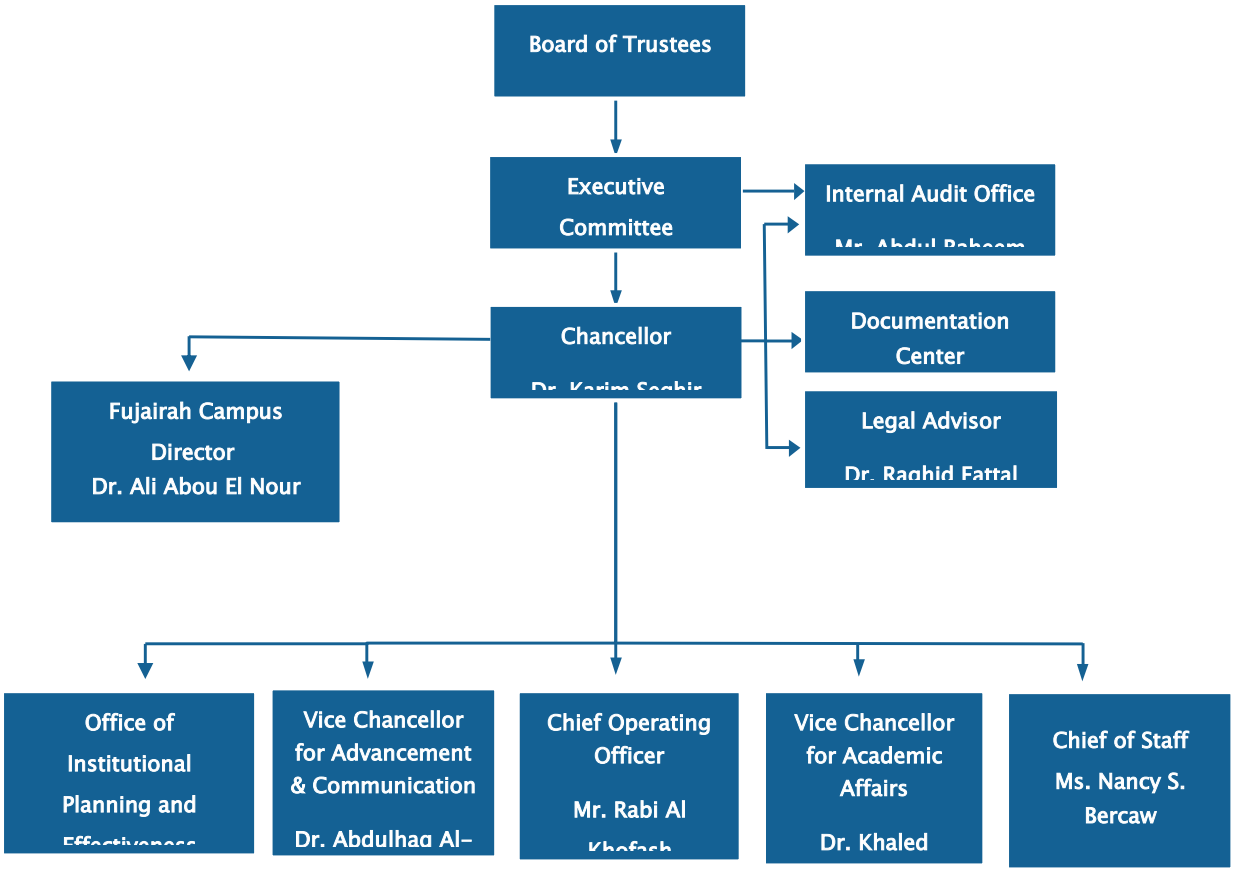
# CONTENTS

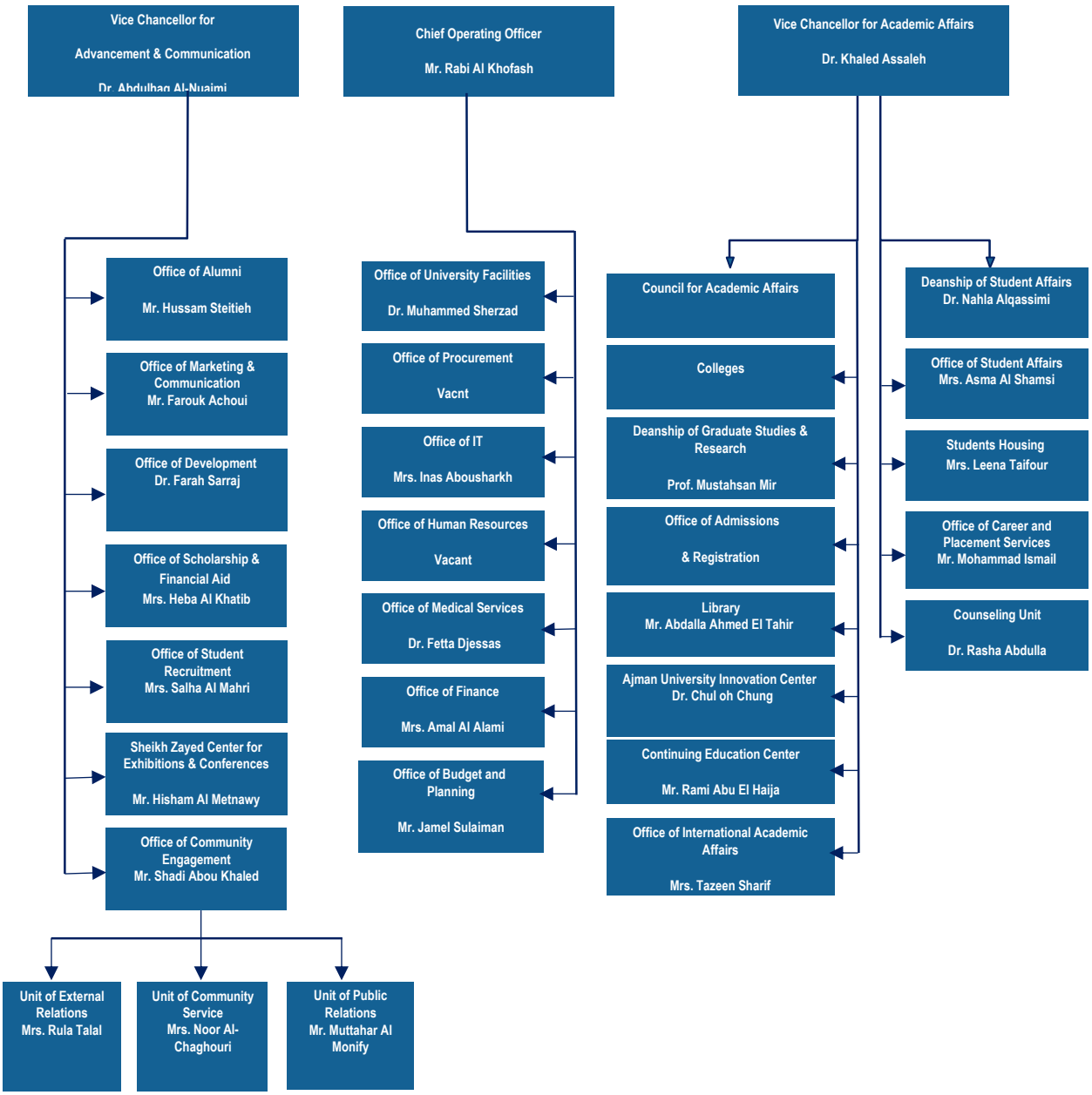
1 Ajman University Organization Chart ..... 7
2 Message to AU Students ..... 9
3 History of AU ..... 9
4 Vision, Mission, Goals, and Core Values ..... 10
5 System of Education and Programs Offered ..... 11
6 Admission and Registration ..... 17
7 Orientation Program for New Students ..... 25
8 Academic Advising ..... 26
9 Change of Major ..... 30
10 Academic Evaluation and Assessment ..... 31
11 Supervised Credit-Earning ..... 34
12 Attendance Policy ..... 35
13 Academic Probation ..... 35
14 Graduation Requirements ..... 36
15 Minor ..... 37
16 Double Concentration and Second Bacholar's Degree ..... 38
17 Student Records ..... 39
18 Information Technology and Learning Resources ..... 40
19 Health Clinics ..... 45
20 Safety ..... 46
21 Deanship of Student Affairs ..... 47
22 Student Services ..... 54
23 The Career Counseling Center ..... 57
24 Training Center ..... 58
25 Student ID Card ..... 59
26 AU Rules and Policies ..... 60
27 Tuition Fees and Financial Regulations ..... 71
Unit of General Studies ..... 81
College of Business Administration ..... 98

College of Dentistry ..... 164
College of Education and Basic Sciences ..... 190
College of Engineering ..... 204
College of Information Technology ..... 308
College of Mass Communication & Humanities ..... 308
College of Pharmacy and Health Sciences ..... 362
College of Medicine ..... 384
Academic Calendar for Fall Semester ..... 403
Academic Calendar for Spring Semester ..... 404
Academic Calendar for Summer-1 Semester ..... 405
Academic Calendar for Summer-2 Semester ( Field training) ..... 406
Glossary of Terms ..... 407

# 1 Ajman University Organization Chart



## AU Organisation Chart (Cont.)



# 2 Message to AU Students

AU Student Handbook can be used as a quick-reference guide to student life at AU 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.

# 3 History of AU

Ajman University 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 17th June 1988, His Highness issued an Emiri Decree establishing Ajman University College of Science and Technology (AUCST), as AUST was then called, and the first intake of students commenced its learning journey at AUCST on 15th September that year. The Ministry of Higher Education and Research decree No 54 of 1997, brought a name change to AUCST as it became Ajman University of Science and Technology (AUST). The name of the university has been changed from Ajman University of Science and Technology (AUST) to Ajman University (AU) starting from 26th of Oct. 2016. AU offers 23 accredited undergraduate programs and 10 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.

## Accreditation and Licensure

Ajman University is licensed and its programs are accredited by the Commission for Academic Accreditation (CAA) of the Ministry of Education in the United Arab Emirates.

# 4 Vision, Mission, Goals, and Core Values

## AU Vision

Ajman University aims to be internationally recognized as one of the leading universities in the Arab world in terms of cutting-edge learning, impactful research and responsible outreach and community engagement.

## AU Mission

Ajman University (AU) is a multicultural academic institution that offers a broad range of high quality and relevant academic programs. The University strives to fulfil the needs of students, alumni, employers, and society through quality education, scholarship and community engagement. AU develops well-rounded graduates who are professionally competent, socially responsible, innovative and active contributors to sustainable development of the UAE and beyond.

## AU Goals

AU strive to achieve the following goals:

1. Ensuring excellence in teaching and learning
2. Enhancing the quality, relevance, and impact of research and intellectual contribution
3. Recruiting, supporting and fostering the development of a bright anddiverse student body
4. Enhancing the visibility and the positioning of the University
5. Building impactful and long-lasting ties with the external communities
6. Promoting cutting-edge and innovative support services

## Core Values

**Excellence:** All AU activities are conducted with strong emphasis on international quality standards.

**Integrity:** AU adheres to the principles of honesty, trustworthiness, reliability, transparency and accountability.

**Inclusiveness:** AU embraces shared governance, inspires tolerance, and promotes diversity.

**Social Responsibility:** AU promotes community engagement, environmental sustainability and global citizenship. It also promotes awareness of, and support for, the needs and challenges of the local and global communities.

**Innovation:** AU supports creative activities that approach challenges and issues from multiple perspectives in order to find solutions and advance knowledge.

# 5 System of Education and Programs Offered

Table 1: Accredited degree programs offered

**a. Undergraduate Programs**

| College | Specializations and degrees offered | Years of Study | Total CrHrs | Certificate and percentage required for admission |
|---|---|---|---|---|
| Dentistry | Doctor of Dental Surgery * | 5 | 199 | Advanced Stream - MOE (80%) with minimum score of (80%) in chemistry, Biology and physics / Grade 12.<br>ADEC (80%) with minimum score of (80%) / Third Level in Chemistry, Biology and Physics |
| Pharmacy & Health Sciences | Bachelor of Pharmacy * | 4 | 150 | Advanced Stream - MOE (70%).<br>ADEC (70%) with minimum score of (70%) / Third Level in Chemistry, Biology |
| Engineering | B. Sc. in Electrical Engineering/ Instrumentation and Control * | 4 | 142 | Advanced Stream - MOE (70%)<br>General Stream – MOE (90%) with minimum score of (90%) in Math and Science in Grade 12, with studying a foundation course in physics.<br>ADEC (70%) with minimum score of (70%) / Third Level in Math and Physics |
| | B. Sc. in Electrical Engineering/ Electronics and Communication * | 4 | 142 | Advanced Stream – MOE (70%)<br>General Stream – MOE (90%) with minimum score of (90%) in Math and Science in Grade 12, with studying a foundation course in physics.<br>ADEC (70%) with minimum score of (70%) / Third Level in Math and Physics |
| | B. Sc. in Electrical Engineering/Power and Renewable Energy * | 4 | 142 | Advanced Stream - MOE (70%)<br>General Stream – MOE (90%) with minimum score of (90%) in Math and Science in Grade 12, with studying a foundation course in physics.<br>ADEC (70%) with minimum score of (70%) / Third Level in Math and Physics |

| College | Specializations and degrees offered | Years of Study | Total CrHrs | Certificate and percentage required for admission |
|---|---|---|---|---|
| Engineering | B. Sc. in Biomedical Engineering * | 4 | 141 | Advanced Stream - MOE (70%)<br>General Stream – MOE (90%) with minimum score of (90%) in Math and Science in Grade 12, with studying a foundation course in physics.<br>ADEC (70%) with minimum score of (70%) / Third Level in Math and Physics |
| | B. Sc. in Architectural Engineering * | 5 | 170 | Advanced Stream - MOE (70%)<br>General Stream – MOE (90%) with minimum score of (90%) in Math and Science in Grade 12, with studying a foundation course in physics.<br>ADEC (70%) with minimum score of (70%) / Third Level in Math and Physics |
| | Bachelor of Interior Design * | 4 | 134 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| Information Technology | B. Sc. in Computer Engineering * | 4 | 140 | Advanced Stream - MOE (70%)<br>General Stream – MOE (90%) with minimum score of (90%) in Math, Science in Grade 12, with studying a foundation course in physics<br>ADEC (70%) with minimum score of (70%) / Third Level in Math and Physics |
| | B. Sc. in Information Systems\ Project Management * | 4 | 123 | Advanced Stream - MOE (60%) / General Stream – MOE (65%) / ADEC (60%) |
| | B. Sc. in Information Systems\ E-Business Management * | 4 | 123 | Advanced Stream - MOE (60%) / General Stream – MOE (65%) / ADEC (60%) |
| | B. Sc. in Information Technology/ Networking and Security * | 4 | 123 | Advanced Stream - MOE (70%)<br>General Stream – MOE (70%) with minimum score of (70%) in Math and Physics in Grade 12.<br>ADEC (70%) with minimum score of (70%) in Math and Physics |
| | B. Sc. in Information Technology/ Databases and Web Systems * | 4 | 123 | Advanced Stream - MOE (70%)<br>General Stream – MOE (70%) with minimum score of (70%) in Math and Physics in Grade 12.<br>ADEC (70%) with minimum score of (70%) in Math and Physics |

| College | Specializations and degrees offered | Years of Study | Total CrHrs | Certificate and percentage required for admission |
|---|---|---|---|---|
| Business Administration | B. Sc. in Management * | 4 | 126 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| | B. Sc. in Marketing * | 4 | 126 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| | B. Sc. in Finance * | 4 | 126 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| | B. Sc. in Accounting * | 4 | 126 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| Education & Basic Sciences | Bachelor of Education in Teacher Training in Arabic Language and Islamic Studies | 4 | 132 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| | Bachelor of Education in Teacher Training in Mathematics and Science | 4 | 132 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| | Bachelor of Education - Teaching English as a Foreign Language * | 4 | 126 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| Mass Communication & Humanities | B. A. in Sociology and Social Work | 4 | 126 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| | B. A. in Mass Communication/ Public Relations and Advertising ** | 4 | 126 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| | B. A. in Mass Communication/ Radio and Television ** | 4 | 126 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| | B. A. in Mass Communication/ Print and Electronic Press ** | 4 | 126 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| | B. A. in Mass Communication/ Graphic Design ** | 4 | 126 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |
| | B.A. in Psychology | 4 | 126 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |

| College | Specializations and degrees offered | Years of Study | Total CrHrs | Certificate and percentage required for admission |
|---|---|---|---|---|
| Law | Bachelor of Law | 4 | 132 | Advanced Stream - MOE / General Stream – MOE / ADEC (60%) |

N. B.: Students who hold agricultural, industrial, technical, commercial, vocational & religious Secondary school certificates are eligible for admission to all degree programs offered to holders of Literary secondary school certificates.

Students with a minimum overall average of 80% in technical secondary school certificate may apply for to Electrical Engineering Major and Biomedical Engineering Major. He/She will be given conditional admission.

Students with a minimum overall average of 80% in technical secondary school certificate may apply for to Architecture Engineering Major. He / She will be given conditional admission.

The student should pass the following with grade “C”:

- Introduction to Design;
- Engineering Graphics;
- Freehand Drawing;

Students with a minimum overall average of 80% in technical / commercial secondary school certificate may apply for to Interior Design Major. He / She will be given conditional admission.

The student should pass the following with grade “C”:

- Introduction to Design;
- Engineering Graphics;
- Freehand Drawing;

## Minor Programs offered by the Colleges

| Eligible Students | Program | College |
|---|---|---|
| Biomedical Engineering | Electrical Engineering | Engineering |
| Computer Engineering | | |
| Electrical Engineering | Biomedical Engineering | |
| Computer Engineering | | |
| Any major within the University other than the College of Information Technology. | Information Systems | Information Technology |

| | | |
|---|---|---|
| Any major within the University other than the College of Information Technology. | Web Development | |
| Any major within the University other than the College of Information Technology. | Information Technology | |
| Science and Engineering majors other than majors offered by the College of Information Technology | Computer Science | |
| Students of Electrical Engineering majors only. | Networking and Security | |
| College of Business Administration | Accounting | Business Administration |
| College of Information Technology | | |
| College of Business Administration | Marketing | |
| College of Pharmacy | | |
| College of Business Administration | Management | |
| College of Engineering | | |
| College of Business Administration | Finance | |

## b. Graduate Programs

| College | Degree | Total Credit Hours |
|---|---|---|

| | | |
|---|---|---|
| Institute of Environment, Water, and Energy | M.Sc. in Ground Water Engineering and Management | 36 |
| Business Administration | MBA ( Human Resource Management) | 36 |
| | MBA ( Financial Management) | 36 |
| | MBA ( Marketing) | 36 |
| Engineering | M.Sc. in Urban Design | 36 |
| Law | Master of Law (Private Law) | 33 |
| | Master of Law ( Public Law) | 33 |
| Dentistry | M.Sc. in Restorative Dentistry | 57 |
| Pharmacy & Health Sciences | M.Sc. in Pharmacy (Clinical Pharmacy) | 36 |
| | M.Sc. in Pharmacy (Pharmaceutical Technology) | 36 |
| Education and Basic Sciences | Professional Diploma in Teaching | 24 |

# 6 Admission and Registration

Applications for admission should be submitted Online at apply.ajman.ac.ae or to the Office of Admissions 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 AU 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.

## 6.1. General Admission Conditions

### a. Holders of UAE Secondary School Certificate:

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

**General Stream**

- Holders of a Secondary School Certificate (SSC), General Stream (MOE), are eligible for admission in all colleges eligible for literary section with a minimum score of 60%.

- General Stream (MOE) are eligible for admission for the following majors if they obtain Average (90%) with minimum score of (90%) in Math and Science in Grade 12, with studying physics as a foundation course in AU:
  - B. Sc. in Electrical Engineering
    - Instrumentation and Control
    - Electronics and Communication
    - Power and Renewable Energy
  - B. Sc. in Biomedical Engineering
  - B. Sc. in Architectural Engineering
  - B. Sc. in Computer Engineering

- General Stream (MOE) are eligible for admission for the following majors if they obtain average (70%) with minimum score of (70%) in Math and Physics in Grade 12:
  - B. Sc. in Information Technology/ Networking and Security
  - B. Sc. in Information Technology/ Databases and Web Systems

**Abu Dhabi Education Council (ADEC)**

Holders of a Secondary School Certificate (SSC), ADEC, are eligible for admission in the following colleges:

- Dentistry - Average (80%) with minimum score of (80%) / Third Level in Chemistry, Biology and Physics
- Pharmacy – Average (70%) with minimum score of (70%) / Third Level in Chemistry, Biology
- Average (70%) with minimum score of (70%) / Third Level in Math and Physics, in the following Majors:
  - B. Sc. in Electrical Engineering
    - Instrumentation and Control
    - Electronics and Communication
    - Power and Renewable Energy
  - B. Sc. in Biomedical Engineering
  - B. Sc. in Architectural Engineering
  - B. Sc. in Computer Engineering

- Average (70%) with minimum score of (70%) in Math and Physics , for the following majors:
  - B. Sc. in Information Technology/ Networking and Security
  - B. Sc. in Information Technology/ Databases and Web Systems

  - Average (60%) , for the following colleges/majors:
  - College of Business Administration
  - College of Education & Basic Sciences
  - College of Mass Communication & Humanities
  - College of Law
  - Bachelor of Interior Design
  - B. Sc. in Information Systems\ Project Management
  - B. Sc. in Information Systems\ E-Business Management

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
- 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
- B.Sc. in Information Systems/Project Management (65%)
- B.Sc. in Information Systems/E-Business Managnent (65%)
- Bachelor of 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 Education/Higher Education Affairs, 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:

- The certificate is considered for admission in public universities of the country where it is obtained
- The certificate is awarded after at least 12 years of schooling
- 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
- Pakistani Board(s): Higher Secondary School Certificate (Part II)
- French Baccalaureate: completion of Part II
- International Baccalaureate: completion of six subjects, with three at the higher level
- American High-school Diploma.
- West African Senior School Certificate

## 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

## 6.2 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), EmSAT Achieve English 1100, Band 5 in IELTS (Academic), 41 in (Cambridge English: Advanced Test of English Language), IESOL B1 or 36 in (Pearson Test of English Academic). English Proficiency scores are accepted only if they were obtained less than two years from the admission date. Institutional TOEFL score is considered only when the test is taken at an AMIDEAST centre.

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 a score between 450 and 499 or equivalent, will be required to enroll in the Intensive English Program (IEP) offered by the Unit of General Studies, until they obtain at least 500 in the TOEFL, or its equivalent.

Admitted students with a score below 450 (TOEFL) or equivalent are required to enroll in 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 or its equivalent test score at the end of the first semester of registration.

## 6.3 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 than or equal to 2, etc.

## 6.4 Re-Admission

1. New students who have missed 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 Office of Admissions and Registration, and must satisfy admission requirements in effect at the time of re-admission.

A new university ID will be issued and the student should pay the non-refundable fee for the application.

2. Former students who have missed more than two consecutive semesters of enrollment at the university may apply for re-admission provided that they achieve the following:

- The required average in secondary school certificate.
- A valid English Proficiency Certificate with the required score.
- Availability of vacant seats in the major.
- Approval of the College Dean & Registrar.
- Repayment of all debts.

A new university ID will be issued, and the student should pay the non-refundable fee for the application. If the Dean of the previous college & the Registrar accept the student to continue in the same major, the previous courses which the student has studied will be considered if they are included in the new study plan.

**N.B.:-**

If the student was warned, he/she must transfer to another program providing that his/her CGPA for the courses to be transferred is 2.0 or higher.

If the student can graduate within the time allowed for completion of a degree program, re-enrollment of the student with the same ID & in the same program will be considered after the payment of the required fees.

## 6.5 Transfer Students from Accredited Institutions

Students from accredited institutions of higher education may apply for admission in an AU program in the same field of study if they have been of 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 if they are eligible to return to their current or formal institution (they have not been the subject of disciplinary dismissal). However, those students who have not been of good academic standing (i.e. those with 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).

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

- their cumulative grade point average is 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 AU equivalent course
- the grade obtained on the previous course must have been at least C (2.0 on a 4.0 scale) irrespective of the course status ( Satisfactory, Good,ets…….) , 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 AU

If the transfer of a student with a CGPA less than 2.0 is accepted in a program within a different field of study, the transfer of credited General Education courses may be considered if 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 AU 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 AU.

It is important to note that AU 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 AU.

### Documents Required for Admission

- Application form, which may be obtained from the Office of Admissions and Registration, to be filled in by the applicant
- Equivalency certificate issued by the ministry of education UAE for the holders of non UAE high school certificate
- UAE Secondary School Certificate, or its equivalent, and grade transcript. Certified copies are acceptable

- Photocopy of valid passport & residency visa (if applicable).
- Photocopy of a valid Emirates ID Card (UAE residents only)
- Birth certificate.
- Health certificate.
- Status of UAE National Service for male students.
- Valid certificate of good conduct, issued by an official body
- Six passport-sized photographs with the applicant's full name on the back of each
- A signed "declaration" by the applicant stating 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, IELTS with a score of at least 5 or its equivalent. TOEFL with a minimum score of 450 or its equivalent for the college of Mass Communication and Humanities, except for Sociology and Social Work program.

Applications will be processed by the Office of Admissions and Registration only after the payment of application and registration fees.

## 6.7 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 suspended.

- Secondary school certificates obtained in the UAE must be certificated by the UAE Ministry of Education.
- Secondary 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.

## 6.8 Seat Reservation

Students admitted to Dentistry, Pharmacy, Architectural Engineering, Interior Design, and Law programs are required to pay a seat reservation deposit. 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. 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.

## 6.9 Course Registration for New Students

Newly-admitted students who have a TOEFL score of at least 500 or its equivalent 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, or its equivalent, 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 Unit of General Studies.

Newly-admitted students who have a TOEFL score of between 450 and 479 or its equivalent 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 Unit of General Studies.

Newly-admitted students who have a TOEFL score less than 450 or its equivalent, 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 English Program (15 hours per week) which is offered by AU Continuing Education Centre.

**Load of New Students according to their TOEFL Score or its equivalent**

| Number of University Credit Hours Permitted | Number of IEP Hours Required | Pearson Test of English Academic | Cambridge English: Advanced Test of English Language | CBT | IELTS (Academi) | TOEFL (iBT) | TOEFL (Paper-Based) | EmSAT Achieve English |
|---|---|---|---|---|---|---|---|---|
| 9-18 | None | 36 | 41 | 173 | 5 | 61 | 500 or more | 1100 |
| Not more than 9 | 9 | | | | 4.5 | 54-60 | 480-499 | 950 |
| Not more than 6 | 15 | | | | 4 | 45-53 | 450-479 | 825 |
| 3 | 15 | | | | Below 4 | Below 45 | Below 450 | Below 825 |

**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 in TOEFL or its equivalent, they will only be allowed to register in the appropriate IEP program the following semester.

If the student does not achieve the 500 TOEFL score in the two semesters after his/her admission, the College Council 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 the laboratory in which the course is held.

## 6.10 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 advisors. 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 AU students may take some courses outside AU 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.

## 6.11 Adding and Dropping Courses

Students may add/drop courses only with the approval of their academic advisors. 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 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.

## 6.12 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 9 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:

- Dentistry students
- 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

A student's study load is up to six credit hours in a summer semester.

However, independently of their academic standing, students will not be allowed to sign up 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.

## 6.13 Time Allowed for Completion of a Degree Program

The maximum time allowed for a student in which he/she 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 enrolment for transfer students is 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.

## 6.14 Suspension of Registration

Newly-admitted students can suspened their study only in their first semester, and they should register courses in the next semester. Otherwise, he/she should apply for new admission.

The total number of semesters for former students that can be suspended is four. However, suspension of registration for more than two consecutive semesters is not allowed. In all cases, the Office of Admissions and Registration should be notified in writing.

## 6.15 Right to Cancel Registration

The University reserves the right to cancel an offer of admission if the applicant fails to satisfy all requirements, or if 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, credits earned at AU will be withheld and no transcript will be issued to the student.

# 7 Orientation Program for New Students

AU 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, AU organizes an orientation session for new students which enables them to meet the Vice-Chancellor, Deans of the Colleges, Admission & Registration personnel and Students Affairs staff. This 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 AU rules and regulations, services and essential skills such as time-management and exam preparation.

# 8 Academic Advising

## Introduction

As part of its dedication to academic success, AU is committed to offering high quality academic advising in order to help students in the development and pursuit of academic objectives consistent with their life goals. Academic advising is an ongoing process that connects students to the university. We believe it is important to empower each student with knowledge, resources and skills that will lead to academic success and lifelong desire to learn inside and outside the classroom.

## AU Advising Policy

AU advising policy postulates that:

a) All students shall be informed of the advising policy and advising process during the initial orientation and be directed to an appropriate advisor;
b) All students shall be assigned advisors;
c) All students on probation must be given regular advising each semester;
d) All students expected to graduate must be advised at least twice every semester of their final year;
e) Career counseling and student counseling shall be made available to all students;
f) Advising by faculty members for all new and continuing students shall be provided every semester;
g) Assessment of department advising shall be carried out every semester as a part of the whole program assessment;
h) Academic department advising shall be assessed and reviewed every year;
i) Funding and resources shall be made available to all units to ensure effective and efficient advising at all levels;
j) Training shall be provided for all advisors and peer mentors;
k) Accurate information shall be posted and maintained on the University website.

## The Goals of Academic Advising

The objectives of academic advising are:

1. to help students take the right decisions in choosing an appropriate course of study that is aligned with their interests, abilities and that meets their academic and life objectives;
2. to answer questions raised by students;
3. to ensure students are aware of the consequences of their choices;
4. to ensure that all students are aware of resources, services and educational opportunities at AU that may be pertinent to the student's educational goals;
5. to provide information on university policies and procedures;
6. to facilitate the resolution of academic problems, conflicts and concerns, as appropriate;
7. to refer students, as necessary, to other resources/departments/personnel;
8. to encourage students to be creative in their academic choices;

9. to provide a forum for interaction and guidance about life and academic matters;
10. to collect data about students' needs, expectations and aspirations.

## Implementation of the AU Advising Policy

### University Responsibilities

a) Provide resources for continuous training of advisors and peer advisors;
b) Gather and disseminate appropriate academic advising materials to assist colleges;
c) Act as a reference service and respond to questions from colleges and departments, as well as from faculty and students;
d) Take a positive role in solving advising problems;
e) Design advising programs for new faculty;
f) Publish relevant and accurate information on academic advising in the student handbook, on the university website and other relevant publications.

### Colleges and Departments Responsibilities

Faculty members shoulder the responsibility of academic advising which should be part and parcel of the education process.

Departments, colleges, and the Office of Student Affairs have to:

1. Provide students with advising whenever they need it throughout the academic year;
2. Make all relevant information known to students.

The list below shows the relevant information that should be given to students:

a. University rules, regulations, and procedures;
b. Support resources available on campus;
c. A copy of students' advising responsibilities;
d. Necessary forms and academic calendar;
e. Study plan;
f. Internship opportunities;
g. Projected course offerings by the department;
h. A standardized template for students' individual study plans; and
i. University catalogs.

3. Provide training to advisors and peer advisors in the following areas:

I. Learning principles applicable to advising including -

a. University rules, regulations, and procedures;
b. Support resources available on campus;
c. A copy of students' advising responsibilities;
d. Necessary forms and academic calendar;
e. Graduate programs at AU;
f. Training opportunity;
g. Major /program requirements;
h. Projected course offerings by the department;

II. Appropriate personal and occupational choices for their advisees
III. Academic advisors need to have up-to-date knowledge of current affairs outside AU if they are to give meaningful advice to students;
IV. Advisors must be trained to relate students' abilities to requirements of their module/course selections;
V. Technical requirements for the university requirements general education and major courses;
VI. Resources available on campus.

### Advisor Responsibilities

Advisors are required to:

1. Maintain the primary advising file for each advisee. At a minimum, these files shall contain:
   a. A written record of advising session;
   b. A copy of the advisee study plan;
   c. Copies of advisee transcripts;
   d. Copies of advisee current semester timetable;
   e. A semester-by-semester graduation study plan for each advisee.
2. Listen to advisee concerns and respect their individual values and choices.
3. Understand and effectively communicate all university and college academic policies and procedures.
4. Refer advisee to appropriate resources for both academic and non-academic concerns
5. Cooperatively evaluate and assess your academic performance and areas of strength while assisting in selecting courses.
6. Encourage advisees participation in co-curricular activities.
7. Ensure that advisees are aware of opportunities and benefits available at AU.
8. Maintain confidentiality.
9. A graduation progress check sheet for each advisee.

### Peer Advisor Responsibilities

AU peer advisors are continuing senior students who work primarily with students on probation. They are chosen from a select group of students and complete an interview and training process.

Peer advisors are entrusted with:

I. assisting students in choosing courses;
II. familiarizing students with academic policies and regulations;
III. showing students the resouces on campus;
IV. offering advising based on their own experience.

Peer advisors serve six purposes, as they:

I. Help new students and students in probation at AU;
II. Help advisees master basic academic processes;
III. Teach students skills for success (i.e. time management, study skills, etc);
IV. Act as referral source;
V. Offer an alternative point of view to staff/faculty advisors;
VI. Set examples of successful students.

## Student Responsibilities

The advising process depends on the thoughtful participation of students. Students must assume the following responsibilities:

1. Become familiar with their advisors and advisor offices by initiating contact and seeking assistance on a regular basis through email, phone, and individual appointment.
2. Become familiar with academic policies, dates, and deadlines.
3. Come prepared and on time to meetings with their advisor.
4. Ask for clarification if the advisor fails to explain an issue or concern in a way that makes sense to the student.
5. Read all email communication from the advisor and other AU departments.
6. Inform their advisor of problems and concerns which may impact their academic performance as soon as possible.
7. Familiarize themselves with requirements for graduation and other requirements, published through different media.
8. Maintain their own advising folders and take them to every advising session. For undergraduate students, the folder should include:
   - Copies of prior university transcripts;
   - Transcripts;
   - Current semester timetable;
   - An individual study plan;
   - Previous advising notes.
9. Seek academic advising whenever it is needed.
10. Develop an individual study plan. The individual study plan must be approved by the student's appropriate advisor.
11. Be responsible for choosing their own classes on the basis of their decisions as well as the academic advice that has been given.
12. Feel free to evaluate the academic advising program and their academic advisors by filling in a feedback form.
13. Meet with their advisor on a regular basis if they are on academic warning or probation.

## Peer Mentoring of Students on Probation

Students with CGPA below 2.0 are considered on probation. The advisor shall advise the student to repeat courses with low performance grades (i.e. "F" , "D", and "D$^{+}$") in order to improve the CGPA. Each advisor will provide mentoring for a group of students on probation within his/her department. Mentoring includes peer mentoring, monitoring and progress reporting. The plan for helping students on probation includes:

At the beginning of each semester, a list of students on probation is requested by the Deans of Colleges from the Registrar's Office. The Deans will advise Heads of Department to draw corrective actions.

This plan is executed at the departmental level and would include:

1. Holding regular individual meetings with students on probation.
2. Advising students on probation to repeat courses with grades below "C" prior to registering for any further courses.
3. Request students on probation to visit instructors frequently during office hours.

4. Provide students on probation with peer mentoring from senior students.
5. Request students on probation to meet their peer mentor on a regular basis.

The Head of Department will request a feedback report on the performance record of each student on probation from course instructor(s). Each student's progress is monitored through special forms maintained in the Department. The Department Council will discuss the progress of students on probation in each of its regular meetings. Progress reports will be sent to the Dean.

# 9 Change of Major

## 9.1 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 Office of Admissions and Registration provided that:

a. The applicant meets the admission requirements of the degree program to which he/she is applying
b. There is availability of seats
c. Approval of the deans of both colleges concerned is obtained, along with approval from the registrar.

## 9.2 Transfer between Programs

Students may transfer from one program to another within the university provided that they satisfy items b and c of section 9.1 above. 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.

# 10 Academic Evaluation and Assessment

## 10.1. 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:

a. Semester tests and activities 40 percent
b. Mid-Semester examination 20 percent
c. 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.

## 10.2. Grading System

The university adopts the following grading system:

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

## 10.3. 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 |

## 10.4. 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, and 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 2.0 as a minimum.

## 10.5. Incomplete Grade

Attendance at the final examinations is compulsory. Failure to attend will result in the student failing the course. However, if a student does not attend the final examination due to an emergency and he/she scored at least 60% of the total mark (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 due to an emergency consists of the following:

a. illness certified in a medical report approved by the University Clinic;
b. death certificate of a first or second degree relative;
c. arrest or summons before a court or other legal body;
d. other excuses accepted by the College Council.

In these cases the student must complete and submit a request form within the specified period in the acacdemic calendar. He/she also must present the relevant documents to the Office of Admissions and

Registration. Applications will be processed only if the student has no financial obligation to the university and has paid the fee for an “incomplete request.” Applications submitted by students with a 25 percent absence warning will not be accepted.

A student whose course result is “incomplete” 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.

## 10.6. Examination Re-sits

If a student passes all but one of the courses required for graduation, and if this course is from 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.

## 10.7. Complaints about Grades

Complaints regarding final examination results must be lodged within a period of 15 days following the announcement of examination results. Students should complete and submit a Complaint Form to the Office of Admissions and Registration after the payment of the required fees. The form will be transferred to the College concerned where an appropriate decision will be made. The Office of Admissions and Registration notifies students, in due course, of the outcome of their application.

# 11 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 students' knowledge and skills as required in the course outline.

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

a. To adjust his/her study plan by completing a specific course which is not offered in that semester
b. To complete a course which is not offered but it is required for graduation during the final semester
c. 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:

a. Students will be required to sit for a written exam to be evaluated by the supervisor. This exam will be weighted at 20% of the final course mark;
b. At the end of the semester, students will submit a written report to the supervisor detailing the work carried out. This report will be weighted at 40% of the final course mark;
c. Students will present their work to an internal examiner who will not be the supervisor. The oral presentation will be weighted at 40% of the final course mark;

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.

# 12 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 25 percent of the classes in a given 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 Office of Admissions and Registration.

# 13 Academic Probation

If a student's CGPA falls below 2.0 in any regular semester, starting from his/her second semester at the university, he/she will receive an academic warning. The Academic Advisor will notify students to submit a letter of undertaking to raise his/her CGPA to at least 2.0 in the following semester.

A student on probation must raise his/her CGPA to at least 2.0 within two semesters, not including the summer session.

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

a. First warning: a maximum of 15 credit hours of which three or six credit hours are repeated (the priority is to repeat all the courses with grade F, D or D+ then register for new courses) depending on the CGPA and the previous semester's GPA.

b. If, following the first warning, the student has still failed to raise his/her CGPA to 2.0 or higher at the end of the following semester (excluding the summer semester), the second warning will be issued.

c. Second warning: a maximum of 12 credit hours of which six or nine credit hours are repeated (the priority is to repeat all the courses with grade F, D or D+ then register the new courses) depending

on the CGPA and the previous semester's GPA. Student load can be raised by 2 credits at the request of the Dean.

If, following the second warning, the student has still failed to raise his/her CGPA to 2.0 or higher at the end of the following semester (excluding the summer semester), the third warning will be issued.

Third warning: this case will be reviewed by the College Council. The Council may take one of the following actions:

a. Transfer the student to another program provided that his/her CGPA for the courses to be transferred is 2.0 or higher
b. Allow the student to study outside the university for one academic year (This option is open only for students who can raise CGPA to 2.0). After he/she raises CGPA to 2.0 or above, the student can continue in the same major at the university.
c. Dismiss the student from the university .

# 14 Graduation Requirements

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

d. Completion of all courses of the academic program
e. Completion of practical training as specified in the study plan
f. 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 | 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 |

# 15 Minor

AU students are eligible to enroll for a minor while they are pursuing their major provided they fulfill the admission requirements of the minor. Also, their application for major/minor must be submitted prior to the specified deadline, which is the last day of the 12th week of the semester preceding their expected graduation semester. The approvals of both the Dean of the college offering the major and the Dean of the college where student is seeking minor are required for admission of student to the requested minor. The primary academic advisor of the student will continue to serve as advisor for both major and minor. However, the academic advisor may seek assistance and cooperation from the department or college offering the selected minor.

The completion requirements for the minor, including the prerequisites required to take the specified courses, are well defined for all minors offered by Ajman University. Students enrolled in major/minor must satisfy all the degree completion requirements of the major as well as all stated completion requirements of the minor.

The student's transcript and degree certificate will indicate both major and minor completed at the time of graduation. For graduation, the student must obtain a cumulative GPA of at least 2.0 in all subjects related to the major, as per the approved study plan, as well as a cumulative GPA of 2.0 in subjects required for the selected Minor.
The cumulative GPA of the major shall be calculated based on all courses in the approved study plan. The cumulative GPA of minor shall be determined based on the list of courses specified for successful completion of the minor. Both GPAs shall be mentioned in the transcript. Furthermore, the degree certificate shall mention the corresponding merit (Excellent, Very Good, Good, …) for major as well as minor.

# 16 Double Concentration and Second Bacholar's Degree

## 16.1 Double Concentration

AU students enrolled in a program with two or more concentrations are eligible to enroll for second concentration. Their application for double concentration must be submitted prior to the specified deadline, which is the last day of the 12th week of the semester preceding their expected graduation semester. The Dean of the college where student is enrolled shall make a decision on his/her admission to second concentration. The primary academic advisor of the student will continue to serve as advisor for both concentrations.

The student must satisfy the requirements of both concentrations. However, courses that are common in both concentrations will be completed only once. It is important that prior to starting the second concentration, the student must obtain a list of required courses for successful completion of second concentration as approved by the Dean of the college where he/she is enrolled.

The student's transcript and degree certificate will indicate both concentrations completed at the time of graduation. For graduation, the student must obtain a cumulative GPA of at least 2.0 in all subjects related to the major with first concentration as well as a cumulative GPA of 2.0 in subjects required for the second concentration.

The cumulative GPA of the major with primary concentration shall be calculated based on all courses in the approved study plan of major for primary concentration. The cumulative GPA of second concentration shall be determined based on the list of courses approved by the Dean for successful completion of the second concentration. Both GPAs shall be mentioned in the transcript. Furthermore, the degree certificate shall mention the corresponding merit (Excellent, Very Good, Good, …) for major with primary concentration as well as for second concentration.

## 16.2 Second Bacholar's Degree

Applicants who have earned a Bachelor's degree from Ajman University or another accredited institution, recognized by the Commission of Academic Accreditation at UAE Ministry of Education – Higher Education Affairs, may be admitted to a second Bachelor's degree provided they fulfill all admission requirements of the second Bachelor's degree. The second program must have at least 30 credit hours of unique subject-area courses. The admitted students must satisfy all degree completion requirements of the second Bachelor's degree. However, General Education courses completed during their first Bachelor's degree may be counted toward the second Bachelor's degree provided they are the same or substantially equivalent to those required in the second degree. Similarly, students may not be required to repeat those courses in the second degree program that have nearly the same contents as in some equivalent courses in the first degree program. However, prior to

starting their second degree, the student must obtain a list of required courses approved by the Dean of the college where the student is admitted for second degree.
The cumulative GPA of student shall be determined based on the list of courses approved by the Dean for successful completion of the second degree program. A cumulative GPA of 2.0 is required for graduation.

# 17 Student Records

Student records are kept at the Office of Admissions & Registration and contain the following documents:

a. all the documents that were submitted for admission
b. any letters of undertaking signed by the student during his/her studies
c. a copy of the updated transcript at the end of each semester
d. any requests for suspension of studies (if any)
e. clearance forms for graduates or students who have withdrawn from the University
f. The transcript delivered by any other institution from which courses were transferred along with the course description, and the approval of the College for the transfer of the course. The authentication certificate of the transcript, which was issued by the former University, is also kept on file.
g. The decision of completion of graduation requirements signed by the Dean of the College when the student completes his/her studies.

## Confidentiality of the Records

a. **AU considers that all personal** and academic information is confidential and therefore cannot be given to individuals other than the parents of the student.
b. The Office of Admissions and Registration will assist institutions when they request information on the authenticity of a copy of the transcript or a graduation certificate.
c. Transcripts and official documents will not be issued to any person other than the student unless they have a letter of authoirsation signed by the student and accompanied by a copy of the student's ID.

## Student Rights

Students have the right to:

a. Inspect and review information contained in their education records.
b. Request change or update of their personal data.

# 18 Information Technology and Learning Resources

## 18.1 Information Technology

**Introduction**

**Ajman University (AU) provides computing, networking**, information and telecommunication resources to the university community to support teaching, research, and efficient administrative processes. Access to Information Technology resources is granted to members of the university community who are enrolled students, employees, or academic staff members. The authorized Office for running these resources is the Office of IT.

**Mission**

Providing efficient and current IT services to all university users (faculty, students, and staff) in order to fully support their teaching, research, and administrative activities.

**Objectives**

**The objectives of the** Office of IT are to:

a. Provide robust IT physical and logical infrastructure, maintain WAN and LAN nodes, and perform administrative operations to keep IT services available 24/7 to users.
b. Provide prompt and accurate technical assistance from knowledgeable staff, and to listen carefully to users' requests and feedback.
c. Develop database systems, maintain university-wide database applications, and give full support to the Application users.
d. Create, maintain and enhance University and related websites, and to develop integrated application to enhance users' web browsing experience.
e. Perform RND to recommend new technologies.
f. Protect AU IT assets.
g. Ensure that the use of IT resources is primarily for university purposes and university-related activities.
h. Maintain the integrity and security of the university's computing facilities.

**Services**

- Help Desk
- Network Account
- Email
- Internet

- WiFi
- Online Registration
- E-Learning Management System
- Maintenance and Replacement of Computing and Network Resources for Educational Facilities and to AU Staff.

## AU IT Facilities

**IT facilities at AU** are maintained by the Office of Information Technology, located on the ground floor, Block A, Jurf 2. It is the responsibility of all users of the computer system to notify the Office of IT of violations of laws and university policies in connection with the use of computers, as well as of potential loopholes in the security of the computer system. Any concerns, complaints, or reports of misconduct with regard to the computer system should be reported to the director of IT on 7056500 or email helpdesk@ajman.ac.ae.

### Network Accounts

Accounts are intended to be personal. The individual to whom the account has been created is responsible for ensuring that his/her username and password remain confidential. No one is allowed to use another person's username and password.

### User Account :

All freshmen students should receive an identification letter by email with their password/user account details and how to use it after two (2) working days before the Registration starting date or one (1) working day from the admission approval, in the case of students who have been admitted during the registration period.

All registered students should have passwords/user accounts.

The password/user account will remain active for the duration of a student's course. The email account will remain active for life.

Students who, for a reason or another, lose their passwords will be required to pay AED 15 for a password reset.

Students can use their user account to access all the below AU web services:

- Computer labs.
- WiFi
- Email
- E-Learning Management System (Moodle)
- Online Registration System (ORS)

## Electronic Communications:

### Email

AU has established e-mail as a primary vehicle for official communication with students. All university communications via email will be sent to this address. Faculty members will use the official university e-mail address to communicate with a student registered in their classes and administrative units will correspond with students via this address. The University expects that students will receive and read e-mail in a timely

manner. Students are expected to maintain their accounts and check their e-mail. A student is obliged to check university e-mail and act upon content.

**E-Learning Management System:**

AU adopts an E-Learning Management System (Moodle) to enhance the teaching and learning process. It is a web-based application that allow instructors to deliver content and resources to students and manage their delivery. It provides easy ways for instructors to create and deliver their course content, communicate with students, and assess student performance.

Students will be enrolled in all their courses automatically as the moodle system is integrated with the registration system.

**Improper use of the computer system is prohibited:**

The Office of Information Technology (IT) is neither an investigative nor a disciplinary entity in its primary responsibilities. However, in cases where university resources and privileges are abused or otherwise threatened, the Office may be asked to take appropriate action. Immediate revocation of access and subsequent prosecution by the authorities, for example, might be directed. Such revocation may be appealed to the IT committee.

To summarize, access to University computing and communications equipment and facilities may be revoked for reasons including, but not limited to:

a. Attacking the security of the system;
b. Modifying or divulging private information such as file or mail contents of other users without their consent;
c. Misusing or abusing Internet/Network by using Internet tools or software that may affect the performance of the Internet/Network
d. Modifying or destroying university data.
e. Using the networks/Internet in a manner contrary to the established guidelines;

Finally, users may not read sensitive information simply because it is accessible to them - because of accidental exposure and/or through the malice of others who have broken into a system or are misusing their access privileges. When sensitive information is recognized as such, it should not be examined further, but reported to the keeper of the materials, if known, or otherwise reported to management.

**Computer Labs**

Computer labs operated by the Office of IT are a shared University resource available on a first-come, first-served basis. Food and beverages are prohibited in these labs. Labs may be reserved for exclusive use by a class or group. Some labs are provided by Colleges, not the Office of IT; contact those Colleges for their additional usage guidelines.

**Terms and Conditions of using IT services**

a. The Office of IT considers all temporary and permanent connections via the University network, to be subject to the provisions of this policy.
b. Computing resources not owned or approved by AU may not be connected to the University's network.

c. The Office of IT has the right to monitor the traffic of all transmissions on networks maintained by the Office at all times.
d. Operating systems currently supported (for the desktop) include Windows OS (Windows 8 and above) and Apple OS (7 and above). There are special requirements for Unix workstations in the College of Engineering and the College of IT. Upgrading will take place in a controlled manner.
e. Software and hardware to be installed should be requested by the Dean or Director and it may not be installed or connected to the university systems without the approval of the IT Committee. This includes the data and telephone networks.
f. All university affiliates (faculty, staff & students) are permitted to use the university network and selected computing resources at all times while the network is available.
g. IDF/MDF rooms are under the authority and responsibility of the Office of IT. Everyone within the AU Network community who uses university computing and communications facilities has the responsibility to use them in an ethical, professional and legal manner.
h. Violations of information technology Policies & Procedures typically result in university disciplinary action, which may have serious consequences, and in some cases, may result in legal action.

**Data Backup**

It is the responsibility of students to have a backup of their data and coursework on a personal data storage medium (such as External Hard Disks, USB flash drives or CD/DVD disks). Students may also backup on the cloud using the provided storage with the email service (50 GB on OneDrive).

### Internet Services.

**Students may access the Internet through computers in** university computer labs and through personal laptops connected to the university's Wi-Fi provided in designated locations.

Student access to the Internet conforms to the laws of the United Arab Emirates, including the monitoring and filtering of Internet content. Any attempt to circumvent or disable Internet access controls set by the University or the government of the UAE is a violation of university policy and will result in disciplinary action.

## 18.2 Library & Learning Resources Center

The literature relating to library and information science states that the effectiveness of the organization and its various activities cannot be determined without a statement of goals and objectives because, by definition, effectiveness is the degree to which a library accomplishes its stated objectives. The Association of College and Research Libraries (ACRL) Standards, published in June 2004, anticipates that the mission, goals and objectives of a college library should support the mission of the parent institution and should be spelled out clearly so as to serve as a framework for its activities. Outcome assessment measures take into consideration the library's dependence on technology, its increasing use of online services, its provision of information literacy skills and the budgetary split between print and electronic resources. The ACRL Standards require goals to be compatible and consistent with those developed by the institution. Assessment of the quality and effectiveness of the library should be linked closely with the specific mission and goals of the institution. The Information Resources Center should be involved in the overall planning process. These planning methods require input from a broad spectrum of the institution's community. Strategic planning that includes

evaluation, updating, and refinement, provides an overall direction that helps to guide day-to-day activities and decisions.

## Mission

The mission of the AU Library and Learning Resources Center is to support the University mission in identifying, organizing, preserving and offering accessible resources which serve the needs of college members, students and the community at large. In addition, the library seeks to locate, acquire, organize and select the most appropriate material and make it accessible to users. It is also the mission of the library to build a comprehensive, balanced library collection and provide a good environment for reading, learning and research.

The upgrading and preserving of the library's information technology infrastructure to ensure prompt access to information and information services are also among the AU library mission priorities.

## Goals and Objectives

**The goals and objectives of AU** library and LRC are to:

a. Provide current library materials and databases that support the academic curriculum
b. Provide access to information resources, regardless of location
c. Collect library materials in all formats, broaden and update all collections to meet the needs of AU programs and support the various aspects of the institution: teaching, training, research and services
d. Educate and assist faculty, students and staff in the identification and effective use of information resources
e. Continue to strengthen and update all collections to meet the needs of AU programs
f. Preserve AU collections and materials, and maintain and upgrade physical and technological infrastructure to enhance the quality of services
g. Recognize that a minimum acceptable standard is one resource per topic per student
h. Meet accreditation standards
i. Provide access to library resources and servers via web pages and online resources
j. Ensure that resources available are current, appropriate and accessible 24/7
k. Work closely with users; know their needs and interests
l. Put into practice the motto that building library resources is a continuous process
m. Enhance information literacy, especially in the student community, by developing effective plans aiming at improving student ability to:
    1. Access information effectively and efficiently
    2. Evaluate information and its sources critically
    3. Understand economic, legal and social issues when using information
    4. Access and use information critically and legally

# 19 Health Clinics

## Mission

**The University Health** Clinics seek to complement the academic mission of AU and are dedicated to providing educational, supportive, consultative healthcare services to students, staff, faculty and eligible dependants. In doing so, the Health Clinics strive to make the campus a healthy and safe place to study, work and live.

## Objectives

The objectives of the University Health Clinics are to:

1. Provide primary healthcare to students, college, staff and eligible dependants
2. Provide emergency healthcare to Residential Hall and campus residents after working hours and at weekends and on holidays
3. Support the integration of university services and provide a healthy atmosphere to accomplish the university objective of a disease-free community
4. Provide high quality integrated health services in a timely manner to generate complete customer satisfaction

## Services

The Medical Services Administration provides the following primary healthcare, within available capabilities, through its clinics:

a. Round-the-clock services for males and females
b. General Clinics: primary healthcare, treatment, preventative medicine and health education on common diseases through the general practitioners to the university community
c. Nursing: comprehensive nursing care and services, including routine and emergency cases, recording patient details and providing treatment
d. Reception: receiving patients, preparing the patient files and records, recording personal data, preparing daily, monthly and annual statistics
e. Medical Lab: carrying out medical tests and running tests referred from university physicians for nominal fees
f. Referral System: referring urgent cases to hospital specialists
g. Following up chronic cases and coordinating referrals to hospital specialists if necessary
h. Carrying out medical checkups for new students

# 20 Safety

The university has taken measures to ensure the safety of all present on its campus. Although it has appointed a Safety Officer and Safety Coordinators throughout its units and Offices and has established a policy on safety and health hazards, it expects all its personnel and students to act in a safe and proper manner to minimize risks.

All students are asked to:

- observe all relevant safety rules and instructions issued by the University;
- follow all the instructions and rules related to the safe use of space, such as labs, classes, workshops, sport facilities, hall of residence, etc;
- familiarize themselves with procedures, emergency exits, and emergency contacts;
- avoid any improper action or behavior which could be hazardous;
- report any accident or a near accident experienced on campus;
- report any significant hazard you discover on campus.

Safety notices, contact emergency numbers and first aid boxes are located in appropriate locations. Notices are also displayed for emergency exit routes and assembly points in the event of fire. Students are required not to tamper with these.

In case of fire or emergency evacuation, everyone is expected to act responsibly and not to endanger the lives of others. All should adhere to announced procedures.

Any person who, for whatever reason, because of impairment (for example requiring assistance to evacuate a building during an emergency situation) should inform the relevant safety personnel or the Office of Student Affairs of his/her needs at the beginning of his/her enrolment.

**Safety Procedures for Labs**

Students are expected to manipulate instruments, equipment and materials that are potentially hazardous. Students are required to read safety lab manuals (associated with all labs). Students shall not be allowed to participate in a lab unless they have demonstrated a clear understanding of the safety procedures involved. Students should not work alone in a lab in case of an accident or medical emergency. Inattention or disruptive behavior will not be tolerated in any lab. Repeated cases will be referred for disciplinary action. Equipment, tools and materials must be handled in a manner that is safe for the student as well as for other students and the instructor.

Safety arrangements are reviewed on a regular basis. Suggestions for improving these procedures are welcome. Students should contact the following numbers in an emergency.

Jerf1 067056204 - Jerf2 067056530

# 21 Deanship of Student Affairs

The Deanship of Student Affairs (DSA) is responsible for those aspects of student life which extend beyond the classroom. The DSA is committed to encouraging the personal development and growth of students through the organization of a variety of co- and extra-curricular activities, which include cultural, social, sporting and entertainment programs. In addition, the DSA is responsible for the provision of a variety of services.

### The DSA comprises two divisions:

## 21.1 Student Counseling Unit

Student Counseling is dedicated to helping students address personal or emotional problems that hinder them in achieving a fully beneficial experience at AU and realizing their full academic and personal potential. Student Counseling Services utilize a service system that emphasizes trust, respect, confidentiality, and compassion. Its overall goal is to maximize student success by attending to any emotional or personal needs which may impede learning. Through personal counseling, students learn to take charge of their lives, acquire skills necessary for adjusting to the demands of university life, and overcome difficulties that may prevent them from meeting their academic and career goals.

### Student Counseling Policy

**Purpose:**

The purpose of this policy is to establish guidelines for student counseling.

**Policy:**

AU offers quality services to students. To maintain high standards and fully address the personal growth, psychological needs, and emotional wellbeing of students, AU provides student counseling services. The Student Counselor makes assessment and provides individuals, and groups, experiencing personal problems with support and guidance and assists them in overcoming obstacles to their educational success.

**Personal Counseling:**

a. Refers to one-on-one counseling with each student on a regularly basis. Students are seen for a multitude of issues that range from typical developmental challenges to more serious adjustment and mental health issues.

b. Listening to student complaints, working to find solutions, and informing parents about the academic status of their sons and daughters

### Group Counseling

Group interventions entail working with a small number of students who share similar concerns and treatment goals. Group counseling addresses either general or specific issues. This form of counseling facilitates the healthy exchange of experiences, provision of sympathy and support and the development of skills necessary for effective coping and problem solving.

## Procedures

### Eligibility

**Counseling services are available to all currently enrolled,** graduate, and undergraduate students. There is no fee required from students to utilize this one-to-one counseling service provided by the Student Counseling Service.

### Confidentiality

Any communication between a student and a counselor is considered confidential. The confidentiality of the counseling sessions is protected. No student records are released to others (even within the university community) without the written consent of the student. If it becomes clear in the counseling session that there is a real danger to oneself or to others, the counselor is required to inform the Dean of Student Affairs, to a parent or someone close to the student. The confidentiality rule does not apply in this case, but should go no further than the persons mentioned.

### Access

Students are encouraged to make an appointment with a personal counselor to discuss their concerns. A personal counselor is available on campus.

### Referrals

The Student Counselor provides referrals to qualified psychologists, psychiatrists and therapists equipped to aid students with psychological problems, learning disabilities, and/or other serious issues. If the referred student would like to maintain the involvement of the personal counselor, the counselor may request a copy of the report of the external visit and may follow up with the therapist regarding the student's treatment.

# 21.2 Student Activities Unit

Under the sponsorship of the DSA, this unit organizes many activities that span a wide range of interests, covering social issues, culture, art and sport. It also acts as the central support for the numerous student societies. This Unit provides and organizes the following social, cultural, art and athletics activities:

### 1. Social Activities

**These activities aim at widening and promoting the social aspects** of the students' personality, thus activating and developing their role in building society and its social institutions. These activities also aim at training students in group and voluntary work. Moreover, there are several other social services and activities offered by the social division throughout the academic year such as:

a. Receiving new students and their parents and finding solutions for the difficulties students may face at the beginning of their academic life
b. Arranging and supervising meetings at which students are able to get to know each other, thus breaking down the psychological barriers between senior and new students and familiarizing them with the university setting
c. Promoting social awareness among students is done through a number of activities which include raising money for a variety of charitable causes and visiting institutions - for example, orphanages
d. Organizing activities during the holy month of Ramadan, which include Iftar, conferences, religious lectures, competitions, financial donations and other charitable deeds. Competitions in the recitation and memorization of the Holy Quran are also arranged
e. Arranging social and educational activities, for example visits to cultural landmarks, scientific exhibitions and entertainment centers, and exchanging visits with scientific, teaching and social institutions
f. Cooperating with UAE institutions and authorities in health-awareness campaigns on subjects such as illegal drugs and smoking
g. Organizing blood donation campaigns in cooperation with the Ministry of Health, and taking part in campaigns and celebrations organized by formal authorities, such as the Civil Defense and Traffic Week Festivals
h. Running training courses, such as first-aid and personality development
i. Supporting social activities that aim to develop students' personalities and consolidate their relationship with local values and morals

**2. Cultural Activities**

**The DSA organizes a series of intellectual and** cultural activities throughout the academic year. These activities aim at stimulating and enriching both intellectual and cultural aspects of students' personalities. They also contribute positively to building a solid intellectual and cultural background, and help students distinguish between constructive and destructive thinking in their campus life.

Cultural activities organized by this division include the following:

a. Organizing intellectual and cultural lectures and conferences featuring experts from within and outside the university
b. Running cultural, intellectual, literary and scientific competitions, and awarding prizes and certificates for distinguished projects such as short stories, literary articles, scientific research and poetry competitions, with the aim of promoting student creativity
c. Organizing poetry readings, seminars, discussion forums and exhibitions of student work
d. Encouraging students to write articles for publication in the University Magazine
e. Participating in cultural, intellectual and scientific competitions organized by educational, literary and scientific institutions in the UAE

**3. Art Activities**

The DSA is keen in promote the aesthetic and artistic aspects of student life and seeks to further develop these. Throughout the year this division arranges participation in the following activities:

a. Presentation of student work, such as drawings, sculpture, calligraphy, art, zincography and photography, in magazines. Exhibitions of student artwork, which provides excellent motivation for talented students

b. Art competitions among talented students in a variety of fields

c. Art competitions held in the UAE

d. The design of wall magazines featuring students' written and artistic work, exhibited in university halls and corridors

**4. Sport Activities**

Sport activities play an important role in promoting the physical and intellectual development of students.

Sport enables participants to build their physical wellbeing through exercise and is an important element in the development of personal and psychological balance. As an important part of the strategy and vision of AU, the university has a wide range of sporting facilities. These include playing fields for football, handball, basketball and volleyball. In addition, the gymnasium is equipped for a variety of sports and there are further facilities for chess, billiards, tennis, etc.

The division also organizes sporting events and participates in many indoor and outdoor athletic championships, such as:

a. Inter-college teams

b. Forming university sports teams and regular training sessions

c. Participating with universities and colleges from across the UAE in championships and sporting competitions organized by the Higher Education Sports Federation

d. Promoting health and fitness through body-fitness programs and courses in track and field sports, games and swimming

e. Ensuring that the university sports facilities and equipment are updated

f. Ensuring that safety standards are upheld

## 21.3 Students Role in Institutional Decision Making

Ajman University considers its students to be an important element of its operations and events and values their opinions and suggestions. Students can submit their written concerns/suggestions to the Dean of Student Affairs, the Vice-Chancellor or to the Chancellor via the appropriate channels.

## 21.4 Student Council

Student Councils represents the voice of the students and provide leadership in assisting and organizing activities for all students. There are opportunities for any student to serve as a member of the Council. Those interested in being considered for membership on the Student Council, should apply to the Deanship of Students Affairs.

AU recognizes two single-gender student councils for male and female students. Each student council consists of 15 members, where (10) members are nominated by schools and colleges while the rest (5) members are chosen through campus-wide elections. The Student Council mission is to represent the

students and give them the opportunity to communicate their views and concerns. It provides resources for the various student organizations and clubs, offering guidance and support in an attempt to build a generation that is established on the notions of teamwork, dedication and responsibility.

## Council Election

**Article 1:** One-third of Student Council members (i.e. five members) shall be elected through a direct general election by means of a secret ballot.

**Article 2:** Any candidate running for Student Council (SC) membership shall satisfy the following conditions:

1. Be a regular student of AU;
2. Be not younger than 18 years of age;
3. Be of good conduct and sound reputation;
4. Must not have been convicted of any felony or misdemeanor involving moral turpitude or dishonesty, unless he/she has been rehabilitated.

**Article 3:** The DSA Student Council Elections Committee shall be formed and charged with the following responsibilities:

1. Setting a timeframe for submitting candidatures;
2. Receiving candidatures form interested students;
3. Reviewing candidatures to ensure that all conditions are satisfied;
4. Considering and adjudicating appeals filed by or against any candidates;
5. Publicizing the list of candidates and post it on the announcement boards of each college;
6. Receiving and adjudicating objections lodged against any candidates;
7. Establishing rules and procedures for constituting the electorate;
8. Fixing the election date and announce the method of voting;
9. Overseeing the election process.

**Article 4:** - The Student Council Campaigns and Elections are held electronically. The Voter needs to visit the e-vote link on the day of the election to select the nominee of her/his choice. The results are then generated also electronically and announced by DSA Officials on the second day. After that, two Councils are formed (male and female) of 15 members each. A meeting to decide the distribution of roles within the Council in conducted in the presence of DSA representatives.

**Article 5:** Candidates shall have the right to conduct pre-election campaigns in accordance with such regulations as are promulgated by the Committee.

**Article 6:** The rules and procedures of Student Council election shall be as follows:

1. Voting shall start at 8:00 a.m. on the day of election;
2. Voters shall use their usernames and passwords to sign into e-vote where they can cast one votes only.

**Article 7:** Supplementary elections shall be held on the second day in case of parity of votes between two or more candidates, which raises the number of winners above five.

**Article 8:** In all cases, if the supplementary elections result in another tied vote, the Committee shall resort to a drawing of lots among the tied candidates to fill in the required seats.

**Article 9:** - In case any of the nominated candidate is unable to join the SC, priority will be given to the nominated candidate over five according to the rank.

**Article 10:** The Committee shall receive election appeals within 48 hours of the announcement of results. The Committee shall consider and adjudicate such appeals within a period that shall not exceed 48 hours from the date of receipt of each appeal, and the Committee's decision on this matter shall be final.

**Article 11:** In its first session, the Student Council shall elect by an absolute majority of its members the Council Chairman and Vice-Chairman from among the members of the Council who are nationals of the United Arab Emirates. The session shall be chaired by the oldest member of the Council.

## 21.5 Student Societies

A student society is a body elected by AU students; society activities are supported by the DSA. There are also academic societies in each college. The goals of these societies are to:

a. Encourage student participation in a variety of activities
b. Promote the spirit of cooperation among students, and encourage them to take on responsibility
c. Provide support to new students by advising them and helping them in their new academic life
d. Obtain student input regarding needs and wishes, and pass the information obtained to the DSA
e. Act as a liaison between students and DSA supervisors
f. Meet with DSA members on a regular basis
g. Arrange for "acquaintance" meetings among students in order to break down the barrier between new students and the new academic society
h. Promote study ethics among students and encourage them to abide by the rules and regulations of the university
i. Urge students to abide by the morals, principles and doctrines required by Islam

In line with the vision and philosophy of the AU, the DSA arranges a series of developmental, educational and cultural courses for student leaders, with the aim of improving their performance and developing their leadership skills.

### Student societies supported by the DSA

**1. Social Society :** The Social Society is concerned with the social and human aspects of student life. It seeks to develop the relationship between students, the university and the community. The Social Society

supports morality and promotes welfare work. The society also participates in social activities organized by the DSA.

**2. Cultural Society:** The Cultural Society is concerned with the intellectual, cultural, and literary life of students. It aims to promote students' talents through performances, exhibitions and participation in cultural activities, for example reading intellectual and literary publications and writing.

**3. Arts Society:** This society seeks to develop the talents of students who are artistically inclined (e.g., in drawing, photography, art, etc.). It also arranges art exhibitions and conducts training courses in drawing and other forms of creative activities. Members of the society also participate in external exhibitions.

**4. Athletic Society:** This society seeks to improve students' athletic skills. It participates in organizing competitions, encourages students to take part in athletic activities and conducts training courses to improve stamina. The society also supports the DSA in athletic activities.

## 21.6 Student Media

The university has varied media channels which reflect its noble mission and ensure effective communication with its population. Also these channels are used for training its students in a professional and credible manner. This is actually done under the supervision of highly qualified faculty who are members of the college of Mass Communication and Humanities. Among these important channels are the following.

**1. Television:** The university possesses a cutting-edge and well-equipped television studio for training the media students in the different stages of television journalism. At the same time, it is used for internal transmission within the university.

**2. Radio:** This channel is also available to AU students through which they transmit its programs via the Internet under the supervision of the college of Mass Communication and Humanities.

**3. Publications:** AU students issue a number of publications such as the university magazine, the newspaper, Afaq in addition to news bulletins related to the university colleges. Some of these are periodic and others to celebrate certain events.

**4. Social Media :** The university webpage is very informative on matters related to the university and students. Moreover, the university has a device related homepage and dynamic pages on social media: Facebook, Twitter, Utube. Colleges have their own homepages.

# 22 Student Services

The DSA is responsible for monitoring the student services offered by AU and service providers working within it – for example accommodation, transportation and health care services. It seeks feedback from students regarding the effectiveness of these services and uses it to inform decisions regarding the improvement of these services.

**1. Accommodation**

**In line with its vision, AU is eager to** ensure the success of the education it provides. Student accommodation is therefore given high priority, as it plays a key role in student wellbeing and can have a positive impact on academic performance. For this reason, an independent organization has been founded which is concerned with every aspect of life in the student accommodation, for example matters of comfort, the provision of three meals daily, the mini-market, health club, internet, etc. These services are offered at very low prices.

In addition, the organization offers additional free facilities, for example electricity and water, study rooms, libraries and newspapers.

a. Well-designed rooms equipped with appropriate facilities such as furniture, refrigerators, AC, etc.

b. Continuous supervision (day and night) by qualified supervisors (both male and female)

c. Comfortable transportation between the accommodation and the university. Transportation is also provided for shopping trips and visits

   Student conduct in Residential Halls is subject to certain regulations

d. Security - all residential halls are protected by security staff patrols

e. Curfew - staff monitor attendance records regularly for absences. Repeated violation of attendance regulations may result in dismissal from the residential hall for one or more semesters.

f. Smoking - male students are allowed to smoke out of doors and in their rooms. However, smoking in common areas is strictly prohibited

g. Littering - all students are expected to maintain cleanliness inside the halls. Rooms are inspected periodically for cleanliness.

h. Alcohol/Illegal Drugs – the use of alcohol or illegal drugs is strictly prohibited on campus. Students found in violation of this regulation will face severe disciplinary consequences

i. Housekeeping – student rooms are cleaned at least once a week, and all common areas are cleaned daily

j. Dorm Leave - all resident students are expected to sleep in their residential hall every night, except during official dorm closing periods or upon verification with residential hall staff by parents/guardians

To conclude, the DSA is eager to promote the quality of life in the residential halls. The Director pays regular visits, meeting students and listening to their suggestions and complaints. The DSA also receives regular reports from advisors concerning conditions in the halls and takes action as necessary.

**2. Transportation**

The transportation Unit is responsible for ferrying students between the residential halls and the university. The Unit has many buses which make more than fifty trips daily.

This Unit also provides students with transport to activities outside the university, for example visits to scientific and entertainment venues, lectures or conferences. Two buses are kept on standby round the clock to cover emergency requirements.

The transportation Unit has defined the regulations governing the use of its buses and the fees student pay in order to ensure the systematic and good quality services. These regulations are distributed to student who opt for making use of this facility.

The DSA's role in student transportation is to:

a. Coordinate the transportation of students to participate in various activities
b. Elicit student views concerning the transportation services offered
c. Solve student problems with the cooperation of advisors, who keep the DSA informed of recent developments
d. Improve the organizational performance in order to achieve high standards of services

**3. SMART Superstore**

Retail outlets on all campuses meet student needs for stationery, books in Arabic and other languages, software facilities, photocopying, printing and binding. Students may also purchase prescribed textbooks for all fields of specialization at low prices. The DSA monitors the services and coordinates with the supervisors of SMART Superstore to solve any problems that may arise. The Unit makes every effort to ensure that books are delivered promptly.

**4. Other Services**

The Office of University Facilities is responsible for examining the standard of other student services, for example restaurants, mosques, maintenance, cleanliness and security on campuses. With regards to restaurants, the DSA ensures that they are operating in accordance with required health standards. Mosques are kept clean and safe. The Office of University Facilities also checks the cleanliness and maintenance of lecture halls and deals with any problems that may arise. It also coordinates with the university's security staff to ensure appropriate handling of any problems. Finally, the Office of University Facilities designs questionnaires to assess the standard of services provided and recommends improvements

## 22.1 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.

## 22.2 Bookshops

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

## 22.3 Mosques

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

## 22.4 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.

# 23 The Career Counseling Center

## Mission

**The Career Counseling Center endeavors** to serve AU students and alumni by educating them to successfully identify, plan and pursue their career goals. The center supports the mission of the university in its three dimensions - education, information and investment - by providing quality services which will enhance clients' employment potential, and by liaising with prospective employers. To achieve its mission, the Center is assisted by AU Alumni Association, a non-profit organization which aims to enhance interaction between alumni, students, the university and the community.

## Objectives

The Career Counseling Center aims to:

1. Help new students to select courses appropriate to their career interests and aspirations
2. Help students and graduates in decision-making, goal setting and planning for their careers
3. Offer guidance to students and graduates regarding the skills necessary to meet evolving job requirements
4. Help students and graduates acquire effective job search skills
5. Signpost students and graduates to job search resources
6. Provide AU with job-market information to aid academic planning
7. Seek recruitment, internship and voluntary or part-time opportunities for students and graduates through liaison with businesses, governmental bodies and organizations
8. Establish a plan for assessing the performance of career services and activities
9. Establish and foster lifelong professional and personal relationships between the university and its alumni
10. Promote communication between alumni, and between alumni and the university
11. Promote the Alumni Association within the university and engender goodwill, understanding and support for the university in the wider community
12. Offer alumni opportunity to contribute to and participate in the university's decision-making processes
13. Establish fundraising mechanisms for the Alumni Association

## Services

The work of the Career Counseling Center includes: Organizing:

- Career days
- Social and cultural events
- Alumni clubs and forums

Providing services

- Career guidance
- Group and individual counseling
- Employability skills development
- Psychometric tests
- Informing:
- Posting job advertisements electronically and on campus notice boards
- Employer portal
- Job seeker portal
- Classified jobs

**Registration Process:** students must register with the CCC in order to receive job notifications and event invitations.

# 24 Training Center

## Mission

**The Training Center** seeks to support the strategic vision of the university by bridging the gap between the academic realm, the community and the employment market. It strives to achieve this aim through three strategies: student training, staff training and community training. In doing so the center applies scientific criteria in the selection of trainers, programs and performance assessment.

## Objectives

**The Training Center'**s short-term objectives:

14. Student Training: to seek suitable credited-hour training opportunities for students in various public and private organizations, as part of their study plan

## The Training Center's long-term objectives

**a.** **Continuing learning, training and rehabilitation: to** lead training development programs for college members and staff in areas such as teaching and learning methodology, computer skills, research methods, languages, management and technical skills

**b.** Community training: to play an active role in developing community programs through symposia and seminars on rehabilitation, development and the upgrade of worker skills and capacities

**c.** Promoting training and learning through the use of modern technology

## Continuing Education Center

The Continuing Education Center (CEC) was founded in response to the market's mounting need for excellence. We specialize in preparing both men and women for rewarding careers in various businesses and environments. We are well aware that students come to CEC with a variety of academic experiences and backgrounds; hence, every effort is made by the administration and staff to integrate these experiences with the requirements of the work requisite. The long-term growth and success of our Center relies heavily on its aptitude to attract and retain qualified and keen staff and to maintain being a zenith in what it does best: continuing education.

The CEC also prepares students to work effectively by developing essential competencies in a reflective, learner-centered teaching milieu. This method is implemented through an academic curriculum that incorporates field-based practice, reflection and application.

a. Courses offered TOEFL Courses TOEIC Courses ICDL Courses CCNA Courses
b. Business English Courses, English Level I Courses, English Level II Courses, Management Courses, etc.
c. IT Courses
d. Web Design and Graphics Courses
e. Soft Skills Courses (Customer Service, Leadership, Business Etiquette, Communication Skills)

# 25 Student ID Card

Students will receive a university ID card containing their photograph, name, date of birth and AU 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 Office of Admissions and Registration. Fraudulent use of an ID card shall result in disciplinary action.

# 26 AU Rules and Policies

## 26.1. Student Rights and Responsibilities

### Student Rights

- Every student enjoys all rights and freedoms recognized within the University by the Laws of the United Arab Emirates as long as this does not violate the Code of Student Conduct.
- Every student has the right to fair equal treatment by the University. A student has a right to be free from discrimination based on ethnicity, color, religion, gender, marital status, nationality, language, or personal handicap. However, a distinction, exclusion, or preference based on relevant academic or physical aptitudes required and made in good faith is considered to be non-discriminatory.
- All students have the right to have an environment supportive of the University's mission and their own educational goals.
- Students can function in their daily activities safely and easily.
- The university is committed to ensuring that adequate measures are taken to protect the security of students on the university campus.
- AU respects the student's right to privacy of personal information. This implies that information disclosed by the student and for the student is considered to be personal; this information will not be disclosed to third parties without your consent. A permanent record for each student enrolled in the University is maintained by the Office of Admissions and Registration. The written consent of the student is officially required to disclose his/her academic record. Exceptions are made for parents, sponsors, authorized AU officials and in compliance with a judicial order.
- AU shall make sure that students know their rights and responsibilities, as well as applicable University policies and procedures. The university's obligation under this section is fulfilled when the university makes copies (hard or on the university website) of the Student Handbook available to every student upon being admitted to and entering the university.
- Students have access to help them in managing their own affairs, increasing self awarness, career planning and personal decision making;
- Students have access to established grievance procedures.
- Students have access to various activities beyond the classroom, which support intellectual and personal development.
- Students have access to excellent faculty, academic technology, classrooms, libraries, presentations and other resources necessary for the learning process.
- Students have the right to get prompt and appropriate responses from the university's academic and administrative Offices.
- Every student has the right to quality education.

- Every student has the right to a fair and impartial assessment of his/her performance as a student.
- AU shall furnish students with relevant course information to enable them to make informed course selection.
- A student who is accused of a disciplinary offence has the right to present an appropriate defence.

### Student Responsibilities:

Students must behave in a manner that is civil and compatible with the university's function as an educational institution. Students are required to obey the rules and regulations of AU as laid out in the Student Handbook and University Catalog. In particular, students are expected to abide by all rules and regulations expressed in the Code of Student Conduct. Students are expected to familiarize themselves with these codes and their obligations and responsibilities toward the university, its faculty and staff, other students and visitors to the university. In AU's community of learning, disruption of the educational process, destruction of property, and interference with the orderly process of the university, or with the rights of other members of the community, cannot be accepted. In order to achieve its objetives and function properly, AU has the authority mandate to maintain law and order and to discipline those who are disruptive of the educational process.

## 26.2. Student Behavior Code

All members of AU are expected to conduct themselves in accordance with the regulations of the university, and the laws of the UAE. In particular, AU students are requested to play an exemplary and positive role in enhancing the reputation of the university by:

a. Demonstrating a clear commitment to their own learning
b. Conforming themselves to all specified time requirements for registration, class schedules, examinations and completion of assignments
c. Ensuring that work presented is their own personal work
d. Ensuring that all information presented to faculty members and administrative staff is accurate and true
e. Conducting themselves in a courteous and proper manner in their dealings with faculty members, employees or other students
f. Meeting their academic advisors regularly
g. Respecting the property of others and of the university
h. Reporting grievances to their academic advisor or the Dean of the College
i. Not engaging in cheating, plagiarism, disruptive behavior or improper conduct which could damage the reputation of the university
j. Not using AU facilities for other than learning purposes without prior authorization
k. Not falsifying documents or using falsified documents for any purpose related to the university
l. Not distributing leaflets or collecting signatures on university premises or in hostels without prior authorization
m. Abiding by AU rules and regulations, and the directives of the academic and administrative staff
n. Acting in a way that will not cause offence to the culture of the UAE

## 26.3 Student Academic Integrity Policy

**1. PLAGIARISM**

1. The rich learning resources are available at AU are expected to be used to support student research
2. Students are requested to submit their own work to be used for evaluating the level of achievement of a specific learning outcome.
3. Each faculty should explain to his/her students that he/she is interested in evaluating their own work and not the work of others.
4. It is not forbidden to reproduce an idea or sentences from a book or an article as long as the student uses quotation marks and give its source.
5. There is no usage in reproducing sentences if the student does not refer to them in his/her sentences. Every submitted project is expected to contain a reference section in which the student lists all the materials that he/she consulted or used in the project.
6. Plagiarism is strictly forbidden at AU which has acquired specialized software that detects plagiarism.
7. If plagiarism is proven, a zero mark may be given to the project which subsequently induces a failure in the course.

**Examples of Academic Integrity Violations**

The following list includes, but is not limited to, examples of violations under the Academic Integrity policy.

| Plagiarism | Test and Exam Rules | Other violations |
|---|---|---|
| Failing to acknowledge sources through the use of proper citations when using another's works and/or failing to use quotation marks. | Attempting to read other students' exam papers. | Co-operation or collaboration on an academic assignment, in whole or in part, when the instructor has indicated that the assignment is to be completed on an individual basis. |
| Submitting any work written, in whole or in part, by someone else. | Speaking to another student (even if the subject matter is irrelevant to the test). | Disruption of classroom activities or periods of instruction. |
| Submitting a computer program developed in whole or in part by someone else, with or without modifications, as one's own. | Leaving answer papers exposed to view. | Improper access to confidential information such as exams or test questions. |
| Using ideas or material without appropriate acknowledgment in any academic assignment. | Writing an examination or part of it, or consulting any person or materials outside the confines of the examination room without permission to do so. | Misrepresentation of facts for any academic purpose. |
| Using another's data or research findings. | Using material not authorized by the examiner. | |

## Procedures Regulating Irregular Behaviors during Sit-in Exams

**All cases of cheating or trying to cheat, disturbing** the peace and calm of the examination room, disrespecting one of the invigilators, impersonating an examinee or engaging someone else to take the exam by-proxy shall be reported to the College Examination Committee by all the invigilators.

1. The invigilator shall notify the student who is caught cheating or trying to cheat to see the Chair of the College Examination Committee by means of a form designed by the Central Examination Committee and by which he/she will be informed of the place and time of his/her appearance before the Central Examination Committee.
2. The College Examination Committee shall refer the report to the Dean who in turn submits it to the University Disciplinary Committee.
3. The University Disciplinary Committee shall conduct the investigation with the cheater (or trying to cheat) and report all available witnesses within no more than 48 hours, then a report shall be submitted. In case the student does not attend in the assigned time, he/she will be subject to an investigation that will be conducted in absentia.
4. The the University Disciplinary Committee shall be entitled to take the decision to keep the report in case the infraction is not supported by any evidence; the decision is deemed definite and the student may be allowed to re-sit the examinations.
5. The Chair of the Central Examination Committee shall refer the report to the University Disciplinary Committee to take the appropriate decision with regard to the infraction the examinee is accused of.
6. Once asked by the invigilator, the examinee who is caught cheating or trying to cheat shall quit the examination room.

## Disciplinary Penalties

The examinee who is proven to have cheated or tried to cheat at the end of semester exams shall be deemed to have failed the course.

The examinee who is caught cheating shall be deemed to have failed all the courses of the end semester exams.

The examinee who shall be considered to have failed all courses he/she registered in the semester and suspended from registration in the following semester is he/she who:

1. cheats a second time in the final semester exams.
2. is caught cheating or trying to cheat in the final semester exams and proven to have disrespected the invigilators, deliberately tried to disturb the peace or calm of the examination room, or call examinees to rebel.
3. The registration fees shall not be reimbursable in the above mentioned cases.

Any student who plagiarizes a research paper or any assessed academic activity shall be deemed to have failed the course and shall not be reimbursed.

In case a student from the university is caught impersonating an examinee or engaging someone else to take the exam by proxy, they shall both be subject to expulsion for no less than two successive semesters.

If a person from outside the university is caught impersonating an examinee, the university shall be entitled to bring legal action against him/her, and the student shall be subject to irrevocable expulsion.

The decisions shall be considered definite after approval by the Chancellor.

## 26.4 Exam Policies

**Article 1 :** Only students who fulfill the following conditions will be allowed to sit for the university examinations:

1. Students who arrive at the examination room in good time. If they are more than 30 minutes late they will not be admitted. Going out the examination room shall be allowed only 60 minutes after the timed start.
2. If students are not suspended from classes.
3. Students should introduce the University Card and the No Liabilities Certificate.

**Article 2 :** The examination regulations and procedures shall apply to the student during the period of exams, in examination rooms. The possession of mobile phones or other electronic means of communication is strictly prohibited and will be confiscated by invigilators, if any.

**Article 3:**

1. In case the student is absent from an examination with a valid excuse, they will be allowed to have the complete exam within no more than two weeks from the start of the following semester. The student is deemed informed of the date of the complete exam.
2. Any excuse shall be introduced in no more than one week from the exam provided that this excuse is ratified by the authorized parties in the university.
3. The acceptable excuse shall be one of the following:
4. A medical report that is approved by the University Doctor in the same campus.
5. Death certificate of one of the first and second degree relatives.
6. Suspension or appearance before the court.
7. A perfectly valid excuse.
8. The student shall pay the fees of the incomplete.

**Article 4:** The student who is absent from an examination without a valid excuse shall be deemed to have failed the examination.

**Article 5**

1. An excuse shall be deemed valid if the examination timetable allows the student to take more than two exams at the same day.
2. The student shall be given an additional time if he/she has to take more than one exam at the same time.

**Article 6**

Cheating

Any student who is caught in possession of written information relevant to the course, messages by mobile phone, or transmitting written or verbal information to his/her classmates shall be considered a cheater. This includes also the following:

1. Using a book, magazine, research, computer or Internet file.
2. Using scraps, slips or copies.
3. Using signs to convey information.
4. Sending or receiving information through mobile phone.
5. Writing on wall, ground, chair, clothes or body.
6. Using every other means of information not allowed by the university regulations.

Trying to cheat

Any student who is caught in possession of written information, messages sent by mobile phones, or transmitting written or verbal information to his/her classmates shall be considered trying to cheat. This also includes what follows:

1. Looking at the answer sheet of another student.
2. Talking with classmates in the examination room.
3. Possessing a mobile phone.
4. Possessing papers or any other means that comprises information relevant to the subject of exam, but not shown up.

**Article 7**

1. The examinee shall be entitled the right for grievance with regard to the score he obtained in the exam within no more than two weeks from the announcement of results.
2. The Dean shall designate an ad-hoc committee to study the grievance cases on the exam results; the decision of this committee shall be final.
3. The grievance cases shall be subject to fees estimated in accordance with the University Bylaws and Policies.
4. The request for grievance shall be processed before the end of the first week of the following academic semester.
5. Any grievance request shall be identical to the form provided by the Office of Admissions and Registration.

## 26.5 Disciplinary Penalties

**Article 8**

1. The examinee who is proven to have cheated or tried to cheat at the end of semester exams shall be deemed to have failed the course.
2. The examinee who is caught cheating or trying to cheat shall be deemed to have failed all the courses of the end semester exams.

**Article 9**

The examinee who shall be considered to have failed all courses he/she registered in the semester and suspended from registration in the following semester is he/she who:

1. cheats a second time in the final semester exams.
2. is caught cheating or trying to cheat in the final semester exams and proven to have disrespected the invigilators, deliberately tried to disturb the peace or calm of the examination room, or call examinees to rebel.
3. The registration fees shall not be reimbursable in the above mentioned cases.

**Article 10**

1. In case a student from the university is caught impersonating an examinee or engaging someone else to take the exam by proxy, they shall be both subject to expulsion for no less than two successive semesters; the penalty may be aggravated to the final semester if the Disciplinary Committee justifies the feasibility of such a decision.
2. If a person from outside the University is caught impersonating an examinee, the university shall be entitled to bring legal action against him/her, and the student shall be subject to irrevocable expulsion.

## 26.6 Policy on Smoking

Smoking is not permitted in all campus buildings at AU. All students and staff members of AU are responsible for abiding by this policy.

## 26.7 Policy on Drug and Alcohol Abuse

AU prohibits the possession, use, sale or distribution of illegal drugs and alcohol by students and employees on its property and at any university activity. Any violation of these policies will result in appropriate disciplinary actions including dismissal in the case of students and termination of contract in the case of employees, even if it is a first offense.

## 26.8 Policy on Dress Code

Students, faculty, and staff of AU are expected to dress appropriately and to respect the cultural and religious foundations of the United Arab Emirates. Inappropriate dress for both males and females is prohibited. This means dressing in respectful and modest way. Furthermore, obscene or offensive pictures or slogans should not be displayed on clothing.

Dress code violations should be reported to the Dean of Student Affairs. Students who do not abide by the AU dress code are subject to disciplinary action.

## 26.9 Policy on Use of Email as Official Communication

AU communicates with its students via email. All entities at AU use email to convey important messages including time-sensetive ones. Students are allocated email addresses and they should check their email

every day. Students shall not be excused for not being aware of announcement or deadlines whatever the reason may be.

## 26.10 Policy on Disruptive Conduct

**Purpose:** To ensure students maintain good conduct and refrain from disturbing AU community members.

**Prohibitions:**

1. Intentional obstruction or disruption of teaching, research, administration, disciplinary proceedings or other university activities, including public service functions and other authorized activities on university premises.
2. This also includes making or causing noise, regardless of the means that disturbs authorized university activities or functions.
3. Cursing in a public setting, using unacceptable language or making an offensive speech that includes, but is not limited to name-calling, insulting, profanity, vulgarity or in a way violating the UAE code of mutual respect.
4. Persistent serious acts of disobedience.

## 26.11 Policy on Theft, Property Damage and Vandalism

**Purpose:** To protect AU community property and prevent misbehavior.

**Prohibitions:**

a. Theft or unauthorized taking of university property or property of an AU student, faculty member, staff member or visitor on university premises. This includes knowingly possessing such stolen property.
b. Vandalism, willful wanton or reckless damage to university premises or property.

## 26.12 Policy on Classroom Misbehavior

**Purpose:** To ensure that the rights of instructors teaching students are protected in the labs, offices and other campus learning environments.

**Prohibitions:**

a. Persistent speaking without permission; engaging in activities that are not related to the class; inappropriate use of electronic devices, cell phones or laptops; sleeping in class; habitually class late or leaving early; eating/drinking in class without permission; showing disrespect for and arguing with faculty and their studyfollows in class.
b. Threatening; verbal abuse, including but not limited to, using obscene language denoting the instructor or being argumentative; using admonitory or mocking gestures; defaming; harassment; physical altercations; destruction of property; or any action that might jeopardize the security of a faculty or a student.

## 26.13 Policy on Use of Mobile Phones

Students are expected to respect their fellow students and faculty with regard to the use of mobile phones. Students should turn off their mobile phones when they are in class, or attending a university function, lecture, or meeting.

## 26.14 Policy on student media

Ajman University welcomes participation through our social media channels and often encourages interaction. This creates a platform for constructive interaction among AU community members. However, posts that violate the community ethics such as personal insults, profane behavior, illegal materials, etc. are strictly prohibited. AU shall exercise its right to remove posts that are displayed for commercial purposes or any other posts that do not adhere to its rules and regulations. Needless to say that the content of posts displayed by AU is its property an is subject to copyright laws.

## 26.15 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 Chancellor 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 Chancellor will be kept in the student’s file, and the Office of Admissions and Registration will also inform the sponsor as appropriate.

## 26.16 Student Grievance and Appeal Policy

**POLICY STATEMENT**

On occasions, a student may disagree with the academic decision of a faculty member. The university provides an appeal process for the student to request reconsideration of an academic decision. Academic Appeal is a petition to change a decision basis for a student appeal matter. The decision may be either that the academic judgment was unfair in the view of the student or that the department academic decision is applied incorrectly in the view of the student.

**PURPOSE OF THE POLICY**

The student appeal policy guides the student through steps of filing an appeal for reconsidering or changing an academic grade or decision.

**DETAILED POLICY STATEMENT**

The Dean of Student Affairs forwards the student grievance to the Chairman of the Student 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 Chancellor who will take the final decision, to be communicated to both parties.

**Preliminary Steps:**

To initiate or pursue a grievance, the following steps must be observed no later than three weeks following the occurrence of the faculty member decision.

**Step 1**. The student should first discuss the matter with the person or persons directly involved, in an attempt to resolve the issue through informal discussion.

**Step 2.** If there is no resolution in step 1, the student should discuss the matter with the Head of Department to whom those directly involved report (or if the Head of Department is directly involved, with the College Dean. If the College Dean is directly involved, with a senior management staff who shall attempt to mediate an informal resolution).

**Step 3**. If reconciliation has still not been achieved, the student shall submit a written statement of his grievance to the Appeal Committee through the Dean of Student Affairs. The statement shall contain:

- a brief narrative of the condition giving rise to the issue;
- a designation of the parties involved; and
- a statement of remedy requested.

**Formation of the Student Appeal Committee**

At the beginning of each academic year the University Chancellor shall appoint five faculty members to form the Student Appeal Committee. The Chancellor also appoints the Head of the committee.

**Committee Action**

Upon receipt of a written statement of an academic grievance request, the Head of Student Appeal Committee (SAC):

- Determines prior to considering the case whether discussions between the persons directly involved, Head of Department, and College Dean have been exhAUed in attempting to resolve the issue.
- Notifies the parties named in the statement of receipt of a complaint naming them, and sends a copy of the statement to the named parties and to all committee members.
- Meets within two weeks after receiving the written statement to review the written statement and renders a decision as to whether sufficient ground is present to warrant a hearing.
- Notifies the griefant and the named parties of its decision in writing.
- If a hearing will be held, the SAC notifies in writing all parties involved, including witnesses, of the date, time and place of the hearing at least one week prior to the date set.
- Informs the parties that the providing of proof rests with the grievant.

- Requests in writing from all parties involved any pertained material deemed necessary for review by the committee prior to the hearing. These materials, plus any additional materials either party chooses to submit must be made available to the committee no later than four days prior to the hearing. Any person named in the grievance may submit a written statement to the committee outlining issues from their perspective.
- All communication among the committee, the grievant(s) and person(s) named in the statement of complaint will be confidential.

**Hearing Process:**

All hearing conducted by the Student Appeal Committee shall be conducted confidentially in the following manner:

- The Grievant(s) and respondent must be present during the information gathering portion of the hearing. Witnesses will be available, and called when needed. The committee reserves the right to allow the presence of a secretary.
- All statements during the information exchange phase of the hearing will be written.
- Any committee member may question any of the participants at the hearing, at any time during the proceedings.
- The grievant will present his/her statements and/or witnesses to the committee.
- The respondent will have the opportunity to question the grievant(s) and witnesses about their statements.
- After all information is exchanged, all persons, other than the committee members and the secretary will leave the committee room. The grievant(s), respondent(s) and witnesses will continue to be available to the committee should further information be needed.

**Decision**

The Chancellor shall approve or reject the committee recommendation(s) within two weeks after it is received, unless the Chancellor feels that more information is necessary, In this event the case will be referred back to the committee for further findings prior to decision. If the decision of the Chancellor is not in accordance with the committee's recommendation(s), he shall state the reason for that decision, in writing, to the committee. The Chancellor shall then take the appropriate action to implement his decision. The grievant(s) and respondent(s) will be informed in writing of the Chancellor's decision.

**Appeal:**

- The grievant(s) or respondent(s) may petition a grievance within two weeks of the Chancellor's decision.
- The Chancellor or the Student Appeal Committee will determine the Appeal viability based upon evidence not available at the original hearing.
- If an appeal is deemed viable, the Chancellor will ask for rehearing.
- The Chancellor may deny the request of an appeal and affirm the earlier decision.

A rehearing will be conducted on the appeal. A decision rendered by the Chancellor will be final.

# 27 Tuition Fees and Financial Regulations

**Ajman University** (AU) operates on a fully credit-based fee structure in addition to other fees.

The university may reserve the right to increase the tuition and other fees, up to 10% per academic year when deemed necessary.

All students who register for courses incur a financial obligation to AU. Students are responsible for all charges incurred at AU. Failure to attend classes does not constitute withdrawal from the institution or a class.

Students will only be permitted to register for a subsequent semester if they have paid all their financial obligations.

## 27.1 Application and Registration Fees

The application and registration fee for undergraduate programs and Professional Diploma in Teaching is AED 1,300. The fee should be paid in cash in one installment upon registration, and is not part of the tuition. The application and registration fee is 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 **Ajman University**.

Students admitted to the Dentistry, Pharmacy, Architectural Engineering, Interior Design, and Law undergraduate programs are required to pay a seat reservation deposit as stated in the table below. 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 tuition once the applicant joins the university. 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.

| Program | Deposit (AED) |
|---|---|
| Doctor of Dental Surgery | 21,000 |
| Bachelor of Pharmacy | 12,000 |
| B.Sc. in Architectural Engineering | 8,000 |
| Bachelor in Interior Design | 4,000 |
| Bachelor of Law | 4,000 |

The application and registration fee for graduate programs is AED 2,000. The fee should be paid in cash in one installment upon registration, and is not part of the tuition. The application and registration fee is non-

refundable, except when the application is rejected in which case an amount of AED 1,700 will be refunded to the student.

## 27.2 Tuition Fees

### a. Credit Hours for Bachelor's Programs

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

| College | | Fee per one credit hour |
|---|---|---|
| College of Dentistry | | AED 2,000 |
| College of Pharmacy and Health Sciences | | AED 1,500 |
| College of Mass Communication and Humanities | | AED 1,025 |
| College of Law | | AED 1,100 |
| College of Information Technology | | AED 950 |
| College of Engineering | B.Sc. in Biomedical Engineering | AED 1,300 |
| | B.Sc. in Electrical Eng. (Instrumentation & Control)) | AED 1,300 |
| | B.Sc. in Electrical Eng. (Electronics & Communication) | AED 1,300 |
| | B.Sc. in Electrical Eng. (Power & Renewable Energy) | AED 1,300 |
| | B.Sc. In Architectural Engineering | AED 1,500 |
| | Bachelor in Interior Design | AED 1,300 |
| College of Education and Basic Sciences | | AED 950 |
| College of Business Administration | | AED 950 |
| Unit of General Studies | | AED 1,150 |

### b. Credit Hours for Graduate Programs

- 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. Urban Design | AED 2,500 |
| College of Business Administration | MBA: Human Resources Management | AED 2,000 |
| | MBA: Financial Management | |
| | MBA: Marketing | |
| College of Law | Master of Law (Public Law) | AED 2,200 |

| | | |
|---|---|---|
| | Master of Law (Private Law) | |
| College of Education and Basic Sciences | Professional Diploma in Teaching | AED 1,000 |
| College of Pharmacy and Health Sciences | M.Sc. in Pharmacy (Clinical Pharmacy) | AED 3,125 |
| | 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.*

### c. 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 | | |
| | | Clinics | Productive Lab | |
| Fees | AED 4,000 | AED 6,000 | AED 3,000 | AED 2,600 |

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 the programs of Architectural Engineering and Interior Design will pay a studio fee of AED 1,500 per semester.

Students registered in the program of Bachelor of Arts in Mass Communication will pay a studio fee of AED 1,025 per semester for each registered course having Radio/TV session.

### d. Orientation Course Fee

**New students pay a fee of AED** 1,150 for the Orientation Course, which is taken during the first semester of enrolment.

## 27.3. Additional Fees

- Additional lab fee for each registered course having lab sessions offered by colleges other than College of Dentistry and College of Pharmacy: AED 650
- Additional fee for courses having a tutorial sessions: AED 550
- Additional fee for graduation project courses at the College of Information Technology AED 600
- Additional fee for graduation project courses at the College of Engineering: AED 60
- Additional fee for internship courses: AED 800

- Student service fee per semester: AED 300
- Application fee for an incomplete course: AED 500
- Reference letter: AED 30
- Extra copy of the academic transcript: AED 100
- Grade grievance application: AED 100
- ID card, per academic year: AED 25
- Additional fee of AED 500 per each registered course taken as independent studies.

The university may and reserves the right to increase the tuition and other fees up to 10% per an academic year when deemed necessary.

## 27.4. Payment Terms

A student should pay AED 4,000 in advance as a deposit in order to register in fall/spring semesters (AED 2,000 in summer session).

Upon registration, the student should pay the tuition fees in full within two weeks from the end of the add/drop period. The **Office of Finance** has the right to take the necessary action against any student who has not settled their due balance of tuition fees, including suspension of registration and ineligibility to attend exam sessions.

The student has an option to settle tuition fees in (3) three monthly installments by providing postdated cheques. To get this privilege, the student should obtain the **Office of Finance**'s approval after filling out the required form. This option is valid for spring/fall semesters only.

Tuition for summer semester should be paid in one installment within (2) two weeks from the end of the add/drop period.

Graduate students registering for Master Thesis will pay 50% of the applicable fee upon registration and 50% in the following semester.

### Payments to AU are accepted in the following forms:

• **Cash**: Denomination of UAE Dirhams, GCC currencies & USD

• Cheque: Current & Post Dated, UAE Dirhams cheques drawn on UAE Bank*

• Postdated cheques are subject to **Office of Finance**'s approval.

• Credit Cards: Visa, Master, American Express & Diners Club.

• Direct deposit and bank transfer to:

- Bank : Mashreq Bank psc,
- Branch : Riqa Branch - Dubai
- Account Name : **Ajman University**
- IBAN : AE170330000010493141592
- SWIFT : BOMLAEAD

Or,

- Bank : Ajman Bank
- Branch : Khalifa Branch - Ajman
- Account Name : Ajman University of Science & Technology
- IBAN : AE720570000017482222011
- SWIFT : AJMANAEAJ

The student's name and University ID number (if available) must be mentioned in all deposits and transfers.

Please scan the deposit slip or transfer confirmation and e-mail them to: finance@ajman.ac.ae or fax them to: +971 6 74 34 647.

For further finance-related inquiries, please contact the Student Accounts on +971 6 705 6041 or drop an e-mail to finance@ajman.ac.ae

* Each bounced cheque will be subject to a penalty of AED 300.

## 27.5. 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 credited to the student account 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 (nine credit hours). In this case, the student does not have the right to claim any refund for the fees of the withdrawn courses.

### 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 Office of Admissions and Registration. 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 two weeks after the submission of the refund application to the Student Account Officer (at **Office of Finance**).

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.

If a student wishes to reclaim any amount from a credit balance – in case of suspension only, he/she must fill in an Application for Refund Form and submit it to the Student Account Officer (at **Office of Finance**) after the end of the add/drop period. A cheque payment will be prepared within two weeks from receiving the application. If the student fails to do this, the amount will be credited to the student balance for the following semester.

**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 Office of Admissions and Registration. 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 Office of Finance).

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.

## 27.6. Tuition Fee Waiver and Scholarships

### a. New students

New students are entitled to a waiver of 20 percent of their tuition in the first semester of their study, after fulfillment of the English proficiency requirement, if:

1. 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)
2. 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 their tuition in a regular semester if they have obtained a GPA of 3.8 or higher out of 4.0, and completed successfully at least 15 credit hours during the previous semester.

Continuing students are entitled to a reduction of 10 percent of their tuition in a regular semester if they have obtained a GPA of (3.6 to 3.79) out of 4.0, and completed successfully at least 15 credit hours during the previous semester.

The university reserves the right to amend the secondary school grade or semester GPA required by students to be entitled to tuition fee reduction.

### c. Sibling Fee Waiver

All sibling students and first degree relatives (parents and full siblings) registered in any undergraduate program are eligible for a fee waiver from 5% to 20% according to their order of registration in the same semester (excluding the summer session), after submitting a request with copies of their passports to the Office of Scholarship and Financial Aid. This fee reduction is not subject to the AGPA condition. It is applicable as follows:

| Sibling | Waiver Rate |
|---|---|
| First | 5% |
| Second | 10% |
| Third | 15% |
| Fourth and above | 20% |

### d. Performance Fee Waiver

Exemptions from tuition fees shall be granted to the top three academically outstanding students in each college during each regular semester, in accordance with the following regulations:

- A student holding first place at College level: 100 percent fee exemption.
- A student holding second place at College level: 75 percent fee exemption.
- A student holding third place at College level: 50 percent fee exemption.

The following requirements should be met to be eligible for the discount:

1. To have completed 60 credit hours at Ajman University.
2. If two eligible students have the same CGPA, preference is given to the student who has completed more credit hours.
3. In the event of two eligible students having the same CGPA and completed the same number of credit hours, preference is given to the student with the highest CGPA in the last semester.
4. The number of credit hours completed should commensurate with the number of academic years spent by the candidates at Ajman University.
5. The list of colleges' top achievers is approved by the Office of Admissions & Registration and the Vice Chancellor for Academic Affairs.

### e. Top Secondary School Students Waiver

The top three students from secondary schools within the Emirate of Ajman are entitled to a fee waiver in the first semester of their study only, as follows:

- 50% for the first top student
- 40% for the second top student
- 30% for the third top student

**f. Scholarships of Ajman Government**

Ajman University grants a number of scholarships and discounts to Ajman-based Emirati students as well as local and federal government employees in accordance with the terms and conditions specified in the Policy of Scholarships and Financial Aid.

**g. Scholarships for Ajman University**

Ajman University grants a number of scholarships and discounts to outstanding, disadvantaged and special needs students, in accordance with the terms and conditions specified in the Policy of Scholarships and Financial Aid.

**h. General provisions**

- Scholarships and discounts apply only to tuition and lab fees. Fees relating to registration, training, accommodation, transportation, textbooks, summer sessions and other administrative fees are not included.
- Scholarships and discounts do not apply to graduate studies.
- Scholarships/discounts apply only to fall and spring semesters. The summer session is not included.
- Scholarships/discounts do not cover the fees for failed courses or courses dropped beyond the add & drop deadline.
- Unless the student benefits from an external sponsorship as well as an AU discount, he/she may not combine two types of discounts at the same time.The highest discount is applied.
- The student may change his/her major within the same college. He/she shall bear the cost of all courses, which cannot be equated.
- The student is entitled to the discount only after submitting the English proficiency certificate and before the end of the Add & Drop period in the semester in which the scholarship/discount is granted after joining the University. The scholarship/discount may not be deferred to the following semester.
- If the student's CGPA falls below 2.0, the scholarship/discount shall be suspended. The student is given one single chance to improve his/her CGPA and recover his/her scholarship/discount. In the event the student's CGPA drops below 2.0 for a second time, the scholarship/discount shall be irremediably discontinued.
- In the event the student suspends his/her studies for more than two consecutive semesters or more than four non-consecutive semesters, the scholarship/discount shall be irremediably discontinued. In this case, he/she shall bear the fees for courses he/she failed, or added or dropped beyond the Add & Drop period.

**Financial aids**

In May 2013, Ajman University established Thamer Salman Fund for Educational Solidarity as a community initiative to help financially challenged students pursue their university studies.

**Thamer Fund provides assistance to the following categories of students:**

- Students who completed their graduation requirements and did not receive their certificates for failing to meet the university's financial obligations.
- Students who suspended their studies because of pending financial dues.
- Full-time students who have completed a minimum of 30 credit hours of study at Ajman University and whose academic progress is challenged by pending financial dues.
- Students who are the children of AU employees whose job grade is 6 or lower.

## Eligibility

To be eligible for the Fund's support, the applicant:

- Should be enrolled at AU and should be eligible for financial support.
- Should have completed a minimum of 30 credit hours.
- Should have a minimum CGPA of 2.5.
- Should not have been subject to a disciplinary penalty by AU Student Disciplinary Committee, except for verbal or written warnings.
- Should not be beneficiating from an external aid or internal scholarship, except for discounts described in AU's relevant regulations.

**How to apply**

1. Submit an initial application through Thamer Fund website at https://thamerfund.ajman.ac.ae to get an Application Number.
2. Provide the required information authenticated by the relevant AU offices.
3. Fill out the Thamer Fund Form.
4. Provide the applicant's financial and academic records for data validation.
5. Provide the following duly attested and valid documents:
    - Passport copies of family members.
    - Tenancy contract with electricity and water bills.
    - Salary certificate of the breadwinner.
    - Breadwinner's bank statement for the last 6 months.
    - Other tuition bills, if any.
    - Medical certificates, if any.
    - Death certificate of the breadwinner, if any.
    - All relevant supporting documents.
6. Incomplete applications are not considered.
7. The Office of Scholarships and Financial Aid reviews the applications and supporting documents and submits them to the Executive Committee to take decisions thereon.
8. The Executive Committee submits recommendations to the Fund's Council regarding each application.
9. Applicants are notified of the Council's decision by SMS and email.

N.B.:

- Tuition waiver is applied to undergraduate programs only. In addition, it is applied to tuition & lab fees during fall/spring semesters only. Summer semester is excluded.
- If a student meets more than one of the above, i.e. conditions of fee waiver or scholarship, she/he 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. All fee reductions will be granted on the condition that the student satisfies the English proficiency requirement before the end of the Add & Drop period in the first semester of their enrollment.
- All above-mentioned tuition fee reductions are subject to general eligibility conditions as specified in the University Policies & Regulations. For more details, please contact the Office of Scholarship and Financial Aid.

## 27.7 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 pay the full prices for the books.

# Unit of General Studies

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

Ajman University as tailored the General Education Program 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.

The main purpose of the General Education Program (GEP) is to enable all students to attain the fundamental broad base of knowledge, skills and competences that all university educated adults must have whatever their specific area of their specialization.

General education courses are designed to establish strong, intellectual foundation for all specializations. They develop skill acquisition in oral and written communication, information technology, innovation, quantitative analysis, critical thinking as well as certain aspects in the humanities/ arts, and the natural sciences.

Also, the General Education Program seeks to develop in the students' specific competences pertinent to enjoying autonomy and responsibility for their learning, interaction with others, pursuing self – development and deploying what they have acquired in real life situations.

General Education Program Learning Outcomes

On successful completion of the general education program the graduate will be able to:

### Knowledge

Understand key concepts and issues in languages, religion, history, society, environmental issues, and natural resources.

Demonstrate knowledge of basic principles in statistics, information technology, critical thinking and innovation, together with their applications.

### Skill

Communicate effectively orally and in writing and deploy a range of presentation techniques.

Select and deploy a range of relevant information search/retrieval techniques, and appropriate tools.

### Competence

Interpret and present quantitative data effectively.

Demonstrate the ability to comprehend multiple perspectives and formulate effective actions.

Take responsibility for his own future learning needs.

## Offered General Education Courses

Every AU 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 AU, 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 AU students independently of their specialization. In fact, the Unit of General Studies is responsible for offering 15 credit hours, (see below), that are compulsory to all students and 9 credit hours of university electives to be chosen from a large number of courses covering the different areas of General Education.

### List of required Courses (15 credit hours)

| Course Code | Course Name | Credit hours |
|---|---|---|
| 1010001 | Orientation | 0 |
| 1021100 | Islamic Culture (for Arabs) | 3 |
| 1021101 | Islamic Culture (for non-Arabs) | 3 |
| 1021300 | Islamic civilization (Arabic) | 3 |
| 1021301 | Islamic civilization (English) | 3 |
| 1021400 | Communication Skills in Arabic Language (For Arabs) | 3 |
| 1021401 | Communication Skills in Arabic Language (For Non-Arabs) | 3 |
| 1021402 | Communication Skills in Arabic Language -E | 3 |
| 1041100 | Computer Applications (English) | 3 |
| 1041101 | Computer Application (Arabic) | 3 |
| 1041200 | IT Fundamentals | 3 |
| 1041201 | IT Fundamentals | 3 |
| 1041202 | IT Fundamentals | 3 |
| 1041203 | IT Fundamentals (Arabic) | 3 |
| 1031100 | Statistics (Arabic) | 3 |
| 1031101 | Statistics (Science) | 3 |
| 1031102 | Statistics (Arts) | 3 |
| 1031330 | Statistics (Arabic) | 3 |
| 1031331 | Statistics (Sciences) | 3 |
| 1031332 | Statistics (Health Sciences) | 3 |
| 1031333 | Statistics (Business) | 3 |
| 1141301 | Innovation and Entrepreneurship (Arabic) | 3 |
| 1141300 | Innovation and Entrepreneurship (English) | 3 |

## Elective courses

University electives general education courses are categorized into three groups. Students are required to choose an elective from the social or behavioral sciences group, another elective from the humanities or arts group and the third from the natural, applied sciences, information technology, or mathematics group:

### Humanities /arts;

Natural, applied sciences, information technology, or mathematics;

Social or behavioral sciences.

Colleges can remove some electives to avoid overlapping with major courses.

**List of elective courses (9 credit hours)**

| Field | Course Code | Course Name | Credit hours |
|---|---|---|---|
| Social or Behavior Science (3 Cr. Hrs.) | 115130 | General Psychology | 3 |
| | 115160 | Emirates Society | 3 |
| | 114110 | Economic Concepts | 3 |
| | 119120 | Introduction to communication Sociology | 3 |
| | 119130 | Information Society | 3 |
| | 114120 | Entrepreneurship Development | 3 |
| | 119110 | English Communication Skills | 3 |
| | 107110 | Critical Thinking | 3 |
| | 104130 | Information Literacy | 3 |
| | 119140 | Media Culture | 3 |
| | 107150 | Family System | 3 |
| Humanities or Arts (3 Cr. Hrs.) | 115150 | The Art of Written Expression | 3 |
| | 112110 | Principles of Architecture & Art | 3 |
| | 118110 | Principles of Ethics | 3 |
| | 109110 | Introduction to Aesthetics | 3 |
| | 112140 | Introduction to Art | 3 |
| | 107130 | Introduction to Digital Photography | 3 |
| | 109120 | French Language | 3 |
| | 1201150 | Legal Culture | 3 |

| | | | |
|---|---|---|---|
| Natural Sciences Applied Sciences, Mathematics (3 Cr. Hrs.) | 115110 | History of Science in Islam | 3 |
| | 115120 | Scientific Pioneering | 3 |
| | 112130 | Modern Technology and Society | 3 |
| | 115170 | Educational Technology | 3 |
| | 118120 | General Biology | 3 |
| | 118130 | Oral Health | 3 |
| | 117110 | General Chemistry | 3 |
| | 117120 | Fundamentals of Human Nutrition | 3 |
| | 117130 | First Aid | 3 |
| | 103130 | Research Methodology | 3 |
| | 117150 | Applications of Remote sensing & GIS | 3 |
| | 107120 | Technical Writing | 3 |
| | 113110 | Internet Concepts | 3 |
| | 113120 | Introduction to Information System | 3 |
| | 108120 | Physics | 3 |

### Laboratories

The Unit of General Studies 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 Unit of General Studies |
| Intermediate | Contact teaching hours: 12 + 3 Independent learning in the English Lab | 2 additional courses from the the Unit of General Studies |

## 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

### Islamic Culture (in English Language): 1021101 (3 Cr. Hrs.)

This course aims to develop the student's understanding of the Islamic Culture and Thought. It familiarizes students with the Islamic vocabulary, concepts and values as well with a clear and detailed background on the religion of Islam. This course discusses the concept of culture, introduction to Islam, Islamic faith and beliefs, sources of legislation and characteristics of Islam, and also deals with some contemporary topics such as: the concept of human rights in Islam, woman status, globalization and environment.

### Communication Skills in Arabic Language: 1021401 (3 Cr. Hrs.)

The course discusses fundamentals of communication in Arabic with regard to its significance, components and goals. The course aims at developing the skills of listening; speaking, reading and writing which students need for their professional and social life. Throughout the course, participants discuss and analyze a variety of literary and scientific texts.

### Statistics (Science): 1031101(3 Cr. Hrs.)

This course is designed for students who need to gain skills in statistics knowledge. It covers the essential statistical topics that students are expected to know. It is a general education course where essential material in statistics is covered. The first part of the course deals with descriptive statistics, (Topics include introduction to statistics, methods of sampling, tables, graphs, measures of central tendency, measures of variation). The second part covers probability and probability distributions. The third part covers the relationship between groups of data

The fourth part includes some inferential statistical methods: such as estimation and confidence intervals and hypothesis testing of parameters of one population.

### Statistics (Business): 1031102 (3 Cr. Hrs.)

This course is designed for students who need to gain skills in statistics knowledge. It covers the essential statistical topics that students in business subjects are expected to know. It is a general education course where essential material in statistics is covered. The first part of the course deals with descriptive statistics, (Topics include introduction to statistics, methods of sampling, tables, graphs, measures of central

tendency, measures of variation). The second part covers probability and probability distributions. The third part covers the relationship between groups of data and its applications in time series and forecasting.

### Environmental Sciences: 1031200 (3 Cr. Hrs.)

This course introduces students to the basic elements of environment; atmosphere, hydrosphere and lithosphere, their interaction and impact of human activities. Topics such as Air quality, water resources, fossil and renewable energy, environmental pollution and environmental protection are highlighted. Special emphases are given to the United Arab Emirates and Arabian Gulf Region.

### Information Technology Fundamental (Dentistry and Pharmacy): 1041200 (3 Cr. Hrs.)

Computer literacy is becoming a prerequisite in whatever career a student undertakes. The goal of this course is to provide students with the basic for building the necessary skill to succeed in the 21st century. It also endeavors to instill an appreciation for the effect of information technology on people, privacy, ethics, and our environment. Several features are specifically designed to engage and demonstrate the relevance of Health information technology in hospitals, in dentistry and pharmaceutical fields. These elements are combined with a thorough coverage of the concepts and sound pedagogical devices.

### Information Technology Fundamental (Engineering and IT): 1041201 (3 Cr. Hrs.)

Computer literacy is becoming a prerequisite in whatever career a student undertakes. The goal of this course is to provide students with the basic for building the necessary skill to succeed in the 21st century. It also endeavors to instill an appreciation for the effect of information technology on people, privacy, ethics, and our environment. Several features are specifically designed to engage and demonstrate the relevance of technology to support Information Technology students and engineering students. These elements are combined with a thorough coverage of the concepts and sound pedagogical devices.

### Information Technology Fundamental (Business) 10412020 (3 Cr. Hrs.)

Computer literacy is becoming a prerequisite in whatever career a student undertakes. The goal of this course is to provide students with the basic for building the necessary skill to succeed in the 21st century. It also endeavors to instill an appreciation for the effect of information technology on people, privacy, ethics, and our environment. Several features are specifically designed to engage and demonstrate the relevance of technology to support education, business, and engineering. These elements are combined with a thorough coverage of the concepts and sound pedagogical devices.

### Computer Applications: 1041100 (3 Cr. Hrs.)

With the explosion of computer technology, knowledge of computing applications as tools for all disciplines has become a necessary asset. This course is an introduction to the most common software applications and includes hands-on use of microcomputers and some of the major commercial software. These software packages include typical feature such as word processing, spreadsheets, presentations, and other features found in current software packages. On course completion, students will exhibit proficiency with software applications and demonstrate knowledge of computer concepts and components.

### Innovation & Entrepreneurship: 1141300 (3 Cr. Hrs.)

This course is developed for the UAE based on decades of practices and experiences of teaching innovation and entrepreneurship at Stanford University that has fueled innovation and high growth in Silicon Valley. The goal of the course is to equip the next generation of leaders in the UAE with an innovative and entrepreneurial mindset and its related core skills. The course is composed of three modules designed to be taught over a 15-week semester.

### ORIENTATION 101000 (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.

### Islamic Culture 102110 (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.

### The Miraculousness of the Holy Koran & Sunna 1021201 (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.

### Communication Skills in Arabic Language 102140 (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.

### 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

### Statistics for Science 103110 (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.

### Statistics for Arts 103110 (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.

### Environmental Sciences 103120 (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.

### Research Methodology 103130 (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.

### Computer Applications 104110 (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.

### Information Literacy 104130 (3 Cr. Hrs.)

This course will introduce students to the organization, retrieval and evaluation of electronic and print information. Students will be provided with an overview of college library systems, networked information systems, traditional scholarly resources, evolving delivery systems, and the concepts underlying the research process. Students will gain an understanding of the importance of the Internet as a research tool and the changing nature of information resources. Students will utilize electronic databases, the World Wide Web, and print resources. Students will be able to apply principles learned in this course to research assigned in other courses. Students will practice thinking critically when formulating research queries and evaluating information resources.

### TOEFL INTERMEDIATE 105201 (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.

### IELTS INTERMEDIATE 105201 (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.

### Critical Thinking 107110 (3 Cr. Hrs.)

Critical Thinking studies a process which is indispensable to all educated persons--the process by which we develop and support our beliefs and evaluate the strength of arguments made by others in real-life situations. It includes practice in inductive and deductive reasoning, argument structure and identification, validity and strength of arguments, presentation of arguments in oral and written form, and analysis of the use of language to influence thought. The course also applies the reasoning process to other fields such as business, science, law, social science, ethics, and the arts.

### Technical Writing 107120 (3 Cr. Hrs.)

This course is intended to develop Students' proficiency and communicative competence in technical/professional writing and oral presentation skills. Also, the course is practically oriented in order to apply what students have acquired rather than focus on theory, which may rapidly fade away without application. It is worth pointing out that the various activities and interactions are designed in a way to be major-specific so that students perceive the relevance of what they have acquired. Hence, both their intrinsic and extrinsic motivation is enhanced

### Introduction to Digital Photography 107130 (3 Cr. Hrs.)

Introduction to the history of fine art photography; Correct Color; scan and prepare images for printing; adjust contrast, tonality. Review of all relevant tools found in Adobe Photoshop software. Understand managing image files... saving, opening, uploading, posting, etc., Electronic images… their scaling and use: imaging for the Internet. Gain proficiency with image editing for maximum image impact. File size and print size... how to use layers, adjustment layers and resize images.

### THE PRINCIPES OF ARCHITECTURE & ART 112110 (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.

### Principles of Interior Design 112120 (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.

### Introduction to Aesthetics 109110 (3 Cr. Hrs)

The aim of the course is to allow students to research and study the philosophy of aesthetics, discussing the problem of aesthetics concerns, the theory of beauty and the theory of arts. This course will enable students to develop knowledge for human life and culture, which would help them to utilize these aspects of aesthetics value in their professional practices and communication behavior.

### Introduction to Art 112140 (3 Cr. Hrs)

This course provides an introduction to art from prehistoric times to the present. It will provide an introduction to the understanding and enjoyment of art. While examining the role that the visual arts have played in the development of the world's cultures, the student is exposed to a wide variety of artistic media through the study of painting, architecture, design, photography and the decorative arts.

### Modern Technology and Society 112130 (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 tin politics, the economy and health. Other issues such as: the impact of modern technology on the environment, how individuals interact with technology and immerging and future technology with its possible effects are also discussed.

### Internet Concepts 113110 (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.

### Introduction to Information Systems 113120 (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.

### Economic Concepts 114110 (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.

### Entrepreneurship Development 114120 (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.

### History of science in Islam 115110 (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.

### Scientific Pioneering 115120 (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.

### General Psychology 115130 (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.

### Principles of Mathematics 115140 (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.

### The Art of Written Expression 115150 (3 Cr. Hrs)

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.

### Emirates Society 115160 (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.

### Educational Technology 115170 (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.

### Chemistry of Life 117110 (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.

### Fundamentals of Human Nutrition 117120 (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.

### First Aid 117130 (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.

### Remote Sensing and GIS Applications 117150 (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.

### Academic and Technological Ethics 118110 (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 discuss 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.

### General Biology 118120 (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.

### Oral Health 118130 (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.

### English Communication Skills 119110 (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.

### Introduction to communication sociology 119120 (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.

### Information Society 119130 (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.

### Media Culture 119140 (3 Cr. Hrs)

This course aims to enable students to acquire the competencies of using the mass media in a smart way. This can be realized by introducing the students to the mass media available in contemporary societies, the criteria and ethics of information industry and the different influences of information on the society namely the social; cognitive, affective and behavioral influences.

### Legal Culture 120115 (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 Members

| Ajman Campus | | | | | |
|---|---|---|---|---|---|
| Name | Rank | Specialization | Degree | Date | 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 |
| Nadia Ouakli | Lecturer | Statistics | Doct 3rd cycle | 1986 | Paris VI University – France |
| Mr. Laith Aljumaily | Lecturer | Statistics | Master | 1978 | Mississipi State University |
| Hanine Bou Antoun | Lecturer | Statistics | Master | 2010 | Beirut University, Lebanon |
| Ahmed Abdulsattar | Lecturer | Laser Physics | PhD | 1995 | Swansea University, UK |
| Alaa Al Amiry | Lecturer | Emergency Help Science | Master | 2010 | UMBC University, U.S.A |
| Ahmed Yacoob Head of Dept | Lecturer | Islamic | Master | 2000 | Dar Al Hadith Alhassaniya College, Morocco |
| Sahar Zahran | Lecturer | علم الاجتماع | Master | 2002 | Jordan University, Jordan |
| Ayat Ahmed Hassan | Lecturer | Text Linguistics | Master | 2010 | Sharjah University, UAE |

| | | | | | |
|---|---|---|---|---|---|
| Osama Samaneh | Lecturer | Leadership and Education | PhD | 1993 | State University of New Mexico, USA |
| Eman Kadhem | Lecturer | Islamic Studies | Master | 2009 | Sharjah University, UAE |
| Nouf Nuaimi | Lecturer | Translation and Interpreting | Master | 2011 | American University of Sharjah, UAE |
| Siddiq Ismail Abd Elmonim | Lecturer Head of Dept | English | Master | 1982 | Manchester University, U.K. |
| Hanaa Mansour | Lecturer | English | Master | 2000 | Cardiff University, U.K |
| William Vize | Lecturer | English | Master | 1999 | Bath University, U.K. |
| Nida Hadi | Lecturer | English | Master | 1986 | Bangor University, U.K |

# College of Business Administration

College of Business Administration (CBA) is one of the most credible business colleges in the region that is committed to the development and enhancement of knowledge and business skills of its students to enable them to understand the modern business world, to achieve the highest levels of success in their professional careers, and to play effective leadership roles regionally as well as globally.

College of Business Administration (CBA) is committed to providing high-quality business education. The remarkable growth in economic and business activity in the world in general and Arabian Gulf region in particular, over the past decade, has greatly stimulated the demand for skilled and competent business graduates. Our competitive degree programs are, therefore, developed to offer both local and global perspectives as well encourage our students to think out of the box and innovatively so as to not only be equipped with the knowledge, skills and attitudes they need to effectively address the challenges and opportunities of today's internationalized and fast evolving business environment but also emerge as business leaders of tomorrow.

We strive to provide the best and most modern methods of instructions to our students. Our diligent and highly qualified faculty members ensure that our curriculum is consistently updated in order to reflect and keep up with the ever evolving trends and techniques of the contemporary business world.

Please browse our webpages to see the range of degree programs and courses that are offered at CBA.

## Mission

The college adheres to the fulfillment of AU'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.

## Academic 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 subsequent graduate degree. 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.

## CBA Undergraduate Programs

- Bachelor of Science in Accounting (Ajman Campus)
- Bachelor of Science in Finance (Ajman Campus)

- Bachelor of Science in Management (Ajman & Fujairah Campuses)
- Bachelor of Science in Marketing (Ajman Campus)

## CBA Graduate Programs

- MBA in Human Resources Management (Ajman Campus)
- MBA in Financial Management (Ajman Campus)
- MBA in Marketing (Ajman Campus)

## CBA Minors within the College of Business (Ajman Campus)

- Minor in Accounting
- Minor in Finance
- Minor in Management
- Minor in Marketing

CBA Minors for Other Colleges (Ajman Campus)

- Minor in Management to the College of Engineering
- Minor in Accounting to the College of Information Systems
- Minor in Marketing to the College of Pharmacy

### Departments

CBA Departments

- Department of Accounting
- Department of Finance
- Department of Management
- Department of Marketing

### Facilities

The college's current physical facilities, which include offices, labs and teaching rooms, sports grounds, health club and swimming pool are fully equipped to adequately meet its needs and are regularly upgraded. The library is regularly updated with the latest books in multiple fields and disciplines 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 integrates multidisciplinary approaches to teaching and learning, utilizes the latest business and economic theories along with providing practical exposure to its students through real-life case studies and analysis of actual business data and presentations. The department focuses on building and enhancing students' essential skills, like, critical thinking, effective communication skills, business acumen and understanding of strategic models that are used in modern business world, in order to facilitate their entry into the global business arena as exceptional and professional managers and entrepreneurs.

## Bachelor of Science in Management

### Mission

The mission of the Management Department is derived mainly from the grand vision and philosophy of the University and the College of Business Administration. The department therefore, aims at providing students with excellent education and professional practice in various areas of management via a rigorous academic program that promotes critical thinking, interpersonal skills, technical competence and above all ethical and moral principles and practices.

### Goals:

1. To equip students with in-depth knowledge of contemporary management theories, concepts, principles, and practices relevant to the business and management careers in the twenty-first century.
2. To develop students' creative and critical thinking and problem-solving skills necessary for the identification, analysis, and resolution of a wide range of business and management problems.
3. To develop students' ability to apply information technologies that is necessary to facilitate business and management decision-making processes.
4. To equip students with appropriate communication, teamwork, motivation, leadership, and research skills suitable in the business and management environments.
5. To enable students to identify and utilize decision-making techniques and skills that meet professional, ethical, and socially- responsible standards.

### Learning Outcomes:

**Knowledge**

Upon successful completion of the BSc in Management program, graduates will be able to:

1. Deal effectively and efficiently with managerial responsibilities, tasks and challenges in changing and complex business environments.
2. Display problem solving and decision making skills in a variety of contexts
3. Articulate issues and disseminate solutions to a variety of stakeholders.
4. Demonstrate broad managerial ccompetencies adapted to a globalized world.
5. Conduct research and pursue post-graduate studies.

**Skills**

1. Understand key theories in leadership and management
2. Explain the organizational objectives of specialization, coordination, adaptation and alignment to benefit the community and the business milieu
3. Identify the differences between the conduct of quantitative and qualitative research
4. Understand the requirements for managerial ethical, moral, and the principle of "what is measurable is manageable."
5. Understand the global multidimensional managerial challenges as they pertain to the various functions of the global corporation.
6. Develop awareness of the importance of strategic change and development
7. Explain the role of quality standards in an applied business strategy.
8. Apply creative thinking to the solution of complex organizational challenges.
9. Acquire the requisite knowledge and skills to conduct research and to pursue postgraduate studies.

**Competence (Autonomy and Responsibility)**

1. Conduct research projects independently or in a group setting.
2. Conduct graduation projects according to the College of Business Administration guidelines that are stipulated by the College of Business Administration.
3. Orally present and defend graduation projects.

**Self-development**

1. Engage in a life-long learning cycle and respond in a positive and responsible manner to constructive criticism.
2. Enroll in an approved training course at the conclusion of the senior year.

**Role in Context**

1. Demonstrate professionalism and respect for fellow students and faculty members.
2. Maintain high ethical standards in the conduct of all activities in CBA

**At the conclusion of the BSc in Management program, students will be able to:**

| Knowledge | |
|---|---|
| K1 | Deal effectively and efficiently with managerial responsibilities, tasks and challenges in changing and complex business environments. |
| K 2 | Display problem solving and decision making skills in a variety of contexts |
| K 3 | Identify the differences between the conduct of quantitative and qualitative research |
| K4 | Demonstrate broad managerial ccompetencies adapted to a globalized world. |
| K5 | Conduct research and pursue post-graduate studies. |
| **Skills** | |

| | |
|---|---|
| S1 | Understand key theories in leadership and management |
| S2 | Explain the organizational objectives of specialization, coordination, adaptation and alignment to benefit the community and the business milieu |
| S3 | Identify the differences between the conduct of quantitative and qualitative research |
| S4 | Understand the requirements for managerial ethical, moral, and the principle of "what is measurable is manageable." |
| S5 | Understand the global multidimensional managerial challenges as they pertain to the various functions of the global corporation. |
| S6 | Develop awareness of the importance of strategic change and development |
| S7 | Explain the role of quality standards in an applied business strategy. |
| S8 | Apply creative thinking to the solution of complex organizational challenges. |
| S9 | Acquire the requisite knowledge and skills to conduct research and to pursue postgraduate studies. |
| **Competencies** | |
| **Autonomy and Responsibility** | |
| CA1 | Conduct research projects independently or in a group setting. |
| CA2 | Conduct graduation projects according to the College of Business Administration guidelines. |
| CA3 | Orally present and defend graduation projects |
| **Role in Context** | |
| CR1 | Demonstrate professionalism and respect for fellow students and faculty members. |
| CR2 | Maintain high ethical standards in the conduct of all activities in CBA |
| **Self-development** | |
| CS1 | Engage in a life-long learning cycle and respond in a positive and responsible manner to constructive criticism. |
| CS2 | Enroll in an approved training course at the conclusion of the senior year. |

## 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. AU 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** | **24** |
| (a) University Required Courses | 15 |
| (b) University Elective Courses | 9 |
| 2. **College Requirements** | **66** |
| (a) College Required Courses | 54 |
| (b) College Elective Courses | 12 |
| 3. **Major Requirements** | **36** |
| (a) Major Required Courses | 30 |
| (b) Major Electives Courses | 6 |
| **Total Credit Hours** | **126** |

## (A) UNIVERSITY GENERAL EDUCATION REQUIREMENTS

### (a)University Compulsory Courses (15 Credit Hours)

| Course No. | Course Title | Cr. Hrs. | Prerequisite |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 1010000 | Orientation | 0 | - |
| 1021400 | Communication Skills in Arabic Language (For Arabs) | 3 | - |
| 1021401 | Communication Skills in Arabic Language (For Non Arabs) | 3 | - |
| 1021402 | Communication Skills in Arabic- E | 3 | |
| 1021300 | Islamic Civilization (Arabic) | 3 | |
| 1021301 | Islamic Civilization (English) | 3 | |
| 1021100 | Islamic Culture (For Arabs) | 3 | - |
| 1021101 | Islamic Culture (For Non Arabs) | 3 | |
| 1141300 | Innovation and Entrepreneurship | 3 | 60 hrs |
| 1141202 | IT Fundamentals | 3 | |
| 1031333 | Statistics (Business) | 3 | |

**(b)University Elective Courses (9 Credit Hours)**

| Course No. | Course Title | Cr. Hrs. | Prerequisite |
|---|---|---|---|
| 1151500 | The Art of Written Expression (Arabic) | 3 | - |
| 1201150 | Legal Culture | 3 | - |
| 1121400 | Introduction to Art (English) | 3 | - |
| 1071300 | Introduction to Digital Photography | 3 | - |
| 1091100 | Introduction to Aesthetics (English) | 3 | - |
| 1091200 | French Language | 3 | - |
| 1021500 | Introduction to Hadeeth and Sunna | 3 | - |
| 1191700 | Academic Writing (English) | 3 | - |
| 1191500 | The Art of Public Speaking (English) | 3 | - |
| 1161200 | Astronomy | 3 | - |
| 1081200 | Physics | 3 | - |
| 1031200 | Environmental Science (English) | 3 | - |
| 1031300 | Research Methodology (English) | 3 | - |
| 1151100 | History of Science in Islam | 3 | - |
| 1151200 | Scientific Pioneering | 3 | - |
| 1171100 | General Chemistry | 3 | - |
| 1171200 | Fundamental of Human Nutrition | 3 | - |

| | | | |
|---|---|---|---|
| 1171300 | First Aid | 3 | - |
| 1181200 | General Biology | 3 | - |
| 1191100 | English Communication Skills | 3 | - |
| 1151300 | General Psychology | 3 | - |
| 1191600 | Communication between Cultures | 3 | - |
| 1071100 | Critical Thinking (English) | 3 | - |
| 1151600 | Emirates Society (English) | 3 | - |
| 1131400 | Library Information System | 3 | - |

## (B) COLLEGE REQUIREMENTS (66 Credit Hours)

### Obligatory Courses (54 Credit Hours)

| | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Statistics for Business | 0102211 | 103110 | 3 |
| 2 | Business Research Method | 0400307 | 102211 & 400291 | 3 |
| 3 | Principles of Accounting I | 0400292 | - | 3 |
| 4 | Principles of Accounting II | 0400394 | 400292 | 3 |
| 5 | Introduction to Management | 0400291 | - | 3 |
| 6 | Fundamentals of Finance | 0400396 | 400292 | 3 |
| 7 | Microeconomics | 0400393 | - | 3 |
| 8 | Business Communication | 0400408 | 400291 | 3 |
| 9 | Principles of Marketing | 0400395 | 400291 | 3 |
| 10 | Business Law | 0400411 | 400291 | 3 |
| 11 | Management Information Systems | 0400615 | 400291 & 306460 | 3 |
| 12 | Organizational Behavior | 0400409 | 400291 | 3 |
| 13 | Macroeconomics | 0400410 | 400393 | 3 |
| 14 | Data Base Management Systems | 0306460 | 104110 | 3 |
| 15 | Quantitative Analysis | 0400513 | 102211 & 110140 | 3 |
| 16 | Supervised Training | 0400516 | After 96 credit hours | 3 |
| 17 | IT in Business | 0310202 | 104110 | 3 |
| 18 | Math for Management | 0110140 | - | 3 |

### Elective Courses (12 Credit Hours)

| | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Business Ethics | 400419 | 400291 | 3 |
| 2 | Economic Development of GCC | 400512 | 400410 | 3 |
| 3 | Managerial Economics | 400522 | 400393 | 3 |
| 4 | Public Relations | 400523 | 400408 | 3 |
| 5 | Feasibility Studies | 400524 | 400393 & 400396 | 3 |
| 6 | Hospitality & Tourism | 400525 | 400395 | 3 |
| 7 | Social Media | 400526 | 400395 | 3 |
| 8 | Enterprise Resources Management | 400527 | 400291& 400292 | 3 |
| 9 | Business English | 400528 | | 3 |

## MAJOR REQUIREMENTS (36 Credit Hours)

### Major Obligatory Courses (30 Cr. Hrs.)

| | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1. | Production and Operations Management | 0410501 | 103110 & 400291 | 3 |
| 2. | Human Resource Management | 0410602 | 400291 | 3 |
| 3. | International Business | 0410603 | 400291 & 400410 | 3 |
| 4. | Management of Small Business | 0410611 | 400291 | 3 |
| 5. | Purchasing and Material Management | 0410704 | 410501 | 3 |
| 6. | Strategic Management | 0410706 | 400396,400395 | 3 |
| 7. | Total Quality Management | 0410712 | 410501 | 3 |
| 8. | Organizational Theory and Design | 0410808 | 400409 | 3 |
| 9. | Selected Topics in Management | 0410809 | 410706 | 3 |
| 10. | Graduation Project/Management | 0410811 | 102 Credit Hours | 3 |

### Major Elective Courses (6 Cr. Hrs.)

| No. | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Project Management | 0410820 | 400291 | 3 |

| | | | | |
|---|---|---|---|---|
| 2 | Electronic Business | 0410830 | 400291 & 104110 | 3 |
| 3 | Service Marketing | 0430707 | 400395 | 3 |
| 4 | Personal Finance | 0440612 | 400396 | 3 |
| 5 | Computer Applications in Management | 0410705 | 104110 & 400291 | 3 |

## 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 | - |
| 1021100<br>1021101<br>1021300<br>1021301 | Islamic Culture (Arabs),<br>Islamic Culture (Non Arabs)<br>Islamic Civilization (Arabic)<br>Islamic Civilization (English) (Only for 20161 onwards) | 3 | 0 | 0 | 3 | - |
| 1021400<br>1021401<br>1021402 | Communication Skills in Arabic Language ( Arabs)<br>Communication Skills in Arabic Language ( Non Arabs)<br>Communication Skills in Arabic Language-E | 2 | 2 | 0 | 3 | - |
| 400291 | Introduction to Management | 3 | 0 | 0 | 3 | - |
| 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 | - |
| 1141300 | Innovation and Entrepreneurship | 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 | - |
| 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 |
| 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, described as “The Language of Business”, is the study of the concepts and techniques used in reporting on matters related to an entity’s financial status and performance. Entities compete in both input and product markets that is why accounting information is essential for managers to plan and control business activities. Information generated through the accounting process helps in communication and analysis of financial reports that are required for business decision-making.

## Bachelor of Science in Accounting

### Mission

The mission of the Accounting Department is derived mainly from the grand vision and philosophy of the University and the Faculty. 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 practices.

### Goals

1- Provide students with adequate accounting knowledge that enables them to acquire a position in accounting profession.
2- Enable students to prepare, analyze and communicate accounting information using information technology to facilitate the decision making process.
3- Develop ethical reasoning, critical thinking and problem-solving.
4- Prepare students to conduct research in accounting and related areas.

### Learning Outcomes

**Knowledge**

**Upon successful completion of the B.SC in Accounting, graduates will be able to:**

K1. Understand the conceptual frame work of accounting and the mechanics of accounting cycle.
K2. Understand the core concepts of cost and management accounting and the uses of accounting information in the decision-making process.
K3. Understand the auditing standards, practice and rules of professional conduct.
K4. Understand the relevance and applicability of accounting models and theories.

**Skills**

S1. Ability to prepare financial statements for profit and non-profit organizations.
S2. Ability to use accounting analytical tools to develop skills and critical thinking.

**Competence**

**Autonomy and Responsibility**

CA1. Ability to combine and consolidate financial information.
CA 2. Prepare students to conduct research in accounting and related areas.

CA3. Develop ethical reasoning, critical thinking and problem-solving.

**Self-development**

CS. Enable students to prepare, analyze and communicate accounting information using manual and information technology to facilitate the decision making process.

**Role in Context**

CR. Develop an adequate accounting knowledge that enables them to acquire a position in accounting profession.

**At the conclusion of the B.SC in Finance program, students will be able to**

| | Knowledge |
|---|---|
| K1 | Understand the conceptual frame work of accounting and the mechanics of accounting cycle. |
| K 2 | Understand the core concepts of cost and management accounting and the uses of accounting information in the decision-making process. |
| K 3 | Understand the auditing standards, practice and rules of professional conduct. |
| K4 | Understand the relevance and applicability of accounting models and theories. |
| | **Skills** |
| S1 | Ability to prepare financial statements for profit and non-profit organizations |
| S2 | Ability to use accounting analytical tools to develop skills and critical thinking. |
| | **Competencies** |
| | **Autonomy and Responsibility** |
| CA 1 | Conduct research projects independently or in a group. |
| **CA 2** | Prepare students to conduct research in accounting and related areas. |
| CA3 | Develop ethical reasoning, critical thinking and problem-solving. |
| | **Self-development** |
| **CS.** | Enable students to prepare, analyze and communicate accounting information using manual and information technology to facilitate the decision making process. |
| | **Role in Context** |
| CR. | Develop an adequate accounting knowledge that enables them to acquire a position in accounting profession |

**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** | **24** | |
| (a) University Required Courses | | 15 |
| (b) University Elective Courses | | 9 |
| **2. College Requirements** | **66** | |
| (a) College Compulsory Courses | | 54 |
| (b) College Elective Courses | | 12 |
| **3. Major Requirements** | **36** | |
| (a) Major Compulsory Courses | | 33 |
| (b) Major Electives Courses | | 3 |
| Total Credit Hours | | 126 |

## (A) UNIVERSITY GENERAL EDUCATION REQUIREMENTS

### (a) University Compulsory Courses (15 Credit Hours)

| Course No. | Course Title | Cr. Hrs. | Prerequisite |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 1010000 | Orientation | 0 | - |
| 1021400 | Communication Skills in Arabic Language (For Arabs) | 3 | - |
| 1021401 | Communication Skills in Arabic Language (For Non Arabs) | 3 | - |
| 1021402 | Communication Skills in Arabic- E | 3 | |
| 1021300 | Islamic Civilization (Arabic) | 3 | |
| 1021301 | Islamic Civilization (English) | 3 | |
| 1021100 | Islamic Culture (For Arabs) | 3 | - |
| 1021101 | Islamic Culture (For Non Arabs) | 3 | |
| 1141300 | Innovation and Entrepreneurship | 3 | 60 hrs |
| 1141202 | IT Fundamentals | 3 | |
| 1031333 | Statistics (Business) | 3 | |

### (b) University Elective Courses (9 Credit Hours)

| Course No. | Course Title | Cr. Hrs. | Prerequisite |
|---|---|---|---|
| 1151500 | The Art of Written Expression (Arabic) | 3 | - |
| 1201150 | Legal Culture | 3 | - |
| 1121400 | Introduction to Art (English) | 3 | - |
| 1071300 | Introduction to Digital Photography | 3 | - |
| 1091100 | Introduction to Aesthetics (English) | 3 | - |
| 1091200 | French Language | 3 | - |
| 1021500 | Introduction to Hadeeth and Sunna | 3 | - |
| 1191700 | Academic Writing (English) | 3 | - |
| 1191500 | The Art of Public Speaking (English) | 3 | - |
| 1161200 | Astronomy | 3 | - |
| 1081200 | Physics | 3 | - |
| 1031200 | Environmental Science (English) | 3 | - |
| 1031300 | Research Methodology (English) | 3 | - |
| 1151100 | History of Science in Islam | 3 | - |
| 1151200 | Scientific Pioneering | 3 | - |
| 1171100 | General Chemistry | 3 | - |
| 1171200 | Fundamental of Human Nutrition | 3 | - |

| | | | |
|---|---|---|---|
| 1171300 | First Aid | 3 | - |
| 1181200 | General Biology | 3 | - |
| 1191100 | English Communication Skills | 3 | - |
| 1151300 | General Psychology | 3 | - |
| 1191600 | Communication between Cultures | 3 | - |
| 1071100 | Critical Thinking (English) | 3 | - |
| 1151600 | Emirates Society (English) | 3 | - |
| 1131400 | Library Information System | 3 | - |

## (B) COLLEGE REQUIREMENTS (66 Credit Hours)

### a. College Compulsory Courses (54 Credit Hours)

| | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Statistics for Business | 0102211 | 103110 | 3 |
| 2 | Business Research Method | 0400307 | 102211 & 400291 | 3 |
| 3 | Principles of Accounting I | 0400292 | - | 3 |
| 4 | Principles of Accounting II | 0400394 | 400292 | 3 |
| 5 | Introduction to Management | 0400291 | - | 3 |
| 6 | Fundamentals of Finance | 0400396 | 400292 | 3 |
| 7 | Microeconomics | 0400393 | - | 3 |
| 8 | Business Communication | 0400408 | 400291 | 3 |
| 9 | Principles of Marketing | 0400395 | 400291 | 3 |
| 10 | Business Law | 0400411 | 400291 | 3 |
| 11 | Management Information Systems | 0400615 | 400291 & 306460 | 3 |
| 12 | Organizational Behavior | 0400409 | 400291 | 3 |
| 13 | Macroeconomics | 0400410 | 400393 | 3 |
| 14 | Data Base Management Systems | 0306460 | 104110 | 3 |
| 15 | Quantitative Analysis | 0400513 | 102211 & 110140 | 3 |
| 16 | Supervised Training | 0400516 | After 96 credit hours | 3 |
| 17 | IT in Business | 0310202 | 104110 | 3 |
| 18 | Math for Management | 0110140 | - | 3 |

### College Requirements: Elective Courses (12 Credit Hours)

| | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Business Ethics | 400419 | 400291 | 3 |
| 2 | Economic Development of GCC | 400512 | 400410 | 3 |
| 3 | Managerial Economics | 400522 | 400393 | 3 |
| 4 | Public Relations | 400523 | 400408 | 3 |
| 5 | Feasibility Studies | 400524 | 400393 & 400396 | 3 |
| 6 | Hospitality & Tourism | 400525 | 400395 | 3 |
| 7 | Social Media | 400526 | 400395 | 3 |
| 8 | Enterprise Resources Management | 400527 | 400291& 400292 | 3 |
| 9 | Business English | 400528 | | 3 |

## (C) MAJOR REQUIREMENTS (36 Credit Hours)

### Major Obligatory Courses (33 Cr. Hrs.)

| | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Intermediate Accounting I | 0420401 | 400394 | 3 |
| 2 | Intermediate Accounting II | 0420501 | 420401 | 3 |
| 3 | Cost Accounting | 0420603 | 420401 | 3 |
| 4 | Managerial Accounting | 0420502 | 400394 | 3 |
| 5 | Advanced Accounting | 0420604 | 420501 | 3 |
| 6 | Auditing | 0420602 | 420501 | 3 |
| 7 | Accounting Theory | 0420707 | 420604 | 3 |
| 8 | Computerized Acct. Inf. Sys. | 0420810 | 420401 | 3 |
| 9 | Governmental Accounting | 0420705 | 420401 | 3 |
| 10 | Financial Management & Control | 0420802 | 420604 & 420502 | 3 |
| 11 | Graduation Project / Accounting | 0420811 | 102 Cr. Hrs. | 3 |

**Major Elective Courses (3 Cr. Hrs.)**

| No. | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Advanced Auditing | 0420706 | 420602 & 420810 | 3 |
| 2 | Taxation Accounting | 0420716 | 420401 | 3 |
| 3 | Contemporary Issues in Accounting | 0420809 | 420707 | 3 |
| 4 | Oil & Gas Accounting | 0420714 | 420401 | 3 |
| 5 | International Accounting | 0420612 | 420707 | 3 |
| 6 | Islamic Accounting | 0420613 | 420401 | 3 |

## 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 | - |
| 1021100<br>1021101<br>1021300<br>1021301 | Islamic Culture (Arabs),<br>Islamic Culture (Non Arabs)<br>Islamic Civilization (Arabic)<br>Islamic Civilization (English) (Only for 20161 onwards) | 3 | 0 | 0 | 3 | - |
| 1021400<br>1021401<br>1021402 | Communication Skills in Arabic Language ( Arabs)<br>Communication Skills in Arabic Language ( Non Arabs)<br>Communication Skills in Arabic Language-E | 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 Name | Contact & Credit Hrs | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec. | Lab | Tut | Cr. Hrs. | |
| 104110 | Computer Applications | 2 | 2 | 0 | 3 | - |
| 1141300 | Innovation and Entrepreneurship | 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 |
| xxxxxxx | 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 | - |
| xxxxxxx | 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 |
| 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. | |
| 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

According to statistics obtained from labor market research from around the world the field of marketing is expected to grow by more than 40 percent from 2010 to 2020. Employment growth will be managed by consistent use of data and market research across all industries in order to understand the needs and wants of customers and to measure the effectiveness of marketing and business strategies. The BSc Marketing degree program offered at AU provides education of international standard and caters to the needs of all the employment sectors locally, regionally and globally. The program provides students with a wide range of knowledge in the various functional areas of business, as well as prepares them with comprehensive knowledge of successful management of the marketing mix. This major not only produces capable individuals who can address the challenging issues of businesses and the dynamic market but it also equips students with the academic credentials required to pursue higher education in 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 AU. 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:

1. To develop knowledge and understanding of general business foundation concepts.
2. Enable students to apply quantitative, qualitative analysis and decision making techniques.
3. To build an understanding of marketing foundation concepts.
4. To develop an understanding of marketing issues and problems related to the global marketplace.
5. To enable students to conduct and interpret marketing research.
6. To develop an understanding of consumer behavior concept.

7. Develop and apply strategic marketing plans incorporating ethical and legal issues related to the domestic and international market. objectives

## Learning outcomes:

### Knowledge

Upon successful completion of B.Sc in Marketing, graduates will be able to :

1. Acquire in in-depth understanding of business foundations and business environment, theoretical as well as conceptual.
2. Acquire an in-depth understanding of the principle concept of Marketing.
3. Identify the critical change in organizational approach towards consumer and marketing as just a function or a philosophy upon which the entire organization should based.
4. Analyze the macro and micro environmental issues related to marketing through research and use
5. Make ethical and professional judgment in business and marketing particularly

### Skills

1. Demonstrate in significant depth, knowledge and understanding of theoretical and conceptual framework of business foundation.

2. Demonstrate knowledge and skills in identifying customer needs through market research, developing new products and services based on marketing strategy formulation, and promoting and distributing products and services with relevance in domestic and international settings.

3. Demonstrate professional ability to collaborate and to communicate foundation concepts in personal, group and mass communication contexts.

### Competence

#### Autonomy and Responsibility

1. Show ability to construct solution and decision making involving 4 P's of marketing.
2. Illustrate adherence to social marketing concepts in designing and developing marketing solutions in and individual capacity and in group as well.

#### Role in Context

3. Demonstrate professional ability to collaborate and to communicate foundation concepts in personal, group and mass communication contexts.

#### Self – development

4. Engage in learning activities that has direct impact on knowledge and skills which improves analytical skills and ability to face criticism and challenges in the field of marketing.
5. Improves listening skills and need analysis through observation.

| | At the completion of BSc Marketing program, Students will be able to : |
|---|---|
| **Knowledge** | |
| K1 | Acquire in in-depth understanding of business foundations and business environment, theoretical as well as conceptual. |
| K2 | Acquire an in-depth understanding of the principle concept of Marketing. |
| K3 | Identify the critical change in organizational approach towards consumer and marketing as just a function or a philosophy upon which the entire organization should based. |
| K4 | Analyze the macro and micro environmental issues related to marketing through research and use |
| K5 | Make ethical and professional judgment in business and marketing particularly |
| **Skills** | |
| S1 | Demonstrate in significant depth, knowledge and understanding of theoretical and conceptual framework of business foundation |
| S2 | Demonstrate knowledge and skills in identifying customer needs through market research, developing new products and services based on marketing strategy formulation, and promoting and distributing products and services with relevance in domestic and international settings |
| S3 | 1. Demonstrate professional ability to collaborate and to communicate foundation concepts in personal, group and mass communication contexts. |
| **Competencies** | |
| **Autonomy & Responsibility** | |
| CA1 | Show ability to construct solution and decision making involving 4 P's of marketing. |
| CA2 | Illustrate adherence to social marketing concepts in designing and developing marketing solutions in and individual capacity and in group as well. |
| **Role in Context** | |
| CR1 | Demonstrate professional ability to collaborate and to communicate foundation concepts in personal, group and mass communication contexts. |
| **Self Development** | |
| CS1 | Engage in learning activities that has direct impact on knowledge and skills which improves analytical skills and ability to face criticism and challenges in the field of marketing. |
| CS2 | Improves listening skills and need analysis through observation. |

### 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 marketing research and social media. 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** | **24** |
| (a) University Required Courses | 15 |
| (b) University Elective Courses | 9 |
| 2. **College Requirements** | **66** |
| (a) College Required Courses | 54 |
| (b) College Elective Courses | 12 |
| 3. **Major Requirements** | **36** |
| (a) Major Required Courses | 30 |
| (b) Major Electives Courses | 6 |
| **Total Credit Hours** | **126** |

# (A) UNIVERSITY GENERAL EDUCATION REQUIREMENTS

### (i) University Compulsory Courses (15 Credit Hours)

| Course No. | Course Title | Cr. Hrs. | Prerequisite |
|---|---|---|---|
| 1010000 | Orientation | 0 | - |
| 1021400 | Communication Skills in Arabic Language (For Arabs) | 3 | - |
| 1021401 | Communication Skills in Arabic Language (For Non Arabs) | 3 | - |
| 1021402 | Communication Skills in Arabic- E | 3 | |
| 1021300 | Islamic Civilization (Arabic) | 3 | |
| 1021301 | Islamic Civilization (English) | 3 | |
| 1021100 | Islamic Culture (For Arabs) | 3 | - |
| 1021101 | Islamic Culture (For Non Arabs) | 3 | |
| 1141300 | Innovation and Entrepreneurship | 3 | 60 hrs |
| 1141202 | IT Fundamentals | 3 | |
| 1031333 | Statistics (Business) | 3 | |

### (ii)University Elective Courses (9 Credit Hours)

| Course No. | Course Title | Cr. Hrs. | Prerequisite |
|---|---|---|---|
| 1151500 | The Art of Written Expression (Arabic) | 3 | - |
| 1201150 | Legal Culture | 3 | - |
| 1121400 | Introduction to Art (English) | 3 | - |
| 1071300 | Introduction to Digital Photography | 3 | - |
| 1091100 | Introduction to Aesthetics (English) | 3 | - |
| 1091200 | French Language | 3 | - |
| 1021500 | Introduction to Hadeeth and Sunna | 3 | - |
| 1191700 | Academic Writing (English) | 3 | - |
| 1191500 | The Art of Public Speaking (English) | 3 | - |
| 1161200 | Astronomy | 3 | - |
| 1081200 | Physics | 3 | - |
| 1031200 | Environmental Science (English) | 3 | - |
| 1031300 | Research Methodology (English) | 3 | - |
| 1151100 | History of Science in Islam | 3 | - |

| | | | |
|---|---|---|---|
| 1151200 | Scientific Pioneering | 3 | - |
| 1171100 | General Chemistry | 3 | - |
| 1171200 | Fundamental of Human Nutrition | 3 | - |
| 1171300 | First Aid | 3 | - |
| 1181200 | General Biology | 3 | - |
| 1191100 | English Communication Skills | 3 | - |
| 1151300 | General Psychology | 3 | - |
| 1191600 | Communication between Cultures | 3 | - |
| 1071100 | Critical Thinking (English) | 3 | - |
| 1151600 | Emirates Society (English) | 3 | - |
| 1131400 | Library Information System | 3 | - |

## (B) COLLEGE REQUIREMENTS (66 Credit Hours)

### (i). College Required Courses (54 Credit Hours)

| | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Statistics for Business | 0102211 | 103110 | 3 |
| 2 | Business Research Method | 0400307 | 102211 & 400291 | 3 |
| 3 | Principles of Accounting I | 0400292 | - | 3 |
| 4 | Principles of Accounting II | 0400394 | 400292 | 3 |
| 5 | Introduction to Management | 0400291 | - | 3 |
| 6 | Fundamentals of Finance | 0400396 | 400292 | 3 |
| 7 | Microeconomics | 0400393 | - | 3 |
| 8 | Business Communication | 0400408 | 400291 | 3 |
| 9 | Principles of Marketing | 0400395 | 400291 | 3 |
| 10 | Business Law | 0400411 | 400291 | 3 |
| 11 | Management Information Systems | 0400615 | 400291 & 306460 | 3 |
| 12 | Organizational Behavior | 0400409 | 400291 | 3 |
| 13 | Macroeconomics | 0400410 | 400393 | 3 |
| 14 | Data Base Management Systems | 0306460 | 104110 | 3 |
| 15 | Quantitative Analysis | 0400513 | 102211 & 110140 | 3 |

| | | | | |
|---|---|---|---|---|
| 16 | Supervised Training | 0400516 | After 96 credit hours | 3 |
| 17 | IT in Business | 0310202 | 104110 | 3 |
| 18 | Math for Management | 0110140 | - | 3 |

### (ii). College Elective Courses (12 Credit Hours)

| | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Business Ethics | 400419 | 400291 | 3 |
| 2 | Economic Development of GCC | 400512 | 400410 | 3 |
| 3 | Managerial Economics | 400522 | 400393 | 3 |
| 4 | Public Relations | 400523 | 400408 | 3 |
| 5 | Feasibility Studies | 400524 | 400393 & 400396 | 3 |
| 6 | Hospitality & Tourism | 400525 | 400395 | 3 |
| 7 | Social Media | 400526 | 400395 | 3 |
| 8 | Enterprise Resources Management | 400527 | 400291& 400292 | 3 |
| 9 | Business English | 4005280 | None | 3 |

## (C)MAJOR REQUIREMENTS (36 Credit Hours)

### Major Required Courses (30 Credit Hours)

| | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1. | Marketing Research | 0430501 | 0102211,400395 | 3 |
| 2. | Consumer Behavior | 0430602 | 400395 | 3 |
| 3. | Advertising and Promotion | 0430603 | 430602 | 3 |
| 4. | Personal Selling | 0430606 | 400395,400408 | 3 |
| 5. | Product and Brand Management | 0430613 | 400395 | 3 |
| 6. | Business to Business Marketing | 0430706 | 400395 | 3 |
| 7. | Service Marketing | 0430707 | 400395 | 3 |
| 8. | International Marketing | 0430808 | 400395 | 3 |
| 9. | Marketing Management | 0430809 | 430602,430501 | 3 |

| | | | | |
|---|---|---|---|---|
| 10. | Graduation Project/Marketing | 0430811 | Completion of 102 credit hrs. | 3 |

**Major Elective Courses (6 Credit Hours)**

| No. | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Marketing Channels | 0430604 | 400395 | 3 |
| 2 | E-Marketing | 0430612 | 400395 | 3 |
| 3 | Purchasing and Material Management | 0410704 | 400291,400395 | 3 |
| 4 | Retail Marketing | 0430714 | 400395 | 3 |
| 5 | Selected Topics in Marketing | 0430715 | 400395 | 3 |
| 6 | Computer Application in Marketing | 0430810 | 400291 | 3 |

## 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 | - |
| 1021100<br>1021101<br>1021300<br>1021301 | Islamic Culture (Arabs),<br>Islamic Culture (Non Arabs)<br>Islamic Civilization (Arabic)<br>Islamic Civilization (English) (Only for 20161 onwards) | 3 | 0 | 0 | 3 | - |
| 1021400<br>1021401<br>1021402 | Communication Skills in Arabic Language ( Arabs)<br>Communication Skills in Arabic Language ( Non Arabs)<br>Communication Skills in Arabic Language-E | 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 | - |
| 1141300 | Innovation and Entrepreneurship | 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. | |
| 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 |
| xxxxxxx | University Elective Course 2 | 3 | 0 | 0 | 3 | - |
| Total | | 17 | 2 | 0 | 15 | |

**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 | - |
| 420602 | Consumer Behavior | 3 | 0 | 0 | 3 | 400395 |
| xxxxxxx | 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 | 3111102 |
| 400513 | Quantitative Analysis | 3 | 0 | 0 | 3 | 102211, 110140 |
| 403603 | Advertising and Promotion | 3 | 0 | 0 | 3 | 430602 |
| 430606 | Personal Selling | 3 | 0 | 0 | 3 | 400395, 400408 |
| xxxxxxx | University Elective Course 3 | 3 | 0 | 0 | 3 | - |
| xxxxxxx | 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 |
| 430613 | Product and Brand Management | 3 | 0 | 0 | 3 | 400395 |
| 400615 | Management Information Systems | 3 | 0 | 0 | 3 | 400291, 306460 |
| 430808 | International Marketing | 3 | 0 | 0 | 3 | 400395 |
| xxxxxxx | Major Elective Course 1 | 3 | 0 | 0 | 3 | - |
| Total | | 9 | 0 | 0 | 15 | |

**Semester 8**

| Course No | Course Title | Contact & Credit Hrs | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Lab | Tut | Cr. Hrs. | |
| 430809 | Marketing Management | 3 | 0 | 0 | 3 | 430602/430501 |
| 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. This major aims at simultaneously imparting all-inclusive functional area knowledge of business firms, for example, management, marketing, accounting and finance. 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:

1. Gain deeper insights into the principles and functions of finance.
2. Build strands of knowledge related to modern finance for solving business and finance problems.
3. Enhance the ability to design financial strategies for improving organizational performance.
4. Develop a sound understanding of the dynamic international business environment and its impact on financial strategies.
5. Develop the ability to make ethical and professional decisions related to financial management.
6. Integrate theory of finance into business dynamics of the Middle East.

## Learning Outcomes:

### Knowledge

Upon successful completion of the B.SC in Finance, graduates will be able to:

1. Acquire an in depth understanding of the principles of finance.
2. Integrate knowledge of the various areas of finance to solve business and financial problems.
3. Analyze contemporary and pedagogical issues in finance.
4. Write financial reports and consolidate financial information.
5. Use appropriate computational and statistical techniques to investment valuation, portfolio management, and derivatives.
6. Make ethical and professional judgment in all areas of finance.

### Skills

1. Effective decision-making process by using computational techniques.
2. An analytical and logical approach to problem solving in particular in the areas of investment, corporate finance, risk and insurance, and portfolio management.
3. Proficiency in oral and written communication skills needed by the finance industry.
4. Use financial tools to evaluate the stochastic behavior of the financial markets.
5. Practice ethical and professional responsibilities.

### Competence (Autonomy and Responsibility)

1. Conduct research projects independently or in a group.
2. Taking responsibility for writing their graduation projects according to the guidelines that are stipulated by the College of Business Administration.
3. Independent oral presentation of their graduation projects.

### Self-development

1. Engage in a life-long learning cycle and respond in a positive and responsible manner to criticism.
2. Enroll in an approved training course at the conclusion of their senior year.

### Role in Context

1. Demonstrate Professionalism and respect for their fellow students and faculty members.
2. Moral and ethical obligations for their conducts.

**At the conclusion of the B.SC in Finance program, students will be able to**

| Knowledge | |
|---|---|
| K1 | Acquire an in depth understanding of the principles of finance. |
| K 2 | Integrate knowledge of the various areas of finance to solve business and financial problems. |
| K 3 | Use appropriate computational and statistical techniques to investment valuation, portfolio management, and derivatives. |
| K4 | Write financial reports and consolidate financial information. |
| K5 | Analyze contemporary and pedagogical issues in finance. |
| K6 | Make ethical and professional judgment in all areas of finance. |
| **Skills** | |
| S1 | Effective decision-making process by using computational techniques. |
| S2 | Analytical and logical approach to problem solving in particular in the areas of investment, corporate finance, risk and insurance, and portfolio management. |
| S3 | Proficiency in oral and written communication. |
| S4 | Practice ethical and professional standards. |
| S5 | Use financial tools to evaluate the stochastic behavior of the financial markets. |
| **Competencies** | |
| **Autonomy and Responsibility** | |
| CA1 | Conduct research projects independently. |
| CA2 | Independent oral presentation of their projects. |
| CA3 | Taking responsibility for writing their research reports. |
| **Role in Context** | |
| CR1 | Demonstrate Professionalism and respect their fellow students and faculty members. |
| CR2 | Moral and ethical obligations for their conducts. |
| **Self-development** | |
| CS1 | Engage in a life-long learning cycle and respond in a positive and responsible manner to criticism. |
| CS2 | Enroll in an approved training course at the conclusion of their senior year. |

## 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.
- 8weeks 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** | **24** |
| (a) University Required Courses | 15 |
| (b) University Elective Courses | 9 |
| **2. College Requirements** | **66** |
| (a) College Required Courses | 54 |
| (b) College Elective Courses | 12 |
| **3. Major Requirements** | **36** |
| (a) Major Required Courses | 30 |
| (b) Major Electives Courses | 6 |
| Total Credit Hours | 126 |

# (A)UNIVERSITY GENERAL EDUCATION REQUIREMENTS

### (i) University Compulsory Courses (15 Credit Hours)

| Course No. | Course Title | Cr. Hrs. | Prerequisite |
|---|---|---|---|
| 1010000 | Orientation | 0 | - |
| 1021400 | Communication Skills in Arabic Language (For Arabs) | 3 | - |
| 1021401 | Communication Skills in Arabic Language (For Non Arabs) | 3 | - |
| 1021402 | Communication Skills in Arabic- E | 3 | |
| 1021300 | Islamic Civilization (Arabic) | 3 | |
| 1021301 | Islamic Civilization (English) | 3 | |
| 1021100 | Islamic Culture (For Arabs) | 3 | - |
| 1021101 | Islamic Culture (For Non Arabs) | 3 | |
| 1141300 | Innovation and Entrepreneurship | 3 | 60 hrs |
| 1141202 | IT Fundamentals | 3 | |
| 1031333 | Statistics (Business) | 3 | |

### (ii)University Elective Courses (9 Credit Hours)

| Course No. | Course Title | Cr. Hrs. | Prerequisite |
|---|---|---|---|
| 1151500 | The Art of Written Expression (Arabic) | 3 | - |
| 1201150 | Legal Culture | 3 | - |
| 1121400 | Introduction to Art (English) | 3 | - |
| 1071300 | Introduction to Digital Photography | 3 | - |
| 1091100 | Introduction to Aesthetics (English) | 3 | - |
| 1091200 | French Language | 3 | - |
| 1021500 | Introduction to Hadeeth and Sunna | 3 | - |
| 1191700 | Academic Writing (English) | 3 | - |
| 1191500 | The Art of Public Speaking (English) | 3 | - |
| 1161200 | Astronomy | 3 | - |
| 1081200 | Physics | 3 | - |
| 1031200 | Environmental Science (English) | 3 | - |
| 1031300 | Research Methodology (English) | 3 | - |
| 1151100 | History of Science in Islam | 3 | - |

| | | | |
|---|---|---|---|
| 1151200 | Scientific Pioneering | 3 | - |
| 1171100 | General Chemistry | 3 | - |
| 1171200 | Fundamental of Human Nutrition | 3 | - |
| 1171300 | First Aid | 3 | - |
| 1181200 | General Biology | 3 | - |
| 1191100 | English Communication Skills | 3 | - |
| 1151300 | General Psychology | 3 | - |
| 1191600 | Communication between Cultures | 3 | - |
| 1071100 | Critical Thinking (English) | 3 | - |
| 1151600 | Emirates Society (English) | 3 | - |
| 1131400 | Library Information System | 3 | - |

## (B) COLLEGE REQUIREMENTS (66 Credit Hours)

### a. College Required Courses (54 Credit Hours)

**Obligatory Courses (54 Credit Hours)**

| | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Statistics for Business | 0102211 | 103110 | 3 |
| 2 | Business Research Method | 0400307 | 102211 & 400291 | 3 |
| 3 | Principles of Accounting I | 0400292 | - | 3 |
| 4 | Principles of Accounting II | 0400394 | 400292 | 3 |
| 5 | Introduction to Management | 0400291 | - | 3 |
| 6 | Fundamentals of Finance | 0400396 | 400292 | 3 |
| 7 | Microeconomics | 0400393 | - | 3 |
| 8 | Business Communication | 0400408 | 400291 | 3 |
| 9 | Principles of Marketing | 0400395 | 400291 | 3 |
| 10 | Business Law | 0400411 | 400291 | 3 |
| 11 | Management Information Systems | 0400615 | 400291 & 306460 | 3 |
| 12 | Organizational Behavior | 0400409 | 400291 | 3 |
| 13 | Macroeconomics | 0400410 | 400393 | 3 |
| 14 | Data Base Management Systems | 0306460 | 104110 | 3 |

| | | | | |
|---|---|---|---|---|
| 15 | Quantitative Analysis | 0400513 | 102211 & 110140 | 3 |
| 16 | Supervised Training | 0400516 | After 96 credit hours | 3 |
| 17 | IT in Business | 0310202 | 104110 | 3 |
| 18 | Math for Management | 0110140 | - | 3 |

### (ii). College Elective Courses (12 Credit Hours)

| | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Business Ethics | 400419 | 400291 | 3 |
| 2 | Economic Development of GCC | 400512 | 400410 | 3 |
| 3 | Managerial Economics | 400522 | 400393 | 3 |
| 4 | Public Relations | 400523 | 400408 | 3 |
| 5 | Feasibility Studies | 400524 | 400393 & 400396 | 3 |
| 6 | Hospitality & Tourism | 400525 | 400395 | 3 |
| 7 | Social Media | 400526 | 400395 | 3 |
| 8 | Enterprise Resources Management | 400527 | 400291& 400292 | 3 |
| 9 | Business English | 400528 | | 3 |

## (C) MAJOR REQUIREMENTS (36 Credit Hours)

### Major Obligatory Courses (30 Cr. Hrs.)

| | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1. | Corporate Finance | 0440501 | 400396 | 3 |
| 2. | Money and Financial System | 0440520 | 400410 | 3 |
| 3. | Financial Risk & Insurance | 0440602 | 440501 | 3 |
| 4. | Financial Planning and Control | 0440603 | 440501 | 3 |
| 5. | Commercial Banking | 0440604 | 440520 | 3 |
| 6. | Portfolio Management and Theory | 0440611 | 440705 | 3 |
| 7. | Financial Markets | 0440705 | 400396 & 440604 | 3 |
| 8. | International Finance | 0440707 | 440501 | 3 |

| | | | | |
|---|---|---|---|---|
| 9. | Investments | 0440809 | 440602 | 3 |
| 10. | Graduation Project/Finance | 0440811 | 102 Credit Hours | 3 |

**Major Elective Courses (6 Cr. Hrs.)**

| No. | Course Title | Course Code | Prerequisites | Credit Hours |
|---|---|---|---|---|
| 1 | Intermediate Accounting I | 0420401 | 400394 | 3 |
| 2 | Personal Finance | 0440612 | 400396 | 3 |
| 3 | Islamic Banking | 0440715 | 440604 | 3 |
| 4 | Selected Topics in Finance | 0440808 | 400396 | 3 |
| 5 | Computer Application in Finance | 0440810 | 400396 & 104110 | 3 |

## Four-Year Study Plan for Bachelor of Science in Finance

### PROPOSED SEQUENCE OF COURSES

**Semester 1**

| Course # | Course Name | Cr. Hrs. | Lectures | Tut/ Lab | Pre-req.1 | Pre-req. 2 |
|---|---|---|---|---|---|---|
| 1021100<br>1021101<br>1021300<br>1021301 | Islamic Culture (Arabs),<br>Islamic Culture (Non Arabs)<br>Islamic Civilization (Arabic)<br>Islamic Civilization (English) (Only for 20161 onwards) | 3 | 2 | 2 | - | - |
| 1021400<br>1021401<br>1021402 | Communication Skills in Arabic Language ( Arabs)<br>Communication Skills in Arabic Language ( Non Arabs)<br>Communication Skills in Arabic Language-E | 3 | 3 | 0 | - | - |
| 103 110 | Statistics | 3 | 2 | 2 | - | - |
| 1141300 | Innovation and Entrepreneurship | 3 | 0 | 0 | 3 | - |
| 101 000 | Orientation/Academic Advising | 0 | 1 | 0 | - | - |

### Semester 2

| Course # | Course Name | Cr. Hrs. | Lectures | Tut/ Lab | Pre-req.1 | Pre-req. 2 |
|---|---|---|---|---|---|---|
| 400 291 | Introduction to Management | 3 | 3 | 0 | - | - |
| 400 292 | Principles of Accounting I | 3 | 3 | 0 | - | - |
| 400393 | Microeconomics | 3 | 3 | 0 | - | - |
| 102 211 | Statistics for Business | 3 | 3 | 0 | 103 110 | - |
| 104 110 | Computer Applications | 3 | 2 | 2 | - | - |

### Semester 3

| Course # | Course Name | Cr. Hrs. | Lectures | Tut/ Lab | Pre-req.1 | Pre-req. 2 |
|---|---|---|---|---|---|---|
| 400 394 | Principles of Accounting II | 3 | 3 | 0 | 400 292 | - |
| 400307 | Business Research Methods | 3 | 0 | 4 | 102211 | 400291 |
| 400 396 | Fundamentals of Finance | 3 | 3 | 0 | 400 292 | - |
| 400 395 | Principles of Marketing | 3 | 3 | 0 | 400 291 | - |
| | University Elective – 2 | 0 | 3 | 0 | - | - |
| 400 410 | Macroeconomics | 3 | 3 | 0 | 400393 | - |

### Semester 4

| Course # | Course Name | Cr. Hrs. | Lectures | Tut/ Lab | Pre-req.1 | Pre-req. 2 |
|---|---|---|---|---|---|---|
| 310 202 | IT in Business | 3 | 2 | 2 | 311 102 | - |
| 440 501 | Corporate Finance | 3 | 3 | 0 | 400 394 | - |
| 400 409 | Organizational Behavior | 3 | 3 | 0 | 400 291 | - |
| 440520 | Money and Financial System | 3 | 3 | 0 | 400 410 | - |
| 400 411 | Business Law | 3 | 3 | 0 | 400 291 | - |
| 110 140 | Math For Management | 3 | 3 | 2 | - | - |

### Semester 5

| Course # | Course Name | Cr. Hrs. | Lectures | Tut/ Lab | Pre-req.1 | Pre-req. 2 |
|---|---|---|---|---|---|---|
| 306 460 | Database Management | 3 | 3 | 0 | 311 102 | - |
| 400 513 | Quantitative Analysis | 3 | 3 | 0 | 102 211 | 110 140 |
| 440 604 | Commercial Banking | 3 | 2 | 2 | 440520 | |
| 440 603 | Financial Planning and Control | 3 | 3 | 0 | 440501 | |
| 400 408 | Business Communication | 3 | 3 | 0 | 400 291 | |
| - | College Elective – 1 | 3 | 3 | 0 | - | - |

### Semester 6

| Course # | Course Name | Cr.Hrs. | Lectures | Tut/ Lab | Pre-req.1 | Pre-req. 2 |
|---|---|---|---|---|---|---|
| 440 707 | International Finance | 3 | 3 | 0 | 440 501 | |
| | College Elective – 2 | 3 | 3 | 0 | - | - |
| | University Elective – 3 | 3 | 3 | 0 | - | - |
| 440 602 | Financial Risk & Insurance | 3 | 3 | 0 | 440 501 | - |
| 400 615 | Management Information Systems | 3 | 3 | 0 | 400 291 | 306 460 |
| | Department Elective – 1 | 3 | 3 | 0 | - | - |

### Semester 7

| Course # | Course Name | Cr.Hrs. | Lectures | Tut/ Lab | Pre-req.1 | Pre-req. 2 |
|---|---|---|---|---|---|---|
| 440 809 | Investments | 3 | 3 | 0 | 440 602 | - |
| 440 705 | Financial Markets | 3 | 3 | 0 | 400396 | 440 604 |
| 400 516 | Supervised Training | 3 | 3 | 0 | - | 96 Hours incl.7 Finance courses |
| | College Elective - 3 | | | | | |

**Semester 8**

| Course # | Course Name | Cr. Hrs. | Lectures | Tut/ Lab | Pre-req.1 | Pre-req. 2 |
|---|---|---|---|---|---|---|
| | Department Elective - 2 | 3 | 3 | 0 | - | - |
| 440 611 | Portfolio Management and Theory | 3 | 3 | 0 | 440 705 | - |
| | College Elective – 4 | 3 | 3 | 0 | - | - |
| 420 811 | Graduation Project/Finance | 3 | 3 | 0 | - | Earning 102 Credit Hours |

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

# 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 Deptartment:

### 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**

**440520 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: 400 410*

### 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: 440520**

### 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: 400 396 & 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: 400 396**

### 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: 400 396, 104110**

### 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**

### 400 393 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: 400 393**

**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: 400 410**

**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.

## Section 2.07.CBA Minors

CBA Minors within the College of Business

- Minor in Accounting
- Minor in Finance
- Minor in Management
- Minor in Marketing

CBA Minors for Other Colleges

- Minor in Management to the College of Engineering

- Minor in Accounting to the College of Information Systems
- Minor in Marketing to the College of Pharmacy

**Important Information**

- Minors are open to students from outside College of Business Administration and to College of Business Administration students pursuing minor in disciplines other than the discipline of their major.
- College of Business Administration students may pursue only two minors offered within the College of Business Administration.
- A grade of at least C in each course and a GPA of at least 2.00 must be earned in courses taken to satisfy the minor.
- Minor Requirements (9 credits).
- Minor Electives (minimum of 6 credits).

## Structure of the Minor Programs

**Minor Programs offered by Business Administration College**

## 1. Department of Management

- Minor for Business Administration College ONLY
  Management for non-Management Students: 15 Credit Hours

**Compulsory Courses* (9 Credit Hours)**

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 4106020 | Human Resource Management | 3 | 0 | 0 | **3** | 4002910 |
| ☐ | 4106030 | International Business | 3 | 0 | 0 | **3** | 4004100 |
| ☐ | 4108200 | Project Management | 3 | 0 | 0 | **3** | 4002910 |

**Optional Courses* (6 Credit Hours)**

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 4105010 | Production and Operations Management | 3 | 0 | 0 | 3 | 1031100, 4002910 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ☐ | 4107050 | Computer Applications in Management | 2 | 2 | 0 | 3 | 4002910, 3111020 |
| ☐ | 4108080 | Organizational Theory and Design | 3 | 0 | 0 | 3 | 4002910, 4004090 |

*A compulsory course which is part of the student's major must be replaced by another optional course. An optional course which is part of the student's major cannot be taken.*

## Minor Program offered for Engineering College

☐ **Minor Programs in Management Offered by Business Administration College**
15 Credit Hours

**Compulsory Courses* (9 Credit Hours)**

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 4002910 | Introduction to Management | 3 | 0 | 0 | 3 | |
| ☐ | 4108200 | Project Management | 3 | 0 | 0 | 3 | 4002910 |
| ☐ | 4004090 | Organization Behavior | 3 | 0 | 0 | 3 | 4002910 |

**Optional Courses* (6 Credit Hours)**

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 4105010 | Production & Operations Management | 3 | 0 | 0 | 3 | 4002910 |
| ☐ | 4107050 | Computer Applications in Management | 2 | 2 | 0 | 3 | 4002910 |
| ☐ | 4108080 | Organization Theory & Design | 3 | 0 | 0 | 3 | 4002910 |

# 2. Department of Accounting

## Minor Programs offered by Business Administration College

**Minor for Business Administration College ONLY**

- Accounting for non-Accounting Students: 15 Credit Hours

**Compulsory Courses* (9 Credit Hours)**

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 420401 | Intermediate Accounting I | 3 | 0 | 0 | 3 | Principles of Accounting II ( 400394) |
| ☐ | 420502 | Managerial Accounting | 3 | 0 | 0 | 3 | Principles of Accounting II ( 400394) |
| ☐ | 420603 | Cost Accounting | 3 | 0 | 0 | 3 | Principles of Accounting II ( 400394) |

**Optional Courses* (6 Credit Hours)**

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 420705 | Governmental Accounting | 3 | 0 | 0 | 3 | Principles of Accounting II ( 400394) |
| ☐ | 420716 | Taxation Accounting | 3 | 0 | 0 | 3 | Principles of Accounting II ( 400394) |
| ☐ | 420810 | Computerized Acc. Info. Sys. | 2 | 2 | 0 | 3 | Principles of Accounting II ( 400394) |
| ☐ | 420714 | Oil & Gas Accounting | 3 | 0 | 0 | 3 | Principles of Accounting II ( 400394) |
| ☐ | 420602 | Auditing | 3 | 0 | 0 | 3 | Principles of Accounting II ( 400394) |

*A compulsory course which is part of the student's major must be replaced by another optional course. An optional course which is part of the student's major cannot be taken.*

## Minor offered for Information Technology College

15 Credit Hours

☐ **Minor in Accounting for**

- **Information Technology/Network & security**
- **Information Technology/Database and Web system**

### Compulsory Courses* (9 Credit Hours)

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 400394 | Principles of Accounting II | 3 | 0 | 0 | 3 | Principles of Accounting I 400292 |
| ☐ | 420401 | Intermediate Accounting I | 3 | 0 | 0 | 3 | Principles of Accounting II 400394 |
| ☐ | 420502 | Managerial Accounting | 3 | 0 | 0 | 3 | Principles of Accounting II 400394 |

### Optional Courses* (6 Credit Hours)

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 420501 | Intermediate Accounting II | 3 | 0 | 0 | 3 | Intermediate Accounting I 420401 |
| ☐ | 420603 | Cost Accounting | 3 | 0 | 0 | 3 | Principles of Accounting II 400394 |
| ☐ | 420705 | Governmental Accounting | 3 | 0 | 0 | 3 | Principles of Accounting II 400394 |
| ☐ | 400527 | Enterprise Resources Planning | 2 | 2 | 0 | 3 | Principles of Accounting I 4002920 |

## Minors offered for Information Technology College

- ☐ **Minor in Accounting for**
  - **Information System/ E Business Management**
  - **Information System/Project Management**

### Compulsory Courses* (9 Credit Hours)

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 400394 | Principles of Accounting II | 3 | 0 | 0 | 3 | Principles of Accounting I 400292 |
| ☐ | 420401 | Intermediate Accounting I | 3 | 0 | 0 | 3 | Principles of Accounting II 400394 |
| ☐ ☐ | 420810 | Computerized Acc. Information System | 2 | 2 | 0 | 3 | Principles of Accounting II 400394 |

### Optional Courses* (6 Credit Hours)

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 420502 | Managerial Accounting | 3 | 0 | 0 | 3 | Principles of Accounting II 400394 |
| ☐ | 420603 | Cost Accounting | 3 | 0 | 0 | 3 | Principles of Accounting II 400394 |
| ☐ | 420705 | Governmental Accounting | 3 | 0 | 0 | 3 | Principles of Accounting II 400394 |
| | 400527 | Enterprise Resources Planning | 2 | 2 | 0 | 3 | Principles of Accounting I 400292 |

## 3. Department of Marketing

**Minor for Business Administration College ONLY**

- ☐ **Marketing for non-Marketing students:** 15 Credit Hours

**The Study Plans of Minor Programs**

Compulsory Courses* (9 Credit Hours)

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 4306020 | Consumer behavior | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |
| ☐ | 4305010 | Marketing Research | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |
| ☐ | 4306060 | Personal Selling | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |

**Optional Courses* (6 Credit Hours)**

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 4307140 | Retail Marketing | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |
| ☐ | 4306040 | Marketing Channel | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |
| ☐ | 4308100 | Computer Application in Marketing | 2 | 2 | 0 | 3 | Principles of Marketing 400395 |
| ☐ | 4306130 | Product and Brand Management | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |
| ☐ | 4005260 | Social Media Marketing | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |
| | 4307060 | Business to Business Marketing | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |

*A compulsory course which is part of the student's major must be replaced by another optional course. An optional course which is part of the student's major cannot be taken*

## Minor Program for Pharmacy and Health Sciences College

- Minor in Marketing: 15 credit hours.

**Compulsory Courses* (9 Credit Hours)**

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 400290 | Introduction to Management | 3 | 0 | 0 | 3 | |
| ☐ | 400390 | Principles of Marketing | 3 | 0 | 0 | 3 | 4002910 |
| ☐ | 430700 | Service Marketing | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |

**Optional Courses* (6 Credit Hours)**

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 4307140 | Retail Marketing | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |
| ☐ | 4308100 | Computer Application in Marketing | 2 | 2 | 0 | 3 | Principles of Marketing 4003950 |
| ☐ | 4306020 | Consumer Behavior | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |
| ☐ | 4005260 | Social Media Marketing | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |
| ☐ | 4306040 | Marketing Channels | 3 | 0 | 0 | 3 | Principles of Marketing 4003950 |

# 4. Department of Finance

## Minor for Business Administration College ONLY

- Finance for non-Finance Students: 15 Credit Hours

**Compulsory Courses* (9 Credit Hours)**

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 440520 | Money and Financial System | 3 | 0 | 0 | 3 | 4004100 |
| ☐ | 4405010 | Corporate Finance | 3 | 0 | 0 | 3 | 4003960 |
| ☐ | 4406030 | Financial Planning & Control | 3 | 0 | 0 | 3 | 4003960 |

**Optional Courses* (6 Credit Hours)**

| Add | Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|---|
| ☐ | 4406120 | Personal Finance | 3 | 0 | 0 | 3 | 4003960 |
| ☐ | 4407070 | International Finance | 3 | 0 | 0 | 3 | 4405010 |
| ☐ | 4406026 | Financial Risk & Insurance | 3 | 0 | 0 | 3 | 4405010 |
| ☐ | 4406040 | Commercial Banking | 3 | 0 | 0 | 3 | 440520 |
| ☐ | 4407150 | Islamic Banking | 3 | 0 | 0 | 3 | 4406040 |

*A compulsory course which is part of the student's major must be replaced by another optional course. An optional course which is part of the student's major cannot be taken*

*Students within the college of business administration (CBA) cannot take the same courses as students from other colleges since these courses are in their study plans for their major. For example, *Introduction to Management (4002910), Principles of Accounting I (4002920), Organizational Behaviour (4004090), Principles of Marketing (4003950),* and *Principles of Accounting II (4003940)* are mandatory courses for all students pursuing different majors in CBA. Overall, CBA students are required to take 54 credit hours as part of their major study plans.

**On the other hand, students from other colleges do not take the same courses for their major programs. The courses offered to students from other colleges are thus not part of their major program study plans. This explains the apparent differences in the course offerings for CBA students and those for non-CBA students.

## Faculty members of the College of Business Administration

| Sr. No. | Name | Academic Rank | Specialization | Degree | Date | University |
|---|---|---|---|---|---|---|
| 1 | Mohamed Ali Alshami, Dean | Dean | Economics (Mineral & Energy) | PhD | 1995 | Colorado School of Mines, USA |
| 2 | Joseph George M. Lutta , Head of Mgt Dept | Assistant Professor. | Human Resources & leadership development | PhD | 2008 | Louisiana State Univ., USA |
| 3 | Lilyan Gheyath Saleh, Head of Acct. Dept | Associate Professor. | Accounting & Auditing | PhD | 1988 | Free Univ. of Brussels (VUB), Belguim |
| 4 | Mohammed N. Chaker. Head Of Department of Finance | Associate Professor. | Economics | PhD | 1994 | University of Colorado, USA |
| 5 | Abdulkarim Ali Dahan | Associate Professor. | Economics | PhD | 1996 | University of Arizona, USA |
| 6 | Samia Abbas Ali Kargawil | Assistant Professor. | Business Management | PhD | 2006 | Birmingham University, UK |
| 7 | Rima Shishakly | Assistant Professor. | Management Information System | PhD | 2005 | University of Manchester, UK |
| 8 | Muhammad Qutubuddin Siddiqui Head of Dept. of Marketing | Lecturer | Business Administration | Master | 1990 | Central State University |
| 9 | Mohd Ariff Bin Kasim | Assistant Professor | Accountancy | PhD | 2011 | Universiti Teknologi Mara |
| 10 | Siti Rosmaini Binti Mohd Hanafi | Assistant Professor | Accountancy | PhD | 2011 | Universiti Teknologi Mara |
| 11 | Mervyn Misajon | Assistant Professor | Resource Development | PhD | 1983 | Michigan State University |
| 12 | Akinola Olatunde Fadahunsi | Professor | Entrepreneurship | PhD | 1997 | University of Stirling |
| 13 | Mohammad Khoshnevisan | Associate Professor | Finance | PhD | 2000 | The University of Melbourne |
| 14 | Abdullah Ismail | Assistant Professor | Management | PhD | 2011 | Technical University of Denmark |

| | | | | | | |
|---|---|---|---|---|---|---|
| 15 | Muhammad Hanif | Assistant Professor | Finance | PhD | 2014 | International Islamic University |
| 16 | Sayed Abbas Ahmed Altayeb | Associate Professor | Accounting & Finance | PhD | 1987 | The University of Bath |
| 17 | Maria Jade Catalan Opulencia | Assistant Professor | Management, HRM/MIS | PhD<br>PhD | 2002<br>2015 | International Academy of Management and Economics<br>University of Liverpool |
| 18 | Ibrahim Elsiddig Ahmed Ibrahim | Associate Professor | Accounting & Finance | PhD | 2003 | University of Khartoum |

# 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 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 the following undergraduate dental program which is accredited by the UAE Ministry of Higher Education and Scientific Research:

1. Doctor of Dental Surgery (DDS) - 5 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 (Ajman & Fujairah Campuses)

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 DDS program at AU-College of Dentistry is only delivered as a full time program. The College of dentistry offers access to e-learning (MOODLE) as a supplementary tool to its traditional face-to-face pedagogy. The effectiveness of the program is evaluated against the program learning outcomes which have been aligned with the UAE Qualifications Framework (UAEQF) and are consistent with the defined level of the degree.

## DDS PROGRAM LEARNING OUTCOMES

### KNOWLEDGE

On successful completion of the Doctor of Dental Surgery program, graduates will be able to:

1. Express coherent knowledge, capabilities and limitations of specialization areas in dentistry.
2. Describe the importance of prevention, treatment and management of oral and dental diseases.
3. Use the factual and theoretical knowledge in basic medical and dental sciences and allied sciences to gather information from patient as part of history taking and patient examination in order to decide appropriate investigation and decide a suitable course of treatment within the scope of a general dental practice.
4. Identify the integration and importance of the basic medical and allied sciences such as psychology and behavioral sciences to dentistry.
5. Demonstrate a broad knowledge of the fundamental concepts, theories and principles in research projects and protocols complying with ethical principles.

### SKILL

1. Demonstrate effective technical and analytical skills using evidentiary and procedural based processes to perform appropriate dental procedures independently and safely in a general dental practice setting.
2. Practice promotion of oral health and prevention of related disorders.
3. Demonstrate highly developed communication skills to explain or critique complex and unpredictable matters related to oral health and disease.
4. Demonstrate accurate record keeping and how to source and analyze information relevant to effective clinical practice.
5. Practice ethical, professional and legal responsibilities and display appropriate attitudes and behavior.
6. Evaluate, select and apply appropriate methods of clinical research in relation to oral health and disease.

**COMPETENCE**

**Autonomy and Responsibility**

1. Show responsibility and independent technical and clinical decision-making to evaluate and manage complex and unpredictable clinical work appropriate to a primary care practice.
2. Illustrate adherence to current best practice methods in a mature manner.

**Role in Context**

3. Recognize the importance of appropriate leadership roles, manage and take accountability of the team involved in patient care.
4. Demonstrate responsibility and supervise the professional activity and mentoring of allied dental health personnel.

**Self-development**

5. Engage in self-evaluation and professional development apt for general dental practice or towards specific specialization.
6. Value professional ethics, positive criticism and feedback, and engage in a life-long learning.

## OUTCOMES MAPPING MATRIX

| National Standards of Learning Outcomes for Bachelor Program (UAENQF LEVEL 7) | Program Learning Outcomes of Doctor of Dental Surgery | | | | |
|---|---|---|---|---|---|
| **KNOWLEDGE** | | | | | |
| | PLO 1 | PLO 2 | PLO 3 | PLO 4 | PLO 5 |
| 1. Specialized factual and theoretical knowledge and an understanding of the boundaries in a field of work or discipline, encompassing a broad and coherent body of knowledge and concepts, with substantive depth in the underlying principles and theoretical concepts | ✓ | | | | |
| 2. An understanding of allied knowledge and theories in related fields of work or disciplines and in the case of professional disciplines including related regulations, standards, codes, conventions | | | ✓ | | |
| 3. Understanding of critical approach to the creation and compilation of a systematic and coherent body of knowledge and concepts gained from a range of sources | | ✓ | | ✓ | |
| 4. A comprehensive understanding of critical analysis, research systems and methods and evaluative problem-solving techniques | | | | | ✓ |
| 5. Familiarity with sources of current and new research and knowledge with integration of concepts from outside fields | | | | | ✓ |

| SKILL | PLO 1 | PLO 2 | PLO 3 | PLO 4 | PLO 5 | PLO 6 |
|---|---|---|---|---|---|---|
| 1. Technical, creative and analytical skills appropriate to solving specialized problems using evidentiary and procedural based processes in predictable and new contexts that include devising and sustaining arguments associated with a field of work or discipline | ✓ | | | | ✓ | |
| 2. Evaluating, selecting and applying appropriate methods, procedures or techniques in processes of investigation towards identified solutions | | ✓ | | ✓ | | |
| 3. Evaluating and implementing appropriate research tools and strategies associated with the field of work or discipline | | | | | | ✓ |
| 4. Highly developed advanced communication and information technology skills to present, explain and/or critique complex and unpredictable matters | | | ✓ | | | |

| COMPETENCE | PLO 1 | PLO 2 |
|---|---|---|
| Autonomy and responsibility | | |
| 1. Can take responsibility for developing innovative and advanced approaches to evaluating and managing complex and unpredictable work procedures and processes, resources or learning | ✓ | |
| 2. Can manage technical, supervisory or design processes in unpredictable, unfamiliar and varying contexts | | ✓ |
| 3. Can work creatively and/or effectively as an individual, in team leadership, managing contexts, across technical or professional activities | ✓ | |
| 4. Can express an internalized, personal view, and accept responsibility to society at large and to socio-cultural norms and relationships | | ✓ |

| COMPETENCE | PLO 3 | PLO 4 |
|---|---|---|
| Role in context | | |
| 1. Can function with full autonomy in technical and supervisory contexts and adopt para-professional roles with little guidance | | ✓ |
| 2. Can take responsibility for the setting and achievement of group or individual outcomes and for the management and supervision of the work of others or self in the case of a specialization in field of work or discipline | ✓ | |
| 3. Can participate in peer relationships with qualified practitioners and lead multiple, complex groups | ✓ | |

| | | |
|---|---|---|
| 4. Can take responsibility for managing the professional development and direct mentoring of individuals and groups | | ✓ |

| COMPETENCE | | |
|---|---|---|
| Self-development | PLO 5 | PLO 6 |
| 1. Can self-evaluate and take responsibility for contributing to professional practice, and undertake regular professional development and/ or further learning can manage learning | ✓ | ✓ |
| 2. Can manage learning tasks independently and professionally, in complex and sometimes unfamiliar learning contexts | ✓ | |
| 3. Can contribute to and observe ethical standard | | ✓ |

## 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)**

Although elective, the student has to register for three (03) courses, after consulting his/her academic advisor, as stated in the curriculum.

| Field | Course Code | Course Name | Credit hours |
|---|---|---|---|
| Social or Behavior Science (3 Cr. Hrs.) | 0115130 | General Psychology | 3 |
| | 0115160 | Emirates Society | 3 |
| | 0114110 | Economic Concepts | 3 |
| | 0119120 | Introduction to communication Sociology | 3 |
| | 0119130 | Information Society | 3 |
| | 0114120 | Entrepreneurship Development | 3 |
| | 0119110 | English Communication Skills | 3 |
| | 107110 | Critical Thinking | 3 |
| | 104130 | Information Literacy | 3 |
| | 119140 | Media Culture | 3 |
| | 107150 | Family System | 3 |
| Humanities or Arts (3 Cr. Hrs.) | 0115150 | The Art of Written Expression | 3 |
| | 0112110 | Principles of Architecture & Art | 3 |
| | 0118110 | Principles of Ethics | 3 |
| | 112130 | Introduction to Aesthetics | 3 |
| | 112140 | Introduction to Art | 3 |
| | 107130 | Introduction to Digital Photography | 3 |
| | 102120 | French Language | 3 |
| | 0120110 | Legal Culture | 3 |

| | | | |
|---|---|---|---|
| Natural Sciences Applied Sciences, Mathematics (3 Cr. Hrs.) | 0115110 | History of Science in Islam | 3 |
| | 0115120 | Scientific Pioneering | 3 |
| | 0112130 | Modern Technology and Society | 3 |
| | 0115140 | Principle of Mathematics | 3 |
| | 0115170 | Educational Technology | 3 |
| | 0118130 | Oral Health | 3 |
| | 0117120 | Fundamentals of Human Nutrition | 3 |
| | 0117130 | First Aid | 3 |
| | 0103130 | Research Methodology | 3 |
| | 0117120 | Applications of Remote sensing & GIS | 3 |
| | 0107120 | Technical Writing | 3 |
| | 0113110 | Internet Concepts | 3 |
| | 0113120 | Introduction to Information System | 3 |
| | 102120 | The Miraculousness of the Holy Koran | 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 |
| 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 |

| | | | | | |
|---|---|---|---|---|---|
| 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 | Cl/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 | Cl/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 | Cl/T* | Cr/H | |
| 0805535 | Internal Clinical Training Fifth Year | - | 20 | 2 | All Clinical Courses |

# Course Descriptions for Undergraduate program

## Doctor of Dental Surgery (DDS) Degree Program

## COLLEGE REQUIREMENTS

**1) 0120 101 Physics / Dentistry (3 cr. /h.)**

The course is designed to cover the basic concepts in most branches of classical mechanics, electricity and thermodynamics as well as some of modern physics concepts applicable to x-ray, lasers and radioactivity. Finally, x-ray, lasers, radioactivity and applications of these concepts in dentistry will also be covered.

**2) 0700 126 General Chemistry / Dentistry (3 cr. /h.)**

This course presents the fundamentals of certain topics in general chemistry. It includes two major parts: Part I is the general part, and Part II is the organic part. The general part will introduce the student to basic aspects of general chemistry, i.e. the atomic structures, electronic configuration, periodic table of elements, chemistry of metals, and the fundamentals of chemical bonds and chemical reactions. The organic part covers some important areas in organic chemistry, which include aliphatic and aromatic hydrocarbons, stereochemistry, as well as some functional groups, e.g.: alcohols, phenols, carbonyl compounds.

**3) 0700 236 Biochemistry / Dentistry (4 cr. /h.)**

The course is designed to provide a comprehensive survey of the major topics in biochemistry. It explores how the structure of proteins, carbohydrates, lipids, nucleic acids, and vitamins relates to their function. Metabolism and energy production as well as biosynthesis of small and macromolecules is discussed. Special topics such as Calcium metabolism, bone mineralization, and Dental caries are included.

**4) 0700 239 Pharmacology-I / Dentistry (2 cr. /h.)**

This course will introduce the general aspects of pharmacokinetics and pharmacodynamics. Students will also learn basic pharmacotherapy for relevant disorders of cardiovascular system, CNS, endocrine system, gastrointestinal system, including asthma and drugs of abuse that are pertinent to practice of dentistry.

**5) 0700 240 Pharmacology-II / Dentistry (2 cr. /h.)**

This course is designed to teach the students the various drugs used to control the pain and anxiety of dental patients as well as those used for treatment of different oral conditions. A special emphasis is made on the clinical indications, dosage, potential side effects and drug-interactions. The course will also

highlight the importance of standard practice in prescription writing to ensure both effectiveness of the treatment and patient safety.

**6) 0801 110 English for Special Purposes - Dentistry (3 cr./h.)**

This course aims at preparing the students of Dentistry College to cope with the kind of English needed in the real life situations and field of specializations in the future. It enables the students to practice the four skills. The course develops the students' competence through using the language resource room, CD ROMs, the internet and some other audio-visual facilities.

**7) 0801 210 Psychology & Behavioral Sciences (3 cr. /h.)**

This course aims at providing dentistry students with an insight of psychology, and helps them to observe, evaluate and explain the behavior of people in relation to oral/dental health care in particular. The students are provided with information regarding basic psychological concepts, psychological disturbances and disorders, management techniques and their application specifically in the field of dentistry and healthcare. It is designed to be helpful to dental students by providing them an understanding of the people (patients and dental team members) they will come across in their dental practice/career. This will allow them to better understand the feelings and thoughts of their patients and help them relax and be comfortable during dental treatments.

**8) 0801 111 Integrated Biological Sciences - I (3 cr. /h.)**

This course deals with the study of two complementary branches of biology, human anatomy and human physiology which provide the basic concepts helping dental students understand how the human body is developed, the way it is built up and how it works. Objectives of this course are to develop the foundational knowledge and basic concepts necessary to independently perform the diagnostic and clinical skills.

**9) 0801 121 Integrated Biological Sciences-II (4 cr. /h.)**

This course is intended to help the dental students to understand the basic concepts of Anatomy & Physiology simultaneously, with emphasis on topics related to the dental practice. The course covers the study of the main body systems with great emphasis on the applied & the practical aspects. The teaching tools include CD presentations, Power points presentations, videotapes & Internet explorations.

**10) 0801 112 Histology & Cell Biology (3 cr. /h.)**

This course provides students with general knowledge about the cell and various cellular organelles, and the characteristic structure of each organelle that enable it to perform essential functions within the cell. The students are also provided with wide knowledge concerning the morphological features of the four primary tissues and recognize their roles in forming organs. A basic knowledge of cell division, general embryology and genetics integrates the above information.

| 11) 0801 122 | Oral Histology | (4 cr. /h.) |
|---|---|---|

This course describes in details the development and structure of the oral cavity and teeth. Students are provided with the basic concepts of oro-facial development and structures. The microscopic, histological and ultrastructural organizations of soft and hard oral tissues are studied in details. A considerable knowledge of functional and clinical correlation is also stressed.

| 12) 0801 123 | Head & Neck Anatomy I | (3 cr. /h.) |
|---|---|---|

The course is intended to help the dental student to study & understand the basic terms & facts about the gross anatomy of the head and neck region of human body. The course includes the study of the detailed structures of the skull, the head & their nerve and blood supply. Also, the course includes full descriptions of the various muscles & glands of the face, orbit, nasal cavity, oral cavity, floor of the mouth, palate and tongue. In general, the course will provide the dental student with the fundamental detailed structures of the skull & head as related to dental practice.

| 13) 0801 213 | Head & Neck Anatomy II | (3 cr. /h.) |
|---|---|---|

The course deals with the description of the head & neck region including brain & spinal cord. The main elements are the nerves & vessels, lymphatic drainage, fascial spaces and muscles of neck, the pharynx and larynx with special reference to the anatomical basis of the management of upper airway obstruction and related radiology. Further it provides the relevant details of pain physiology, brain, spinal cord their development and cranial nerves function and test. In general the course will provide the basis to the dental practice involving the anatomical structures.

| 14) 0801 214 | Microbiology & Immunology | (4 cr. /h.) |
|---|---|---|

The course covers the fundamentals of microbiology with emphasis on oral microbiota, pathogens & defense mechanisms in the dental environment. The basics of immunology including the immune system & organisms of medical & dental significance; virus structure & classification, viral pathogenesis & mechanisms of host defense; hygiene covering pathogenesis of bacterial, infections, etiology, clinical picture, lab diagnosis, treatment, prevention and control of diseases caused by the different bacteria, are also discussed.

| 15) 0801 215 | Pathology | (3 cr. /h.) |
|---|---|---|

This course covers the fundamentals of the basic disease process in the body. Students are provided with gross, microscopic & biochemical features of different pathological conditions. Objectives of this course are to study and understand different pathogenic processes in details in order to establish a sound foundation for clinical practice in dentistry. Teaching tools include power point plus projection, practical lessons with CD presentations & internet explorations.

**16) 0801 226 General Medicine (4 cr. /h.)**

This comprehensive course covers topics specific to the medical field, with interest to medically compromised patient as related to dental care. Students are provided with basic concept of general medical & infectious diseases. Teaching tools include: power point plus projection, practical lessons with CD presentations & internet explorations.

**17) 0801 227 General Surgery & ENT (2 cr. /h.)**

The course is intended to help dental students to study & understand the basic principles of surgery & ENT in relation to Dentistry and Oral and maxillofacial Surgery. The course includes the knowledge of the theoretical & practical approaches to the assessment of surgical and how to perform an effective risk assessment preoperatively based on the information obtained from case history, clinical examination, investigations in relation to the anaesthetic potential risks and also the invasiveness of the planned surgery. Also, the student will identify the pathology of tumors, cysts, fistulae, sinuses & ulcer in head and neck region. Information about trauma, tissue repairs & preoperative management of inpatients like administered fluids, water balance monitoring and indications and possible complications of blood transfusion are also included within the course. In addition, the student will study the various common diseases of the ear, nose, paranasal sinuses & pharynx. Finally the students will learn the common postoperative complications seen in surgical patient whether due to anaesthesia, the surgical intervention or those initiated or aggravated by the existing morbid conditions of surgical patients.

**18) 0802 221 Introduction to Oral & Dental Diseases (3 cr. /h.)**

This is an introduction to profession of dentistry. This course provides students with knowledge and understanding of oral and dental diseases, their etiology, pathogenesis and different stages of these lesions and their clinical manifestations.

**19) 0802 222 Dental Anatomy & Occlusion (4 cr. /h.)**

This course deals with nomenclature as related to the morphology of the natural dentition. It includes theory related to the morphology of the deciduous & permanent teeth in the human dentition & features related to the normal occlusion. Laboratory exercises include wax-adding & carving to build up the crowns of permanent teeth, analyze occlusal patterns and correct occlusal disharmonies. Its significance is integrated with dental treatment in Operative dentistry, Endodontics, Prosthodontics, Periodontics and Orthodontics. This course will help students in diagnosing dental disorders affecting the crowns or roots of human teeth & thus forms a basic foundation to the understanding of clinical dentistry. The study of occlusion part of this course involves the whole masticatory system, it includes the static relationship of teeth as well as the functional inter-relationship between teeth, periodontal, tissue, jaws, temporomandibular joints (TMJ), muscles and nervous system.

**20) 0802 213 Biomaterials (2 cr. /h.)**

The course is designed to provide students with knowledge to define and memorize the physical, chemical, and biological properties of dental materials. The program emphasizes on employment of concepts in modern materials science to solve problem of dental treatment.

**21) 0804 221 Oral Radiology-I (3 cr. /h.)**

This course discusses the basic principles of X-ray production, the biological effects of ionizing radiation and radiation safety. This course demonstrates the intra oral and extra oral radiographic techniques and prepare the Students learn to take and interpret radiographs, and perform initial screening, examination and diagnosis. The course is integrated with different dental specialties. Objectives of this course are to develop the fundamental knowledge of x-ray production and skill to independently perform the radiographs and interpretation of radiographic normal anatomy.

**22) 0802 315 Pre-Clinical Operative Dentistry I (3 cr. /h.)**

The main components of this course are the principles of cavity preparation for the currently available restorations according to their physical and manipulative characteristics and the steps of cavity restorations. The restorative department during the two semesters of the third year provides them.

**23) 0802 325 Pre-clinical Operative Dentistry II (3 cr. /h.)**

This course consists of two main components, the principle of cavity preparations for the currently available restorations and their physical and manipulative characteristics and cavity restorations. The restorative department during the two semesters of the third year provides them.

**24) 0802 316 Pre-Clinical Prosthodontics I (4 cr. /h.)**

This is a dental technology course consist of lectures and pre-clinical laboratory practical sessions .Terminology, nomenclature, theories, principles, concepts and basic techniques necessary for the construction of complete denture service will be presented. The course is designed to prepare the student to understand the biological, esthetic and mechanical aspects of complete dentures treatments. Correlation of basic science concepts as related to mechanical and clinical conditions will be stressed.

**25) 0802 326 Pre-Clinical Prosthodontics II (3 cr. /h.)**

This course provides both didactic and practical sessions in dental technology. Students will be introduced to the dental skills laboratory (phantom head or the simulator). Lectures cover all the procedures of teeth preparation for fixed restorations, and the use of equipment and instruments needed for the construction of all types of fixed prosthodontics. More emphasis will be directed to the principles of tooth preparation. Included in the course a practical sessions for the training of the students on how to prepare abutment teeth, apply impression techniques and making provisional restorations.

**26) 0802 317 Pre-Clinical Endodontics I (2 cr. /h.)**

The theoretical part covers topics which include an introduction to the subject, anatomy and morphology of the root canal system, access cavity preparation, cleaning and shaping of the root canal systems and it lays emphasis on possessing thorough knowledge of the various endodontic instruments. The pre-clinical practical component focuses on the treatment of anterior and premolar teeth. This prepares and enables students to be competent in treatment of clinical endodontic cases in the next year.

**27) 0802 327 Pre-Clinical Endodontics II (2 cr. /h.)**

The theoretical part covers topics which include root can obturation, endodontic microbiology, endodontic mishaps management, pulp and periapical pathology, diagnosis and diagnostic procedures. The pre-clinical lab/practical component focuses on performing endodontic procedures on molars. This prepares the students to perform basic endodontic procedures prior to entering the clinics in next year.

**28) 0802 228 Four Handed Dentistry & Infection Control (2 cr. /h.)**

Four Handed Dentistry

This course describes the concept and advantages of four handed dentistry. It describes the ergonomic position for the patient, dental assistant and doctor and explain the responsibilities of the dental assistant during clinical dental work. The course also describes the ergonomic arrangement of dental clinic.

Infection Control:

This course explains the different ways of transmission of infectious diseases and emphasis on the immunization of all oral health care providers. The course describes the sterilization methods in dental practice, application of protective barriers, personal protective equipment and infection control during all clinical dental procedures.

**29) 0803 311 Preventive Dentistry & Nutrition (4 cr. /h.)**

The Preventive Dentistry and Nutrition course introduces the student to the principles and methods of prevention including information on etiology of dental caries, periodontal diseases and methods of preventing and controlling dental diseases through a preventive treatment plan and health education programs. In addition, 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.

**30) 0803 312 Pre-Clinical Pediatric Dentistry I (2 cr. /h.)**

This course introduce pediatric dentistry as an essential branch of dentistry related to child patients mainly focusing on the development and growth of oral/facial structures of children and recognizing the chronology of primary and permanent dentition. Different types of dental anomalies have been described with their genetic aspects. Child abuse and neglect are discussed in relation to pediatric dentistry. Psychological management, examination, diagnosis and treatment planning of child patient are introduced.

**31) 0803 322 Pre-Clinical Pediatric Dentistry II (2 cr. /h.)**

This course discusses radiographic as well as local anesthetic techniques used for child patient which needs specific modifications. Management and treatment of dental caries with different types of cavity preparations have been discussed. Also it describes vital and non –vital pulp therapy for primary teeth which considered an important issue in restoration and prevention of primary teeth extraction, on the other hand in case of loss of the primary teeth it is necessary to plan arch space analysis and construction of space maintainer to prevent space loss.

**32) 0803 323 Pre-Clinical Orthodontics (2 cr. /h.)**

The course will introduce the third year dental student to the fundamentals of orthodontics, including topics on the concepts of growth and development of the craniofacial structures, etiology of orthodontic problems, biological basis of orthodontic therapy, and clinical features of different malocclusions. This course is also designed to give the student a basic understanding of the skills required to fabricate removable orthodontic appliances that are typically indicated for limited tooth movement and retention in interceptive orthodontics.

**33) 0804 312 Pre-Clinical Periodontics-I (1 cr. /h.)**

This course describes in details the anatomy of periodontium and associated structures. Students are provided with the basic concepts of periodontal health. The microscopic, histological and ultrastructural organizations of soft and hard oral tissues are studied in detail. Basic knowledge of functional and clinical correlation is also stressed.

**34) 0804 322 Pre-Clinical Periodontics-II (2 cr. /h.)**

In this course lectures and practical training are given to students to expose them to immune response (host response) and periodontal pathogenesis. A complete spectrum of periodontal lesions and their pathogenicity, plaque control, trauma from occlusion, food impaction and halitosis are to be stressed.

**35) 0804 313 Pre-clinical Oral Surgery-I & Pain Control (2 cr. /h.)**

This preclinical course introduces the student to oral surgery and prepares him/her for clinical experience with dentoalveolar surgery. The student will learn to assess the patient, diagnose and treat basic oral surgical problems encountered in general practice. In addition to this, the goal of this course is to learn the pharmacology and toxicology of dental local anesthetic drugs and the proper techniques for their administration during dental extraction and related procedures.

**36) 0804 323 Pre-Clinical Oral Surgery-II & C.P.R (3 cr. /h.)**

The purpose of this course is to prepare the student to recognize advanced oral and maxillofacial surgery problems. Upon the completion of this course, the student will be able to formulate diagnosis and treatment plans in order to provide surgical care within the context of a patient-centered system of care delivery. In addition, this course will promote surgical principles and techniques to correct the pathologic conditions mentioned here. The course also emphasizes the principles and application of skills in basic life support,

external cardiac compression and the emergency medical systems. Students will learn how to evaluate and treat a patient who sustains cardiac arrest in the dental office or an airway obstruction, through the techniques of CPR and Foreign Body Airway Obstruction.

**37) 0804 314 Oral Pathology-I (3 cr. /h.)**

This course deals with the understanding of the basic disease processes affecting the head & neck regions. The etiopathogenesis, clinical features & histopathologic features of developmental disorders, non-odontogenic & odontogenic lesions, cysts & infections related to the teeth, their supporting structures, jaw bones & soft tissues in & around the oral cavity will be dealt with. It also includes the oral manifestations of systemic diseases, like mucocutaneous disorders. The differential diagnosis & prognosis of various pathologies will also be considered.

**38) 0804 324 Oral Pathology-II (3 cr. /h.)**

This course is a continuation of Oral Pathology I. Students will continue learning the etiopathogenesis, clinical features & histopathologic features of non-odontogenic & odontogenic lesions, cysts & tumours related to the teeth, their supporting structures, jaw bones & soft tissues in & around the oral cavity. The oral manifestations of physical & chemical injuries to the oral tissues will also be detailed. The differential diagnosis & prognosis of various pathologies will also be considered.

**39) 0804 411 Oral Radiology-II (2 cr. /h.)**

The course deals with the acquisition and interpretation of radiographic imaging studies performed for diagnosis of conditions affecting the oral and maxillofacial region and assist in treatment planning.

**40) 0802 415 Clinical Operative Dentistry-I (2 cr. /h.)**

The course of operative dentistry consists of the diagnosis, prevention, treatment, and prognosis of the diseases and injuries inflicted upon the teeth. Also includes the study of basic concepts of restoration relation to oral and dental tissues and the various restorative materials. The curriculum includes both didactic and clinical components over a period of two semesters, and involves a clinical training program. The clinical training program for two semesters involves a clinical application of principles and skills acquired, based on a comprehensive approach in the oral health care.

**41) 0802 425 Clinical Operative Dentistry-II (2 cr. /h)**

The course of operative dentistry consists of the prevention, diagnosis, treatment, and prognosis of the diseases and injuries inflicted upon the teeth. It serves as a defining clinical experience for the dental students by providing them with the opportunity to participate in the evaluation and management of discolored, fractured and endodontically treated teeth. The curriculum includes both didactic and clinical components, and involves a clinical training program. The clinical training program involves a clinical application of principles and skills acquired, based on a comprehensive approach in the oral health care.

**42) 0802 416 Clinical Prosthodontics-I (2 cr. /h.)**

This course consists of two main components - complete denture, and removable partial denture prosthodontics. Prosthodontic treatment planning principles are provided in lectures and the group seminars. The didactic component focuses on planning and integrating removable prosthodontic interventions within a continuum of comprehensive patient care. The clinical instructors will ensure that the knowledge acquired in the preclinical years of studying is towards evidence-based decision making regarding prosthodontic management of patients partially and completely edentulous jaws. The course will be presented in lectures and clinical sessions, the lectures cover various clinical techniques, the manipulation of dental materials, and how to use dental instruments and equipment.

**43) 0802 426 Clinical Prosthodontics-II (2 cr. /h)**

The clinical fixed partial denture prosthodontics course consists of the theoretical part and the clinical training. The students should know how to do clinical examination, proper diagnosis and sound treatment plan. At the end of this course all students will be familiar with the best techniques of fixed partial dentures treatment, and will develop their manual dexterity in all clinical aspects for the construction of this type of prosthesis. Every student should complete all the requirements needed, recognize the importance of the preservation of the prepared teeth, periodontal tissues, and other soft tissues of the oral cavity while performing all types of restorations.

**44) 0802 417 Clinical Endodontics-I (2 cr. /h.)**

This Course aims to enable the students to diagnose the need for endodontic therapy. Previous endodontic courses presented a biologic foundation relating to endodontic clinical diagnosis. Students are provided with the basic concepts of diagnosis and treatment planning including medically compromised patients. Advanced endodontic techniques and/ or treatment modalities for the following conditions are also discussed: endodontic retreatment, apexification and apexogenesis, internal and external resorption, traumatic injuries to teeth.

**45) 0802 427 Clinical Endodontics-II (2 cr. /h)**

This Course aims to enable the students to gain knowledge and experience in endodontic treatment. Students are provided with the techniques used to determine success or failure of Endodontic treatment and the indication and contraindication of endodontic surgery, describing procedures and materials. Advanced endodontic techniques and/ or treatment modalities for the following conditions are also discussed: single visit root canal therapy, bleaching of discolored teeth, restoring endodontically treated teeth and relationship of orthodontic treatment, periodontal lesion to endodontic treatment.

**46) 0803 412 Clinical Paediatric Dentistry-I (2 cr. /h.)**

This course will reinforce basic knowledge developed during third year preclinical course, and facilitate continued development as the student performs routine pediatric dentistry procedures commonly employed in general dental practice. This course will also provide the fourth year dental student with a defining clinical experience that will include: diagnosis, prevention and treatment of the different pathological conditions in pediatric patients; classification, diagnosis and management of different traumatic injuries of oral & dental

structures in primary and permanent teeth. Objectives of this course are to develop the foundational knowledge, skills and values necessary to independently perform diagnostic and clinical skills and participate safely in the care of pediatric patients.

**47) 0803 422 Clinical Paediatric Dentistry-II (2 cr. /h.)**

This course intends to inform and provide the dental student with sufficient knowledge on indications, techniques used in pharmacological methods of child's management including sedation and GA in management of anxious children. This course will also provide the fourth year dental student the team approach for the management of cleft lip & palate child at the level of the undergraduate students, dental management of special health care need children. They are also taught interceptive orthodontic methods in a growing child. Child abuse and neglect are discussed in relation to pediatric dentistry.

**48) 0803 413 Clinical Orthodontics-I (2 cr. /h.)**

This course introduces the dental student to the practice of orthodontics. The primary goal of this experience is to reinforce didactic concepts taught in the third year and build upon them in a manner that will better prepare the student to recognize, communicate and manage orthodontic problems in the general dentistry setting. In this manner, the student will be able to make proper diagnosis and differential diagnosis of patients of all ages, plan and execute the treatment of selected uncomplicated malocclusion cases.

**49) 0803 423 Clinical Orthodontics-II (2 cr. /h.)**

This course is intended to complement the orthodontic lectures and the pre-doctoral orthodontic experience; it will provide for each student to briefly present a clinical case and to view a large number of clinical orthodontic cases and establish combination between orthodontic treatment and the other four dental specialties - Pedodontics, Periodontics, Prosthodontics and Oral Surgery. Multidisciplinary treatment approaches will be discussed in the lectures. Clinically, they will be discussed in the patient examination and diagnosis sessions.

**50) 0804 410 Oral Diagnosis & Oral Medicine (3 cr. /h.)**

This course describes in details the art of history taking, examination, investigation of oro-facial lesions and interpretation of the results of investigations. The course also will help the students to learn etiopathogenesis of local disease processes in orofacial area along with oral manifestation of systemic diseases affecting the oral mucosa. Students are provided with the basic concept of oral manifestation of psychiatric diseases and their management.

**51) 0804 412 Clinical Periodontics-I (2 cr. /h.)**

The lecture and clinical training will prepare the students to understand the clinical phenomena in terms of underlying tissue changes and comprehensive nature of periodontal response to therapy. The course focuses on differential diagnosis, prognosis and treatment planning of different forms of periodontal diseases. The solution of periodontal problems can be incorporated into the practice of dentistry.

**52) 0804 422 Clinical Periodontics-II (2 cr. /h.)**

This course consists of a didactic and clinical component. It will cover: The treatment of different types of periodontal diseases. The interrelation between periodontics and related dental specialties. Introduction to the surgical approaches in the management of moderate to advanced periodontal diseases. To distinguish acute and chronic (mild, moderate and advanced) form of periodontal diseases and management by non-surgical and surgical treatment. To expose the students to focus on objectives of periodontal therapy, treatment planning and techniques including pre-prosthetic, pre-restorative, reconstructive surgery and knowledge necessary for advanced periodontal regeneration procedures.

**53) 0804 413 Clinical Oral Surgery-I (2 cr. /h.)**

This course will reinforce basic knowledge developed during third year preclinical course, and facilitate continued development as the student performs routine oral surgery procedures commonly employed in general dental practice. This course serves as a defining clinical experience for the dental students by providing them with the opportunity to participate in the evaluation and management of surgical patients such as with intraoral lesions, maxillary sinus and salivary gland pathologies to name a few. Objectives of this course are to develop the foundational knowledge, skills and values necessary to independently perform diagnostic and clinical skills and participate safely in the care of surgical patients.

**54) 0804 423 Clinical Oral Surgery-II (2 cr. /h.)**

The purpose of Clinical Oral Surgery II is to prepare the student to recognize advanced oral and maxillofacial surgery problems that in most cases will require referral to an oral and maxillofacial surgeon. Discussions will include diagnostic and treatment considerations relative to cases that require referral to an oral and maxillofacial surgeon as well as those that may be treated by the general dentist. The course will also describe the characteristics and surgical management of the more common trauma, anomalies and malignancies of the oral & maxillofacial region.

**55) 0805 511 Treatment Planning & Seminars-I (2 cr. /h.)**

Problem Oriented Learning (POL) is an instructional strategy to help students acquire and integrate basic science, behavioral, and clinical knowledge in the context of solving a patient problem. POL is one of many instructional techniques used to teach problem solving. Problem Oriented 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.

**56) 0805 521 Treatment Planning & Seminars-II (2 cr. /h.)**

This course is developed to give the students the experience to analyze their clinical cases, in order to enhance their clinical capability and patient management using case studies and patients presented by students. Treatment Planning & Seminar II will help the students to acquire and integrate their basic science, behavioral and clinical knowledge in the context of solving a patient's problem, including

communication and ethical aspects. Topics presented are in a multidisciplinary field of dentistry, such as ethics, health care delivery, communication skills and practice management. Ethics related cases discussions will provide the needed experience to the dental students to the medico-legal aspects related to their future practice, in the fields of: Medical Ethics, Medical Responsibility and Forensic Medicine.

**57) 0805 522 Research Project (1 cr. /h.)**

The course is designed to enable the student to conduct a research project under the guidance of a teaching faculty. Students learn how to approach a research topic of interest, apply the basic principles of research design and to formulate the appropriate methodology and analysis for the research.

**58) 0802 519 Clinical Dentistry-I (6 cr. /h.)**

The purpose of this course is to reinforce and refine patient management skills that students have been introduced to in the fourth year courses. It is designed to observe, evaluate, and subsequently assist students in understanding and practicing proper comprehensive patient care and management. This course focuses on refinement and integration of clinical skills. It does not contain any formal theoretical lecturing. Students are assigned in clinical blocks for patient care and treatment planning. These treatment plans and completed treatment are discussed, and are evaluated as to the rationale and sequences used. Taught by an interdisciplinary faculty, this course considers strategies and approaches for the integration of isolated dental procedures into an appropriately sequenced treatment plan for comprehensive patient care.

**59) 0802 529 Clinical Dentistry-II (7 cr. /h.)**

This course is a continuation of Clinical Dentistry I, and does not contain any formal theoretical lecturing. Small group clinical discussions and demonstrations will be taken by the faculty. It is designed to provide students with more clinical experience in the care of patients with a focus on an advanced comprehensive care and treatment planning. Students are assigned in clinical blocks for patient care and treatment planning. All treatment options are discussed so that the student learns the fundamentals of good treatment planning and patient care. Taught by an interdisciplinary faculty, this course considers strategies and approaches for the integration of isolated dental procedures into an appropriately sequenced treatment plan for comprehensive patient care. The course mainly focuses on improving the quality of comprehensive care expected of a graduating student.

**60) 0802 511 Geriatric Dentistry (1 cr. /h.)**

This course focuses on issues and concerns related to the rapidly increasing elderly population. It also provide the student with an understanding of the aging process and the multidisciplinary needs of the older patient. Myths and stereotypes about aging and the aged, which exist and influence the provision of health care to the older population, will be discussed and expelled. It will provide the student with a framework of knowledge about the biological, psychological, sociological, behavioral and general medical aspects of aging from which treatment can be planned and provided appropriately. A multidisciplinary team of speakers will present approaches that will help the student in integrating dental training and practice with the management, diagnosis and treatment of the older patient.

| 61) 0802 510 | Ethics | (1cr. /h.) |
|---|---|---|

Dental ethics is the systematic and critical study of morality as it pertains to the practice of dentistry. The course consists of 16 hours of classroom lecture and discussion. It is designed to heighten students' awareness of the importance of ethical issues as they relate to dentistry. The curriculum provides students with an understanding of ethical principles, which have direct relevance to students' training and future practice experience. It focuses on common ethical dilemmas found in the relationships between dentist and patient, between dentists themselves, and between dentist and society.

| 62) 0803 510 | Applied Biostatistics | (2 cr. /h.) |
|---|---|---|

This course provides the dental students with the necessary background of specific statistics relevant to the medical / dental fields in addition to adequate knowledge of study design in medical & dental research, enabling the dental student to critically evaluate and apply the appropriate statistics to dental and medical research.

| 63) 0805 523 | Practice Management | (1cr. /h) |
|---|---|---|

This course is designed to provide the senior dental student with a general introduction to the basic principles of dental practice management. Primary focus will be on developing an understanding of various management concepts, processes & its role in obtaining an effective overall management of dental practice. The topics focused on include staff management, patient management, legal concepts and terminologies, office design, equipment placement, occupational hazard, appointments management, records management, dental insurance system, inventory and supply management.

| 64) 0805 524 | Equipment Maintenance | (1cr. /h) |
|---|---|---|

This course focus on basic principles of various dental equipment, their operations and general preventive maintenance procedures. It also covers basic electrical theories and electrical safety precautions while dealing with dental equipment. Additionally advances in dental equipment technologies will also be covered in this course. This course helps the students to build the required skills and confidence to perform routine maintenance and minor repairs without the help of Biomedical technicians/Engineers.

| 65) 0804 515 | Emergency Dental Care | (2 cr. /h.) |
|---|---|---|

This course provides a study of dental office emergencies with emphasis on prevention, prompt recognition and effective emergency care. Emphasis is also placed on etiology of common chronic oral diseases, treatment of specific dental emergencies and applicable assessment methods used in the prevention of emergencies related to the particular disease process. The course also deals with the use of emergency drugs and equipment.

**66) 0804 526 Hospital Dentistry (2 cr. /h.)**

Fifth year students are assigned for six weeks to an affiliated hospital. During this rotations, students are assigned to hospitalized patients to reinforce principles of physical diagnosis for patients with severe medical problems, learn to request and answer consultations.

**67) 0804 527 Lasers & Modern Technology (1 cr. /h.)**

This course is designed to provide the students with the fundamentals of laser technology and its use in dental practice including oral and maxillofacial surgery, periodontics, preventive and operative dentistry with more emphasis on the understanding and appreciation of laser safety measures. In addition, this course will introduce the students to some of the latest technologies in the dental field and their applications.

**68) 0804 518 Implantology (1 cr. /h.)**

This comprehensive lecture course presents the scientific basis and clinical applications of modern dental implantology techniques, and cover both the surgical procedures and periodontics and prosthodontics consideration in implant dentistry. Students perform implantology procedures in Lab setting.

**69) 805 435 Internal Clinical Training Fourth Year (2 cr. /h.)**

This clinical course is in the summer semester of the fourth year of the dental curriculum. It is designed to provide students with clinical experience in the care of patients in the areas of Periodontics, Operative Dentistry, Endodontics, Pediatric Dentistry and Oral Surgery with a focus on comprehensive care and treatment planning. There is no theoretical component to this course. Students are assigned patients having various dental problems, and they have to formulate a comprehensive diagnosis and treatment planning, including patient and clinical management.

**70) 805 535 Internal Clinical Training Fifth Year (2 cr. /h.)**

This clinical course is in the summer semester of the fifth year of study. It is designed to provide students with clinical experience in the care of patients in the areas of Periodontics, Operative Dentistry, Endodontics, Pediatric Dentistry and Oral Surgery with a focus on comprehensive care and treatment planning. There is no theoretical component to this course. It reinforces and refines the student's knowledge and skill required for the graduate level of clinical practice of dentistry. Students are assigned patients having various dental problems, and they have to formulate a comprehensive diagnosis and treatment planning, including patient and clinical management. Students are expected to perform comprehensive care at an advanced level from that of the previous summer semester.

# College of Education and Basic Sciences

## Introduction

The College of Education & Basic Sciences (CEBS) is the founding college of Ajman University (AU). 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 three Bachelor Programs in Education, a Professional Graduate Diploma in Teaching:

- Bachelor of Education in Teacher Training Program in Arabic Language & Islamic Studies (in Arabic) (Ajman & Fujairah Campuses)
- Bachelor of Education in Teacher Training Program in Mathematics & Science (in Arabic) (Ajman & Fujairah Campuses)
- Bachelor of Education in Teaching English as a Foreign Language
- Professional Diploma in Teaching (Graduate Program, in Arabic) (Ajman & Fujairah Campuses)

The Bachelor Program in Educational Technology is discontinued for lack of enrolled students.

In addition, the Department of Mathematics and Science in the College of Education and Basic Sciences offers all courses in Basic Sciences such as Mathematics, Physics, and Statistics for students enrolled in the other colleges of the University.

## Mission

In line with the vision and mission of Ajman University , the College of Education and Basic Sciences constantly endeavors to equip its students with a threefold system of values, knowledge and skills to enable them to acquire the adequate resources and practices, necessary for them to success in their post-university life.

## Objectives

1- Preparing class teachers for basic education level (first & second cycle) as well as teachers for the preparatory level core subjects (Arabic & Islamic studies, Maths & Science and English Language).
2- Preparing individuals specialized in education technology who are capable of helping teachers to develop educational situations.
3- Adding to learners knowledge and experience in using accurate Arabic language in their work as well as giving a special care to foreign languages especially English.
4- Helping learners acquire an Islamic culture that can help in guiding students.
5- Showing the importance of Arabic and Islamic civilization and its role in the fields .
6- Helping students acquire psychological knowledge and foundations of curriculum and using the best ways to enhance learning develop.
7- Emphasizing on the importance of different Sciences in developing technology which help solve a lot of education problems.

8- Enabling students to gain the modern education technology and teaching methodology which enables them to solve some education problems.
9- Emphasizing on conducting educational researches that help developing the educational process.
10- Participating in lectures, workshops, forums and local and international conferences.

## TEFL Program

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.

### Goals

The goals of the TEFL program are to provide the society and the field of Education with graduates who have the ability to:

- Teach in a multi-national society and embrace cultural diversity
- Use English as a foreign language in diverse contexts
- Promote a culture of learning among students at schools
- Implement interactive teaching methodologies in the classroom
- Use technology as an aid to language teaching and learning
- Apply decision-making skills to various teaching situations
- Interact with students, parents, colleagues and school principal and administrators
- Identify and solve problems in the workplace
- Demonstrate a life-long learning attitude
-

### Program Outcomes

- On successful completion of the TEFL program, graduates are expected to:

1. Identify learning theories and various methods of teaching English as a foreign language.
2. Show a broad and coherent knowledge of the fundamental concepts, principles and techniques of language learning.
3. Demonstrate knowledge of integrating technology and methods of teaching English including emerging trends in the field of educational technology.
4. Demonstrate effective communication skills using English orally and in writing to present ideas and engage in meaningful interaction.
5. Employ high-level thinking skills in lesson planning, lesson execution and evaluation of the teaching and learning processes.

6. Implement researching skills in data gathering, data analysis and presentation of results to identify and solve field- related problems.
7. Show independent decision-making on handling learning difficulties and classroom management problems and come up with appropriate solutions.
8. Interact with peer colleagues, qualified cooperative teachers and school administration in different situations.
9. Apply ethical standards to the teaching/ learning practice.
10. Use positive criticism and feedback on their learning/ teaching performance to inform their approaches to professional development

**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 AU 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. College Requirements | |
| (a) College General Education Courses | 6 |
| (b) College Required Courses | 15 |

| | |
|---|---|
| (c) College Elective Courses | 3 |
| 3. Major Requirements | |
| (a) Major Required Courses | 63 |
| (b) Major Elective Courses | 12 |
| Total Credit Hours | 126 |

### College General Education Courses (6 Credit hours)

| Number | Course Title | Credit hrs. | Prerequisites |
|---|---|---|---|
| 0500222 | Technology in Education | 3 | 0104110 |
| 0560102 | Study Skills | 3 | None |

### College 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 |

### 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 |

### 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 |

**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 |

## 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.

## 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.

### Program Outcomes

1. To apply knowledge of mathematics, sciences and Technology in education.
2. To use basic concepts in Education, Psychology, Teaching Methods and Curriculum Design.
3. To practice the knowledge of mathematics and sciences through differential, integral calculus, and basic sciences necessary.
4. To Practice the basic skills of computer, educational technology and internet efficiently to acquire and present mathematical and sciences knowledge to the learners.
5. To become an independent teacher/learner that recognize the need for engage in life-long learning.
6. To understand the professional and ethical responsibility for being a teacher of mathematics and science.

### 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.

### Career Opportunities

- Teaching in the elementary and secondary schools.
- Working in institutions related to the areas of media, endowment (Awqaf) Authority, legislative courts, educational management etc.

## 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.

### Career Opportunities

- Teaching in the elementary and secondary schools.
- Working in institutions related to the areas of media, endowment (Awqaf) Authority, legislative courts, educational management etc.

## Professional Diploma in Teaching (Graduate Program)

### Overview:

The Professional Diploma program in teaching is offered by the Department of Educational Sciences. The program aims to qualify bachelor's degree graduates who wish to join the teaching profession. It also contributes in improving the qualifications of teachers who are working in the field of education and in developing them educationally. The general objectives and outcomes of the program are derived from the basic educational knowledge and skills that the teacher must have in light of the most recent relevant demands and the international standards.

### The program Goals:

1. Provide the learner with the knowledge and skills that are related to the educational qualifications of the areas of: teaching methods, psychology, curricula, classroom management, testing and evaluation.
2. Prepare the learner to be able to obtain the basic professional skills necessary to perform his or her duties successfully.
3. Develop the learner' necessary skills in the use of modern technologies and their applications in the classroom.
4. Develop the learner's social communication skills.
5. Develop the learner's ability to rely on himself or herself and take the appropriate decision at the right time.
6. Apply the scientific research skills and the use of statistical methods in conducting a research.

## Learning Outcomes:

On successful completion of the general education program the graduate will be able to:

1. Identify the steps to build a curriculum and its components.
2. Apply the principles of teaching and learning theories in the classroom environment or learning situations.
3. Use the technology and learning resources of the learning situation to develop the capacities, knowledge, and skills among students.
4. Implement research and studies that contribute to the development and improvement of education and the learning process.
5. Design achievement tests according to the students' levels and their developmental characteristics.
6. Analyze students' classroom problems and find solutions for them.
7. The Professional employment of the results of a research in the improvement of the educational process at school.

## Admission Requirements

- Certified Bachelor degree from an accredited university or its equivalent with a minimum GPA of 2.0.
- Passing an interview that is run by the college.

## Graduation requirements

- Graduate students are required to complete a total of 24 credit hours and a minimum of 2.0 GPA out of 4.0.
- 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.

## Career Opportunities

- Teaching in secondary and high schools.
- Working in institutions related to the areas of media, endowment (Awqaf) authority, Sharia courts, educational management, etc.

## Faculty Members

**Ajman Campus**

| Faculty Members | | | | | |
|---|---|---|---|---|---|
| Prof. Dr. Cheikh Ould Hamoud, | Professor Dean | Mathematics | PhD | 1998 | Univ. of Mohammaed V - Agdal / Morroco |
| Dr. Mazen Ahmed Jaradat, Head of Department of Arabic &Islamic studies | Associate Professor | Arabic Language | PhD | 1993 | Ain Shams Univ, Egypt |
| Dr. Sami Al-Qatawneh, Head of Education Science. Department | Assistant Professor | Methods of Teaching Arabic | PhD | 2005 | Jordan |
| Dr. Mohamed Farhat Mehdi, | Assisstant Professor | Applied Linguistics | PhD | 1987 | University of Texas-AUS |
| Prof. Dr. Samir Hadid | Professor | Mathematics | PhD | 1979 | London Univ. |
| Prof.Dr. Kubais S. A.Fahady | Professor | Mathematics | PhD | 1972 | The Univ. of Hull / UK |
| Dr. Omar Akesh | Associate Professor | Arabic Language | PhD | 1993 | Damascus, Syria |
| 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. Abdul Kareem A. Yaseen | Associate Professor | Mathematics | PhD | 1987 | Wales Univ. / UK |

| | | | | | |
|---|---|---|---|---|---|
| Dr. Atef Fayez Abd El Kader Head of Department of Math & Science. | Assistant Professor | Physics | PhD | 1998 | The Queens Univ / UK |
| Dr. Najah Shabib | Assistant Professor | Education | PhD | 2001 | Wales Univ. / UK |
| Dr. Randa Abdou Soliman Head of TEFL Department | Assistant Professor | Curricula & Methodology/ TEFL | PhD | 2011 | Alexandria Univ. / Egypt |
| Dr. Ghassan Mohamed Alchikh | Assistant Professor | Islamic Studies | PhD | 2012 | Damascus Univ. / Syria |
| Mr. Mahmoud Ibrahim Y. khrais | Lecturer | Mathematics | Master | 1982 | Sam Houston |
| Dr Mohd Elmagzoub Ahmed Babiker | Assistant Professor | Education Technology | PhD | 207 | Univ. Khartoum |
| Dr. Elmuez Dawi | Assistant Professor | Physics | PhD | 2009 | Utrecht University - Netherlands |
| Ms. Khitam Aqel | Lecturer | Mathematics | Master | 2015 | American University of Sharjah-AUS |
| Mr. Samer Zyoud | Lecturer | Physics | Master | 2003 | Baghdad University - Iraq |
| Ms. Enas Khalil Alquqa | Lecturer | Business-HR | Master | 2013 | Ajman University Of science & Technology |
| Ms. Ahood Al Rawashdeh | Lecturer | TESL | Master | 2002 | University of Central Oklahoma |
| Ms. Tizreena Ismail | Lecturer | English Language | Master | 2008 | Cardiff University |
| Ms. Asifa Alhayali | Lecturer | Physics | Master | 2013 | Umea University Sweden |

# 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, electronics, communication, control, IT, architecture, interior design, medicine, transportation and agriculture.

## Mission

Consistent with the University mission, the College of Engineering has been established to provide high quality education in engineering. The College programs focus on teaching students the fundamental principles of engineering and their applications to solving real-world problems. It places special emphasis on developing the technical as well as generic skills of its students so that they are well qualified for gainful employment in their area of specialization and can effectively contribute to the technological advances of the community. The programs also seek to prepare the students to undertake graduate studies in their area of specialization.

## Goals

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:

- Bachelor of Science in Electrical Engineering (Ajman & Fujairah Campuses)
    - Instrumentation and Control
    - Electronics and Communication
    - Power and Renewable Energy
- Bachelor of Science in Biomedical Engineering (Ajman Campus)
- Bachelor of Science in Architectural Engineering (Ajman Campus)

- Bachelor in Interior Design (Ajman & Fujairah Campuses)

**Graduate Program:** Master of Science in Urban Design

### Admission Requirements for 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 (instrumentation and control, electronics and communication, power and renewable energy), 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

### Academic Staff

College members hold terminal degrees from internationally-recognized universities and are well versed in their areas of specialization.

### 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
- Measurements Laboratory
- Digital Design Laboratory
- Control Laboratory
- Computer Laboratory
- Projects Laboratory

### Studios

The College accommodates modern studios equipped with a variety for architectural engineering and interior design students.

### 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.

### 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, swimming pool, 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 engineering 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.

## Bachelor of Science in Electrical Engineering

### Mission of EE Department

The Department of Electrical Engineering aims to provide high quality electrical engineering education to its students by focusing on developing their technical as well as generic skills so that they are well qualified for gainful employment in electrical engineering discipline and can effectively contribute to the advancement of the community. It also aims to promote research and community engagement as well as prepare its students for graduate studies in electrical engineering.

### The Electrical Engineering Program

The Electrical Engineering program offered by the Department of Electrical Engineering is appropriate to the University mission and its design and composition as well as its delivery and assessment of learning outcomes are in accordance with international academic norms. There is a regular process of assessment and evaluation and the results of such evaluation are regularly utilized for continuous improvement of the program. Its program learning outcomes are appropriate to the level of qualifications awarded and are consistent with the UAE Qualification Framework (QFEmirates).

The EE program requires a total of 142 credit hours for graduation. This includes 3 credit hours for 12 weeks of practical training (internship) in engineering organizations preceded by 2 weeks of intensive internal training in the College of Engineering. The remaining 139 credit hours of course work are distributed over 8 full semesters and one summer semester. Accordingly, a student can complete all the requirements for graduation in a period of four years. For graduation, a student must have cumulative GPA of at least 2.0. Depending upon the chosen concentration, students are awarded degrees as follows:

- B.Sc in Electrical Engineering (Electronics and Communication)
- B.Sc in Electrical Engineering (Instrumentation and Control)
- B.Sc in Electrical Engineering (Power and Renewable Energy)

The first three years of the study plan will be exactly the same as those of other concentrations and only in the final (fourth) year, students will take some different specialization courses.

## Program Goals

The EE Program Goals, also referred to as Program Educational Objectives (PEOs), are stated below.

Graduates of EE program shall be:

1. Contributing as productive individuals, team members, and leaders in electrical engineering profession.
2. Updating and adapting their knowledge and abilities in their major field and associated disciplines.
3. Engaging with the community at all levels in an ethical and professional manner.
4. Pursuing graduate studies in electrical engineering and related fields both inside and outside the United Arab Emirates.

## Program Outcomes (POs)

The Program Outcomes (POs) are also referred to as Student Outcomes (SOs). To combine both terminologies, these outcomes may also be referred to as Student/Program Outcomes. The EE program has 12 Program Outcomes, stated as A to L, as given below.

(A) an ability to apply knowledge of mathematics, science, and engineering

(B) an ability to design and conduct experiments, as well as to analyze and interpret data

(C) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability

(D) an ability to function on multidisciplinary teams

(E) an ability to identify, formulate, and solve engineering problems

(F) an understanding of professional and ethical responsibility

(G) an ability to communicate effectively

(H) the broad education necessary to understand the impact of engineering solution in a global, economic, environmental, and societal context

(I) a recognition of the need for, and an ability to engage in life-long learning

(J) a knowledge of contemporary issues

(K) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

(L) an ability to demonstrate broad knowledge in the field of electrical engineering and specialized knowledge in chosen concentration.

## Relationship of Program Outcomes to Program Goals

The Program Goals, based on the needs of its constituents, are broad statements. On the other hand, the Program or Student Outcomes (POs or SOs), derived from Program Goals, are defined in measurable terms

and represent the abilities and attributes of students at the time of their graduation. Accordingly, there must be a well-defined relationship between Program Outcomes and Program Goals as the former will assist in attaining the latter. For the EE program, this relationship is given in Table 1 which shows how SOs will prepare graduates to attain the Program Goals.

**Table 1: Relationship of Program Outcomes and Program Goals**

| Program Outcomes | Program Goals (Abbreviated) | | | |
|---|---|---|---|---|
| | **Goal #1** Productively contributing in EE Profession | **Goal #2** Updating their knowledge and abilities | **Goal #3** Ethical and professional community engagement | **Goal #4** Pursuing graduate studies |
| A | ✓ | | | ✓ |
| B | ✓ | | | ✓ |
| C | ✓ | | | ✓ |
| D | ✓ | | | |
| E | ✓ | | | ✓ |
| F | | | ✓ | |
| G | ✓ | | | ✓ |
| H | | | ✓ | |
| I | | ✓ | | ✓ |
| J | | | ✓ | |
| K | ✓ | ✓ | | ✓ |
| L | ✓ | ✓ | | ✓ |

The rationale for the above table is as follows:

**Goal #1:** The most relevant program outcomes are those related to technical competence, i.e. A, B, C, E, K, and L. Outcomes D and G are relevant because teamwork and effective communication play an important role in professional environment.

**Goal #2:** Outcomes I, K, L are relevant because with their current knowledge and skills as well as ability for life-long learning, graduates will be able to continually update their knowledge and skills.

**Goal #3:** Outcomes F, H, J are relevant since in addition to an understanding of professional and ethical responsibility, it is also important to have knowledge of contemporary issues and the impact of engineering solutions while engaging with the community at different levels.

**Goal #4:** For graduate studies all outcomes related to technical competence, i.e. A, B, C, E, K, and L are relevant. In addition, outcomes G and I are important because they relate to communication skills and self-learning ability.

## Alignment of Program Outcomes to QFEmirates

The Program Outcomes are consistent with the level of qualification awarded as defined in the UAE Qualification Framework. Out of twelve Program Outcomes, four each are for knowledge, skills, and competencies, as follows:

### Knowledge:

1) An ability to apply knowledge of mathematics, science, and engineering.
2) An ability to identify, formulate, and solve engineering problems.
3) A knowledge of contemporary issues.
4) An ability to demonstrate broad knowledge in the field of electrical engineering and specialized knowledge in chosen concentration.

### Skills:

1) An ability to design and conduct experiments, as well as to analyze and interpret data.
2) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
3) An ability to communicate effectively.
4) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

### Competencies:

1) An ability to function on multidisciplinary teams.
2) An understanding of professional and ethical responsibility.
3) Understanding of the impact of engineering solution in a global, economic, environmental, and societal context.
4) A recognition of the need for, and an ability to engage in life-long learning.

The alignment of Program Outcomes to QFEmirates is shown below in Table 2.

**Table 2: Alignment of Program Outcomes to QFEmirates**

| Program Outcomes | Strand 1 Knowledge | Strand 2 Skills | Strand 3 Autonomy & Responsi-bility | Strand 4 Role in Context | Strand 5 Self-Development |
|---|---|---|---|---|---|
| **A.** an ability to apply knowledge of mathematics, science, and engineering | X | | | | |
| **B.** an ability to design and conduct experiments, as well as to analyze and interpret data | | X | | | |
| **C.** an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability | | X | | | |
| **D.** an ability to function on multidisciplinary teams | | | X | | |
| **E.** an ability to identify, formulate, and solve engineering problems | X | | | | |
| **F.** an understanding of professional and ethical responsibility | | | | X | |
| **G.** an ability to communicate effectively | | X | | | |
| **H.** the broad education necessary to understand the impact of engineering solution in a global, economic, environmental, and societal context | | | | X | |
| **I.** a recognition of the need for, and an ability to engage in life-long learning | | | | | X |
| **J.** a knowledge of contemporary issues | X | | | | |
| **K.** an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice | | X | | | |
| **L.** an ability to demonstrate broad knowledge in the field of electrical engineering and specialized knowledge in chosen concentration. | X | | | | |

## Admission Requirements

Admission to the electrical 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 electrical engineering 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, major service companies for electronic appliances, mobile telephone industry, digital communication and networking industry, television and radio services, telecommunication companies, electrical power generation companies, electrical power distribution services, and renewable energy system design companies.

## Graduation Requirements

The Bachelor of Science degree is awarded upon the fulfillment of the following:

- Successful completion of all courses in the program curriculum (139 credit hours)
- Successful completion of 2 weeks of internal training and 12 weeks of external training at engineering companies (3 credit hours)
- The cumulative grade points average CGPA is at least 2.0

## Degree requirements

The B.Sc. degree in Electrical Engineering requires the completion of 139 Cr. Hrs of course work, distributed according to the following plan, plus 3 credit hours of practical training or internship (total of 142 credit hours):

| Type of Courses | Credit hours |
|---|---|
| 1. University General Education Requirements | |
| (a) University Required Courses | 15 |
| (b) University Elective Courses | 6 |
| 2. College Required Courses | 36 |
| 3. EE Required Courses | 57 |
| 4. Specialization Courses | 19 |
| 5. Graduation Projects I & II | 6 |
| Total Credit Hours (course work) | 139 |

## University General Education Requirements

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

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| 1010000 | Orientation | 1 | 0 | 0 | 0 | --- |
| 1021100 | Islamic Culture | 3 | 0 | 1 | 3 | --- |
| 1021400 | Communication Skills in Arabic Language | 3 | 0 | 0 | 3 | --- |
| 1031331 | Statistics | 2 | 2 | 0 | 3 | --- |
| 1041200 | IT Fundamentals | 2 | 2 | 0 | 3 | --- |
| 1141300 | Innovation and Entrepreneurship | 3 | 0 | 0 | 3 | 60 credit hours |

**(b) University Elective Courses (Humanities or Arts) (3 credit hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1201150 | Legal Culture | 3 | 0 | 0 | 3 | --- |
| 1121400 | Introduction to Art | 3 | 0 | 0 | 3 | --- |
| 1071300 | Introduction to Digital Photography | 3 | 0 | 0 | 3 | --- |
| 1091100 | Introduction to Aesthetics | 3 | 0 | 0 | 3 | --- |
| 1091200 | French Language | 3 | 0 | 0 | 3 | --- |
| 1151500 | The Art of Written Expression | 3 | 0 | 0 | 3 | --- |
| 1191400 | Academic Writing | 3 | 0 | 0 | 3 | --- |
| 1191500 | The Art of Public Speaking | 3 | 0 | 0 | 3 | --- |
| 1021500 | Introduction to Hadeeth and Sunna | 3 | 0 | 0 | 3 | --- |

**(c) University Elective Courses (Social or Behavioral Sciences) (3 credit hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1141100 | Economic Concepts | 3 | 0 | 0 | 3 | --- |
| 1151600 | Emirates Society | 3 | 0 | 0 | 3 | --- |
| 1151300 | General Psychology | 3 | 0 | 0 | 3 | --- |
| 1191100 | English Communication Skills | 3 | 0 | 0 | 3 | --- |
| 1191600 | Communication between Cultures | 3 | 0 | 0 | 3 | --- |
| 1131400 | Library Information System | 3 | 0 | 0 | 3 | --- |
| 1071400 | Critical and Analytical Thinking | 3 | 0 | 0 | 3 | --- |

**College Required Courses (36 Cr. Hrs.)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite(s) |
|---|---|---|---|---|---|---|
| 1031200 | Environmental Sciences | 3 | 0 | 0 | 3 | --- |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2171010 | Engineering Mathematics I | 3 | 0 | 2 | 3 | --- |
| 2171210 | Engineering Physics I | 3 | 2 | 2 | 4 | --- |
| 2171410 | Chemistry for Engineers | 2 | 2 | 0 | 3 | --- |
| 2131400 | Computer Programming | 3 | 0 | 2 | 3 | 1041200 |
| 2171020 | Engineering Mathematics II | 3 | 0 | 2 | 3 | 2171010 |
| 2171220 | Engineering Physics II | 3 | 2 | 2 | 4 | --- |
| 2171500 | Introduction to Engineering | 1 | 0 | 1 | 1 | --- |
| 2173220 | Report Writing & Presentation | 3 | 0 | 1 | 3 | 2171500 +Junior Standing |
| 2172030 | Engineering Mathematics III | 3 | 0 | 2 | 3 | 2171020 |
| 2172040 | Engineering Mathematics IV | 3 | 0 | 2 | 3 | 2172030 |
| 2174050 | Engineering Management | 3 | 0 | 0 | 3 | 2173220 |

**EE Required Courses (57 Cr. Hrs.)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2132350 | Logic Design | 3 | 2 | 2 | 4 | 1041200 |
| 2132500 | Engineering Analysis | 3 | 0 | 2 | 3 | 2131400 |
| 2152110 | Circuit Analysis I | 3 | 2 | 2 | 4 | 2171220 |
| 2112510 | Electronic Devices & Circuits I | 3 | 2 | 2 | 4 | 2152110 |
| 2122210 | Signal and Systems | 3 | 0 | 2 | 3 | 2172030 |
| 2152120 | Circuit Analysis II | 3 | 2 | 2 | 4 | 2152110 |
| 2113520 | Electronic Devices & Circuits II | 3 | 2 | 2 | 4 | 2112510 |
| 2123150 | Principles of Communications | 3 | 2 | 2 | 4 | 2122210 |
| 2123850 | Electromagnetic Fields & Wave Propagation | 3 | 0 | 2 | 3 | 2171220 2172030 |
| 2143520 | Control Systems | 3 | 2 | 2 | 4 | 2122210 |
| 2113670 | Design with Integrated Circuits | 3 | 2 | 0 | 4 | 2113520 |
| 2133440 | Microcontrollers and Applications | 3 | 2 | 0 | 4 | 2132350 2131400 |
| 2143750 | Sensors and Instrumentation | 3 | 2 | 0 | 4 | 2113520 2132500 |
| 2153650 | Power Systems & Electrical Machines | 3 | 2 | 0 | 4 | 2152120 |
| 2173630 | Probability and Random Variables | 3 | 0 | 2 | 3 | 2171020 |
| 2174940 | Senior Seminar | 1 | 0 | 0 | 1 | 2173220 |

## Specialization Required Courses & Graduation Projects (16 Cr. Hrs.)

### Electronics & Communication Concentration

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2114440 | Optoelectronics | 3 | 0 | 0 | 3 | 2113520<br>2123850 |
| 2124560 | Communication & Switching Networks | 3 | 2 | 0 | 4 | 2123150 |
| 2124670 | Wireless Communication | 3 | 0 | 0 | 3 | 2123150<br>2123850 |
| 2164910 | Graduation Project I | 1 | 4 | 0 | 3 | 2113670 |
| 2164930 | Graduation Project II | 1 | 4 | 0 | 3 | 2164910 |

## Specialization Required Courses & Graduation Projects (16 Cr. Hrs.)

### Instrumentation & Control Concentration

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2144380 | Power Switching Devices | 3 | 0 | 0 | 3 | 2113520<br>2152120 |
| 2144420 | Industrial Control systems | 3 | 2 | 2 | 4 | 2143520 |
| 2144440 | Computer Based Instrumentation and control | 2 | 2 | 0 | 3 | 2143750<br>2133440 |
| 2144910 | Graduation Project I | 1 | 4 | 0 | 3 | 2113670 |
| 2144930 | Graduation Project II | 1 | 4 | 0 | 3 | 2144910 |

## Specialization Required Courses & Graduation Projects (16 Cr. Hrs.)

### Power & Renewable Energy Concentration

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2154550 | Renewable Energy Systems | 3 | 2 | 0 | 4 | 2153650 |
| 2154640 | Power System Analysis | 3 | 0 | 0 | 3 | 2153650 |
| 2154620 | Smart Grid Renewable Energy Systems | 3 | 0 | 0 | 3 | 2154550 |
| 2154910 | Graduation Project I | 1 | 4 | 0 | 3 | 2113670 |
| 2154930 | Graduation Project II | 1 | 4 | 0 | 3 | 2154910 |

## Specialization Elective Courses (9 Cr. Hrs.)

### Electronics & Communication Concentration

The student will take three of the following Specialization Electives as approved by the academic advisor. At least two of these courses must have the course code as 2114xxx or 2124xxx or 2164xxx. Advisor's approval is required if the third elective is not from the listed electives.

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2114180 | VLSI Design | 3 | 0 | 0 | 3 | 2113520<br>2132350 |
| 2124340 | Digital Signal Processing | 3 | 0 | 0 | 3 | 2122210 |
| 2124610 | Telecommunication Systems | 3 | 0 | 0 | 3 | 2123150 |
| 2144420 | Industrial Control Systems | 3 | 2 | 2 | 4 | 2143520 |
| 2154550 | Renewable Energy Systems | 3 | 2 | 0 | 4 | 2153650 |
| 2164900 | Selected Topics in Electr. and Comm. | 3 | 0 | 0 | 3 | 2113520<br>2123150 |
| 2164950 | Directed Study in Electr. And Comm. | 3 | 0 | 0 | 3 | 2113670+2123150Advisor's approval |

## Specialization Elective Courses (9 Cr. Hrs.)

### Instrumentation and Control Concentration

The student will take three of the following Specialization Electives as approved by the academic advisor. At least two of these courses must have the course code as 2144xxx. Advisor's approval is required if the third elective is not from the listed electives.

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2124560 | Communication & Switching Networks | 3 | 2 | 0 | 4 | 2123150 |
| 2144510 | Fuzzy Logic and Neural Networks | 3 | 0 | 0 | 3 | 2132350 |
| 2144720 | Biomedical Instrumentation | 3 | 0 | 0 | 3 | 2143750 |
| 2154550 | Renewable Energy Systems | 3 | 2 | 0 | 4 | 2153650 |
| 2154380 | Power System Protection and Control | 3 | 0 | 0 | 3 | 2143520<br>2153650 |
| 2144900 | Selected Topics in Instrumentation & Control | 3 | 0 | 0 | 3 | 2143750 |
| 2144950 | Directed Study in Instrumentation & Control | 3 | 0 | 0 | 3 | 2143750+Advisor's approval |

## Specialization Elective Courses (9 Cr. Hrs.)

**Power & Renewable Energy Concentration**

The student will take three of the following Specialization Electives as approved by the academic advisor. At least two of these courses must have the course code as 2154xxx. Advisor's approval is required if the third elective is not from the listed electives.

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2144380 | Power Switching Devices | 3 | 0 | 0 | 3 | 2113520<br>2152120 |
| 2144420 | Industrial Control Systems | 3 | 2 | 2 | 4 | 2143520 |
| 2154380 | Power System Protection and Control | 3 | 0 | 0 | 3 | 2143520<br>2153650 |
| 2154470 | Power Generation and Transmission | 3 | 0 | 0 | 3 | 2153650 |
| 2154720 | Electrical Power Distribution Systems | 3 | 0 | 0 | 3 | 2153650 |
| 2154900 | Selected Topics in Power & Renewable Energy | 3 | 0 | 0 | 3 | 2154550 |
| 2154950 | Directed Study in Power & Renewable Energy | 3 | 0 | 0 | 3 | 2154550+Advisor's approval |

# Study Plan

## FIRST YEAR

**Fall Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1010000 | Orientation | **0** | 1 | -- | -- | --- |
| 1021400 | Communication Skills in Arabic Language | **3** | 3 | -- | -- | --- |
| 1041200 | IT Fundamentals | **3** | 2 | 2 | -- | --- |
| 2171010 | Engineering Mathematics I | **3** | 3 | -- | 2 | --- |
| 2171210 | Engineering Physics I | **4** | 3 | 2 | 2 | --- |
| 2171410 | Chemistry for Engineers | **3** | 2 | 2 | -- | --- |
| 2171500 | Introduction to Engineering | **1** | 1 | -- | 1 | --- |
| | | **17** | 15 | 6 | 5 | |

**Spring Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1021100 | Islamic Culture | **3** | 3 | -- | 1 | --- |
| 2131400 | Computer Programming | **3** | 3 | -- | 2 | 1041200 |
| 2171020 | Engineering Mathematics II | **3** | 3 | -- | 2 | 2171010 |
| 2171220 | Engineering Physics II | **4** | 3 | 2 | 2 | --- |
| xxxxxxx | University Elective I | **3** | 3 | -- | -- | --- |
| | | **16** | 15 | 2 | 7 | |

**Summer Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1031200 | Environmental Sciences | **3** | 3 | -- | -- | --- |
| xxxxxxx | University Elective II | **3** | 3 | -- | -- | --- |
| | | **6** | 6 | 0 | 0 | |

## SECOND YEAR

**Fall Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1031331 | Statistics | **3** | 2 | 2 | -- | --- |
| 2132350 | Logic Design | **4** | 3 | 2 | 2 | 1041200 |
| 2132500 | Engineering Analysis | **3** | 3 | -- | 2 | 2131400 |
| 2152110 | Circuit Analysis I | **4** | 3 | 2 | 2 | 2171220 |
| 2172030 | Engineering Mathematics III | **3** | 3 | -- | 2 | 2171020 |
| | | **17** | 14 | 6 | 8 | |

**Spring Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2112510 | Electronic Devices & Circuits I | **4** | 3 | 2 | 2 | 2152110 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2122210 | Signals and Systems | **3** | 3 | -- | 2 | 2172030 |
| 2152120 | Circuit Analysis II | **4** | 3 | 2 | 2 | 2152110 |
| 2172040 | Engineering Mathematics IV | **3** | 3 | -- | 2 | 2172030 |
| 1141300 | Innovation and Entrepreneurship | **3** | 3 | -- | -- | 60 credit hours |
| | | **17** | 15 | 4 | 8 | |

## THIRD YEAR

**Fall Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2113520 | Electronic Devices & Circuits II | **4** | 3 | 2 | 2 | 2112510 |
| 2123150 | Principles of Communication | **4** | 3 | 2 | 2 | 2122210 |
| 2123850 | Electromagnetic Fields and Wave Propagation | **3** | 3 | -- | 2 | 2171220<br>2172030 |
| 2153650 | Power Systems and Electrical Machines | **4** | 3 | 2 | -- | 2152120 |
| 2173630 | Probability and Random Variables | **3** | 3 | -- | 2 | 2171020 |
| | | **18** | 15 | 6 | 8 | |

## Internal Training (2 Weeks in Spring Break)

**Spring Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2113670 | Design with Integrated Circuits | **4** | 3 | 2 | -- | 2113520 |
| 2143520 | Control Systems | **4** | 3 | 2 | 2 | 2122210 |
| 2143750 | Sensors and Instrumentation | **4** | 3 | 2 | -- | 2113520<br>2132500 |
| 2133440 | Microcontrollers and Applications | **4** | 3 | 2 | -- | 2131400<br>2132350 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2173220 | Report Writing and Presentation | **3** | 3 | -- | 1 | 2171500 + Junior Standing |
| | | **19** | 15 | 8 | 4 | |

**2103001: Engineering Training I** **(6 Weeks in Summer)**

## FINAL YEAR (ELECTRONICS & COMMUNICATION)

**Fall Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2124560 | Communication & Switching Networks | **4** | 3 | 2 | -- | 2123150 |
| 2114440 | Optoelectronics | **3** | 3 | -- | -- | 2113520 2123850 |
| 2164910 | Graduation Project I | **3** | 1 | 4 | -- | 2113670 |
| (2114xxx/ 2124xxx/ 2164xxx) | Technical Elective I | **3** | 3 | -- | -- | As Specified |
| 2174940 | Senior Seminar | **1** | 1 | -- | -- | 2173220 |
| | | **14** | 11 | 6 | -- | |

**Spring Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2124670 | Wireless Communication | **3** | 3 | -- | -- | 2123150 2123850 |
| 2164930 | Graduation Project II | **3** | 1 | 4 | -- | 2164910 |
| (2114xxx/2124xxx/ 2164xxx) | Technical Elective II | **3** | 3 | -- | -- | As Specified |
| 21x4xxx | Technical Elective III | **3** | 3 | -- | -- | As Specified |
| 2174050 | Engineering Management | **3** | 3 | -- | -- | 2173220 |
| | | **15** | 13 | 4 | -- | |

**2103001: Engineering Training II** **(6 Weeks in Summer)**

### List of Technical Electives for Electronics & Communication Concentration:

The student will take three of the following Technical Electives. At least two of these electives must have the course code as 2114xxx/2124xxx/2164xxx. Approval of academic advisor is required if a student intends to take one 400 level technical elective outside the below list.

**Code** **Course Title** **Cr. Hrs.** **Pre-requisite(s)**

| | | | |
|---|---|---|---|
| 2114180 | VLSI Design | 3 | 2113520, 2132350 |
| 2124340 | Digital Signal Processing | 3 | 2122210 |
| 2124610 | Telecommunication Systems | 3 | 2123150 |
| 2144420 | Industrial Control Systems | 4 | 2143520 |
| 2154550 | Renewable Energy Systems | 4 | 2153650 |
| 2164900 | Selected Topics in Electr. & Comm. | 3 | 2113520, 2123150 |
| 2164950 | Directed Study in Electr. & Comm. | 3 | 2113670, 2123150 + Approval |

## FINAL YEAR (INSTRUMENTATION AND CONTROL)

**Fall Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2144420 | Industrial Control Systems | **4** | 3 | 2 | 2 | 2143520 |
| 2144380 | Power Switching Devices | 3 | 3 | -- | -- | 2113520<br>2152120 |
| 2144910 | Graduation Project I | **3** | 1 | 4 | -- | 2113670 |
| 2144xxx | Technical Elective I | **3** | 3 | -- | -- | As specified |
| 2174940 | Senior Seminar | **1** | 1 | -- | -- | 2173220 |
| | | **14** | 11 | 6 | 2 | |

**Spring Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2144440 | Computer-Based Instrumentation and Control | **3** | 2 | 2 | -- | 2143750<br>2133440 |
| 2144930 | Graduation Project II | **3** | 1 | 4 | -- | 2144910 |
| 2144xxx | Technical Elective II | **3** | 3 | -- | -- | As specified |
| 21x4xxx | Technical Elective III | **3** | 3 | -- | -- | As specified |
| 2174050 | Engineering Management | **3** | 3 | -- | -- | 2173220 |
| | | **15** | 12 | 6 | -- | |

**2103001: Engineering Training II (6 Weeks in Summer)**

### List of Technical Electives for Instrumentation and Control:

The student will take three of the following Technical Electives. At least two of these electives must have the course code as 2144xxx. Approval of academic advisor is required if a student intends to take one 400 level technical elective outside the below list.

| Code | Course Title | Cr. Hrs. | Pre-requisite(s) |
|---|---|---|---|
| 2124560 | Communication & Switching Networks | 4 | 2123150 |
| 2144510 | Fuzzy Logic and Neural Networks | 3 | 2132350, 2172040 |
| 2144720 | Biomedical Instrumentation | 3 | 2143750 |
| 2144900 | Selected Topics in Instrumentation & Control | 3 | 2143750 |
| 2144950 | Directed Study in Instrumentation & Control | 3 | 2143750 + Approval |
| 2154380 | Power System Protection and Control | 3 | 2143520, 2153650 |
| 2154550 | Renewable Energy Systems | 4 | 2153650 |

## FINAL YEAR (POWER AND RENEWABLE ENERGY)

**Fall Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2154550 | Renewable Energy Systems | **4** | 3 | 2 | -- | 2153650 |
| 2154640 | Power System Analysis | **3** | 3 | -- | -- | 2153650 |
| 2154910 | Graduation Project I | **3** | 1 | 4 | -- | 2113670 |
| 2154xxx | Technical Elective I | **3** | 3 | -- | -- | As specified |
| 2174940 | Senior Seminar | **1** | 1 | -- | -- | 2173220 |
| | | **14** | 11 | 6 | -- | |

**Spring Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2154620 | Smart Grid Renewable Energy Systems | **3** | 3 | -- | -- | 2154550 |
| 2154930 | Graduation Project II | **3** | 1 | 4 | -- | 2154910 |
| 2154xxx | Technical Elective II | **3** | 3 | -- | -- | As specified |
| 21x4xxx | Technical Elective III | **3** | 3 | -- | -- | As specified |
| 2174050 | Engineering Management | **3** | 3 | -- | -- | 2173220 |
| | | **15** | 13 | 4 | -- | |

**2103001: ENGINEERING TRAINING II (6 Weeks in Summer)**

**List of Technical Electives for Power & Renewable Energy:**

The student will take three of the following Technical Electives. At least two of these electives must have the course code as 2154xxx. Approval of academic advisor is required if a student intends to take one 400 level technical elective outside the below list.

| Code | Course Title | Cr. Hrs. | Pre-requisite(s) |
|---|---|---|---|
| 2144380 | Power Switching Devices | 3 | 2152120, 2113520 |
| 2144420 | Industrial Control Systems | 4 | 2143520 |
| 2154380 | Power System Protection and Control | 3 | 2153650, 2143520 |
| 2154470 | Power Generation and Transmission | 3 | 2153650 |
| 2154720 | Electrical Power Distribution Systems | 3 | 2153650 |
| 2154900 | Selected Topics in Power & Renewable Energy | 3 | 2154550 |
| 2154950 | Directed Study in Power & Renewable Energy | 3 | 2154550 +Approval |

# COURSE CATALOG

| | | (Lec-Lab-Credit Hrs) |
|---|---|---|
| **2112510** | **Electronic Devices & 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 a.c. equivalent circuits. Analysis and design of transistor amplifier circuits.
*Prerequisite: 2152110*

| | | |
|---|---|---|
| **2113520** | **Electronic Devices and Circuits II** | **(3-2-4)** |

Operational amplifiers and their applications. 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. Feedback amplifiers and oscillator circuits. Power amplifiers.
*Prerequisite: 2112510*

| | | |
|---|---|---|
| **2113670** | **Design with Integrated Circuits** | **(3-2-4)** |

A review of Op-Amps and Digital IC families. Design of analog signal conditioning circuits. Design of power supplies using IC regulators. Op-amp applications. Design of systems for measuring and displaying the measured values on LEDs. 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.
*Prerequisite: 2113520*

| | | |
|---|---|---|
| **2114180** | **VLSI Design** | **(3-0-3)** |

Introduction to VLSI design. Review of basic logic gates in CMOS. Integrated circuit layers, sheet resistance, time delay, CMOS layers, designing FET arrays, stick diagrams, layouts of CMOS circuits. Fabrication of CMOS ICs. Design rules, physical limitations. Advanced techniques in CMOS logic circuits. General VLSI system components. Floor-planning and routing. DRAM, SRAM, ROM designs. Computer simulation using VHDL or Verilog.
*Prerequisites: 2113520, 2132350*

| | | |
|---|---|---|
| **2114440** | **Optoelectronics** | **(3-0-3)** |

Fundamental concepts of semiconductors optical properties. Characteristics and classification of detectors. Radiation sources, classification of radiation sources. Population inversion and gain in a two-level lasing medium. Optical feedback and laser cavity. P-N junction laser operating principles, threshold current, Hetero-junction lasers, Quantum well lasers, device fabrication and fiber coupling. Optical fibers and design of optical systems.
*Prerequisites: 2113520, 2123850*

**2122210 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. Fourier transform of non-periodic signals. Filtering. Analysis of continuous-time LTI systems using Laplace transform.
*Prerequisite: 2172030*

**2123150 Principles of Communication (3-2-4)**

Introduction to fundamentals of communication systems. 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. Shift Keying methods.
*Prerequisite: 2122210*

**2123850 Electromagnetic Fields and Wave Propagation (3-0-3)**

Electrostatics: Coulomb's Law, Gauss's Law. Electric fields in material space, Polarization in Dielectrics. Ampere's Law, Stoke's Theorem. Time-varying Fields, Faraday's Law, Maxwell's Equations in point form, Maxwell's equations in integral form, boundary conditions. Wave equation, plane wave propagation, Poynting vector and average power. Transmission line theory, reflection and transmission on transmission lines.
*Prerequisites: 2171220, 2172030*

**2124340 Digital Signal Processing (3-0-3)**

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. The difference equation and Digital Filtering. Concept of filtering: Finite Impulse Response (FIR) and Infinite Impulse Response (IIR) Filters.
*Prerequisite: 2122210*

**2124560 Communication & 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, Internet protocols, TCP/IP. Application Layer: Client-server model, socket interface, SMTP, FTP, HTTP, and WWW. Wireless Networking.
*Prerequisite: 2123150*

**2124610 Telecommunication Systems (3-0-3)**

Introduction to telecommunication systems. Telecommunication fundamentals and transmission media characteristics. Design analog and digital data transmission schemes. Telephony systems: ISDN and PSTN, essentials of traffic engineering. Overview of Wireless LAN technology. Comparison of ZigBee with other standards and applications. Introduction to satellite and fiber optic based communications.
*Prerequisite: 2123150*

**2124670 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. Outdoor propagation models. Multiple access techniques for mobile communication. Modern wireless communication systems: Second-generation (2G) cellular networks, Third-Generation (3G) and Fourth Generation (4G) wireless systems.
*Prerequisites: 2123150, 2123850*

**2131400 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. Control Statements: IF and SWITCH, WHILE, DO-WHILE and FOR statements. Function definition and calling, library functions, arrays and strings, pointers. File input and output.
*Prerequisite: 1041200*

**2132350 Logic Design (3-2-4)**

Basic theorems and properties of Boolean Algebra and Boolean functions. Simplification of Boolean functions: Karnaugh Map and Tabulation 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.
*Prerequisite: 1041200*

**2132500 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.
*Prerequisite: 2131400*

**2133440 Microcontrollers and Applications (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.
*Prerequisites: 2131400, 2132350*

**2143520 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.
*Prerequisite: 2122210*

**2143750 Sensors and Instrumentation (3-2-4)**

Basic measurement concepts, sources and types of measurement errors, sources of noise and interference and how to minimize them. Analysis and design of DC and AC bridge circuits and their applications. Operating principles and specifications of DVM and DMM. Transducers and their applications in measurement systems. Operation analysis of electromagnetic sensors for flux, current and position sensing. Oscilloscopes: types, specifications, operation and measurements. Analyzers: types, architecture and the optimal tuning. Design projects related to different types of measuring instruments

*Prerequisites: 2113520, 2132500*

**2144380 Power Switching Devices (3-0-3)**

Introduction to power electronics devices, power transistors, IGBTs and SITs. Thyristors: characteristics, types, models, operations, thyristor commutation techniques and commutation circuit design. Analysis and design of uncontrolled and controlled rectifiers. AC voltage controllers with resistive and inductive load. DC choppers: principles and classifications. Principles of operation and performance parameters of different types of inverters. DC and AC drives. Power system applications.

*Prerequisite: 2113520,2152120*

**2144420 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. Programmable Logic Controllers (PLCs). Sequential programming, Ladder diagrams. Introduction to Process Control Systems. Foundation Fieldbus and Profibus standards.

*Prerequisite: 2143520*

**2144440 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.

*Prerequisite: 2133440, 2143750*

**2144510 Fuzzy Logic and Neural Networks (3-0-3)**

An introduction to Fuzzy Logic and Neural Networks history, applications, and implementations. Fuzzy logic fundamentals, fuzzy sets, types of membership functions, linguistic variables, creation of fuzzy logic rule base, fuzzy logic operations. Fuzzy inference system. 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. Associative memory Hopfield neural networks.

*Prerequisite: 2132350*

**2144720 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 and its measurement. Pace-makers and Defibrillators. Clinical laboratory instrumentation.

*Prerequisite: 2143750*

**2144900 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. The course is tailored according to market demands and the technology directions.

*Prerequisite: 2143750*

**2144950 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 Head of EE Department.

*Prerequisites: 2143750, Advisor's Approval*

**2152110 Circuit Analysis I (3-2-4)**

Basic quantities: charge, current, voltage, resistance, energy and power. Analysis of series, parallel and series-parallel D.C. resistive circuits using Ohm's law, Kirchhoff's voltage and current laws. Star-Delta and Delta-Star Transformations. Analysis of more resistive circuits using loop and nodal methods, superposition, source transformation, Thevenin's and Norton theorems, maximum power transfer theorem. Transient analyses of RC, RL, and RLC circuits with DC excitation.

*Prerequisites: 2171220*

**2152120 Circuit Analysis II (3-2-4)**

AC circuits: 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. Steady-state power analysis. Magnetically-coupled circuits. Analysis of balanced three-phase circuits. Frequency response of simple circuits. Series and parallel resonance.

*Prerequisites: 2152110*

**2153650 Power Systems and Electrical Machines (3-2-4)**

Introduction to power systems. Control of reactive power, voltage and frequency. Contemporary issues related to electrical energy. Basics of power system protection. Principles of DC and AC machines and their types. Ideal and practical transformer. Voltage regulation and efficiency of transformer.

*Prerequisites: 2152120*

**2154380 Power System Protection and Control (3-0-3)**

An overview of electric industry structure, modern power system, system protection and energy control center. Introduction to power system apparatus: power transforms, circuit breakers, CTs, VTs, CCVTs and line trap. Primary and backup protection of transmission lines. Protection of transformers and busbars. Protection schemes for rotating machinery. Operation, algorithms and advantages of digital relays. Techniques for voltage and frequency control of power systems.

*Prerequisites: 2143520, 2153650*

**2154470 Power Generation and Transmission (3-0-3)**

Introduction to different types of conventional power plants for generation of power. Operating principles of steam power plants, hydroelectric power plants, hydro turbines, hydro generators, gas-turbine plant, gas-power plant and combined-cycle gas-power plant. Comparison of different transmission line insulators. String efficiency and its improvement. Calculations for sag and tension in designing a transmission line. Classification and comparison of underground cables.

*Prerequisite: 2153650*

**2154550 Renewable Energy Systems (3-2-4)**

Introduction to renewable energy sources. Electrical characteristics and performance evaluation of PV cells, modules, panels and arrays. Optimization of PV arrays. Design of a stand-alone PV system with battery storage. Wind energy conversion systems, sizing and site matching. Hydro generation and types of hydropower turbines. Solar thermal and ocean thermal energy conversion. Tidal energy, wave power generation, geothermal and biomass energy systems. Types of energy storage systems.

*Prerequisite: 2153650*

**2154620 Smart Grid Renewable Energy Systems (3-0-3)**

Basic concept of electric power grid. Types and equipment at grid stations. Grid station automation. Fundamental concepts of power grid integration on microgrids of renewable energy sources. Modeling converters in microgrids. Smart meters and monitoring systems. Design of PV microgrid generating station. Microgrid wind energy systems.

*Prerequisite: 2154550*

**2154640 Power System Analysis (3-0-3)**

Explanation of Per Unit system and determination of the equivalent circuits of synchronous generator and three-phase power transformers. Parameters of transmission lines. The equivalent circuit models of transmission lines. Power flow analysis. Analyzing symmetrical and unsymmetrical faults in power system. Stability of power systems.

*Prerequisite: 2153650*

**2154720 Electrical Power Distribution Systems (3-0-3)**

Introduction to electrical power distribution. Power distribution equipment, underground distribution, radial, ring and network distribution systems. Conductors and insulators in power distribution systems. Electrical distribution inside buildings. Analyzing single phase and three phase power distribution systems. Measurement equipment for distribution systems. Discussion of various distribution system considerations. Design of a power distribution system for a small building.

*Prerequisite: 2153650*

**2154900 Selected Topics in Power & Renewable Energy (3-0-3)**

Topics of current interest in Power & Renewable Energy as selected by the faculty and approved by the EE Department. The course is tailored according to market demands and the technology directions.
*Prerequisite: 2154550,2153650*

**2154950 Directed Study in Power & Renewable Energy (3-0-3)**

Directed study in Power & Renewable Energy 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 Head of the EE Department.
*Prerequisites: 2154550, Advisor's Approval*

**2164900 Selected Topics in Electr. and Comm. (3-0-3)**

Topics of current interest in Electronics and Communication as selected by the faculty and approved by the EE Department. The course is tailored according to market demands and the technology directions.
*Prerequisites: 2113520, 2123150*

**2164950 Directed Study in Electr. and Comm. (3-0-3)**

Directed study in Electronics and Communication 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 Head of the EE Department.

*Prerequisites: 2113670, 2123150,Advisor's Approval*

**2171010 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. 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. Transcendental Functions.
*Prerequisite: None*

**2171020 Engineering Mathematics II (3-0-3)**

Matrix addition, subtraction, multiplication and transposition. Complex numbers, algebraic properties of complex numbers, absolute values, complex conjugate, polar representation, powers and roots. Functions of several variables. 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.
*Prerequisite: 2171010*

**2171210 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. Engineering applications.

*Prerequisite: None*

**2171220 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.

*Prerequisite: None*

**2171410 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 the metals and semiconductors. 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. Types, properties, and use of polymers.

*Prerequisite: None*

**2171500 Introduction to Engineering (1-0-1)**

Engineering profession and the role of engineers in modern developments, engineering ethics. Various engineering disciplines with special emphasis on electrical engineering. Importance of math and science to engineers. Engineering design and analysis, lab skills for engineers, computer skills for engineers. Electrical Engineering curriculum, curriculum planning and management. Critical thinking, soft skills for engineers, creativity, communication skills. Case studies on engineering ethics.

*Prerequisite: None*

**2172030 Engineering Mathematics III (3-0-3)**

Vector Calculus and its engineering applications. 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.

*Prerequisite: 2171020*

**2172040 Engineering Mathematics IV (3-0-3)**

Linear Algebra: Matrices and determinants, solution of systems of linear equations, eigenvalues and eigenvectors, engineering applications, computer exercises. 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.

*Prerequisite: 2172030*

**2173220 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.

*Prerequisites: 2171500 + Junior Standing*

**2173630 Probability and Random Variables (3-0-3)**

Concept of Probability. Discrete and continuous random variables. Operations on single random variable: Expected values and moments. Joint cumulative distribution function and joint probability density function. Sum of random variables. Independent random variables. Jointly Gaussian random variables. Definition and classification of random process, transmission of random process through linear filters, and optimum filtering. Applications in signal processing and communication systems.
*Prerequisite: 2171020*

**2174050 Engineering Management (3-0-3)**

Introduction to engineering management and role of effective management. Strategic and operational planning, forecasting, action planning. Organization: activities, organizational structures, delegating, establishing working relationships. Basics of leadership. Controlling activities: setting standards, measuring, evaluating, and improving performance. Marketing Management: marketing process and strategies, pricing, promotion strategy, channels of distribution and types of distribution.
*Prerequisite: 2173220*

**21x4910 Graduation Project I (1-4-3)**

Teams of 3-4 students shall design, implement, test, and demonstrate their graduation project in two semesters. Graduation Project I is to be completed in first semester and it includes 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.
*Prerequisite: 2113670*

**21x 4930 Graduation Project II (1-4-3)**

It is a continuation of Graduation Project I in the second semester. Students will complete the implementation and testing of the 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.
*Prerequisite: 21x 4910*

**2174940 Senior Seminar (1-0-1)**

The course aims to develop students' understanding of contemporary issues as well as the impact of engineering solutions in a global, economic, environmental, and societal context. It will also improve their oral presentation skills.
*Prerequisite: 2173220*

**2103001 Engineering Training -**

To expose students to a learning environment where they can apply what they have learned in the classroom to a professional setting and enhance their abilities to correlate theoretical knowledge with professional practice. Prior to starting their external training, students shall take two weeks intensive internal training to prepare them for external training.
*Prerequisite: Completion of 75 credit hours.*

# Bachelor of Science in Biomedical Engineering

Mission

The mission of the biomedical engineering program is to bridge the gap between conventional engineering and life sciences through 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

Biomedical Engineering program educational objectives are as follows:

Biomedical engineering graduates are:

1. Successful in applying theoretical knowledge and practical skills in the field of Biomedical Engineering.
2. Gainfully employed in the healthcare industry.
3. Successful in postgraduate studies.

## BME Program Learning Outcomes

By the time of graduation, the students must have:

(a) An ability to apply knowledge of mathematics, science, and engineering
(b) An ability to design and conduct experiments, as well as to analyze and interpret data
(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
(d) an ability to function on multidisciplinary teams
(e) an ability to identify, formulate, and solve engineering problems
(f) an understanding of professional and ethical responsibility
(g) an ability to communicate effectively
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
(i) a recognition of the need for, and an ability to engage in life-long learning
(j) a knowledge of contemporary issues
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
(l) broad knowledge in the field of biomedical engineering.

**Mapping of BME Program Learning Outcomes with Level–7 of the UAE's Qualifications Framework.**

| Descriptor Codes | QF Emirates Descriptor Statements (Level 7) | Related BME Program Outcome Codes |
|---|---|---|
| **Knowledge** | | |
| **K1** | Specialized factual and theoretical knowledge and an understanding of the boundaries in a field of work or discipline, encompassing a broad and coherent body of knowledge and concepts, with substantive depth in the underlying principles and theoretical concepts. | **(a)** |
| **K2** | an understanding of allied knowledge and theories in related fields of work or disciplines and in the case of professional disciplines including related regulations, standards, codes, conventions | **(h), (l)** |
| **K3** | understanding of critical approach to the creation and compilation of a systematic and coherent body of knowledge and concepts gained from a range of sources | **(l)** |
| **K4** | a comprehensive understanding of critical analysis, research systems and methods and evaluative problem-solving techniques | **(e)** |
| **K5** | familiarity with sources of current and new research and knowledge with integration of concepts from outside fields | **(j)** |
| **Skills** | | |
| **S1** | technical, creative and analytical skills appropriate to solving specialized problems using evidentiary and procedural based processes in predictable and new contexts that include devising and sustaining arguments associated with a field of work or discipline | **(c)** |
| **S2** | evaluating, selecting and applying appropriate methods, procedures or techniques in processes of investigation towards identified solutions | **(b)** |
| **S3** | evaluating and implementing appropriate research tools and strategies associated with the field of work or discipline | **(k)** |
| **S4** | highly developed advanced communication and information technology skills to present, explain and/or critique complex and unpredictable matters | **(g)** |
| **Aspects of Competence** | | |
| **Autonomy and responsibility** | | |

| | | |
|---|---|---|
| **CA1** | can take responsibility for developing innovative and advanced approaches to evaluating and managing complex and unpredictable<br>work procedures and processes, resources or learning | **(i)** |
| **CA2** | can manage technical, supervisory or design processes in unpredictable, unfamiliar and varying contexts | **(i)** |
| **CA3** | can work creatively and/or effectively as an individual, in team leadership, managing contexts, across technical or professional activities | **(d)** |
| **CA4** | can express an internalized, personal view, and accept responsibility to society at large and to socio-cultural norms and relationships | **(d), (f)** |
| **Role in context** | | |
| **CB1** | can function with full autonomy in technical and supervisory contexts and adopt para-professional roles with little guidance | **(d)** |
| **CB2** | can take responsibility for the setting and achievement of group or individual outcomes and for the management and supervision of<br>the work of others or self in the case of a specialization in field of work or discipline | **(d)** |
| **CB3** | can participate in peer relationships with qualified practitioners and lead multiple, complex groups | **(d)** |
| **CB4** | can take responsibility for managing the professional development and direct mentoring of individuals and groups | **(d)** |
| **Self-development** | | |
| **CC1** | can self-evaluate and take responsibility for contributing to professional practice, and undertake regular professional development and/ or further learning can manage learning | **(i)** |
| **CC2** | can manage learning tasks independently and professionally, in complex and sometimes unfamiliar learning contexts | **(i)** |
| **CC3** | can contribute to and observe ethical standard. | **(f)** |

## 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:

- Successful completion of all courses in the curriculum
- Successful completion of the equivalent of four months of engineering training
- Cumulative Grade Point Average CGPA of at least 2.

## Degree Requirement

The B.Sc. degree in biomedical engineering requires the completion of 141Cr. 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 | - |
| 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 |
| 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 3650 |
| 218471 | Biomedical Imaging Systems. I | 3 | 0 | 2 | 3 | 2182450 |
| 218472 | Biomedical Imaging Systems. II | 3 | 2 | 0 | 4 | 2184710 |
| 218476 | Bio-Signal Processing | 3 | 2 | 2 | 4 | 2183756 |
| 218496 | Directed Study in Biomedical Engineering | 3 | 0 | 2 | 3 | Senior Standing |
| 218498 | Biomedical Design Project I | 1 | 4 | 0 | 3 | 2183920 |
| 218499 | Biomedical Design Project II | 1 | 4 | 0 | 3 | 218 4980 |

**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 | 218 245 |
| 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 | 218 245 |
| 218519 | Selected Topics in Biomedical Engineering | 3 | 0 | 0 | 3 | Senior Standing |
| 218514 | Rehabilitation Engineering | 3 | 0 | 0 | 3 | 218 365, 2182450 |

## 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 | - |
| 218 1516 | Introduction to Biomedical Engineering | 1 | 1 | 0 | 2 | -- |
| | | 18 | 15 | 8 | 6 | |

**Second Semester**

| Course Code | Course Title | Credit Hrs | Lec. Hrs | Lab. Hrs | Tut. Hrs | Prerequisite |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| 213 145 | Computer Programming | 3 | 3 | 0 | 2 | 104 110 |
| 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 |
| 102 140 | Communication Skills in Arabic Language | 3 | 3 | 0 | 0 | --- |
| xxx xxx | University Elective I | 3 | 3 | 0 | 0 | Advisor's Approval |
| | | 19 | 17 | 4 | 6 | |

### Summer Semester

| Course Code | Course Title | Credit Hrs | Lec. Hrs | Lab. Hrs | Tut. Hrs | Prerequisite |
|---|---|---|---|---|---|---|
| xxx xxx | University Elective II | 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 |
|---|---|---|---|---|---|---|
| 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<br>217 101 |
| 218 242 | Human Anatomy | 3 | 2 | 2 | 0 | 218 141 |
| 102 110 | Islamic Culture | 3 | 3 | 0 | 1 | -- |
| | | 17 | 14 | 6 | 7 | |

### Second Semester

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 103 110 | Statistics | 3 | 2 | 2 | 0 | -- |
| 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 |
| 217 321 | Report Writing & Presentation | 3 | 3 | 0 | 2 | 218 1516 |
| | | 16 | 13 | 6 | 6 | |

## THIRD YEAR

**First Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 218 471 | Biomedical Imaging System I | 3 | 3 | 0 | 2 | 218 243 |
| 218 354 | Biomaterials Basics and Applications | 3 | 3 | 0 | 2 | 217 141<br>218 242 |
| 218 344 | Electrophysiology | 3 | 2 | 2 | 0 | 218 243 |
| 213 334 | Microcontrollers and Computer Interface | 4 | 3 | 2 | 0 | 213 235 |
| 218 361 | Medical Electronics | 3 | 2 | 2 | 2 | 218 233<br>218 243 |
| | | 16 | 13 | 6 | 6 | |

INTERNAL TRAINING (2 Weeks in Spring Break)

**Second Semester:**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | Lab. Hrs. | Tut. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 218 356 | Bio-mechanics | 3 | 3 | 0 | 2 | 217 121<br>218 242 |
| 218 365 | Medical Instrumentation I | 3 | 3 | 0 | 0 | 218 361<br>218 344 |
| 212 221 | Signals and Systems | 3 | 3 | 0 | 2 | 217 203 |
| 218 391 | Biomedical Design | 3 | 2 | 2 | 0 | 218 361 |
| xxx xxx | University Elective III | 3 | 3 | 0 | 0 | Advisor's Approval |
| | | 15 | 14 | 2 | 4 | |

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 |
|---|---|---|---|---|---|---|
| 218 472 | Biomedical Imaging System II | 4 | 3 | 2 | 0 | 218 471 |
| 218 476 | Bio-Signal Processing | 4 | 3 | 2 | 2 | 212 221 |
| 218 498 | Biomedical Design Project I | 3 | 1 | 4 | 0 | 218 391 |
| 114 130 | Innovation & Entrepreneurship | 3 | 3 | 0 | 0 | |
| xxx xxx | BME Elective I | 3 | 3 | 0 | 0 | Advisor's Approval |
| | | 17 | 13 | 8 | 2 | |

### Second 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 |
| 218 499 | 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

### 218 245 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

### 218 346 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

### 218 355 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

### 218 476 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

### 218 392 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

The mission of the Department of Architectural Engineering is to provide the society with graduates qualified for successful professional career in architectural engineering. The department focuses on teaching students the fundamental theoretical and practical principles of architecture and their application to solving real-world problems. Consistent with its mission, the Department of Architecture Engineering developed a learning program consisting of a number of practical and theoretical courses.

## Goals

The main goals of the architectural engineering curriculum are to produce graduates who are:

- Equipped with design abilities to meet the requirements of architectural profession. This is based on theoretical knowledge and practical skills.
- Equipped with technical skills and their applications to solving design problems.
- Equipped with knowledge of local needs to enable them to adequately compete within the local and international professional environments.

**AE Program Learning Outcomes**

| No. | | Architectural Engineering Program Outcomes |
|---|---|---|
| **Knowledge** | POs | |
| K1 | PO1 | Demonstrate basic philosophy and ideology of architecture. |
| K2 | PO2 | Coordinate environmental studies in design proposals. |
| K3 | PO3 | Comprehend and apply and the knowledge of social and cultural studies in design proposals. |
| K4 | PO4 | Comprehend and apply the knowledge of science, mathematics and technology |
| K5 | PO5 | Comprehend and apply the knowledge of architectural practice and management. |
| **Skills** | | |
| S1 | PO6 | Conceptualize, conceive and coordinated design in realm of contemporary issues and challenges of built environment. |
| S2 | PO7 | Communicate, demonstrate and implement the architectural solutions clearly |
| S3 | PO8 | Propose the architectural design in context of modern technology and engineering |
| S4 | PO9 | Design and evaluate the architectural design solutions through computers |
| S5 | PO10 | Analyze the design critically and foresee its consequences at occupational stage |
| **Competencies Autonomy and responsibility** | | |

| | | |
|---|---|---|
| C1 | PO11 | Apply the problem solving approach in conducting experiments, analyzing and interpreting data in proposed architectural design. |
| C2 | PO12 | Work independently as well as in teams across technical or professional activities . |
| **Role in context** | | |
| C3 | PO13 | Team with multidisciplinary professions engaged in building design and construction process. |
| C4 | PO14 | Identify , formulate and solve design management problems |
| **Self-development** | | |
| C5 | PO15 | Comprehend and apply the professional and ethical responsibilities in architectural practice |
| C6 | PO16 | Identify and adopt the market trends to compete in professional market. |

## MAPPING THE ARCHITECTURAL PROGRAM OUTCOMES

### UAE'S QUALIFICATIONS FRAMEWORKS/ LEARNING OUTCOMES STRANDS

| No. | Architectural Engineering Program Outcomes | UAE Qualifications Framework Strands of Learning Outcomes | | | | |
|---|---|---|---|---|---|---|
| | | Strand 1 | Strand 2 | Strand 3 | Strand 4 | Strand 5 |
| 1 | Demonstrate basic philosophy and ideology of architecture. | X | | | | |
| 2 | Coordinate environmental studies in design proposals. | X | | | | |
| 3 | Comprehend and apply and the knowledge of social and cultural studies in design proposals. | X | | | | |
| 4 | Comprehend and apply the knowledge of science, mathematics and technology | X | | | | |
| 5 | Comprehend and apply the knowledge of architectural practice and management. | X | | | | |
| 6 | Conceptualize, conceive and coordinated design in realm of contemporary issues and challenges of built environment. | | X | | | |
| 7 | Communicate, demonstrate and implement the architectural solutions clearly | | X | | | |
| 8 | Propose the architectural design in context of modern technology and engineering | | X | | | |
| 9 | Design and evaluate the architectural design solutions through computers | | X | | | |
| 10 | Analyze the design critically and foresee its consequences at occupational stage | | X | | | |
| 11 | Apply the problem solving approach in conducting experiments, analyzing and interpreting data in proposed architectural design. | | | X | | |

| | | | | |
|---|---|---|---|---|
| 12 | Work independently as well as in teams across technical or professional activities | X | | |
| 13 | Team with multidisciplinary professions engaged in building design and construction process. | | X | |
| 14 | Identify , formulate and to solve the design management problems | | X | |
| 15 | Comprehend and apply the professional and ethical responsibilities in architectural practice | | | X |
| 16 | Identify and adopt the market trends to compete in professional market. | | | X |

## 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:

- Successful completion of all courses in the prescribed curriculum
- Successful completion of four months' engineering training
- The Cumulative Grade Point Average CGPA is at least 2.0.

## Degree Requirement

The B.Sc. degree in Architectural Engineering requires the completion of 170 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 | 118 |
| 4. Specialization Elective courses | 9 |
| 5 Graduation projects I & II | 10 |
| Total Credit Hours | 170 |

## UNIVERSITY GENERAL EDUCATION REQUIREMENTS

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

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1010000 | Orientation | 1 | 0 | 0 | 0 | - |
| 1021100 | Islamic Culture | 3 | 0 | 1 | 3 | - |
| 1021400 | Communication Skills in Arabic Language | 3 | 0 | 0 | 3 | - |
| 1031101 | Statistics | 2 | 2 | 0 | 3 | - |
| 1041100 | Computer Applications | 2 | 2 | 0 | 3 | - |
| 1031200 | Environmental Sciences | 3 | 0 | 0 | 3 | - |

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

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1021200 | The Miraculousness of the Holy Koran | 3 | 0 | 0 | 3 | - |
| 1031300 | Research Methodology | 3 | 0 | 0 | 3 | - |
| 1121100 | Principles of Architecture & Art | 3 | 0 | 0 | 3 | - |
| 1121200 | Principles of Interior Design | 3 | 0 | 0 | 3 | - |
| 1121300 | Modern Technology and Society | 3 | 0 | 0 | 3 | - |
| 1131100 | Internet Concepts | 3 | 0 | 0 | 3 | - |
| 1131200 | Introduction to Information Systems | 3 | 0 | 0 | 3 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1141100 | Economic Concepts | 3 | 0 | 0 | 3 | - |
| 1141200 | Entrepreneurship Development | 3 | 0 | 0 | 3 | - |
| 1151100 | History of science in Islam | 3 | 0 | 0 | 3 | - |
| 1151200 | Scientific pioneering | 3 | 0 | 0 | 3 | - |
| 1151300- | General psychology | 3 | 0 | 0 | 3 | - |
| 1151400 | Principle of mathematics | 3 | 0 | 0 | 3 | - |
| 1151500 | The Art of Expression and writing | 3 | 0 | 0 | 3 | - |
| 1151600 | Emirates Society | 3 | 0 | 0 | 3 | - |
| 1151700 | Education Technology | 3 | 0 | 0 | 3 | - |
| 1171100 | General chemistry | 3 | 0 | 0 | 3 | - |
| 1171200 | Fundamental of Human Nutrition | 3 | 0 | 0 | 3 | - |
| 1171300 | First Aid | 3 | 0 | 0 | 3 | - |
| 1171500 | Applications of Remote sensing | 3 | 0 | 0 | 3 | - |
| 1181100 | Principles of Ethics | 3 | 0 | 0 | 3 | - |
| 1181200 | General Biology | 3 | 0 | 0 | 3 | - |
| 1181300 | Oral Health | 3 | 0 | 0 | 3 | - |
| 11814000 | General principles of Epidemiology | 3 | 0 | 0 | 3 | - |
| 1181500 | CPR-Cardio Pulmonary Resuscitation | 3 | 0 | 0 | 3 | - |
| 1191100 | Communication Skills | 3 | 0 | 0 | 3 | - |
| 1191200 | Introduction to Communication Sociology | 3 | 0 | 0 | 3 | - |
| 1191300 | Information Society | 3 | 0 | 0 | 3 | - |
| 1201150 | Legal Culture | 3 | 0 | 0 | 3 | - |

**College Required Courses (9 Cr. Hrs.)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2711000 | Engineering Graphics | 2 | 2 | 0 | 3 | --- |
| 2171010 | Engineering Mathematics I | 3 | 0 | 2 | 3 | --- |
| 2701011 | Building Sciences | 3 | 0 | 0 | 3 | --- |

**(b) Specialization Required Courses & Graduation Projects (128 Cr.Hrs.)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2001010 | Introduction to Design | 1 | 4 | 0 | 3 | |

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2001020 | Perspective, Shade & Shadows | 1 | 4 | 0 | 3 | 2711000 |
| 2103000 | Engineering Training | 4 | 0 | 0 | 4 | |
| 2701020 | Architectural Design I | 2 | 4 | 0 | 4 | 2001010 |
| 2702030 | Architectural Design II | 2 | 4 | 0 | 4 | 2701020 |
| 2702040 | Architectural Design III | 2 | 6 | 0 | 5 | 2702030 |
| 2702151 | Ancient Architecture | 3 | 0 | 0 | 3 | |
| 2702152 | Islamic Architecture | 3 | 0 | 0 | 3 | 2702151 |
| 2702340 | CAAD I | 1 | 4 | 0 | 3 | 1041100 & 2711000 |
| 2703350 | CAAD II | 1 | 4 | 0 | 3 | 2702340 |
| 2703051 | Architectural Design IV | 2 | 6 | 0 | 5 | 2702040 |
| 2703060 | Architectural Design V | 2 | 6 | 0 | 5 | 2703051 |
| 2703153 | Modern & Contemporary Architecture | 3 | 0 | 0 | 3 | 2702151 |
| 2703460 | Housing Design & Theory | 3 | 0 | 0 | 3 | 2702040 |
| 2703560 | Landscape Architecture | 2 | 2 | 0 | 3 | 2702030 |
| 2704070 | Architectural Design VI | 2 | 6 | 0 | 5 | 2703060 |
| 2703475 | Active Thermal Control | 2 | 0 | 2 | 3 | 2701011 |
| 2704580 | Urban Planning | 3 | 0 | 0 | 3 | 2703560 |
| 2704590 | Urban Design | 2 | 6 | 0 | 5 | 2704070 |
| 2704601 | Environmental Behavior | 3 | 0 | 0 | 3 | |
| 2704680 | Heritage Conservation | 3 | 0 | 0 | 3 | 2702152 |
| 2735110 | Sustainable Architecture | 3 | 0 | 0 | 3 | 2703475 |
| 2705590 | Architectural Practice | 3 | 0 | 0 | 3 | |
| 2705890 | Graduation Project I | 3 | 4 | 0 | 5 | 2703460 & 2704590 |
| 2705900 | Graduation Project II | 1 | 8 | 0 | 5 | 2705890 |
| 2712230 | Building Construction I | 2 | 2 | 0 | 3 | 2711000 |
| 2712240 | Building Construction II | 2 | 2 | 0 | 3 | 2712230 |
| 2713251 | Advanced Building Technology | 3 | 0 | 0 | 3 | 2712240&2752040 |
| 2713260 | Working Drawing I | 1 | 4 | 0 | 3 | 2713251 |
| 2713271 | Building Services | 3 | 0 | 0 | 3 | 2713251 |
| 2714270 | Working Drawing II | 1 | 4 | 0 | 3 | 2713260 |

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2714480 | Lighting & Acoustics | 3 | 0 | 0 | 3 | 2701011 & 2713271 |
| 2705600 | Project Management | 3 | 0 | 0 | 3 | 2714270 |
| 2752030 | Surveying for Architects | 1 | 2 | 0 | 2 | |
| 2752040 | Structural Design for Architects I | 3 | 0 | 0 | 3 | 2701011 &2171010 |
| 2753050 | Structural Design for Architects II | 3 | 0 | 0 | 3 | 2752040 |
| 2711010 | 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.

The registration in these courses is conditioned by having passed and earned 100 Cr.Hrs.

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2735000 | Selected Topics in Architecture | 3 | 0 | 0 | 3 | |
| 2735010 | Interior Design & Coloring | 1 | 4 | 0 | 3 | |
| 2735020 | Real Estate Development | 3 | 3 | 0 | 3 | |
| 2735040 | Photography | 1 | 4 | 0 | 3 | |
| 2735060 | Advanced CAAD Applications | 1 | 4 | 0 | 3 | 2703350 |
| 2735070 | Research & Design Methods | 3 | 0 | 0 | 3 | |
| 2735080 | Geographic Information Systems | 1 | 4 | 0 | 3 | 2703350 |
| 2735090 | Contemporary Arab Architecture | 3 | 0 | 0 | 3 | 2703153 |

## Course Sequencing Plan

### FIRST SEMESTER

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Lab | Tut | Cr.Hrs. | |
| | Orientation | 1 | 0 | 0 | 0 | |
| 2001010 | Introduction to Design | 1 | 4 | 0 | 3 | |
| 2711010 | Freehand Drawing I | 2 | 4 | 0 | 4 | |
| 2711000 | Engineering Graphics | 2 | 2 | 0 | 3 | |
| 2701011 | Building Sciences | 3 | 0 | 0 | 3 | |
| 1021400 | Communication Skills in Arabic Language | 3 | 0 | 0 | 3 | |
| 1041100 | 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. | |
| 2701020 | Architectural Design I | 2 | 4 | 0 | 4 | 200101 |
| 2711020 | Perspective Shades & Shadow | 1 | 4 | 0 | 3 | 201102 |
| 1031200 | Environmental Sciences | 3 | 0 | 0 | 3 | |
| 2171010 | Engineering Math. I | 3 | 0 | 2 | 3 | |
| xxxxxx | University Elective I | 3 | 0 | 0 | 3 | |
| 1021100 | Islamic Culture | 3 | 0 | 0 | 3 | |
| TOTAL | | 15 | 8 | 2 | 19 | |

### THIRD SEMESTER

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Lab | Tut | Cr.Hrs. | |
| 2702030 | Architectural Design II | 2 | 4 | 0 | 4 | 270102 |
| 2702151 | Ancient Architecture | 3 | 0 | 0 | 3 | |
| 2712230 | Building Construction I | 2 | 2 | 0 | 3 | 201102 |
| 2752030 | Surveying | 1 | 2 | 0 | 2 | |
| 2702340 | CAAD I | 1 | 4 | 0 | 3 | 201102&104110 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2704601 | Environmental behavior | 3 | 0 | 0 | 3 | |
| TOTAL | | 12 | 12 | 0 | 18 | |

## FOURTH SEMESTER

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Lab | Tut | Cr.Hrs. | |
| 2702040 | Architectural Design III | 2 | 6 | 0 | 5 | 270203 |
| 2702152 | Islamic Architecture | 3 | 0 | 0 | 3 | 270213 |
| 2712240 | Building Construction II | 2 | 2 | 0 | 3 | 271223 |
| 2752040 | Structural Design for Architects I | 3 | 0 | 0 | 3 | 270101&217101 |
| 2703350 | 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. | |
| 2703051 | Architectural Design IV | 2 | 6 | 0 | 5 | 270204 |
| 2703153 | Modern & Contemporary Architecture | 3 | 0 | 0 | 3 | 2702151 |
| 2713251 | Advanced Building Technology | 3 | 0 | 0 | 3 | 2712240<br>2752040 |
| 2753050 | Structural Design for Architects II | 3 | 0 | 0 | 3 | 2752040 |
| 2703475 | Active Thermal Env.Control | 2 | 2 | 0 | 3 | 2701011 |
| TOTAL | | 13 | 8 | 0 | 17 | |

## SIXTH SEMESTER

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Lab | Tut | Cr.Hrs. | |
| 2703060 | Architectural Design V | 2 | 6 | 0 | 5 | 2703051 |
| 2703460 | Housing Design & Theory | 2 | 2 | 0 | 3 | 2702040 |
| 2713271 | Building Services | 3 | 0 | 0 | 3 | 2713251 |
| 2735110 | Sustainable Architecture | 3 | 0 | 0 | 3 | 2703475 |
| 2703560 | Landscape Architecture | 2 | 2 | 0 | 3 | 2702030 |
| TOTAL | | 12 | 10 | 0 | 17 | |

## SEVENTH SEMESTER

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Lab | Tut | Cr.Hrs. | |
| 2704070 | Architectural Design VI | 2 | 6 | 0 | 5 | 2703060 |
| 2704580 | Urban Planning | 3 | 0 | 0 | 3 | 2703560 |
| 2713260 | Working Drawing I | 1 | 4 | 0 | 3 | 2713251 |
| 1031101 | Statistics | 2 | 2 | 0 | 3 | |
| xxxxxxxx | University Elective II | 3 | 0 | 0 | 3 | |
| TOTAL | | 11 | 12 | 0 | 17 | |

## EIGHTH SEMESTER

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Lab | Tut | Cr.Hrs. | |
| 2704590 | Urban Design | 2 | 6 | 0 | 5 | 2704070 |
| 2714480 | Lighting & Acoustics in Architecture | 3 | 0 | 0 | 3 | 2701011 & 2713271 |
| 2714270 | Working drawing II | 1 | 4 | 0 | 3 | 2713260 |
| 2704680 | Heritage Conservation | 3 | 0 | 0 | 3 | 2702152 |
| 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. | |
| 2705890 | Graduation Project I | 3 | 4 | 0 | 5 | 2703460<br>2704590 |
| 2705590 | Architectural Practice | 3 | 0 | 0 | 3 | 2713271 |
| 2705600 | Project Management | 3 | 0 | 0 | 3 | 2704270 |
| xxxxxx | Specialization Elective I | / | / | / | 3 | |
| TOTAL | | 12 | 4 | 0 | 14 | |

**TENTH SEMESTER**

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Lab | Tut | Cr.Hrs. | |
| 2705900 | Graduation project II | 1 | 8 | 0 | 5 | 2705890 |
| | Specialization Elective II | / | / | / | 3 | |
| | Specialization Elective III | / | / | / | 3 | |
| 2103000 | Engineering Training | / | / | / | 4 | |
| TOTAL | | / | / | / | 15 | |

## Course Descriptions ( B.Sc. in Architectural Engineering)

### 200 1010 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 1020 Perspective, Shades and Shadows (1, 4, 0: 3)

pre-requisite: 2711000

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.

### 2711000 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 1011 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 1020 Architectural Design I (2, 4, 0: 4)

pre-requisite: 2001010

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 2030 Architectural Design II (2, 4, 0: 4)

pre-requisite: 270 1020

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 2040 Architectural Design III (2, 6, 0: 5)

pre-requisite: 270 2030

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 2151 Ancient Architecture (3, 0, 0: 3: 3)

pre-requisite: none

This course introduces students to the Architecture of Ancient Civilizations: Prehistoric, Early Historic, and brief preview of Classical Architectural Eras extended from Early Christian period to Gothic Epoch. Students will be taught about major features and design concepts that helped shape historic buildings of these ancient, classical and medieval periods. A major concern of the course is the discussion of various themes, principles, theories, and terms needed to develop such architectural heritage. Students will be given the right knowledge and skills to analyze and assess building forms, design concepts/ elements, materials and techniques employed in those historic periods.

### 271 2230 Building Construction I (2, 2, 0: 3)

pre-requisite: 2711000

This course aims to introduce students to basic concepts and properties of building structural components and their materials. The students will acquire the necessary theoretical background in building technology. Students will be able to analyze main stress directions and select a relevant structural system (short/ medium span) for the project at hand.

### 275 2030 Surveying (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 2240 Building Construction II (2, 2, 0: 3)

pre-requisite: 271 2230

This course aims to familiarize students with water, damp proofing, and enclosure system (partitions, windows and doors), finishing materials, means of vertical circulation. In this course students identify main building structural systems and their relation to secondary systems. They will be acquainted with various finishing materials, their properties, and their means of application.

### 275 2040 Structural Design for Architects I (3, 0, 0: 3)

pre-requisites: 270 1011 & 217 1010

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 2340 CAAD I (1, 4, 0: 3)

pre-requisites: 104 1100 & 2711000

This course aims to introduce students to 2D Computer Aided Architectural Design drafting process. The course introduces students to computer aided architectural design tool, giving them an opportunity to develop computer skills in their architectural design projects. They will use, manipulate and apply CAAD software, enabling them to make drafting and presentation of their projects. After taking this course, students should be able to use this tool in their respective design courses and studios.

### 270 3152 Islamic Architecture (3, 0, 0: 3)

pre-requisite: 270 2151

This course aims to familiarize students with Islamic Architecture during several eras of the Islamic civilization. Students will learn the general circumstances behind the emergence of main features of Art and Architecture of the Islamic World. The major themes, principles and theories connected with Islamic architectural heritage, elements such unity, proportion, composition, rhythm and balance form an essential part of this course. The study follows a chronological order of historical development of these elements which were behind the rise of the much renowned Islamic architecture.

### 270 3051 Architectural Design IV (2, 6, 0: 5)

pre-requisite: 270 2040

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 3251 Advanced Building Technology (3, 0, 0: 3)

pre-requisites: 271 2240 & 275 2040

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 3050 Structural Design for Architects II (3, 0, 0: 3)

pre-requisite: 275 2040

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 3350 CAAD II (1, 4, 0: 3)

Pre-requisite: 270 2340

This course aims to introduce students to Computer 3d modelling programs such as 3DMax or Sketchup, and how to use them to model an architectural project. The course introduces students to virtual three dimensional space and modelling through the use of 3d modelling software. The course set up students to use CAAD in their respective design studios to visualize concepts and proposed designs.

### 270 3060 Architectural Design V (2, 6, 0: 5)

pre-requisite: 270 3051

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 3153 Contemporary Architecture (3, 0, 0: 3)

pre-requisite: 270 2151

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 3260 Working Drawings 1 (1, 4, 0: 3)

pre-requisite: 271 3251

The course Introduces students to basic skills and concepts of architectural working drawings and details. Students will learn the basic language of the architectural drafting and understand the process of producing a set of architectural drawings. They will be taught how to produce detailed drawings for their architectural design projects.

### 270 3460 Housing Theory & Design (3, 0, 0: 3)

pre-requisite: 270 2040

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 3560 Landscape Architecture (2, 2, 0: 3)

pre-requisite: 270 2030

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.

### 2713271 Building Services (3, 0, 0: 3)

pre-requisite: 2713251

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 4070 Architectural Design VI (2, 6, 0: 5)

pre-requisite: 270 3060

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 4270 Working Drawings 2 (1, 4, 0: 3)

pre-requisite: 271 3260

The purpose of this course is to utilize drafting skills in architectural drafting procedures, practices, and symbols including the preparation of detailed working drawings for a large building, with emphasis on commercial construction methods.

### 2703475 Active Thermal Environmental Control (2, 2, 0: 3)

pre-requisite: 270 1011

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 4480 Lighting & Acoustics in Architecture (3, 0, 0: 3)

pre-requisite: 270 1011 & 2713271

The course introduces lighting and acoustic terms and means of measurement and design, characteristics of light and sound, building standards and materials.

### 270 4580 Urban Planning (3, 0, 0: 3)

pre-requisite: 270 3560

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 4590 Urban Design (2, 6, 0: 5)

pre-requisite: 270 4070

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 4601 Environmental Behavior ( 3,0,0:3)

Pre-requisite: None

The aim of this course is to teach students how to apply the psychological and aesthetic factors in their design projects, as well as to improve the students' creativity and thinking ability. Students will learn basics of human behavior and draw from what drives us forward in life, what are our expectations and demands from space. They will be taught how to analyse the Principles of how we see and understand space. They will also study the concept of human spatial behavior and how spatial behavior and spatial characteristics can be measured Investigate and draw upon the relationship of spatial behavior and characteristics

### 270 4680 Heritage Conservation (3, 0, 0: 3)

pre-requisite: 270 2152

This course aims to introduce students to methods and techniques of architectural conservation. Students will learn how the historical development and emergence of historic conservation, preservation and their consequences. They will be able to differentiate between the main approaches of heritage conservation, restoration, rehabilitation, reconstruction, renovation and preservation. They will be taught the skills to apply the different techniques of analysis and treatment of historic buildings and areas.

### 270 5890 Graduation Project 1 (3, 4, 0: 5)

pre-requisites: 270 4590 & 270 3460

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 5590 Architecture Practice (3, 0, 0: 3)**

Pre-requisite: 2713271

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 5900 Graduation Project ii (1, 8, 0: 5)**

Pre-requisite: 270 5890

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.

**2735110 Sustainable Architecture (3, 0, 0, 3)**

Pre-requisite: 2703475

This course aims to introduce students to basic concepts of sustainable design and its application in architecture considering environment and lifecycle of buildings, and also to provide students with comprehensive understanding of many ecological approaches.

**2705600 Project Management (3, 0, 0, 3)**

The course will assist the student to understand the position of a manager on site. The in depth study will train the student to apply various aspects of project management such as; organization planning, implementation, controlling tasks, project scheduling, cost controlling, and performance evolution.

**273 5000 Selected Topics in Architecture (3, 0, 0: 3)**

Pre-requisite: None

This course introduces students to how to discuss and trigger the most important issues vital to their academic and professional development. It helps them organize their thoughts and interests in a systematic way in relation to their architecture education. The course also enables students to express various progress in architectural education of a special field both orally, by writing and graphically.

**273 5010 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 5060 Advanced CAAD Application (1, 4, 0: 3)

Pre-requisite: 270 3350

The course concentrates on basics of BIM.  AutoDesk Revit is the program of choice. Students are taught how to use building elements and put them in the BIM database.

### 273 5070 Research and Design 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.

### 2735080 Geographic Information Systems (1, 4, 0: 3)

pre requisite 2703350

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.

### 2735040 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.

### 2735090 Contemporary Architecture in the Arab World (3, 0, 0: 3)

pre requisite 2703153

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.

### 2735020 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 Department of Interior Design provides high-quality interior design education to its students by focusing on developing their technical as well as generic skills so that they are well qualified for gainful employment in interior design discipline and can effectively contribute to the advancement of the community. The Interior Design program also aims to prepare its students for postgraduate study.

## Goals

The ID Program Goals, also referred to as Program Educational Objectives (PEOs) are stated below.

Graduates of Interior Design program shall have:

1. A foundation in basic skills and the ability to apply those skills in their design process and presentation.
2. Skills and abilities required for data collection, analysis, design, and evaluation of interior design projects including technical details.
3. 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.
4. The ability to work as an efficient team member in multi-professional groups.
5. The ability to recognize environmental factors and cultural, traditional and heritage aspects.
6. The ability of critical thinking and life-long learning.
7. Gained basic information about the interior environment, with the application of lighting, acoustics and human factors.

**Alignment of Program Outcomes to QFEmirates**

| Program Outcomes | Strand 1 Knowledge | Strand 2 Skills | Strand 3 Autonomy & Responsibility | Strand 4 Role in Context | Strand 5 Self-Development |
|---|---|---|---|---|---|
| **1.** Apply the concepts and principles of interior design drawings and techniques | X | | | | |
| **2.** Apply a systematic method in data collection in the process in project design and technical details | X | | | | |
| **3.** Implement broad knowledge in the field of interior design through, construction details, working drawings, technical specifications and project documents | X | | | | |

| | | | | |
|---|---|---|---|---|
| **4.** Communicate effectively in multidisciplinary teams and work effectively with other professionals in the ID industry | X | | | |
| **5.** Apply and identify the application of chosen interior design product taking into consideration sustainability, culture, tradition, and heritage aspects | X | | | |
| **6.** Employ and adjust communication professionally in design, conduct development stages, analyze and interpret satisfactory results | | X | | |
| **7.** Direct knowledge in practice, through critical thinking and lifelong self-learning | | X | | |
| **8.** Evaluate, select, and apply modern media as well as software package and information technology | | X | | |
| **9.** Communicate effectively, visually, orally and in written format, and deploy up-to-date presentation techniques to present and explain project | | X | | |
| **10.** Evaluate the theories and design development of the interior design products that reflect the critical thinking | | X | | |
| **11.** Work independently as well as part of a team in a variety of design project process | | | X | |
| **12.** Take responsibility for developing appropriate resolutions to any interior design outcomes | | | X | |
| **13.** Demonstrate professional quality appropriate to the design project | | | | X |
| **14.** Manage the achievement of desired outcomes individually or within the teamwork | | | | X |

| | | |
|---|---|---|
| **15.** Express the ability to follow contemporary issues and describe the impact of different interior design solutions in local and international community frameworks | X | |
| **16.** Find out from credible resources as well as from experiences earned in various circumstances, and thus enhance their knowledge and skills throughout their professional career | | X |
| **17.** Apply and analyze ethical standards in professional practice | | X |

## 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

A graduate from the Interior Design program is qualified by education, experience and examination to develop interior designs for the purpose of improving the quality of life, increasing productivity, and protecting the health, safety, and welfare the public.

A graduate is able to take up a job position as an:

- Interior Designer
- Interior Teaching Assistant
- Project Manager Assistant
- Business Marketing Assistant

## 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 AGPA of 2.0

## Degree Requirement

The Bachelor degree in Interior Design requires the completion of 134 Cr. Hrs. distributed according to the following plan:

| Classification | No. of Courses | Total Credit Hours |
|---|---|---|
| University Requirements( Compulsory) | 5 | 15 |
| University Requirements( Elective) | 3 | 9 |
| College Requirements (Compulsory) | 2 | 6 |
| Department requirements (Compulsory) | 29 | 95 |
| Interior Design Elective Courses | 3 | 9 |
| Total | 42 | 134 |

**University Requirements – Compulsory: (15Cr. Hrs.)**

| Compulsory | Course Code | Course Name | Credit Hours |
|---|---|---|---|
| Orientation | 1010000 | Orientation | 0 |
| Arabic (3 credit hours) | 1021400 | Communication Skills in Arabic (Arabic Medium Schools) | 3 |
| | 1021401 | Arabic for Non-Arabs | 3 |
| | 1021402 | Communication Skills in Arabic-E- (English Medium Schools) | 3 |
| Islamic (3 credit hours) | 1021100 | Islamic Culture (Arabic) | 3 |
| | 1021101 | Islamic Culture (English) | 3 |
| | 1021300 | Islamic Civilization (Arabic) | 3 |
| | 1021301 | Islamic Civilization (English) | 3 |
| Innovation and Entrepreneurship (3 credit hours) | 1141300 | Innovation and Entrepreneurship | 3 |
| Information Technology (3 credit hours) | 1041200 | IT Fundamentals | 3 |
| | 1041201 | IT in Health Sciences | 3 |
| | 1041202 | IT in Business | 3 |

| | | | |
|---|---|---|---|
| | 1041203 | IT Fundamentals (Arabic) | 3 |
| Quantitative and Critical Reasoning (3 credit hours) | 1031331 | Statistics for Sciences | 3 |
| | 1031332 | Statistics for Health Sciences | 3 |
| | 1031333 | Statistics for Business | 3 |
| | 1071400 | Critical and Analytic Thinking | 3 |
| | 1031330 | Applied Quantitative Analysis for Social Sciences (Arabic) | 3 |

**University Requirements – Elective: (9Cr. Hrs.)**

| Course Code | Course Name | Credit Hours |
|---|---|---|
| | **1. Humanities / Arts** | |
| 1021501 | Introduction to Hadeeth and Sunna | 3 |
| 1071200 | Academic Writing (English) | 3 |
| 1071300 | Introduction to Digital Photography | 3 |
| 1091200 | French Language | 3 |
| 1121100 | Principles of Architecture | 3 |
| 1121200 | Principles of Interior design | 3 |
| 1121400 | Introduction to Art | 3 |
| 1151500 | The Art of Written Expression (Arabic) | 3 |
| 1191500 | The Art of Public Speaking (English) | 3 |
| 1201150 | Legal Culture | 3 |
| | **2. Natural and Applied Sciences** | |
| 1031200 | Environmental Science | 3 |
| 1031300 | Research Methodology | 3 |
| 1081200 | General Physics | 3 |
| 1121300 | Modern Technology and Society | 3 |
| 1131100 | Internet Concepts | 3 |
| 1131200 | Introduction to information System | 3 |
| 1151100 | History of Science in Islam | 3 |
| 1151200 | Scientific Pioneering | 3 |

| | | |
|---|---|---|
| 1151400 | Principles of Mathematics | 3 |
| 1151700 | Educational Technology | 3 |
| 1161200 | Astronomy | 3 |
| 1171100 | General Chemistry | 3 |
| 1171200 | Fundamental of Human Nutrition (English) | 3 |
| 1171201 | Fundamental of Human Nutrition (Arabic) | 3 |
| 1171300 | First Aid (English) | 3 |
| 1171301 | First Aid (Arabic) | 3 |
| 1171500 | Application of Remote Sensing and GIS | 3 |
| 1181200 | General Biology | 3 |
| 1181300 | Oral Health | 3 |

| 3. Social or Behavioral Sciences | | |
|---|---|---|
| 1071100 | Critical Thinking | 3 |
| 1071500 | Family System | 3 |
| 1131400 | Library Information System | 3 |
| 1141100 | Economic Concepts | 3 |
| 1141200 | Entrepreneurship development | 3 |
| 1151600 | Emirates Society (English) | 3 |
| 1151601 | Emirates Society (Arabic) | 3 |
| 1191100 | English Communication Skills | 3 |
| 1191200 | Introduction to communication Sociology | 3 |
| 1191300 | Information Society | 3 |
| 1191400 | Media Culture | 3 |
| 1191600 | Communication Between Cultures | 3 |
| 1151300 | General Psychology (English) | 3 |
| 1151301 | General Psychology (Arabic) | 3 |

### College Requirements (3Cr. Hrs.)

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 110140 | Math for Management | 2 | 0 | 2 | 3 | --- |

### Specialization Requirements Compulsory: (98Cr. Hrs.)

| Course No. | Course Title | Th. | St. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2901010 | Introduction to Interior Design | 1 | 4 | --- | 3 | --- |
| 290209 | Psychology of Design | 3 | --- | --- | 3 | 2902010 |
| 2901100 | CAD I For Interiors | 1 | 4 | ---- | 3 | 1041200 |
| 2902050 | CAD II For Interiors | 1 | 4 | ---- | 3 | 2901100 |
| 2901052 | Technical writing for ID | 3 | --- | --- | 3 | --- |
| 2901032 | Freehand Drawing I | 1 | 4 | ---- | 3 | --- |
| 2901080 | Freehand Drawing II | 1 | 4 | ----- | 3 | 2901032 |
| 2901020 | Engineering Graphics for Interiors | 2 | 2 | 0 | 3 | --- |
| 2901040 | Materials Technology | 2 | --- | --- | 2 | --- |
| 2901060 | Interior Design I | 1 | 6 | ---- | 4 | 2901010 |
| 2902020 | Model Building | 1 | 4 | ---- | 3 | 2901020<br>2901040 |
| 2902010 | Interior Design II | 1 | 6 | ---- | 4 | 2901060 |
| 2902060 | Interior Design III | 1 | 6 | ---- | 4 | 2902010 |
| 2902030 | History of Interior Design I | 3 | --- | --- | 3 | 2901060 |
| 2902080 | History of Interior Design II | 3 | --- | --- | 3 | 2902030 |
| 2901070 | Color in Interior Design | 2 | 2 | ---- | 3 | --- |
| 2902070 | Interior Construction I | 2 | 2 | ---- | 3 | 2901020<br>2901040 |
| 2901090 | Furniture Design | 1 | 4 | ----- | 3 | 2901010<br>2901020 |
| 2902040 | Lighting & Acoustics in Interior Design | 2 | 2 | ---- | 3 | 2901060 |
| 2903010 | Interior Design IV | 1 | 8 | ---- | 5 | 2902060 |
| 2903040 | Interior Design V | 1 | 8 | ---- | 5 | 2903010 |
| 2903020 | Interior Construction II | 2 | 2 | ---- | 3 | 2902070 |
| 2903030 | Interiors in the UAE | 3 | --- | ---- | 3 | 2902060 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2903050 | Working Drawings I | 2 | 2 | ---- | 3 | 2903020 |
| 290323 | Practice in Interior Design | 3 | -- | -- | 3 | 290213 |
| 2903060 | Sustainability for ID | 3 | --- | --- | 3 | 2903010 |
| 2904020 | Working Drawings II | 1 | 2 | ---- | 2 | 2903050 |
| 2904010 | Graduation Project I | 2 | 2 | ---- | 3 | 2903040 |
| 2904030 | Graduation Project II | 1 | 8 | ---- | 5 | 2904010 |
| 2904100 | ID Practical Training | --- | --- | --- | 4 | 2903040 |

## Specialization Requirements Electives: (9 Cr. Hrs.)

The student will take three of the following Specialization Electives as approved by the academic advisor.

| Course No. | Course Title | Th. | St. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 2905010 | Selected Topics in Fur. Des | 1 | 4 | --- | 3 | 2901090<br>2903010 |
| 2905020 | Islamic Interiors | 3 | --- | --- | 3 | 2903010 |
| 2905030 | Theory of Interior Design | 3 | --- | --- | 3 | 2903010 |
| 2905040 | Selected Topics in Interior Design | 1 | 4 | --- | 3 | 2903010 |
| 2905060 | Architectural Design for Interiors | 3 | --- | --- | 3 | 2903010 |

## Course Sequencing Plan

### First-Year – Fall Semester

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | St. Hrs. | Pre-req. |
|---|---|---|---|---|---|
| 2901010 | Introduction to Interior Design | 3 | 1 | 4 | --- |
| 2901020 | Engineering Graphics for Interiors | 3 | 2 | 2 | --- |
| 2901032 | Freehand Drawing I | 3 | 1 | 4 | --- |
| 2901040 | Materials Technology | 2 | 2 | -- | --- |
| 1041200 | IT Fundamentals | 3 | 2 | 2 | --- |
| 1021100 | Islamic Culture | 3 | 3 | 1 Tut. | --- |
| Total | | 17 | | | |

### First-year – Spring Semester

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | St. Hrs. | Lab Hrs. | Pre-req. |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| 2901060 | Interior Design I | 4 | 1 | 6 | 0 | 2901010 |
| 2901070 | Color in Interior Design | 3 | 1 | 4 | 0 | 2901010 |
| 2901080 | Freehand Drawing II | 3 | 1 | 4 | 0 | 2901032 |
| 2901090 | Furniture Design | 3 | 1 | 4 | 0 | 2901010<br>2901020 |
| 2901100 | CAD I for Interiors | 3 | 1 | 0 | 4 | 1041100 |
| 2901052 | Technical Writing for ID | 3 | 3 | -- | 0 | |
| Total | | 19 | | | | |

**Second-Year – Fall Semester**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | St. Hrs. | Lab. Hrs. | Pre-req. |
|---|---|---|---|---|---|---|
| 2902010 | Interior Design II | 4 | 1 | 6 | 0 | 2901060 |
| 2902030 | History of Interior Design I | 3 | 3 | --- | 0 | 2901060 |
| 2902020 | Model Building | 3 | 1 | 0 | 4 | 2901020<br>2901040 |
| 2902040 | Lighting &Acoustics for ID IDInterior Design | 3 | 2 | 2 | 0 | 2901060 |
| 2902050 | CAD II for Interiors | 3 | 1 | 0 | 4 | 2901100 |
| 1031333 | Statistics/Art Major | 3 | 2 | 2 (Tut.) | 0 | |
| Total | | 19 | | | | |

**Second-Year – Spring Semester**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | St. Hrs. | Pre-req. |
|---|---|---|---|---|---|
| 2902060 | Interior Design III | 4 | 1 | 6 | 2902010 |
| 2902080 | History of Interior Design II | 3 | 3 | 0 | 2902030 |
| 2902070 | Interior Construction I | 3 | 2 | 2 | 2901020<br>2901040 |
| 290209 | Psychology of Design | 3 | 3 | 0 | 2902010 |
| 1021400 | Communication skills in Arabic Language | 3 | 3 | 0 | --- |
| | University Elective | 3 | --- | --- | |
| Total | | 19 | | | |

### Third-Year - Fall Semester

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | St. Hrs. | Pre-req. |
|---|---|---|---|---|---|
| 2903010 | Interior Design IV | 5 | 1 | 8 | 2902060 |
| 2903020 | Interior Construction II | 3 | 2 | 2 | 2902070 |
| 2903030 | Interiors in the UAE | 3 | 3 | 0 | 2902060 |
| 1031200 | Environmental Science | 3 | 3 | 0 | --- |
| 110140 | Math for Management | 3 | 3 | 2 (Tut.) | --- |
| Total | | 17 | | | |

### Third-Year - Spring Semester

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | St. Hrs. | Pre-req. |
|---|---|---|---|---|---|
| 2903040 | Interior Design V | 5 | 1 | 8 | 2903010 |
| 2903050 | Working Drawings I | 3 | 2 | 2 | 2903020 |
| | Special Elective I | 3 | | | |
| 2903060 | Sustainability for ID | 3 | 3 | 0 | 2903010<br>103120 |
| | University Elective II | 3 | | | |
| Total | | 17 | | | |

## EXTERNAL TRAINING I

**2 Cr. Hrs. (6 weeks)**

### Fourth-Year – Fall Semester

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | St. Hrs. | Pre-req. |
|---|---|---|---|---|---|
| 2904010 | Graduation Project I | 3 | 2 | 2 | 2903040 |
| 2904020 | Working Drawings II | 2 | 1 | 2 | 2903050 |
| | University Elective III | 3 | | | |
| | Special Elective II | 3 | | | |
| Total | | 11 | | | |

**Fourth-Year – Spring Semester**

| Course Code | Course Title | Credit Hrs. | Lec. Hrs. | St. Hrs. | Pre-req. |
|---|---|---|---|---|---|
| 2904030 | Graduation Project II | 5 | 1 | 8 | 2904010 |
| | Special Elective III | 3 | | | |
| 2904040 | Practice in Interior Design | 3 | 3 | 0 | 2904020 |
| Total | | 9 | | | |

## EXTERNAL TRAINING I

**2 Cr. Hrs. (6 weeks)**

# Course Descriptions

### Introduction to Interior Design Course Code: 2901010

*Credit Hours: **3Cr. Hrs.:** Theory (1 hr.), Studio (4 hrs.)*
*Pre-Requisite: None*
*Co-Requisite: 2901020, 2901040*

This course aims to introduce students to the basic elements of design, its principles, visual aspects with their perception, design vocabulary and their application in design. It also familiarizes the students with the implementation of fundamental concepts and elements of Interior Design.

### Engineering Graphics for Interiors Course Code: 2901020

*Credit Hours: **3Cr. Hrs.:** Theory (2 hrs.), Studio (2 hrs.)*
*Pre-Requisite: None*
*Co-Requisite: None*

This course aims to familiarize students with basic drafting skills and essential fundamental concepts of interior design drafting by introducing the principle of parallel- line drawings, orthogonal projections, and rendering techniques. It enables students to understand the use of 2-D, 3-D parallel and orthographic projections in interior design projects.

### Freehand Drawing I Course Code: 2901032

*Credit Hours: **3Cr. Hrs**: Theory (1 hr.), Studio (4 hrs.)*
*Pre-Requisite**:** None*
*Co-Requisite: None*

This course aims to introduce a solid grounding in the principles of freehand drawing. The emphases are on teaching basics of drawing and composition, including how to create sketch perspectives, assume scale, and introduce textures and tones into their illustrations of interior spaces. It enables students to conceptualize their imagination in the field of interior design.

**Materials Technology Course Code: 2901040**

*Credit Hours: **2 Cr. Hrs.**: Theory (2 hrs.)*
*Pre-Requisite: None*
*Co-Requisite: None*

This course aims to provide the interior design students the technical aspects of surface and structural materials. It enables students to learn how to apply innovative material concepts of three-dimensional design to the reality of finished space in respect of human behavior, environmental needs, and regulations.

**Technical Writing for Interior Design *Course Code: 290 1052***

*Credit Hours: **3Cr. Hrs.**: Theory (3 hrs.)*
*Pre-Requisite: None*
*Co-Requisite: None*
This course intends to develop interior design students' proficiency and communicative competence in technical/professional writing and oral presentation skills.
Following the statement that "Write to communicate," in Design should be focused on showing rather telling, students learn how to organize and express facts and ideas about their profession through written words. Coursework focuses on the production of technical and research documents used in industry for possible audiences, simultaneously practical and interactive assignments designed specially to improve their verbal communication.

**Interior Design I Course Code: *2901060***

*Credit Hours: **4Cr. Hrs.**: Theory (1 hr.), Studio (6 hrs.)*
*Pre-Requisite: Introduction to Interior Design (2901010)*
*Co-Requisite: 2901070, 2901090*
This course introduces the students to residential interior design and its requirements, including interior space planning, furniture arrangements, and design treatments. Students should be introduced to the basics of interior design concept, gathering data of several client's needs and types. Classify the residential activities and functions to arrange the elements of interiors, like furniture, accessories, and floor wall ceiling materials, in a unified design.

**Color in Interior Design *Course Code: 2901070***

*Credit Hours: **3 Cr. Hrs.**: Theory (2 hrs.), Studio (2 hrs.)*
*Pre-Requisite: None*
*Co-Requisite: Interior Design I (2901060)*

This course provides students with a background in color theories as it relates to interior design including color schemes. The class consists of lectures, discussions and in-class exercises through individual and group work. Lectures explain the physics of color, color theories, physiology of color, the psychology of color, color in art and practical assignments focusing on the application of color in residential design project in the design studio.

**Freehand Drawing II Course Code: 2901080**

*Credit Hours: **3 Cr. Hrs.**: Theory (1 hr.), Studio (4 hrs.)*
*Pre-Requisite: Freehand Drawing I (2901032)*
*Co-Requisite: None*
This course is the one built on the knowledge and skills acquired in freehand I. Students continue developing the cognitive process associated with the drawing studies of space in multiple relationships. Variety of assignments emphasize on students learning the development of personal, introspective illustrations and rapid concept development as well as an exploration of various media in experimental applications.

**Furniture Design Course Code: 2901090**

*Credit Hours: **3 Cr. Hrs.**: Theory (1 hr.), Studio (4 hrs.)*
*Pre-Requisite: Introduction to Interior Design (2901010) , Engineering Graphics for Interiors (2901020)*
*Co-Requisite: Interior Design I (2901060)*
This course is an introduction to the furniture design process considering all its aspects such as aesthetic design issues, structure, ergonomics, anthropometry functionality, materials technology, and manufacturability. The course also incorporates the study of history and design of residential and commercial furniture styles and periods along with the contemporary design, which leads the Students to utilize the design process to explore and formulate concepts, communicate those design ideas, and fabricate a quality furniture piece based on their research and design solutions.

**CAD I for Interiors Course Code: 2901100**

***Credit Hours: 3 Cr. Hrs.**: Theory (1 hr.), Lab (4 hrs.)*
***Pre-Requisite:** IT Fundamental (1041200)*
***Co-Requisite:** None*

This course aims to introduce students to Computer Aided Design and drafting (CADD) and its application for interior design projects using AutoCAD software. Topics include 2D tool palette, object information, resources and command box windows, dimensioning tool, scale, layers, line weight and symbols. It is also includes file management, printing and plotting methods enable students to demonstrate their understanding, skills and proficiency in producing both "presentation" and "technical" styles of Interior design drawings.

**Interior Design II Course Code: 2902010**

*Credit Hours: **4 Cr. Hrs.**: Theory (1 hr.), Studio (6 hrs.)*
*Pre-Requisite: Interior Design I (2901060)*

*Co-Requisite: 2902020, 2902040*

This course introduces students to the factors important in the successful design of retail stores, cafés, restaurants and hair salons in urban and shopping mall settings. Students learning comprises many aspects from interior space utilization, façade design, display fixtures fitting and furniture design, visual merchandising to signage and lighting design principles as well as the role of the interior designer in branding and the selling of a product by understanding customer behavior.

### Model Building Course Code: 2902020

*Credit Hours: 3* ***Cr. Hrs.****: Theory (1 hr), Lab(4 hrs).*
*Pre-Requisite: Engineering Graphics for Interiors (2901020), Materials Technology (2901040).*
*Co-Requisite: Interior Design II (2902010)*

This course is an introduction to understanding the way that designers use models in their design project. Students are encouraged to learn that three-dimensional model is making from a variety of simple materials, sculpting, mold-making, wood joinery, laser cutting and 3D printing to support design development for their design projects. In addition, an induction lecture helps students to arrange the materials on samples board for their design project.

### History of Interior Design I *Course Code: 2902030*

*Credit Hours****: 3 Cr. Hrs.****: Theory (3 hrs.)*
*Pre-Requisite: Interior Design I (2901060)*
*Co-Requisite: None*

This course aims to introduce students a critical overview of the history of interior design, its connection to different periods and cultures, and its integral relationship with the interior, architecture, and decorative arts. Lecture, readings, and field trips focus on the development of major forms, period styles, and ornament from ancient Egypt, Greece, and Rome through the Renaissance, Baroque, Rococo, and Neoclassical eras.

### Lighting & Acoustics for Interior Design *Course Code: 2902040*

*Credit Hours:* ***3 Cr. Hrs.****: Theory (2 hrs.), Studio (2 hrs.)*
*Pre-Requisite: Interior Design I (2901060)*
*Co-Requisite: Interior design II (2902010)*

The course aims to introduce interior design students with lighting design system, lighting graphics, the creation of specifications' legend and basic control systems as well as special topics such as decorative luminaires and energy efficiency. The course explores the physical influence of lighting on color. The course includes in-depth mathematical calculations used to determine the amount of natural and artificial lighting and acoustic treatment required to meet specific codes and clients' needs. Various factors of sound and vibration control are also included to understand acoustic behavior in interior space.

**CAD II for Interiors** **Course number: 2902050**

*Credit hours: **3 Cr. Hrs.**: Theory (1 hr.), Lab (4 hrs.)*
*Pre-Requisite: CAD I for Interiors (2901100)*
*Co-Requisite: None*

Building on the skills from CAD I, this course aims to teach students an advanced three dimensional, rendering and presentation software packages. In addition, students will utilize their learning skills to develop their projects and design analyses outcome, which will enhance their 3D computer visualization skills, as well as generative types of CAD concepts.

**Interior Design III** **Course Code: 2902060**

*Credit Hours: **4 Cr. Hrs.**: Theory (1 hr.), Studio (6 hrs.)*
*Pre-Requisite: Interior Design II (2902010)*
*Co-Requisite: 290209*

The course aims to introduce students to commercial interior design such as offices' interiors in the setting of administrative and public buildings. The course contents would then enable the students to design office interiors with emphasis placed on planning, circulation, furniture arrangement, color, lightings and other design treatments. The students can recognize the organizational charts and the nature of the business to provide the successful design.

**Interior Construction I** ***Course Code: 2902070***

*Credit Hours: **3 Cr. Hrs.**: Theory (2 hrs.), Studio (2 hrs.)*
*Pre-Requisite: Engineering Graphics for Interiors (2901020), Materials Technology (2901040)*
*Co-Requisite: Interior Design III (2902060)*

This course would help students, both in exploring the finishing materials, and in understanding, the principle involved in selecting materials for interior spaces. They will identify the elements of interior structure, and recognize physical and visual properties, dimensional characteristics of common used finishes for interior spaces by using the graphic material symbols in their drawings.

**History of Interior Design II** ***Course Code: 2902080***

*Credit Hours: **3 Cr. Hrs.**: Theory (3 hrs.)*
*Pre-Requisite: History of Interior Design I (2902030)*
*Co-Requisite: None*
This course introduces students to ideas and approaches to the study of design history and theories with particular emphasis on the contemporary interior environment. Lectures, discussion and field trips help students to explore wide range of built environment and the use of historical documents. Analysis of various movement and their development phase enable students to understand broad historical frameworks.

**Psychology of Design** ***Course Code: 290209***

*Credit Hours: **3 Cr. Hrs.**: Theory (3 hrs.)*
*Pre-Requisite: Interior Design II (2902010)*
*Co-Requisite: Interior Design III (2902060)*

The course introduces the students to the basic psychology of designing spaces that deals with human occupancy. The study of interaction between human behavior and physical environment enable the students to examine perception and cognition, cultural differences in spatial context, proxemics and the role of values in the design of interior environment. Focusing on socio- psychology and aesthetics, students analyze all other aspects of human behavior in interior atmosphere to design comfortable environment for the end user.

**Interior Design IV Course Code: 2903010**

*Credit Hours: **5 Cr. Hrs.**: Theory (1 hr.), Studio (8 hrs.)*
*Pre-Requisite: Interior Design III (2902060)*
*Co-Requisite: Interior Construction II (2903020)*

This course provides students with an introduction to the process of designing hospitality areas specifically hotel interiors. Lectures from guest speakers and industry professionals enable students to gain an overview of all aspects of hotel design including designing for communal areas and understanding room typologies. Students learn how to create a concept based on local culture its influence and how to respond to a brief from a client. Their learnings extended to the field of interior landscape design. The off-site visits take place at a luxury hotel to understand the operation of these hotels that help them to create successful design.

**Interior Construction II** ***Course Code: 2903020***

*Credit Hours: **3 Cr. Hrs.**: Theory (2 hrs.), Studio (2 hrs.)*
*Pre-Requisite: Interior Construction I (2902070)*
*Co-Requisite: Interior Design IV (2903010)*

This course would assist the students exploring the interiors' structural elements such as load bearing structure, partitions, door construction, ceiling and floor design system including interior furnishing and its construction details, based on information gathered within the previous pre-request course interior construction I. In addition, it improves their understanding of custom design working.

**Interiors in the UAE** ***Course Code: 2903030***

*Credit Hours: **3 Cr. Hrs.**: Theory (3 hrs.)*
*Pre-Requisite: Interior Design III (2902060)*
*Co-Requisite: None*

The aim of the course is to allow the students to research and study the various UAE, traditional and contemporary residential interiors. This course would then enable students to develop knowledge for the

local culture, customs and materials used in UAE constructions, which would help them to utilize this in their current and future design projects.

**Interior Design V Course Code: 2903040**

*Credit Hours: **5 Cr. Hrs.**: Theory (1 hr.), Studio (8 hrs.)*
*Pre-Requisite: Interior Design IV (2903010)*
*Co-Requisite: 2903050, 2903060*

This course aims to introduce students to design various types of exhibitions areas i.e. Temporary exhibitions, permanent exhibitions, museum and trade shows etc. Students refine their skills and knowledge while designing an exhibition using an existing plan with focus on how the various elements of an exhibition plan (such as architecture, lighting, display furniture, and didactics) aid the audiences' interpretation of the artefacts. Students learn how to select the appropriate form of documentation for the exhibitions they create for their projects (trade shows and museums).

**Working Drawings I Course Code: 2903050**

*Credit Hours: **3 Cr. Hrs.**: Theory (2 hrs.), Studio (2 hrs.)*
*Pre-Requisite: Interior Construction II (2903020)*
*Co-Requisite: Interior Design V (2903040)*

The aim of this course is to introduce students to working drawings sets provide dimensioned, graphical information that can be use by a contractor to construct the interiors, or by suppliers to fabricate components of design to assemble or install them as per requirement on site. Focusing on design project detailing, students also learn the construction techniques of their custom design components in this course.

**Sustainability for Interior Design *Course Code: 2903060***

*Credit Hours: **3 Cr. Hrs.**: Theory (3 hrs.)*
*Pre-Requisite: Interior Design IV (2903010)*
*Co-Requisite: None*

The aim of this course is to introduce the methodology of sustainability to the interior design students. The environmental issues are an important part in our life and in our future. The interior design field is concerned about the welfare of the people and their interior, so they need to have a sound knowledge of sustainability and its impact on the individual and society. This course should have as a primary objective to explain and recognize the basic meaning of sustainability as philosophy, concept, and principles to guide our students from the first level of the design to construction as well as post construction phase.

**Graduation Project I *Course Code: 2904010***

*Credit Hours: **3 Cr. Hrs.**: Theory (2 hrs.), Studio (2 hrs.)*
*Pre-Requisite: Interior Design V (2903040)*

*Co-Requisite: None*

The aim of this course is to help the students in the preparation of an analytical and technical report of their individually chosen graduation project, and would be able to gather data successfully of any chosen project, to collect and analyze needed information for the chosen project, develop in aesthetics and functional needs in interior design spaces.

**Working Drawings II Course Code: 2904020**

*Credit Hours: **2 Cr. Hrs.**: Theory (1 hr.), Studio (2 hrs.).*
*Pre-Requisite: Working Drawings I (2903050)*
*Co-Requisite: None*

Follow-up with the course working drawing I, students prepare a complete set of contract documents means by which interior design communicate to the building construction industry, code officials, product manufacturers, suppliers, vendor and fabricators. These documents includes Working drawings, specifications, bill of quantities, work schedule etc. While working on given design project, students will acquire a logical approach of these document preparations.

**Graduation Project II Course number: 2904030**

*Credit hours: **5 Cr. Hrs.**: Theory (1 hr.), Studio (8 hrs.)*
*Pre-Requisite: Graduation Project I (2904010)*
*Co-Requisite: None*

The course gives the student an opportunity to explore his/her 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 through two main objectives, theoretical and practical to define the different functions applications and its positive and negative points.

**Practice in Interior Design *Course Code: 2904040***

*Credit Hours: **3 Cr. Hrs.**: Theory (3hrs.)*
*Pre-Requisite: Working Drawing II (2904020)*
*Co-Requisite: Graduation Project II (2904030)*

The aim of this course is to incorporate the basic business theories into the practice of Interior Design. It covers the various principles, which constitute the pillars of business science, to the Interior Design professional. The course develop the skills required in the field of interior design marketing and prepares the students both for employment as well as for future opportunities to set up their own design office as a professional business.

### Selected Topics in Furniture Design Course Code: 2905010

*Credit Hours: **3 Cr. Hrs.**: Theory (1 hr.), Studio (4 hrs.)*
*Pre-Requisite: Furniture Design (2901090), Interior Design IV (2903010)*
*Co-Requisite: None*

The aims of the course is to make students more familiar with programming and conceptual design expressed in sketches, and models, as well as with shop drawings and presentation drawings, understanding the aesthetic and functional/ ergonomic aspects of furniture as well as the technological aspects of producing furniture. This course should help students understand some sociological factors that influence the methodologies of educational investigation in interior and furniture design. This project will assess their presentation skill, imagination and creativity.

### Islamic Interiors Course number: 2905020

*Credit hours: **3 Cr. Hrs.**: Theory (3 hrs)*
*Pre-Requisite: Interior Design IV (2903010)*
*Co-Requisite: None*

The aim of the course is to allow the students to search and understand the philosophy of Islamic interiors, with emphasis on decorative elements and accessories. At the end of the course students would be able to implement the basic rules of Islamic interiors depend on the chosen style, using basically the decorative components of Islamic interiors such as; pattern, color, trims and accessories.

### Theory of Interior Design Course Code: 2905030

*Credit Hours: **3 Cr. Hrs.**: Theory (3 hrs).*
*Pre-Requisite: Interior Design IV (2903010)*
*Co-Requisite: None*

The aim of this course is to strengthen the students' theoretical background throughout analyze, criticize, and methods and discovering the contemporary theories of designing interiors.

### Selected Topics in Interior Design Course Code: 2905040

*Credit Hours: **3 Cr. Hrs.**: Theory (1 hr.), Studio (4 hrs.)*
*Pre-Requisite: Interior Design IV (2903010)*
*Co-Requisite: None*

The aim of this course is to enable the students to develop in research, analysis and criticism capability in the interior design project not covered in design courses. It aims also to explore and present selected topics

in interior design. Guiding study and exploration of subjects not covered by other courses in the discipline and successfully analyze, criticize interior design spaces through recognize the program design for divers' project type.

### Architectural Design for Interiors *Course Code: 2905060*

*Credit Hours: **3 Cr. Hrs.**: Theory (1 hr.), Studio (4 hrs.)*
*Pre-Requisite: Interior Design IV (2903010)*
*Co-Requisite: None*

The aim of the course is to enhance the interior design students' skills in creating and solving special problem related to the function of interior spaces; re-designing partitions based on structure information, adding new spaces to success the interior design function, to integrate the interior design with the architectural building. As well as to complete the interior design curriculum by designing the landscape spaces with its need of light building structures as an artistically sculpted structures to fit the aesthetical need of this area.

### Interior Design Practical Training *Course Code: 290 4100*

*Credit Hours: **4 Cr. Hrs.**: (2-2 Hrs. External Training)*
*Pre-Requisite: Interior Design V (290 3040)*
*Co-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.

## 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 Nasor | Ph.D. | Biomedical Engineering | Assistant Professor | 1998 | Uni. of Dublin, Trinity Col. Dublin, Ireland |
| Dr. Jehad Awad | Ph.D. | Urban Design | Associate Professor | 1996 | University of Stuttgart , Germany |
| Dr. Mohsen El Fadl | Ph.D. | Interior Environment | Assistant Professor | 1993 | Helwan University, Egypt |
| Dr. Mohamed Akmal | Ph.D. | Communication | Assistant | 2011 | (UK) |
| 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” | Associate Professor | 1995 | Rensselaer Polytechnic Institute, New York , USA |
| Dr. Ahmed Imran | Ph.D. | Biomechanics | Assistant Professor | 1998 | University of Oxford, UK |
| Dr. Sahar Kharrufa | Ph.D. | Architectural Eng. | Professor | 1985 | Bath University ,UK |
| Dr. Jamal El Sayed | Ph.D. | Interior Design – Exhibition 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. Majeed Pournizam | Ph.D. | Bioengineering | Assistant Professor | 1994 | University of Strathclyde, UK |

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|---|---|---|---|---|---|
| Dr. Bassim Saleh | Ph.D. | Architecture Environmental Passive Control | Assistant Professor | 1985 | Strathclyde Glasgow, Uk |
| Dr. Najlaa Sami | Ph.D. | Interior Design – Lighting & Acoustic 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. Hasan Zidan | Ph.D. | Electrical Engineering, Control | Assistant Professor | 2001 | Kyushu Institute of Technology (KIT), Japan |
| Mr. Mujeeb Al Rahman | M.Sc. | Biomedical Instrumentation | Lecturer | 2002 | VTU, India |
| Dr. Bouzaid Boudiaf | Ph.D. | Architectural Eng. | Assistant Professor | 2010 | Wolverhampton University ,UK |
| Mrs. 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. 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 |
| Mrs. Manju Bala | M.A. | Interior & Spatial Design | Lecturer | 2012 | Univ. of Hertfordshire |
| Mr. Taher ElDanaf | M.Sc. | Interior Design / Sustainable Build Environment -Indoor Air Quality | Lecturer | 2013 | British Univ. Dubai |
| Mrs. Hadeel AlBustami | M.Sc. | Interior Design / Sustainable Build Environment | Lecturer | 2014 | British Univ. Dubai |
| Mrs. Dina Ibrahim | M.Sc. | Interior Design / Sustainable Build Environment | Lecturer | 2015 | British Univ. Dubai |
| Dr. Konstantinos Aidinis | Ph.D. | Electrical Engineering, Control | Assistant Professor | 1987 | Imperial College – London |

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|---|---|---|---|---|---|
| Nedal Odah | M.Sc. | Electrical Engineering | Lecturer | 1994 | Ajman university |
| Mr. Moayad Al-Habbobi | M.Sc. | Interior Design | Lecturer | 1985 | Wayne State University U.S.A |
| Dr. Nahla Al Qasimi | Ph.D. | Architectural Eng. | Assistant Professor | 2008 | Cairo University |
| Dr. Afaq Haider | Ph.D. | Architecture "Urban Environmental Studies" | Associate Professor | 2011 | National University – Malaysia |
| Dr. Alessandro Cece | Ph.D. | Architectural Eng. | Assistant Professor | 2006 | Secoupa University Napoli |
| Mrs. Nashwa Shiqwarah | M.Sc. | Architectural Eng. | Lecturer | 2016 | Arab Academy for Sciences |
| Mr. Firas S Noori | M.Sc. | Architectural Eng. | Lecturer | 2014 | Alexandria University - Egypt |
| Dr. Julaihi Wahid | Ph.D. | Architectural Technology, Urban Design, Housing. | Professor | 1996 | New Castle Upon Tyne-England |
| Mr. Mahmoud Temmamy | M.Sc. | Architectural Engineering | Lecturer | 2014 | Alexandria University- Egypt |
| Mrs. Raghad Murad | M.M.Arch. | Architectural Theories and History | Lecturer | 2011 | Damascus University |
| Mr. Iyad Juma | M.Sc. | Sustainable Design of Inbuilt Environment | Lecturer | 2016 | British University- Dubai |
| Dr. Maher Assad | Ph.D. | Micro Electronics | Associate Professor | 2009 | University of Glasgow |
| Dr. Fadi Jaber | Ph.D. | Neural Engineering | Assistant Professor | 2009 | University of Surrey |
| Dr. Kamran Arshad | Ph.D. | Communication | Associate Professor | 2007 | Middlesex University |
| Mr. Ziyad Saidi | M.Sc. | Mechatronics | Lecturer | 2007 | American University of Sharjah |
| Ms. Tazeen Sharif | | | | | |
| Dr. Chuloh Jung | Ph. D. | Urban Design & Planning | Associate Professor | 2003 | Yonsie University- S. Korea |

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|---|---|---|---|---|---|
| Mr. Gergely Csikvari | MA | • MA. In Architecture<br>• Titulo de Master, Graduate Degree in Architecture and Urban Culture | Lecturer | • 2001<br>• 2006 | • Moholy Nagy University of Art, Budapest, Hungary<br>• Universidad Politecnica de Catalunya, Barcelona, Spain |
| Dr. Khalid Ghuzlan | Ph. D. | Civil Engineering | Associate Professor | 2001 | University of Illinois at Urbana–Champaign |

## Bachelor of Science in Building Engineering and Construction Management (BSc.BE & CM)

### The Mission of BSc. (BE & CM) Program

The principal mission of this program is to prepare the professional technologist able to handle two major phases of built environment i.e. retrofit designing, construction management. In addition, a successful graduate of this program will also be able to play vital role in professions of facility management and costing and estimation. The graduate of program can pursue a career in various fields of built environment such as quantity surveying, building surveying, estate management, technical consulting firms, and companies offering appraisals and related services, public authorities and materials industry.

### Goals of Program

The goals of the Building Engineering and Construction Management program are to produce the graduate able to;

1. Serves as engineering technologist employed in retrofit designing, building surveying, building maintenance management, construction management, manufacturing industry, civil and architectural engineering, or other allied fields.
2. Pursue graduate or professional education in construction engineering, materials technology, construction law, architecture, etc.
3. Work as licensed Professional or Builder & Constructors.
4. Engage in lifelong learning, through on-the-job training, participation in professional societies, additional formal education, continuing education and professional development, research, and self-study, in order to use state-of-the-art knowledge to design and build safe and effective buildings and/or provide high quality service to the public, employers, clients, and other professionals.

### Program Learning Outcomes

Learning outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the ***knowledge, skills, competencies and self-development*** that students will acquire as they progress through the program.

## Knowledge

At completion of BSc. (BE & CM) program, the graduate will be able to;

1. An ability to relate and apply knowledge of mathematics, science, engineering and other core courses in design and management
2. Able to comprehend and apply knowledge of modern construction technology, construction management, materials, and building science
3. Able to comprehend the fundamental knowledge and concepts of retrofit and adoptive designing
4. Able to comprehend the knowledge of professional practice and ethics
5. Able to comprehend the knowledge of construction laws and legal issues

## Skills

At completion of BSc.(BE & CM) program, the graduate will be able to;

1. Conduct research, acquire data and its analyses for retrofit and adoptive designing
2. Prepare schematic proposals for regenerative and retrofit designing
3. Explicate design solution through illustrative, physical modes , writing and orally
4. Prepare estimations, BOQs and costing of projects
5. Prepare procurement, management and contract documentation

## Competencies

**Autonomy and Responsibility:**

At completion of BSc.(BE & CM) program, the graduate will be able to;

1. Identify, formulates, and solves Bdg.Engr design and construction management problems.
2. Team with multidisciplinary professions engaged in building design and construction management process.
3. Design a system, component, or process to meet desired needs within realistic scenario and constraints such as economic, environmental, social, political, ethical, health and safety.
4. Comprehend and apply the professional and ethical responsibilities in Bdg.Engr and management practice.
5. Conduct building evaluation and suggest the viable solutions for its reuse.

**Self-Development:**

At completion of BSc.(BE & CM) program, the graduate will be able to;

1. Recognize the need for life-long learning in field of Bdg.Engr design and construction management

2. Professionally compete in the market and play an active role in the community

**Role in Context:**

At completion of BSc.(BE & CM) program, the graduate will be able to;

1. Demonstrate professionalism and regard for his fellow professionals.
2. Show good working ethics.

**BE & CM Mapping under Program Learning Outcomes**

The current BSc in BE & CM program complies with CAA standards and AU policies and procedures manuals which include all academic requirements. The learning outcomes of the courses that are mapped according to QF Emirates program outcomes. Table 1 is showing the mapping of BSc in BE & CM program and learning outcome in QF Emirates Framework and Table 2: is showing the mapping courses according to QF Emirates Standards.

**Table 1: The Mapping of Program Learning Outcomes and UAE's Qualifications Frameworks**

| P.O No. | Building Engineering and Construction Management Program Outcomes (PO) | Framework Strands of Learning Outcomes | | | | |
|---|---|---|---|---|---|---|
| | | **Strand 1** | **Strand 2** | **Strand 3** | **Strand 4** | **Strand 5** |
| 1 | An ability to relate and apply knowledge of mathematics, science, engineering and other core courses in design and management | X | | | | |
| 2 | Able to comprehend and apply knowledge of modern technology, management, materials, and building science | X | | | | |
| 3 | Able to comprehend the fundamental knowledge and concepts of retrofit/adoptive designing | X | | | | |
| 4 | Able to comprehend the knowledge of professional practice and ethics | X | | | | |
| 5 | Able to comprehend the knowledge of construction laws and legal issues | X | | | | |
| 6 | An ability to acquire data and its analyses for retrofit / adoptive designing | | X | | | |
| 7 | An ability to prepare schematic proposals for regenerative and retrofit designing | | X | | | |
| 8 | An ability to explicate design solution through illustrative, physical modes , writing and orally | | X | | | |
| 9 | An ability to prepare estimations, BOQs and costing of projects | | X | | | |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | An ability to prepare procurement, management and contract documentation | | | | | | | | | | X | | | | | | |
| 11 | An ability to identify, formulates, and solves Bdg.Engr design and construction management problems. | | | | | | | | | | | X | | | | | |
| 12 | Team with multidisciplinary professions engaged in building design and construction process. | | | | | | | | | | | X | | | | | |
| 13 | An ability to design a system, component, or process to meet desired needs within realistic scenario and constraints such as economic, environmental, social, political, ethical, health and safety | | | | | | | | | | | | | X | | | |
| 14 | Comprehend and apply the professional and ethical responsibilities in architectural practice | | | | | | | | | | | | | X | | | |
| 15 | An ability to conduct building evaluation and suggest the viable solutions for its reuse. | | | | | | | | | | | | | X | | | |
| 16 | An Ability to recognize the need for life-long learning in field of Bdg.Engr design and construction management | | | | | | | | | | | | | | | X | |
| 17 | An ability to professionally compete in the market and play an active role in the community | | | | | | | | | | | | | | | X | |

**Table 2: Mapping of Courses to Program Outcomes**

| P.O No. | Course ID | Course Name | Related Program Outcomes (PO) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| **1** | **2801010** | **Building Materials** | X | X | | | | | | | | | | X | | | | | |
| **2** | **2811020** | **Engineering Graphics for Bdg.Engr** | X | | | | | X | X | | | | X | | | | | | |
| **3** | **2811010** | **Building Science for Bdg.Engr** | X | | | | | | | | | | X | | | | | | |
| **4** | **2811120** | **Introduction to Design for Bdg.Engr** | X | X | | | | | | | | | | | | | | | |
| **5** | **2801020** | **Impact of Technology on Society & Arch** | X | X | | | | X | | | | | X | | | | | | |
| **6** | **2802010** | **Bdg.Engr Design I** | X | X | X | | | | X | X | | | | | X | | X | X | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 2812230 | Building Const. I for Bdg.Engr | X | X | | | | X | X | | | | X | | X | X | | | | | | | | | |
| 8 | 2852030 | Surveying for Bdg.Engr | X | | | | | X | | X | | | X | | | | | | | | | | | | |
| 9 | 2812340 | CAAD-I for Bdg.Engr | X | | | | | X | | | | | | | | | | | | | | | | | |
| 10 | 2802110 | Building Condition Surveying | X | | X | | | X | | | | | | | | | | | | | | X | | | |
| 11 | 2802220 | Construction Drawings –I | X | X | | | | | | X | | | | | X | | | | | | | | | | |
| 12 | 2812240 | Building Const. II for Bdg.Engr | X | X | | | | X | X | | | | X | | X | X | | | | | | | | | |
| 13 | 2852040 | Structural Design - I Bdg.Engr | X | | | | | X | | X | | | X | | | | | | | | | | | | |
| 14 | 2812350 | CAAD II for Bdg.Engr | X | | | | | X | | | | | | | | | | | | | | | | | |
| 15 | 2802460 | Acoustic & Lighting for Bdg.Engr | X | | | | | X | | X | | | X | | | X | | | | | | | | | |
| 16 | 2803010 | Building Eng: Design II | X | X | X | | | | X | X | | | | | | | X | | | X | X | | | | |
| 17 | 2803140 | Construction Estimating –I | X | X | | | | X | | | X | X | | | X | | | | | | | | | | |
| 18 | 2803130 | Construction Project Management I | X | X | | X | X | | | | | | X | X | | | | X | | | | | | | |
| 19 | 2853050 | Structural Design- II for Bdg.Engr | X | | | | | | X | | X | | | X | | | | | | | | | | | |
| 20 | 2803160 | Build. Maintenance Management | X | | | X | | | | | X | | | | X | | | | | | | | | | |
| 21 | 2803230 | Construction Project Management II | X | X | | X | X | | | | | | X | X | | | | X | | | | | | | |
| 22 | 2803220 | Construction Drawings II | X | X | | | | | X | | | | | X | X | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 2813270 | Building Services for Bdg.Engr | X | | X | | | X | | | X | X | | | | | | | | | | |
| 24 | 2813420 | Advance & Sustainable Const Tech. | X | X | | | | | | | X | | | | X | | | | | | | |
| 25 | 2803520 | Strength of Materials | X | | | | X | | | | | X | | | | | | | | | | |
| 26 | 2804140 | Construction Estimation –II | X | X | | | X | | X | | | X | | | X | | | | | | | |
| 27 | 2804150 | Legal issues in Construction laws | X | | X | X | | | X | | | X | | X | | | | X | | | | |
| 28 | 2804470 | Active Thermal Env:. Control for Bdg.Engr | X | X | | | X | | X | | X | | X | | | | | | | | | |
| 29 | 2804500 | Graduation Project | X | X | X | | | X | X | | | | X | | X | | | X | | | | |
| 30 | 2814350 | Building Construction Codes & Practice | X | | X | | X | | X | | | X | | X | | | | X | | | | |
| 31 | 2804680 | Building Conservation | | X | | | | | X | | | X | | | | | | | | | | |
| 32 | 210300 | Engineering Training | | | | X | | X | | | | X | | | | | X | X | | | | |
| 33 | 2835090 | Building Pathology | X | | | X | X | | | | | X | | X | | | | X | | | | |
| 34 | 2835100 | Control Systems in Buildings | X | | X | | X | | | | X | | | | | | | | | | | |
| 35 | 2835120 | Building Envelope Design | X | | X | | | | X | | X | | X | | | | | | | | | |

## Core Fields of Program

BE & CM program is based on three core fields of built environment that constitute to the BSc.(BE & CM). The following core fields are based on various courses mentioned in Table 3.

**Table 3: The Core Fields in the BSc.BE & CM.**

| No | Core Fields | Course No | Credit Hours |
|---|---|---|---|
| 1 | **Construction Management** | 2812230, 2803130, 2803230, 2804150, 2814350, 2803140, 2804140 | 21 |
| 2 | **Building Engineering** | 2811010, 2811120, 2802010, 2803010, 2813270,2804470, 2802110, 2803160, 2835090, 2835100, 2804680 | 33 |
| 3 | **Construction & Materials Technology** | 2802220, 2803220, 2813420 | 09 |

## Admission Requirement

The College of Engineering and Department of Architectural Engineering follows the policy established by Ajman University. A Secondary School Certificate, science section, or its equivalent with the Grade Point Average not less than B or an 70% overall average and the priority is given to students with a higher Grade Point Average or overall percentage in the following subjects.

1. Mathematics
2. Physics
3. Chemistry
4. English proficiency test (TOEFL score of 500 or above; or ILETS 5.0 Band).
5. Personal interview.

Students who do not satisfy the English proficiency requirement (TOEFL score of 500 or above; or ILETS 5.0 Band) 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 4.0 in IELTS, at the end of the first semester of registration.

## Career Opportunities:

The graduate of program can pursue a career in various fields of built environment such as

- retrofit designing (building remodeling & adaptation)
- quantity surveying,
- building estimation & costing,
- building surveying,
- estate and facility management,
- builder & constructors,
- civil & architectural consulting firms,
- companies offering building appraisals & related services,
- public & private authorities,
- construction management and

- construction materials manufacturing & sales industry.

## Degree Completion Requirements

The BSc degree in BE & CM requires the completion of 152 credit hours including graduation project in BE & CM and Supervised Training. The student will be declared a BSc in BE & CM if she or he completes 152 credit hours and has an AGPA of >=2.0.

| No | Type of Courses | Total credit Hours |
|---|---|---|
| 1. | University General Education Requirements | |
| 2. | (a) University Required Courses | 15 |
| 3. | (b) University Elective Courses | 9 |
| 4. | College Required courses | 9 |
| 5. | Specialization required courses | 113 |
| 6. | Specialization Elective courses | 6 |
| | Total Credit Hours | 152 |

### Graduation Time Frame

The student can complete the study plan in a minimum of 3 and a half years, however the study plan is designed to be completed in 4 years/8 semesters. Usually the students take minimum of 4 years to complete the study plan. The maximum length of the BSc.BE & CM study plan is 8 years/16 semesters. A student transferring from another University should be from a University accredited by the CAA, complete at least 50% of the study plan at AU and completes the last semester at AU.

## UNIVERSITY GENERAL EDUCATION REQUIREMENTS

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

| Course ID | Course Title | TH | LAB | TUT | Cr.H | Prerequisite |
|---|---|---|---|---|---|---|
| 1010000 | Orientation | 1 | 0 | 0 | 0 | - |
| 1021100 | Islamic Culture | 3 | 0 | 1 | 3 | - |
| 1021400 | Communication Skills in Arabic Language | 3 | 0 | 0 | 3 | - |
| 1031101 | Statistics | 2 | 2 | 0 | 3 | - |
| 1041100 | Computer Applications | 1 | 2 | 0 | 3 | - |
| 1031 200 | Environmental Sciences | 3 | 0 | 0 | 3 | - |

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

| Course ID | Course Title | TH | LAB | TUT | Cr.H | Prerequisite |
|---|---|---|---|---|---|---|
| 1021200 | The Miraculousness of the Holy Koran | 3 | 0 | 0 | 3 | - |
| 1031300 | Research Methodology | 3 | 0 | 0 | 3 | - |
| 1121100 | Principles of Architecture & Art | 3 | 0 | 0 | 3 | - |
| 1121200 | Principles of Interior Design | 3 | 0 | 0 | 3 | - |
| 1121 300 | Modern Technology and Society | 3 | 0 | 0 | 3 | - |
| 1131100 | Internet Concepts | 3 | 0 | 0 | 3 | - |
| 1131 200 | Introduction to Information Systems | 3 | 0 | 0 | 3 | - |
| 1141100 | Economic Concepts | 3 | 0 | 0 | 3 | - |
| 1141 200 | Entrepreneurship Development | 3 | 0 | 0 | 3 | - |
| 1151100 | History of science in Islam | 3 | 0 | 0 | 3 | - |
| 1151200 | Scientific pioneering | 3 | 0 | 0 | 3 | - |
| 1151 300- | General psychology | 3 | 0 | 0 | 3 | - |
| 1151400 | Principle of mathematics | 3 | 0 | 0 | 3 | - |
| 1151500 | The Art of Expression and writing | 3 | 0 | 0 | 3 | - |
| 1151600 | Emirates Society | 3 | 0 | 0 | 3 | - |
| 1151700 | Education Technology | 3 | 0 | 0 | 3 | - |
| 1171100 | General chemistry | 3 | 0 | 0 | 3 | - |
| 1171200 | Fundamental of Human Nutrition | 3 | 0 | 0 | 3 | - |
| 1171300 | First Aid | 3 | 0 | 0 | 3 | - |
| 1171500 | Applications of Remote sensing | 3 | 0 | 0 | 3 | - |
| 1181100 | Principles of Ethics | 3 | 0 | 0 | 3 | - |
| 1181 200 | General Biology | 3 | 0 | 0 | 3 | - |
| 1181300 | Oral Health | 3 | 0 | 0 | 3 | - |
| 11814000 | General principles of Epidemiology | 3 | 0 | 0 | 3 | - |
| | CPR-Cardio Pulmonary Resuscitation | 3 | 0 | 0 | 3 | - |
| 1191100 | Communication Skills | 3 | 0 | 0 | 3 | - |
| 1191 200 | Introduction to Communication Sociology | 3 | 0 | 0 | 3 | - |
| 1191 300 | Information Society | 3 | 0 | 0 | 3 | - |
| 1201150 | Legal Culture | 3 | 0 | 0 | 3 | - |

### College Required Courses (9 Cr. Hrs.)

| Course ID | Course Title | TH | LAB | TUT | Cr.H | Prerequisite |
|---|---|---|---|---|---|---|
| 2711000 | Engineering Graphics | 2 | 2 | 0 | 3 | --- |
| 21 71 010 | Engineering Mathematics I | 3 | 0 | 2 | 3 | --- |
| 2701011 | Building Sciences | 3 | 0 | 0 | 3 | --- |

### BE & CM Specialization Required Courses & Graduation Projects (113 Cr.Hrs.)

| Course ID | Course Title | TH | LAB | TUT | Cr.H | Prerequisite |
|---|---|---|---|---|---|---|
| 2801010 | Building Materials | 3 | 0 | 0 | 3 | - |
| 2811020 | Engineering Graphics for Bdg.Engr | 3 | 0 | 0 | 3 | - |
| 2811010 | Building Science for Bdg.Engr | 3 | 0 | 0 | 3 | - |
| 2811120 | Introduction to Design for Bdg.Engr | 1 | 2 | 0 | 3 | |
| 2801020 | Impact of Technology on Society & Arch | 3 | 0 | 0 | 3 | 211010 |
| 2802010 | Bdg.Engr Design I | 1 | 3 | 0 | 4 | 2811120<br>2811020 |
| 2812230 | Building Const. I for Bdg.Engr | 1 | 2 | 0 | 3 | 2811010 |
| 2852030 | Surveying for Bdg.Engr | 1 | 2 | 0 | 3 | - |
| 2812340 | CAAD-I for Bdg.Engr | 1 | 2 | 0 | 3 | 2811080<br>2811120 |
| 2802110 | Building Condition Surveying | 2 | 1 | 0 | 3 | 2811010<br>2812230 |
| 2802220 | Construction Drawings –I | 1 | 2 | 0 | 3 | 2812230 |
| 2812240 | Building Const. II for Bdg.Engr | 1 | 2 | 0 | 3 | 2812230 |
| 2852040 | Structural Design - I Bdg.Engr | 3 | 0 | 0 | 3 | 2171010 |
| 2812350 | CAAD II for Bdg.Engr | 1 | 2 | 0 | 3 | 2812340 |
| 2802460 | Building Façade Engineering | 3 | 1 | 0 | 3 | 2811010<br>2812230 |
| 2803010 | Building Eng: Design II | 1 | 3 | 0 | 4 | 2802010 |
| 2803140 | Construction Estimating –I | 3 | 0 | 0 | 3 | 2802220 |
| 2803130 | Construction Project Management I | 3 | 0 | 0 | 3 | 2802010 |
| 2853050 | Structural Design- II for Bdg.Engr | 3 | 0 | 0 | 3 | 2852040 |
| 2803160 | Building Maintenance Management | 3 | 0 | 0 | 3 | 2802110 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2803230 | Construction Project Management II | 3 | 0 | 0 | 3 | 2803130 |
| 2803220 | Construction Drawings II | 1 | 2 | 0 | 3 | 2802220 |
| 2813270 | Building Services for Bdg.Engr | 2 | 1 | 0 | 3 | 2812240 |
| 2813420 | Advance & Sustainable Const Tech. | 3 | 0 | 0 | 3 | 2812240 |
| 2803520 | Strength of Materials | 3 | 0 | 0 | 3 | 2852040 |
| 2804140 | Construction Estimation –II | 3 | 0 | 0 | 3 | 2803140 |
| 2804150 | Legal issues in Construction laws | 3 | 0 | 0 | 3 | 2801020 |
| 2804470 | Active Thermal Env. Control for Bdg.Engr | 3 | 0 | 0 | 3 | 2811010 |
| 2804500 | Graduation Project | 3 | 1 | 0 | 4 | 2803010<br>2803220 |
| 2814350 | Building Construction Codes & Practice | 3 | 0 | 0 | 3 | 2804150 |
| 2804680 | Building Conservation | 3 | 0 | 0 | 3 | 2801010<br>2813420 |
| 210300 | Engineering Training | 3 | 0 | 0 | 3 | 2803010 |

**BE & CM Specialization Elective Courses (06 Cr.Hrs)**

| Course ID | Course Title | TH | LAB | TUT | Cr.H | Prerequisite |
|---|---|---|---|---|---|---|
| 273500 | Selected Topics in Arch. | 3 | 0 | 0 | 3 | - |
| 273501 | Interior Design & Coloring | 3 | 0 | 0 | 3 | - |
| 2735080 | Geographical Information Systems | 2 | 1 | 0 | 3 | - |
| 273502 | Real Estate Development | 3 | 0 | 0 | 3 | - |
| 2835090 | Building Pathology | 3 | 0 | 0 | 3 | - |
| 273504 | Photography | 1 | 2 | 0 | 3 | - |
| 273506 | Advanced CAAD Application | 1 | 2 | 0 | 3 | - |
| 735070 | Research & Design Methods | 3 | 0 | 0 | 3 | - |
| 2835100 | Control Systems in Building | 3 | 0 | 0 | 3 | - |
| 2835120 | Lighting & Acoustic | 3 | 0 | 0 | 3 | - |

## Sequence of the Study Plan of the BSc. (BE & CM)

**Table 4: 4-Year Study Plan for BSc. (BE & CM)**

**PROPOSED SEQUENCE OF STUDY BSc.BE & CM**

### Semester 1

| Course# | Course Name | Cr. Hrs | Lectures | Tut/ Lab | Pre-req. | |
|---|---|---|---|---|---|---|
| 280101 | Building Material | 3 | 3 | 0 | - | - |
| 2811080 | Engineering Graphics for Bdg: Engr | 3 | 3 | 0 | - | - |
| 2811010 | Building Science | 3 | 3 | 0 | - | - |
| 102 140 | Communication Skills in Arabic Language | 3 | 3 | 0 | - | - |
| 104 110 | Computer Applications | 3 | 2 | 2 | - | - |

### Semester 2

| Course# | Course Name | Cr. Hrs | Lectures | Tut/ Lab | Pre-req |
|---|---|---|---|---|---|
| 2811120 | Introduction to Design for Bdg: Engr | 3 | 1 | 2 | - |
| 2801020 | Impact of Tech: on Built Environment | 3 | 3 | 0 | 211010 |
| 104110 | Environmental Science | 3 | 3 | 0 | - |
| 2171010 | Maths-I | 3 | 3 | 0 | - |
| - | University Elective – I | 3 | 3 | 0 | - |

### Semester 3

| Course# | Course Name | Cr. Hrs | Lectures | Tut/ Lab | Pre-req. | |
|---|---|---|---|---|---|---|
| 2802010 | Bdg.Engr Design-I | 4 | 1 | 3 | 2811120 | 2811020 |
| 2812230 | Building Construction-I Bdg: Engr | 3 | 1 | 2 | 2811010 | - |
| 2852030 | Surveying for Bdg: Engr | 3 | 1 | 2 | - | - |
| 2812340 | CAAD-I for Bdg: Engr: | 3 | 3 | 0 | 2811080 | 2811120 |
| | University Elective – II | 3 | 3 | 0 | - | |

**Semester 4**

| Course# | Course Name | Cr. Hrs | Lectures | Tut/ Lab | Pre-req. | |
|---|---|---|---|---|---|---|
| 2802110 | Building condition Surveying | 3 | 2 | 1 | 2811010 | 2812230 |
| 2802220 | Construction Drawing-I | 3 | 1 | 2 | 2812230 | - |
| 2812240 | Building Construction-II Bdg: Engr | 3 | 3 | 0 | 2812230 | - |
| 2852040 | Structural Design-I for Bdg: Engr: | 3 | 3 | - | 2171010 | - |
| 2812350 | CAAD-II for Bdg: Engr: | 3 | 1 | 2 | 2812340 | - |
| 2802460 | Building Façade Engineering | 3 | 3 | 0 | 2812230 | 2802460 |

**Semester 5**

| Course# | Course Name | Cr. Hrs | Lectures | Tut/ Lab | Pre-req. | |
|---|---|---|---|---|---|---|
| 2803010 | Bdg.Engr Design-II | 4 | 1 | 3 | 2802010 | - |
| 2803140 | Construction Estimation-I | 3 | 3 | 0 | 2802220 | - |
| 2803130 | Construction Project Management-II | 3 | 3 | 2 | 2802010 | - |
| 2853050 | Structural Design –II for Bdg: Engr | 3 | 3 | 0 | 2852040 | - |
| 2803160 | Building Maintenance Management | 3 | 3 | 0 | 2802110 | - |
| | University Elective – III | 3 | 3 | 0 | - | - |

**Semester 6**

| Course# | Course Name | Cr. Hrs | Lectures | Tut/ Lab | Pre-req. | |
|---|---|---|---|---|---|---|
| 2803230 | Construction Project Management-II | 3 | 3 | 0 | 2803130 | - |
| 2803220 | Construction Drawing-II | 3 | 1 | 3 | 2802220 | - |
| 2813270 | Building Services for Building Engr: | 3 | 2 | 1 | 2812240 | - |
| 2813420 | Advance &Sustainable Bldg Cons Tec | 3 | 3 | 0 | 2812240 | - |
| 1021100 | Islamic Culture | 3 | 3 | 0 | - | - |
| 2803520 | Strength of Materials | 3 | 3 | 0 | 2852040 | - |

**Semester 7**

| Course# | Course Name | Cr. Hrs | Lectures | Tut/ Lab | Pre-req | |
|---|---|---|---|---|---|---|
| 2804140 | Construction Estimation-II | 3 | 3 | 0 | 2803140 | - |
| 2804150 | Legal Issues in Regional Const: Laws | 3 | 3 | 0 | 2801020 | - |
| 2804470 | Active Thermal Env: Control-Bdg Engr | 3 | 3 | 0 | 2811010 | - |
| 1301101 | Statistics | 3 | 3 | 0 | - | - |
| - | Specialization Elective-I | 3 | 3 | 0 | - | - |
| | | 3 | 2 | 2 | - | - |

**Semester 8**

| Course# | Course Name | Cr. Hrs | Lectures | Tut/ Lab | Pre-req. | |
|---|---|---|---|---|---|---|
| 2804500 | Graduation Project | 4 | 3 | 1 | 2803010 | 2803220 |
| 2814350 | Building Construction Codes & Practice | 3 | 3 | 0 | 2804150 | - |
| 2804680 | Building Conservation | 3 | 3 | 0 | 2801010 | 2813420 |
| - | Specialization Elective-II | 3 | 3 | 0 | - | - |
| 210300 | Engineering Training | 3 | 3 | 0 | 2803010 | - |

## BSc. BE & CM Courses Brief Description

### 2801010-BUILDING MATERIALS, (3, 0, 0: 3)

**Pre-Requisite: None**

This course will cover the engineering properties of basic and modern building materials to materials such as plastics, synthetic fibers, adhesives, sealants, caulking compounds, foams, sandwich panels, composites, polymer concrete systems, fiber-reinforced concretes, plastic mortars, polymers for flooring, roofing, synthetic wall papers. Moisture properties of modern building materials and their structural, thermal, and acoustical properties. Consideration of corrosion, bio- and thermal degradation, stability to ultraviolet and solar radiation. In addition, the materials will be discussed in context of sustainability and its lifecycle under various conditions of application.

### 2811020 Engineering Graphics for Bdg.Engr (2,0,2:3)

**Pre-Requisite: None**

This course aims to explain and teach students about graphic communication, the language of building engineers. The student will learn about principles of parallel-line drawings, orthogonal projections, and rendering, and preparing a set of construction drawings.

### 2811010 Building Sciences for Bdg.Engr (3,0,0:3)

**Pre-Requisite: None**

This course aims to familiarize students with basic principles and means of measurement and design of technical aspects of building.

### 2811120 Introduction to design for Bdg.Engr (1,4,0:3)

**Pre-Requisite: None**

This course aims to introduce students to the basic elements of design, its principles, and the perception and understanding of building elements within an analytical method.

### 2801020 Impact of Technology on Society & Built Environment (3,0,0:3)

**Pre-Requisite: 2811010**

This course will highlight the history of built environment and architecture as the confluence of social and technological evolution. Methodology and thought processes in the theory and design of cities and the human habitat. The impact of technology on society. Energy conservation, environmental constraints and sustainability issues.

### 2802010 Title: Bdg.Engr Design – I (2,4,0:4)

**Pre-Requisite: 2811020 -2801020 - 2811120**

This course will encompass the conceptual and preliminary adaptive design of small/medium size building. The student will complete the project individually or in the team. However, each student will learn Bdg.Engr design process, methodology, identification of objectives, building Codes, formulation of design problems. Development and evaluation of sustainable building design alternatives. Conceptual building design: spatial requirements, the design of space layout.

### 2812230 Building Construction I for Bdg.Engr (2,2,0:3)

**Pre-Requisite: 2811020**

This course aims to introduce students to basic concepts and properties of building structural components and their materials. The students will acquire the necessary theoretical background in building technology. He will be able to analyze main stress directions and select a relevant structural system (short/ medium span) for the project at hand.

### 2812340 CAAD I for Bdg.Engr ( 1,4,0:3

**Pre-Requisite: 2811020 -104110**

This course aims to introduce students to 2D Computer Aided Bdg.Engr Design drafting process. The course introduces students to computer-aided construction design tool, giving them an opportunity to develop computer skills in their Bdg.Engr design projects. They will use, manipulate and apply CAAD software, enabling them to make drafting and presentation of their projects.

### 2802110 Building Condition Surveying (3,0,0:3)

**Pre-Requisite: 2801010 – 2812230**

This course will focus on teaching students to carry out many different types of building inspection, each for a particular reason and each resulting in a report with specific information produced for a particular purpose.

This course will prepare the student to detect the faults in building at pre and post-occupational stage. In addition, to detect the design faults, this course will also enable the students to use the techniques to evaluate the effects of climatic factors such as flooding, dampness and structural factors such as sinking, structural damage or decay plus the presence of dangerous substances are typical problems. This course will also train the student for comprehensive checking, anticipate problems and to plan maintenance techniques.

### 2802220 Construction Drawings –I (1,4,0:3)

**Pre-Requisite: 2812230**

This course will encompass the fundamentals of technical drawing, dimensioning practices, orthographic projections, auxiliary and sectional views of buildings. Theory and applications of descriptive geometry in building design. Computer aided building drawing. subsystems and related graphics standards; architectural and Bdg.Engr drawing at preliminary and final stages and introduction to the design of light frame buildings.

### 2812240 Building Construction II for Bdg.Engr (2,2,0:3)

**Pre-Requisite: 2812230**

This course aims to familiarize students with water, damp proofing, and enclosure system (partitions, windows and doors), finishing materials, and means of vertical circulation. In this course students identify main building structural systems and their relation to secondary systems. They will be acquainted with various finishing materials, their properties, and their means of application.

### 2852040 Structural Design I (2,2,0:3)

**Pre-Requisite: 2811010 - 2171010**

The aim of this course is to introduce the concepts and principles of structural analysis and behavior of materials and structural elements.

### 2812350 CAAD II for Bdg.Engr (1,4,0:3)

**Pre-Requisite: 2812340**

This course aims to introduce students to Computer 3D modelling programs such as 3DMax or Sketch up, and how to use them to model a Bdg.Engr project. The course introduces students to virtual three-dimensional space and modelling through the use of 3d modelling software.

### 2835120 Building Façade Engineering (3,0,0:3)

**Pre-Requisite: 2801010-2811010**

This course will focus on issues of building facades design in general and particularly emphasis on facades of tight buildings. This course includes the learning about effects of environmental and climatic factors on vertical surfaces and openings /glazed surfaces. This course will train the student to suggest appropriate design of façade with active consideration of construction and material technology.

### 2803010 Bdg.Engr Design – II (2,4,0:4)

**Pre-Requisite: 2802010**

This course will encompass the conceptual and preliminary design of a medium size adaptive and civil engineering project. Students learn Bdg. Engr design process, methodology, identification of objectives, Codes, formulation of design problems. Development and evaluation of sustainable design alternatives through an application of computer-aided design tools.

### 2803140 Construction and Estimation-I (3,0,0:3)

**Pre-Requisite: 2802220- 2812240**

This course will encompass the techniques and procedures used for estimating the cost of construction projects. Cost estimation process; elements of the project cost; conceptual and detailed cost estimation methods; risk assessment and range estimating; case studies; computer-aided estimating. Particularly a focus on concrete foundation-related work, earthwork, masonry, above-grade concrete, concrete frame, and structural steel work items.

### 2803130 Construction Project Management-I (3,0,0:3)

**Pre-Requisite: 2802010**

This course construction project management will deliver the knowledge about the nature of construction and the environment in which the industry works; organizational structures for project delivery; construction contracts and documents; introduction to construction processes, project planning, scheduling, control; construction safety, bidding planning and scheduling, cash flow analysis, project tracking and control

### 2853050 Structural Design II (3,0,0:3)

**Pre-Requisite: 2852040**

The aim of this course is to introduce the design of structural members of concrete and steel elements.

### 2803160 Building Maintenance and Management (3,0,0:3)

**Pre-Requisite: 2802110**

This course will encompass on issues of fundamental and long-term maintenance and management plans for physical assets such as airports, government buildings, office buildings, factory buildings, apartment complexes (large- and small-scale), hotels, hospitals, shopping malls, sports and entertainment venues, and other large facilities.

### 2803230 Construction Project Management II (3,0,0 :3)

**Pre-Requisite: 2803130**

This course will cover two interrelated fields of construction engineering and management. The first part of course focuses on a study of contemporary construction methods and techniques. Whereas second part of course is, consist of learning based on effective management and control for timely completion of the project as per contract. This course aims to provide the students with an advanced body of knowledge in specific sectors of the site production process. Students shall be given an exposure of the production problems and the available strategies/methods of resolving these problems from both the theoretical and practical perspectives.

### 2803220 Construction Drawings II (1, 4, 0: 3)

**Pre-Requisite: 2802220**

This course will encompass the construction detail in the formation and thematic development of a work of Bdg.Engr design. Students in this course will explore and research building details of medium to large span structures of space frames, steel structures, precast beams, etc. The study will enable the student to consider their appropriateness and document through analytical drawing their intent and assembly.

### 2813270 Building Services for Bdg.Engr (2, 2, 0:3)

**Pre-Requisite: 2812240**

This course will prepare the students to deal with the various aspects concerning installations of various services in buildings. It allows students to participate in the development of building designs within a multidisciplinary team.

### 2813420 Advance & Sustainable Construction Technology (3, 0, 0)

**Pre-Requisite: 2812240**

This course aims to introduce students to advanced and sustainable building systems & technologies and means of deploying them in buildings.

### 2803520 Strength of Materials (2,2,0:3)

**Pre-Requisite: 2853050**

This course covers the study of behavior of various building materials subjected to various structural forces present in building frame. This course will prepare the student to evaluate the use of construction material in particular condition. This course will be offered in combination of formal theoretical learning and practical in designated laboratory.

### 2804140 Construction and Estimation-II (3,0,0:3)

**Pre-Requisite: 2803140**

This course covers the analysis and determination of costs of construction operations, including all the normal bid-preparation activities that take place in a constructor's estimating section. This course also includes construction cost accounting and control, microcomputer applications, and professional ethics.

### 2804150 Legal Issues in Regional Construction Laws (3,0,0:3)

**Pre-Requisite: 2803010**

This course will encompass the issues of labor legislation with special emphasis on the construction industry, union organization, theory and practice of negotiations, mediation, contract administration, and arbitration. Review of actual contracts, discussion of future trends. Legal concepts and processes applicable to the development of constructed facilities and to the operation of the construction firm, emphasis on UAE law and institutions.

### 2804470 Active Thermal Environmental Control for Bdg.Engr (2,0,0:2)

**Pre-Requisite: 2811010**

This course aim is to introduce students to basic concepts of active thermal systems, their design and applications.

### 2804500 Graduation Project (2,4,0:4)

**Pre-Requisite: 2803010 - 2803220**

This course is designed for the final year undergraduate students who have an interest in pursuing a solution for the special problem, through individual or as a group research and design project. The selection of project requires the consent of the instructor and approval of the Department Chairman.

**2814350 Building Construction Codes and Practice (3,0,0:3)**

**Pre-Requisite: 2804150**

This course will encompass the general survey of Codes and regulations affecting the design and construction of buildings. It focuses on the UAE/International Building Code.

**2804680 Building Conservation (2,2,0:3)**

**Pre-Requisite: 2801010, 2802010**

This course aims to introduce students to methods and techniques of building conservation.

## Specialisation Electives

**2835090 Building Pathology (3,0,0:3) Pre-Requisite: None**

This course will provide an interdisciplinary approach to the study of defects and performance in order to develop appropriate remedial and management solutions. It considers how the structure and materials of a building relate to its environment, its occupants, and the way the building is used. This course will also help the student to develop a better understanding about building failures and to improve the design practice.

**2835100 Smart Control Systems in Buildings (3,0,0:3) Pre-Requisite: None**

This course will focus on design and installations of smart control system used in various types of building, serves different function ranges from; security, accessibility, privacy, fire safety ventilation, energy conservation and resource conservation.

**2802460 Lighting and Acoustics (3,0,0:3) Pre-Requisite: None**

This course aims to familiarize students with basic principles and means of the Design and Measurement of Lighting and Acoustics, as well as its Impact on the Environment.

**273 5000 Selected Topics in Architecture (3, 0, 0: 3) Pre-requisite: None**

This course introduces students to how to discuss and trigger the most important issues vital to their academic and professional development. It helps them organize their thoughts and interests in a systematic way in relation to their architecture education. The course also enables students to express various progress in architectural education of a special field both orally, by writing and graphically.

**273 5010 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 5060 Advanced CAAD Application (1, 4, 0: 3) Pre-requisite: 270 3350**

The course concentrates on basics of BIM. AutoDesk Revit is the program of choice. Students are taught how to use building elements and put them in the BIM database.

**273 5070 Research and Design 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.

**2735080 Geographic Information Systems (1, 4, 0: 3) Pre requisite 2703350**

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.

**2735040 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.

**2735020 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.

# 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 computing graduates in all specializations. The College of Information Technology has the reputation of offering quality academic programs based on international standards to prepare its students for a much needed career in the dynamic and rapidly evolving computing industry of today.

## Mission Statement

The mission of the College of Information Technology is to provide high-quality education that prepares students for a successful computing career in industry, government, and academia. Conduct research and apply knowledge to solve computing problems, and share computing knowledge and skills with the community.

## College Goals

- Goal 1: Providing high quality internationally recognized academic programs
- Goal 2: Conducting research that contributes to the advancement of the IT field
- Goal 3: Producing graduates who are innovative, life-long learning and able to pursue further graduate studies and research in the discipline of computing
- Goal 4: Producing graduates who can provide valuable services to the UAE society and the region in the field of IT.
- Goal 5:Increasing the visibility of the IT College in the UAE and the region

## Degree Programs

The College offers three distinct Bachelor degree programs, which provide the student with an excellent theoretical and practical knowledge and skills to prepare her/him for professional career or further study. All programs are accredited by the Commission for Academic accreditation.

## Programs offered are:

1. Bachelor in Information Technology with two concentrations:
   - Networking & Security, and
   - Database & Web systems
2. Bachelor in Information Systems with two concentrations:
   - Project Management
   - E-Business Management
3. Bachelor in Computer Engineering

## Facilities

The College is equipped with the state-of-the-art computing facilities which are regularly upgraded. All University computers are connected through local and wide area networks. Multimedia facilities are provided in all classrooms and labs. In addition, the College houses electronics, microprocessor and computer network labs. College facilities ensure students are well equipped for performing any required task. All staff and students computers are linked to the Internet. 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 Computer Science

## Introduction

The Department of Computer Science at Ajman University offers a Bachelor of Science in Information Technology which is a 4-years program accredited by the Commission for Academic Accreditation and requires the completion of 123 credit hours. Students enrolled in the Bachelor of Science in Information Technology can choose one of two concentrations: Networking & Security and Database & Web Systems.

# 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

Graduates of the Bachelor of Science in Information Technology program will have the following characteristics within few years of graduation:

PEO_1. Use their acquired skills and knowledge in information technology to pursue a rewarding and a successful career in public sector, private sector, or academia locally or globally.

PEO_2. Act as an effective individuals or leaders who can address information technology related technical, business, or ethical challenges.

PEO_3. Engaged in life-long learning and professional development through self-study, professional, or graduate studies in information technology or related fields.

## Program Outcomes

### Common Outcomes (All concentrations)

**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 behaviour in an information technology environment.
- C7. ***Communicate*** effectively both orally and in writing.

- C8. ***Function*** independently and as an effective member of a team.

**Concentration 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.

### Databases & Web Systems

**Graduates will be able to,**

- DW1. Design and implement database-driven applications.
- DW2. Design and implement web-based client/server systems.
- DW3. Use Big Data analytical techniques and front-end tools.
    - DW4. Analyze un-modelled, multi-structured data using Big Data technologies such as Hadoop, MapReduce & Spark.

## Program Learning Outcomes and Alignment to UAE Qualification Framework (UAEQF)

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

## Concentration Specific Learning Outcomes

| Networking and Security Concentration Learning Outcomes | UAEQF Strands |
|---|---|
| NS1. ***Design*** and ***implement*** basic network functionalities. | Knowledge & Skill |
| NS2. ***Maintain*** and ***administer*** network systems. | |
| NS3. ***Analyze*** and ***evaluate*** network configurations and security needs. | |
| NS4. ***Provide*** solutions for network security needs. | |

| Databases and Web Systems Learning Outcomes | UAEQF Strands |
|---|---|
| DW1. Design and implement database-driven applications. | Knowledge & Skill |
| DW2. Design and implement web-based client/server systems. | |
| DW3. Use Big Data analytical techniques and front-end tools. | |
| DW4. Analyze un-modelled, multi-structured data using Big Data technologies such as Hadoop, MapReduce & Spark | |

## Admission Requirements

The normal entry requirement for an applicant is the U.A.E secondary school certificate 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 designing and implementing network solutions. 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 (AU) are eligible for a Bachelor in Information Technology in either concentration 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 concentrations requires the completion of 123 Cr. Hrs. distributed according to the following plan for the two concentrations:

| 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 Concentration 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 | - |
| 1141300 | Innovation & Entrepreneurship | 3 | 0 | 0 | 3 | - |

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

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1. Humanities / Arts | | | | | | |
| 1021501 | Introduction to Hadeeth and Sunna | 3 | 0 | 0 | 3 | - |
| 1071200 | Academic Writing (English) | 3 | 0 | 0 | 3 | - |
| 1071300 | Introduction to Digital Photography | 3 | 0 | 0 | 3 | - |
| 1091200 | French Language | 3 | 0 | 0 | 3 | - |
| 1121100 | Principles of Architecture | 3 | 0 | 0 | 3 | - |
| 1121200 | Principles of Interior design | 3 | 0 | 0 | 3 | - |
| 1121400 | Introduction to Art | 3 | 0 | 0 | 3 | - |
| 1151500 | The Art of Written Expression (Arabic) | 3 | 0 | 0 | 3 | - |
| 1191500 | The Art of Public Speaking (English) | 3 | 0 | 0 | 3 | - |
| 1201150 | Legal Culture | 3 | 0 | 0 | 3 | - |
| 2. Natural and Applied Sciences | | | | | | |
| 1031200 | Environmental Science | 3 | 0 | 0 | 3 | - |
| 1031300 | Research Methodology | 3 | 0 | 0 | 3 | - |
| 1081200 | General Physics | 3 | 0 | 0 | 3 | - |
| 1121300 | Modern Technology and Society | 3 | 0 | 0 | 3 | - |
| 1131100 | Internet Concepts | 3 | 0 | 0 | 3 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1131200 | Introduction to information System | 3 | 0 | 0 | 3 | - |
| 1151100 | History of Science in Islam | 3 | 0 | 0 | 3 | - |
| 1151200 | Scientific Pioneering | 3 | 0 | 0 | 3 | - |
| 1151400 | Principles of Mathematics | 3 | 0 | 0 | 3 | - |
| 1151700 | Educational Technology | 3 | 0 | 0 | 3 | - |
| 1161200 | Astronomy | 3 | 0 | 0 | 3 | - |
| 1171100 | General Chemistry | 3 | 0 | 0 | 3 | - |
| 1171200 | Fundamental of Human Nutrition (English) | 3 | 0 | 0 | 3 | - |
| 1171201 | Fundamental of Human Nutrition (Arabic) | 3 | 0 | 0 | 3 | - |
| 1171300 | First Aid (English) | 3 | 0 | 0 | 3 | - |
| 1171301 | First Aid (Arabic) | 3 | 0 | 0 | 3 | - |
| 1171500 | Application of Remote Sensing and GIS | 3 | 0 | 0 | 3 | - |
| 1181200 | General Biology | 3 | 0 | 0 | 3 | - |
| 1181300 | Oral Health | 3 | 0 | 0 | 3 | - |
| 3. Social or Behavioral Sciences | | | | | | |
| 1071100 | Critical Thinking | 3 | 0 | 0 | 3 | - |
| 1071500 | Family System | 3 | 0 | 0 | 3 | - |
| 1131400 | Library Information System | 3 | 0 | 0 | 3 | - |
| 1141100 | Economic Concepts | 3 | 0 | 0 | 3 | - |
| 1141200 | Entrepreneurship development | 3 | 0 | 0 | 3 | - |
| 1151600 | Emirates Society (English) | 3 | 0 | 0 | 3 | - |
| 1151601 | Emirates Society (Arabic) | 3 | 0 | 0 | 3 | - |
| 1191100 | English Communication Skills | 3 | 0 | 0 | 3 | - |
| 1191200 | Introduction to communication Sociology | 3 | 0 | 0 | 3 | - |
| 1191300 | Information Society | 3 | 0 | 0 | 3 | - |
| 1191400 | Media Culture | 3 | 0 | 0 | 3 | - |
| 1191600 | Communication Between Cultures | 3 | 0 | 0 | 3 | - |
| 1151300 | General Psychology (English) | 3 | 0 | 0 | 3 | - |
| 1151301 | General Psychology (Arabic) | 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 |
|---|---|---|---|---|---|---|
| 3151010 | Calculus for Information Technology | 3 | 0 | 2 | 3 | - |
| 4002926 | Principles of Accounting I | 3 | 0 | 0 | 3 | - |
| 3152080 | Computerized Accounting | 2 | 2 | 0 | 3 | 4002926 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 4002910 | Introduction to Management | 3 | 0 | 0 | 3 | - |

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

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3151020 | Problem Solving and Programming | 2 | 2 | 0 | 3 | - |
| 3151030 | Information Technology in Business | 2 | 2 | 0 | 3 | 1041100 |
| 3152010 | Object Oriented programming | 2 | 2 | 0 | 3 | 3151020 |
| 3152020 | Discrete Mathematics | 3 | 0 | 0 | 3 | 3151010 |
| 3152030 | Computer Organization | 3 | 0 | 0 | 3 | 1041100 |
| 3152040 | Data Structures | 2 | 2 | 0 | 3 | 3152010, 3152020 |
| 3152050 | Fundamentals of Data Communications and Networking | 2 | 2 | 0 | 3 | 3152030 |
| 3152060 | Human Computer Interaction | 2 | 2 | 0 | 3 | 3152010 |
| 3153010 | Operating Systems | 2 | 2 | 0 | 3 | 3152030 |
| 3153020 | Database Management Systems | 2 | 2 | 0 | 3 | 3152010 |
| 3153030 | Fundamentals of Information security | 3 | 0 | 0 | 3 | 3152050 |
| 3153040 | Fundamentals of Web Systems | 2 | 2 | 0 | 3 | 3152010 |
| 3153050 | Fundamentals of Software Engineering | 2 | 2 | 0 | 3 | 3152040 |
| 3153060 | Computer Ethics and Professional Practices | 3 | 0 | 0 | 3 | 3153030 |
| 3153070 | Information Technology Project Management | 2 | 2 | 0 | 3 | 3153050 |
| 3153080 | Enterprise Systems | 3 | 0 | 0 | 3 | 3153020 |
| 3154010 | Information Technology Project | 1 | 4 | 0 | 3 | 3153070 |
| 3154020 | Information Technology Internship | | | | 3 | 90 Cr. Hrs |

**(c) Major Requirements - Concentration Courses *(21 Cr. Hrs.)***

**Networking and Security Concentration**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3153110 | Advanced Computer Networks | 2 | 2 | 0 | 3 | 3152050 |
| 3153120 | Network Security | 2 | 2 | 0 | 3 | 3153030 |
| 3154110 | Network Design and Implementation | 2 | 2 | 0 | 3 | 3153110 |
| 3154120 | Wireless and Mobile Computing | 2 | 2 | 0 | 3 | 3153120 |
| 3154130 | Network Operating Systems | 2 | 2 | 0 | 3 | 3153010 |
| 3154140 | Enterprise Security | 3 | 0 | 0 | 3 | 3153080 |
| 3154150 | Network Management | 2 | 2 | 0 | 3 | 3153110 |

### Databases and Web Systems

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3153210 | Database Administration | 2 | 2 | 0 | 3 | 3153020 |
| 3153220 | Web Technologies | 2 | 2 | 0 | 3 | 3153040 |
| 3154210 | Web Application Design and Development | 2 | 2 | 0 | 3 | 3153220 |
| 3154220 | Information Architecture | 2 | 2 | 0 | 3 | 3153020 |
| 3154230 | Advanced Database Design and Implementation | 2 | 2 | 0 | 3 | 3153020 |
| 3154240 | E-Commerce | 2 | 2 | 0 | 3 | 3153220 |
| 3154250 | Distributed and Object Oriented Databases | 2 | 2 | 0 | 3 | 3154230 |

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

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 308 2090 | Business Process Management | 3 | 0 | 2 | 3 | 3153050 |
| 3153090 | Cloud Computing | 3 | 0 | 0 | 3 | 3153020 |
| 3154030 | Selected Topics in Information Technology | 3 | 0 | 0 | 3 | 3153070 |
| 3154040 | Individual Project | 2 | 2 | 0 | 3 | 3153070 |
| 3154050 | Knowledge Based Systems | 2 | 2 | 0 | 3 | 3153050 |
| 3154060 | Computer Modeling and Simulation | 2 | 2 | 0 | 3 | 3152010 |
| 3154160 | Data Compression | 2 | 2 | 0 | 3 | 3153030 |
| 3154170 | Distributed Systems | 3 | 0 | 0 | 3 | 3153110 |
| 3154180 | Wireless Network Security | 3 | 0 | 0 | 3 | 3153120 |
| 3154260 | Knowledge Management | 3 | 0 | 0 | 3 | 3153080 |
| 3154270 | Advanced Web Topics | 2 | 2 | 0 | 3 | 3153220 |
| 3154280 | Data Warehousing and Data Mining | 3 | 0 | 0 | 3 | 3153080 |
| 3154290 | Mobile Applications | 2 | 2 | 0 | 3 | 3153010, 3153020 |

### Proposed Sequence of Study

**FIRST SEMESTER (Both Concentrations)**

| Course Code | Course Name | Lec | Lab | Tut | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1010000 | Orientation | 1 | 0 | 0 | 0 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1021100 | Islamic Culture | 3 | 0 | 1 | 3 | - |
| 1021400 | Communication Skills in Arabic Language | 3 | 0 | 0 | 3 | - |
| 1041100 | Computer Applications | 2 | 2 | 0 | 3 | - |
| xxxxxx | University Elective I | 3 | 0 | 0 | 3 | - |
| xxxxxxx | University Elective II | 3 | 0 | 0 | 3 | - |
| TOTAL | | **15** | **2** | **1** | **15** | |

**SECOND SEMESTER (Both Concentrations)**

| Course Code | Course Name | Lec | Lab | Tut | Cr.Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3151010 | Calculus for Information Technology | 3 | 0 | 2 | 3 | - |
| 3151020 | Algorithms and Problem Solving | 2 | 2 | 0 | 3 | - |
| 3151030 | Information Technology in Business | 2 | 2 | 0 | 3 | 1041100 |
| 1031101 | Statistics | 2 | 2 | 0 | 3 | - |
| xxxxxx | University Elective III | 3 | 0 | 0 | 3 | - |
| TOTAL | | **12** | **6** | **2** | **15** | |

**THIRD SEMESTER (Both Concentrations)**

| Course Code | Course Name | Lec | Lab | Tut | Cr.Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3152010 | Object Oriented Programming | 2 | 2 | 0 | 3 | 3151020 |
| 3152020 | Discrete Mathematics | 3 | 0 | 0 | 3 | 3151010 |
| 3152030 | Computer Organization | 3 | 0 | 0 | 3 | 1041100 |
| 4002910 | Introduction to Management | 3 | 0 | 0 | 3 | - |
| 4002926 | Principles of Accounting I | 3 | 0 | 0 | 3 | - |
| TOTAL | | **14** | **2** | **0** | **15** | |

**FOURTH SEMESTER (Both Concentrations)**

| Course Code | Course Name | Lec | Lab | Tut | Cr.Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3152040 | Data Structures | 2 | 2 | 0 | 3 | 3152010, 3152020 |
| 3152050 | Fundamentals of Data Communications and Networking | 2 | 2 | 0 | 3 | 3152030 |
| 3152080 | Computerized Accounting | 2 | 2 | 0 | 3 | 4002926 |
| 3153040 | Fundamentals of Web Systems | 2 | 2 | 0 | 3 | 3152010 |
| 3153010 | Operating Systems | 2 | 2 | 0 | 3 | 3152030 |

| | | | | | |
|---|---|---|---|---|---|
| TOTAL | **10** | **10** | **0** | **15** | |

**FIFTH SEMESTER (Both Concentrations)**

| Course Code | Course Name | Lec | Lab | Tut | Cr.Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1141300 | Innovation & Entrepreneurship | 3 | 0 | 0 | 3 | 60 Cr. Hrs. |
| 3153020 | Database Management Systems | 2 | 2 | 0 | 3 | 3152010 |
| 3153030 | Fundamentals of Information Security | 3 | 0 | 0 | 3 | 3152050 |
| 3153050 | Fundamentals of Software Engineering | 2 | 2 | 0 | 3 | 3152040 |
| 3153110 | Advanced Computer Networks | 2 | 2 | 0 | 3 | 3152050 |
| TOTAL | | **12** | **6** | **0** | **15** | |

**SIXTH SEMESTER**

**1. Networking and Security Concentration**

| Course Code | Course Name | Lec | Lab | Tut | Cr.Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3152060 | Human Computer Interaction | 2 | 2 | 0 | 3 | 3152010 |
| 3153060 | Computer Ethics and Professional Practices | 3 | 0 | 0 | 3 | 3153030 |
| 3153070 | Information Technology Project Management | 2 | 2 | 0 | 3 | 3153050 |
| 3153080 | Enterprise Systems | 3 | 0 | 0 | 3 | 3153020 |
| 3153120 | Network Security | 2 | 2 | 0 | 3 | 3153030 |
| TOTAL | | **12** | **6** | **0** | **15** | |

**2. Databases and Web Systems Concentration**

| Course Code | Course Name | Lec | Lab | Tut | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3152060 | Human Computer Interaction | 2 | 2 | 0 | 3 | 3152010 |
| 3153060 | Computer Ethics and Professional Practices | 3 | 0 | 0 | 3 | 3153030 |
| 3153070 | Information Technology Project Management | 2 | 2 | 0 | 3 | 3153050 |
| 3153080 | Enterprise Systems | 3 | 0 | 0 | 3 | 3153020 |
| 3153210 | Database Administration | 2 | 2 | 0 | 3 | 3153020 |
| TOTAL | | **12** | **6** | **0** | **15** | |

**SEVENTH SEMESTER**

### 1. Networking and Security Concentration

| Course Code | Course Name | Lec | Lab | Tut | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3154110 | Network Design and Implementation | 2 | 2 | 0 | 3 | 3153110 |
| 3154120 | Wireless and Mobile Computing | 2 | 2 | 0 | 3 | 3153120 |
| 3154130 | Network Operating Systems | 2 | 2 | 0 | 3 | 3153010 |
| xxxxxxx | Major Elective I | x | x | 0 | 3 | xxxxxxx |
| xxxxxxx | Major Elective II | x | x | 0 | 3 | xxxxxxx |
| TOTAL | | **x** | **x** | **0** | **15** | |

### 2. Databases and Web Systems Concentration

| Course Code | Course Name | Lec | Lab | Tut | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3154210 | Web Application Design and Development | 2 | 2 | 0 | 3 | 3153220 |
| 3154220 | Information Architecture | 2 | 2 | 0 | 3 | 3153020 |
| 3154230 | Advanced Database Design and Implementation | 2 | 2 | 0 | 3 | 3153020 |
| xxxxxxx | Major Elective I | x | x | 0 | 3 | xxxxxxx |
| xxxxxxx | Major Elective II | x | x | 0 | 3 | xxxxxxx |
| TOTAL | | **x** | **x** | **0** | **15** | |

**EIGHTH SEMESTER**

### 1. Networking and Security Concentration

| Course Code | Course Name | Lec | Lab | Tut | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3154010 | Information Technology Project | 1 | 4 | 0 | 3 | 3153070 |
| 3154140 | Enterprise Security | 3 | 0 | 0 | 3 | 3153080 |
| 3154150 | Network Management | 2 | 2 | 0 | 3 | 3153110 |
| xxxxxxx | Major Elective III | x | x | 0 | 3 | xxxxxxx |
| xxxxxxx | Major Elective IV | x | x | 0 | 3 | xxxxxxx |
| TOTAL | | **x** | **x** | **0** | **15** | |

### 2. Databases and Web systems Concentration

| Course Code | Course Name | Lec | Lab | Tut | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3154010 | Information Technology Project | 1 | 4 | 0 | 3 | 3153070 |
| 3154240 | E-Commerce | 2 | 2 | 0 | 3 | 3153220 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3154250 | Distributed and Object Oriented Databases | 2 | 2 | 0 | 3 | 3154230 |
| xxxxxxx | major elective iii | x | x | 0 | 3 | xxxxxxx |
| xxxxxxx | major elective iv | x | x | 0 | 3 | xxxxxxx |
| TOTAL | | **x** | **x** | **0** | **15** | |

# Department of Computer Engineering

## Introduction

The Department of Computer Engineering offers a B.Sc. degree in Computer Engineering accredited by the Ministry of Higher Education & Scientific Research. The program is designed so that students have a balanced background in computer hardware, software, and networking technology. The curriculum includes general and specialized courses, field practical internship, and senior graduation projects. The program enables graduates to be competitive in the marketplace and can pursue graduate studies.

# Bachelor of Science in Computer Engineering

## Mission

The mission of the Computer Engineering program is to:

Produce 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.

Produce 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.

## Program Educational Objectives

Within few years of graduation, the computer engineering program graduates would accomplish the following PEOs:

PEO_1. Use their acquired skills and knowledge in Computer Engineering to pursue a productive career in any Computer Engineering related field.

PEO_2. Act as an effective individuals independently, in-teams or as leaders who can address Computer Engineering related technical problems with understanding of professional ethics

PEO_3. Demonstrate life-long learning and continuous professional development”

## Program Learning Outcomes

On successful program completion, graduates are able to:

- Design and implement digital circuits and systems.
- Analyze and explain the organization and interaction among various parts of a computer system.
- Develop a software component and implement it using a programming language.
- Describe how computers communicate in a network.
- Demonstrate skills in implementing client/server based local area networks.
- Identify information and networks security threats and select appropriate countermeasures.
- Communicate and explain a solution to a technical problem orally and in writing.
- Search for information and acquire knowledge independently.
- Demonstrate general education knowledge in diverse fields
- Demonstrate ethical and professional behavior in engineering and information technology environments.

- Demonstrate specialized knowledge in math, engineering and IT related area.
- Function independently and as an effective member of a team.

**Program Learning Outcomes and Alignment to UAE Qualification Framework (UAEQF)**

| Program Outcome | UAEQF Strands |
|---|---|
| PLO1: Design and implement digital circuits and systems. | Skills |
| PLO2: Analyze and explain the organization and interaction among various parts of a computer system. | Knowledge<br>Skills |
| PLO3: Develop a software component and implement it using a programming language. | Skills |
| PLO4: Describe how computers communicate in a network. | Knowledge<br>Skills |
| PLO5: Demonstrate skills in implementing client/server based local area networks. | Skills |
| PLO6: Identify information and networks security threats and select appropriate countermeasures. | Knowledge<br>Skills |
| PLO7: Communicate and explain a solution to a technical problem orally and in writing. | Skills |
| PLO8: Search for information and acquire knowledge independently. | Self-Development |
| PLO9: Demonstrate general education knowledge in diverse fields | Knowledge |
| PLO10: Demonstrate ethical and professional behavior in engineering and information technology environments. | Autonomy & Responsibility<br>Role in Context |
| PLO11: Demonstrate specialized knowledge in math, engineering and IT related area. | Knowledge<br>Skills |
| PLO12: Function independently and as an effective member of a team. | Autonomy & Responsibility<br>Role in Context |

## Admission Requirements

The normal entry requirements for applicants are the UAE secondary certificate (Grade 12), with a minimum overall score of 70% (scientific section) or an equivalent qualification certified by the Ministry of Education, UAE. For further information, please refer to the university admissions policy.

## Career Opportunities

Graduates of the computer engineering program can work in a wide range of industries and services, including but not limited to the following:

- Industries engaged in the field of computer hardware and software development.
- Companies operating in the area of information systems and computer networks.
- Computer services of public administration.

## Graduation requirements

Students at Ajman University (AU) are eligible for a Bachelor Degree in Computer Engineering after completion of 140 credit hours.

## Degree requirement

The B.Sc. degree in Computer Engineering requires the completion of 140 Credit Hours distributed according to the following plan:

| Type of Courses | Credit hours |
|---|---|
| 1. University General Education Courses | |
| (a) University Required Courses | 18 |
| (b) University Elective Courses | 6 |
| 2. Major Requirements | |
| (a) Major General Education Requirements | 6 |
| (b) Major Compulsory Courses | 94 |
| (c) Internship | 4 |
| (d) Major Electives | 12 |
| Total Credit Hours | 140 |

## UNIVERSITY GENERAL EDUCATION REQUIREMENTS

### (a) University Required Courses (18 Cr. Hrs.)

| Course No. | Course Title | Th | Lab | Tut | Cr. Hrs | Prerequisite |
|---|---|---|---|---|---|---|
| 1010000 | Orientation | 1 | 0 | 0 | 0 | - |
| 1021100 | Islamic Culture | 3 | 0 | 1 | 3 | - |
| 1021400 | Communication Skills in Arabic Language | 3 | 0 | 0 | 3 | - |
| 1031101 | Statistics | 2 | 2 | 0 | 3 | - |
| 1031200 | Environmental Sciences | 3 | 0 | 0 | 3 | - |
| 1041200 | IT Fundamentals | 2 | 2 | 0 | 3 | - |
| 1141300 | Innovation and Entrepreneurship | 2 | 2 | 0 | 3 | - |

### (b)University Electives (Humanities or Arts) (3 Cr.Hrs.)

| Course No. | Course Title | Th | Lab | Tut | Cr. Hrs | Prerequisite |
|---|---|---|---|---|---|---|
| 1201150 | Legal Culture | 3 | 0 | 0 | 3 | - |
| 1121400 | Introduction to Art | 3 | 0 | 0 | 3 | - |
| 1071300 | Introduction to Digital Photography | 3 | 0 | 0 | 3 | - |
| 1091100 | Introduction to Aesthetics | 3 | 0 | 0 | 3 | - |
| 1091200 | French Language | 3 | 0 | 0 | 3 | - |
| 1151500 | The Art of Written Expression | 3 | 0 | 0 | 3 | - |
| 1191400 | Academic Writing | 3 | 0 | 0 | 3 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1191500 | The Art of public Speaking | 3 | 0 | 0 | 3 | - |
| 1021500 | Introduction to Hadeeth and Sunna | 3 | 0 | 0 | 3 | - |

### (c)University Electives (Social Behavioral Sciences) (3 Cr.Hrs.)

| Course No. | Course Title | Th | Lab | Tut | Cr. Hrs | Prerequisite |
|---|---|---|---|---|---|---|
| 1141100 | Economic Concepts | 3 | 0 | 3 | - | 1141100 |
| 1151600 | Emirates Society | 3 | 0 | 3 | - | 1151600 |
| 1151300 | General Psychology | 3 | 0 | 3 | - | 1151300 |
| 1191100 | English Communication Skills | 3 | 0 | 3 | - | 1191100 |
| 1191600 | Communication Between Cultures | 3 | 0 | 3 | - | 1191600 |
| 1131400 | Library Information System | 3 | 0 | 3 | - | 1131400 |
| 1071400 | Critical and Analytical Thinking | 3 | 0 | 3 | - | 1071400 |

## MAJOR REQUIREMENTS

### (a) Major General Education Courses (6 Cr. Hrs.)

| No. | Course No. | Course Title | Th | Lab | Tut | Cr. Hrs | Prerequisite |
|---|---|---|---|---|---|---|---|
| 1 | 2171010 | Engineering Mathematics I | 3 | 0 | 2 | 3 | - |
| 2 | 2171020 | Engineering Mathematics II | 3 | 0 | 2 | 3 | 2171010 |

### (b) Major Requirements - College Courses (73 Cr. Hrs.)

| No. | Course No. | Course Title | Th | Lab | Tut | Cr. Hrs | Prerequisite |
|---|---|---|---|---|---|---|---|
| 1 | 3121120 | Computer Programming | 2 | 2 | 0 | 3 | 1041100 |
| 2 | 3122110 | Programming for Engineers | 2 | 2 | 0 | 3 | 3121120 |
| 3 | 3122150 | Circuit Analysis | 3 | 2 | 2 | 4 | 2171010, 2171220 |
| 4 | 3122420 | Digital Logic Design | 3 | 2 | 2 | 4 | 1041100 |
| 5 | 3122460 | Computer Organization & Architecture | 3 | 0 | 0 | 3 | 3122420 |
| 6 | 3122510 | Electronics I | 3 | 2 | 2 | 4 | 3122150 |
| 7 | 3123030 | Electronics II | 2 | 2 | 0 | 3 | 3122510 |
| 8 | 3123210 | Digital System Design | 3 | 2 | 0 | 4 | 3122420 |
| 9 | 3123221 | Instrumentation & Measurements | 2 | 2 | 0 | 3 | 3122510 |
| 10 | 3123480 | Microprocessor Systems | 3 | 2 | 0 | 4 | 3122460 |
| 11 | 3123490 | Embedded Systems | 3 | 2 | 0 | 4 | 3123480 |
| 12 | 3124310 | Project I | 1 | 4 | 0 | 3 | 90 Cr. Hrs. |
| 13 | 3124320 | Project II | 1 | 4 | 0 | 3 | 3124310 |
| 14 | 3124400 | Digital Integrated Circuits | 3 | 0 | 2 | 3 | 3122510, 3122420 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 15 | 3124460 | Engineering Ethics | 1 | 0 | 0 | 1 | 70 Cr. Hrs. |
| 16 | 3152020 | Discrete Mathematics | 3 | 0 | 0 | 3 | 2171010 |
| 17 | 3152040 | Data Structures | 3 | 0 | 0 | 3 | 3122110 |
| 18 | 3152050 | Fundamentals of Data Communications & Networking | 2 | 2 | 0 | 3 | 1041100 & 40 Cr. Hrs |
| 19 | 3153010 | Operating Systems | 2 | 2 | 0 | 3 | 3122460 |
| 20 | 3153020 | Database Management Systems | 2 | 2 | 0 | 3 | 3122110 |
| 21 | 3153030 | Fundamentals of Information security | 3 | 0 | 0 | 3 | 3152050 |
| 22 | 3153050 | Fundamentals of Software Engineering | 2 | 2 | 0 | 3 | 3152040 |
| 23 | 3153110 | Advanced Computer Networks | 2 | 2 | 0 | 3 | 3152050 |

**(c) Major Requirements - Internship (4 Cr. Hrs.)**

| No. | Course No. | Course Title | Th | Lab | Tut | Cr. Hrs | Prerequisite |
|---|---|---|---|---|---|---|---|
| 1 | 3123006 | Computer Engineering Internship | - | - | - | 4 | 106 Cr. Hrs |

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

| No. | Course No. | Course Title | Th | Lab | Tut | Cr. Hrs | Prerequisite |
|---|---|---|---|---|---|---|---|
| 1 | 2122210 | Signals & Systems | 3 | 0 | 2 | 3 | 2172030 |
| 2 | 2123150 | Principles of Communication | 3 | 2 | 2 | 4 | 2122210 |
| 3 | 2171210 | Engineering Physics I | 3 | 2 | 2 | 4 | - |
| 4 | 2171220 | Engineering Physics II | 3 | 2 | 2 | 4 | - |
| 5 | 2172030 | Engineering Mathematics III | 3 | 0 | 2 | 3 | 2171020 |
| 6 | 2172040 | Engineering Math. IV | 2 | 2 | 0 | 3 | 2172030 |

**(e) Major Electives - Any four courses (12 Cr.Hrs.)**

| No. | Course No. | Course Title | Th | Lab | Tut | Cr. Hrs | Prerequisite |
|---|---|---|---|---|---|---|---|
| 1 | 2124340 | Digital Signal Processing | 3 | 0 | 0 | 3 | 2122210 |
| 2 | 3124300 | Selected Topics in Computer Engineering | 3 | 0 | 0 | 3 | 70 Cr. Hrs. |
| 3 | 3152060 | Human Computer Interaction | 2 | 2 | 0 | 3 | 3122110 |
| 4 | 3153040 | Fundamentals of Web Systems | 2 | 2 | 0 | 3 | 3121120 |
| 5 | 3153070 | Information Tech. Project Management | 2 | 2 | 0 | 3 | 3153050 |
| 6 | 3153090 | Cloud Computing | 3 | 0 | 0 | 3 | 3153020 |
| 7 | 3153120 | Network Security | 2 | 2 | 0 | 3 | 3153030 |
| 8 | 3154060 | Computer Modeling and Simulation | 2 | 2 | 0 | 3 | 70 Cr. Hrs |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 | 3154110 | Network Design and Implementation | 2 | 2 | 0 | 3 | 3153110 |
| 10 | 3154120 | Wireless and Mobile Computing | 2 | 2 | 0 | 3 | 3153120 |
| 11 | 3154150 | Network Management | 2 | 2 | 0 | 3 | 3153110 |
| 12 | 3154290 | Mobile Applications | 2 | 2 | 0 | 3 | 3153020, 3153010 |
| 13 | 3154230 | Advanced Database Design and Implementation. | 2 | 2 | 0 | 3 | 3153020 |

## Course Sequencing Plan

### FIRST SEMESTER

| Course No. | Course Title | Contact Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Th | Lab | Tut | Cr. Hrs. | |
| 1010000 | Orientation \CS* | 1 | 0 | 0 | 0 | - |
| 1021400 | Communication Skills in Arabic Language | 3 | 0 | 0 | 3 | - |
| 1041100 | Computer Applications | 2 | 2 | 0 | 3 | - |
| 1031200 | Environmental Sciences | 3 | 0 | 0 | 3 | - |
| 2171010 | Engineering Mathematics I | 3 | 0 | 2 | 3 | - |
| 2171210 | Engineering Physics I | 3 | 2 | 2 | 4 | - |
| Total | | 14 | 4 | 4 | 16 | |

* Non-credit course

### SECOND SEMESTER

| Course No. | Course Title | Contact Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Th | Lab | Tut | Cr. Hrs. | |
| 102110 | Islamic Culture | 3 | 0 | 1 | 3 | - |
| 1031101 | Statistics | 2 | 2 | 0 | 3 | - |
| 2171020 | Engineering Mathematics II | 3 | 0 | 2 | 3 | 2171010 |
| 2171220 | Engineering Physics II | 3 | 2 | 2 | 4 | - |
| xxxxxx | University Elective I | 3 | 0 | 0 | 3 | - |
| Total | | 14 | 4 | 5 | 16 | |

## THIRD SEMESTER

| Course No. | Course Title | Contact Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Th | Lab | Tut | Cr. Hrs. | |
| 2172030 | Engineering Mathematics III | 3 | 0 | 2 | 3 | 2171020 |
| 3122150 | Circuit Analysis | 3 | 2 | 2 | 4 | 2171010, 2171220 |
| 3121120 | Computer Programming | 2 | 2 | 0 | 3 | 1041100 |
| 3152020 | Discrete Mathematics | 3 | 0 | 0 | 3 | 2171010 |
| 3122420 | Digital Logic Design | 3 | 2 | 2 | 4 | 1041100 |
| Total | | 14 | 6 | 6 | 17 | |

## FOURTH SEMESTER

| Course No. | Course Title | Contact Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Th | Lab | Tut | Cr. Hrs. | |
| 2172040 | Engineering Mathematics IV | 3 | 0 | 2 | 3 | 2172030 |
| 3122460 | Computer Organization & Architecture | 3 | 0 | 0 | 3 | 3122420 |
| 3122110 | Programming for Engineers | 2 | 2 | 0 | 3 | 3121120 |
| 3122510 | Electronics I | 3 | 2 | 2 | 4 | 3122150 |
| 3152050 | Fundamentals of Data Communications & Networking | 2 | 2 | 0 | 3 | 1041100 & 40 Cr. Hrs |
| xxxxxx | University Elective II | 3 | 0 | 0 | 3 | - |
| Total | | 16 | 6 | 4 | 19 | |

## FTH SEMESTER

| Course No. | Course Title | Contact Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Th | Lab | Tut | Cr. Hrs. | |
| 3123030 | Electronics II | 2 | 2 | 0 | 3 | 3122510 |
| 3123210 | Digital System Design | 3 | 2 | 0 | 4 | 3122420 |
| 3123480 | Microprocessor Systems | 3 | 2 | 0 | 4 | 3122460 |
| 3153020 | Database Management Systems | 2 | 2 | 0 | 3 | 3122110 |
| 3153110 | Advanced Computer Networks | 2 | 2 | 0 | 3 | 3152050 |
| 1141300 | Innovation and Entrepreneurship | 3 | 0 | 0 | 3 | - |
| Total | | 15 | 10 | 0 | 20 | |

## SIXTH SEMESTER

| Course No. | Course Title | Contact Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Th | Lab | Tut | Cr. Hrs. | |
| 2122210 | Signals and Systems | 3 | 0 | 2 | 3 | 2172030 |
| 3123221 | Instrumentation & Measurements | 2 | 2 | 0 | 3 | 3122510 |
| 3152040 | Data Structures | 2 | 2 | 0 | 3 | 3152020, 3122110 |
| 3123490 | Embedded Systems | 3 | 2 | 0 | 4 | 3123480 |
| 3124400 | Digital Integrated Circuits | 3 | 0 | 2 | 3 | 3122510, 3122420 |
| xxxxxx | Major Elective I | 3 | 0 | 0 | 3 | 70 Cr. Hrs. |
| Total | | 16 | 6 | 4 | 19 | |

Summer session: Internship training (1 credit hour)

## SEVENTH SEMESTER

| Course No. | Course Title | Contact Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Th | Lab | Tut | Cr. Hrs. | |
| 2123150 | Principles of Communication | 3 | 2 | 2 | 4 | 2122210 |
| 3124310 | Project I | 1 | 4 | 0 | 3 | 90 Cr. Hrs. |
| 3153010 | Operating Systems | 2 | 2 | 0 | 3 | 3122460 |
| 3153030 | Fundamentals of Information Security | 3 | 0 | 0 | 3 | 3152050 |
| 3153050 | Fundamentals of Software Engineering | 2 | 2 | 0 | 3 | 3152040 |
| xxxxxx | Major Elective II | 3 | 0 | 0 | 3 | 70 Cr. Hrs. |
| Total | | 14 | 10 | 2 | 19 | |

SUMMER SESSION: Internship training (3 credit hours)

## EIGHTH SEMESTER

| Course No. | Course Title | Contact Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Th | Lab | Tut | Cr. Hrs. | |
| 3124320 | Project II | 1 | 4 | 0 | 3 | 3124310 |
| 3124460 | 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 | | 8 | 4 | 0 | 10 | |

# Department of Information Systems

## Introduction

The Department of Information Systems offers a Bachelor of Science in Information Systems degree, which is a 4-years program that requires the completion of 123 credit hours The Information Systems curriculum comprises two concentrations: Project Management and E-Business Management. The program is accredited by the Ministry of Higher Education.

# 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 deploy efficiently IT technologies and implement IT solutions according to market and society needs, particularly in the UAE and Gulf region; and prepare graduates for lifelong learning and research.

## Program Educational Goals

Graduates of the Bachelor of Science in Information Systems program will have the following characteristics within few years of graduation:

PEO_1. Apply acquired knowledge and skills in information systems and implement their skills in public, private, academic and international information systems functional activities.

PEO_2. Act as information systems professional leaders in performing related skills in technical, business, or ethical duties.

PEO_3. Engage in life-long learning and professional development in pursuing additional graduate degrees, professional development and self-studies.

## Program Learning Outcomes

There are nine Learning Outcomes related to the Information Systems program and three learning outcomes 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-PM1 Use and apply Project Management methods and practices in IS environment.

IS-PM2 Manage the scope, cost, scheduling and quality of the project.

IS-PM3 Identify the services, operations and risks involved in IT projects.

**Concentration in E-Business Management**

IS-eBM1 Choose IT technologies to support an e-business solution.

IS-eBM2 Develop plans for the implementation of e-marketing and e-commerce systems.

IS-eBM3 Identify and explain the use of different online e-marketing and e-commerce business models.

## Program Learning Outcomes and Alignment to UAE Qualification Framework (UAEQF)

Common Program Learning Outcomes

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

**Concentration Specific Learning Outcomes**

| # | Project Management Concentration Learning Outcomes | UAEQF Strands |
|---|---|---|
| IS-PM1 | Use and apply Project Management methods and practices in IS environment. | Knowledge & Skill |
| IS-PM2 | Manage the scope, cost, scheduling and quality of the project. | |
| IS-PM3 | Identify the services, operations and risks involved in IT projects. | |

| # | E-Business Management Concentration Learning Outcomes | UAEQF Strands |
|---|---|---|
| IS-eBM1 | Choose IT technologies to support an e-business solution. | Knowledge & Skill |
| IS-eBM2 | Develop plans for the implementation of e-marketing and e-commerce systems. | |
| IS-eBM3 | Identify and explain the use of different online e-marketing and e-commerce business models. | |

## Admission Requirements

Admission to the program of Bachelor of Science in Information Systems with its two concentrations requires the U.A.E secondary certificate or an equivalent qualification with a minimum average grade of 60% for scientific section and a minimum of 65% for Art section.

## 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.

## Graduation requirements

Students at Ajman University (AU) are eligible for a bachelor in Information Systems after completion of 123 credits hours, which normally takes eight semesters. The minimum cumulative grade point average for graduation is 2.0 for 123 total credits hours.

## 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 Business Courses | 18 |
| (b) Information Systems Core Courses | 63 |
| (c ) Internship | 3 |
| 3. Information Systems Program Concentration Courses | 9 |
| 4. Information Systems Program Elective Courses | 6 |
| Total Credit Hours | 123 |

The student must score a minimum cumulative grade point average CGPA of 2.0.

The study plan is designed so that the normal duration for completing the degree requirements is 4 years but should not exceed 8 years.

A student transferring from other institutions must complete at least 50% of the program requirements at AU.

Any other requirements as per University and Ministry regulations enforce at the time of enrolment.

## Information Systems Program

### UNIVERSITY GENERAL EDUCATION REQUIREMENTS

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

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1010000 | Orientation | 1 | 0 | 0 | 0 | - |
| 1021100 | Islamic Culture | 3 | 0 | 0 | 3 | - |
| 1021400 | Communication skills in Arabic language | 3 | 0 | 0 | 3 | - |
| 1031101 | Statistics | 2 | 2 | 0 | 3 | - |
| 1041200 | Information Technology | 2 | 2 | 0 | 3 | - |
| 1141300 | Innovation & Entrepreneurship | 3 | 0 | 0 | 3 | - |

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

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 1. Humanities / Arts | | | | | | |
| 1021501 | Introduction to Hadeeth and Sunna | 3 | 0 | 0 | 3 | - |
| 1071200 | Academic Writing (English) | 3 | 0 | 0 | 3 | - |
| 1071300 | Introduction to Digital Photography | 3 | 0 | 0 | 3 | - |
| 1091200 | French Language | 3 | 0 | 0 | 3 | - |
| 1121100 | Principles of Architecture | 3 | 0 | 0 | 3 | - |
| 1121200 | Principles of Interior design | 3 | 0 | 0 | 3 | - |
| 1121400 | Introduction to Art | 3 | 0 | 0 | 3 | - |
| 1151500 | The Art of Written Expression (Arabic) | 3 | 0 | 0 | 3 | - |
| 1191500 | The Art of Public Speaking (English) | 3 | 0 | 0 | 3 | - |
| 1201150 | Legal Culture | 3 | 0 | 0 | 3 | - |
| 2. Natural and Applied Sciences | | | | | | |
| 1031200 | Environmental Science | 3 | 0 | 0 | 3 | - |
| 1031300 | Research Methodology | 3 | 0 | 0 | 3 | - |
| 1081200 | General Physics | 3 | 0 | 0 | 3 | - |
| 1121300 | Modern Technology and Society | 3 | 0 | 0 | 3 | - |
| 1131100 | Internet Concepts | 3 | 0 | 0 | 3 | - |
| 1131200 | Introduction to information System | 3 | 0 | 0 | 3 | - |
| 1151100 | History of Science in Islam | 3 | 0 | 0 | 3 | - |
| 1151200 | Scientific Pioneering | 3 | 0 | 0 | 3 | - |
| 1151400 | Principles of Mathematics | 3 | 0 | 0 | 3 | - |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1151700 | Educational Technology | 3 | 0 | 0 | 3 | - |
| 1161200 | Astronomy | 3 | 0 | 0 | 3 | - |
| 1171100 | General Chemistry | 3 | 0 | 0 | 3 | - |
| 1171200 | Fundamental of Human Nutrition (English) | 3 | 0 | 0 | 3 | - |
| 1171201 | Fundamental of Human Nutrition (Arabic) | 3 | 0 | 0 | 3 | - |
| 1171300 | First Aid (English) | 3 | 0 | 0 | 3 | - |
| 1171301 | First Aid (Arabic) | 3 | 0 | 0 | 3 | - |
| 1171500 | Application of Remote Sensing and GIS | 3 | 0 | 0 | 3 | - |
| 1181200 | General Biology | 3 | 0 | 0 | 3 | - |
| 1181300 | Oral Health | 3 | 0 | 0 | 3 | - |
| 3. | Social or Behavioral Sciences | | | | | |
| 1071100 | Critical Thinking | 3 | 0 | 0 | 3 | - |
| 1071500 | Family System | 3 | 0 | 0 | 3 | - |
| 1131400 | Library Information System | 3 | 0 | 0 | 3 | - |
| 1141100 | Economic Concepts | 3 | 0 | 0 | 3 | - |
| 1141200 | Entrepreneurship development | 3 | 0 | 0 | 3 | - |
| 1151600 | Emirates Society (English) | 3 | 0 | 0 | 3 | - |
| 1151601 | Emirates Society (Arabic) | 3 | 0 | 0 | 3 | - |
| 1191100 | English Communication Skills | 3 | 0 | 0 | 3 | - |
| 1191200 | Introduction to communication Sociology | 3 | 0 | 0 | 3 | - |
| 1191300 | Information Society | 3 | 0 | 0 | 3 | - |
| 1191400 | Media Culture | 3 | 0 | 0 | 3 | - |
| 1191600 | Communication Between Cultures | 3 | 0 | 0 | 3 | - |
| 1151300 | General Psychology (English) | 3 | 0 | 0 | 3 | - |
| 1151301 | General Psychology (Arabic) | 3 | 0 | 0 | 3 | - |

## INFORMATION SYSTEMS COMPULSORY COMMON CORE COURSES

(a) Major Requirements - General Business Courses (18 Cr. Hrs.)

| Course No. | Course Title | Th. | Tut. | Lab. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 4002910 | Introduction to Management | 3 | 0 | 0 | 3 | - |
| 4002926 | Principles of Accounting I | 3 | 0 | 0 | 3 | - |
| 4003950 | Principles of Marketing | 3 | 0 | 0 | 3 | 4002910 |
| 4003960 | Fundamentals of Finance | 3 | 0 | 0 | 3 | 4002926 |
| 4004090 | Organizational Behavior | 3 | 0 | 0 | 3 | 4002910 |
| 4106020 | Human Resources Management | 3 | 0 | 0 | 3 | 4004090 |

### (b) Major Requirements - Core Courses & Internship (66 Cr. Hrs.)

| Course No. | Course Title | Th. | Tut. | Lab. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3082010 | Information Systems Management | 3 | 0 | 0 | 3 | 3151030 |
| 3082020 | Business Statistics | 3 | 0 | 0 | 3 | 1031101 |
| 3082030 | Fundamentals of Computer Systems | 2 | 2 | 0 | 3 | 50 Cr. Hrs |
| 3082050 | Systems Analysis and Design | 2 | 2 | 0 | 3 | 3151030 |
| 3082060 | Communication Management | 3 | 0 | 0 | 3 | 1041200 |
| 3082090 | Business Process Management | 3 | 0 | 2 | 3 | 3082010 |
| 3083070 | Change Management | 3 | 0 | 0 | 3 | 3082010 |
| 3083090 | Knowledge Management | 3 | 0 | 0 | 3 | 3151030<br>4002910 |
| 3084020 | Business Intelligence and Data Warehousing | 3 | 0 | 0 | 3 | 3153020 |
| 3084040 | Information Systems Strategy and Acquisition | 3 | 0 | 0 | 3 | 99 Cr. Hrs |
| 3084050 | Information Systems Project | 1 | 4 | 0 | 3 | 99 Cr. Hrs |
| 3084060 | IT Resource Management | 3 | 0 | 0 | 3 | 99 Cr. Hrs |
| 3084070 | Information Systems Internship | 0 | 0 | 0 | 3 | 90 Cr. Hrs |
| 3151020 | Problem Solving and Programming | 2 | 2 | 0 | 3 | - |
| 3151030 | Information Technology in Business | 2 | 2 | 0 | 3 | 1041200<br>4002910 |
| 3152050 | Fundamentals of Data Communications and Networking | 2 | 2 | 0 | 3 | 3151020 |
| 3153020 | Database Management Systems | 2 | 2 | 0 | 3 | 3151020<br>3151030 |
| 3153030 | Fundamentals of Information Security | 3 | 0 | 0 | 3 | 3152050 |
| 3153040 | Fundamentals of Web Systems | 2 | 2 | 0 | 3 | 3151020 |
| 3153060 | Computer Ethics and Professional Practices | 3 | 0 | 0 | 3 | 3153030 |
| 3153070 | Information Technology Project Management | 2 | 2 | 0 | 3 | 3082050 |
| 3153080 | Enterprise Systems | 3 | 0 | 0 | 3 | 3153020<br>4002910 |

## INFORMATION SYSTEMS CONCENTRATION COURSES

### Major Requirements - Compulsory Concentration Courses (9 Cr. Hrs.)

### Project Management Concentration

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3084110 | IT Services and Operations Management | 3 | 0 | 0 | 3 | 3082090 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3084120 | Project Planning, Scheduling and Cost Control | 3 | 0 | 0 | 3 | 3153070 |
| 3084130 | Project Quality and Risk Management | 3 | 0 | 0 | 3 | 3153070 |

### E-Business Management Concentration

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3084220 | E-Marketing | 3 | 0 | 0 | 3 | 4003950 |
| 3153220 | Web Technologies | 2 | 2 | 0 | 3 | 3153040 |
| 3154240 | E-Commerce | 2 | 2 | 0 | 3 | 3153040 |

### (b) Major Requirements - Elective Courses (Both Concentrations) (6 Cr. Hrs.)

| Course No. | Course Title | Th. | Tut. | Lab. | Cr.Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3084080 | Selected Topics in Information Systems | 2 | 2 | 0 | 3 | 3153070 |
| 3084090 | Individual Project | 1 | 4 | 0 | 3 | 3153070 |
| 3152060 | Human Computer Interaction | 2 | 2 | 0 | 3 | 3082050 |
| 3152080 | Computerized Accounting | 2 | 2 | 0 | 3 | 4002926 |
| 3153090 | Cloud Computing | 3 | 0 | 0 | 3 | 3153030 |
| 3153210 | Database Administration | 2 | 2 | 0 | 3 | 3153020 |
| 3154230 | Advanced Database Design and Implementation | 2 | 2 | 0 | 3 | 3153020 |
| 3154290 | Mobile Applications | 2 | 2 | 0 | 3 | 3082030<br>3153020 |

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 (Both Concentrations)

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Tut | Lab | Cr. Hrs. | |
| xxxxxxx | University Elective I | 3 | 0 | 0 | 3 | - |
| 1010000 | Orientation | 1 | 0 | 0 | 0 | - |
| 1021100 | Islamic Culture | 3 | 0 | 0 | 3 | - |
| 1021400 | Communication skills in Arabic language | 3 | 0 | 0 | 3 | - |
| 1041200 | Information Technology | 2 | 0 | 2 | 3 | - |
| 4002910 | Introduction to Management | 3 | 0 | 0 | 3 | - |
| TOTAL | | 15 | 0 | 2 | 15 | |

## SECOND SEMESTER (Both Concentrations)

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Tut | Lab | Cr. Hrs. | |
| xxxxxxx | University Elective II | 3 | 0 | 0 | 3 | - |
| 1031101 | Statistics | 2 | 0 | 2 | 3 | - |
| 3151020 | Problem Solving and Programming | 2 | 0 | 2 | 3 | - |
| 3151030 | Information Technology in Business | 2 | 0 | 2 | 3 | 1041100<br>4002910 |
| 4003950 | Principles of Marketing | 3 | 0 | 0 | 3 | 4002910 |
| TOTAL | | 12 | 0 | 6 | 15 | |

## THIRD SEMESTER (Both Concentrations)

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Tut | Lab | Cr. Hrs. | |
| xxxxxxx | University Elective III | 3 | 0 | 0 | 3 | - |
| 3082010 | Information Systems Management | 3 | 0 | 0 | 3 | 3151030 |
| 3082020 | Business Statistics | 3 | 0 | 0 | 3 | 1031101 |
| 3082060 | Communication Management | 3 | 0 | 0 | 3 | 1041100 |
| 4002926 | Principles of Accounting I | 3 | 0 | 0 | 3 | - |
| TOTAL | | 15 | 0 | 0 | 15 | |

## FOURTH SEMESTER (Both Concentrations)

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Tut | Lab | Cr. Hrs. | |
| 3082090 | Business Process Management | 3 | 2 | 0 | 3 | 3082010 |
| 3083070 | Change Management | 3 | 0 | 0 | 3 | 3082010 |
| 3152050 | Fundamentals of Data Communications and Networking | 2 | 0 | 2 | 3 | 3151020 |
| 3153040 | Fundamentals of Web Systems | 2 | 0 | 2 | 3 | 3151020 |
| 4004090 | Organizational Behavior | 3 | 0 | 0 | 3 | 4002910 |
| TOTAL | | 13 | 2 | 4 | 15 | |

## FIFTH SEMESTER (Both Concentrations)

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Tut | Lab | Cr. Hrs. | |
| 3082030 | Fundamentals of Computer Systems | 2 | 0 | 2 | 3 | 50 Cr. Hrs |
| 3082050 | System Analysis and Design | 2 | 0 | 2 | 3 | 3151030 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3083090 | Knowledge Management | 3 | 0 | 0 | 3 | 3151030<br>4002910 |
| 3153020 | Database Management Systems | 2 | 0 | 2 | 3 | 3151020<br>3151030 |
| 3153030 | Fundamentals of Information Security | 3 | 0 | 0 | 3 | 3152050 |
| TOTAL | | 12 | 0 | 6 | 15 | |

### SIXTH SEMESTER (Both Concentrations)

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Tut | Lab | Cr. Hrs. | |
| 1141300 | Innovation & Entrepreneurship | 3 | 0 | 0 | 3 | - |
| 3153060 | Computer Ethics and Professional Practices | 3 | 0 | 0 | 3 | 3153030 |
| 3153070 | IT Project Management | 2 | 0 | 2 | 3 | 3082050 |
| 3153080 | Enterprise Systems | 3 | 0 | 0 | 3 | 3153020<br>4002910 |
| 4106020 | Human Resources Management | 3 | 0 | 0 | 3 | 4004090 |
| TOTAL | | 14 | 0 | 2 | 15 | |

## SEVENTH SEMESTER

### 1. Project Management Concentration

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Tut | Lab | Cr. Hrs. | |
| xxxxxxx | Major Elective I | x | 0 | x | 3 | xxxxxxx |
| 3084020 | Business Intelligence and Data warehousing | 3 | 0 | 0 | 3 | 3153020 |
| 3084110 | IT Services and Operations Management | 3 | 0 | 0 | 3 | 3082090 |
| 3084120 | Project Planning, Scheduling and Cost Control | 3 | 0 | 0 | 3 | 3153070 |
| 4003960 | Fundamentals of Finance | 3 | 0 | 0 | 3 | 4002920 |
| TOTAL | | x | 0 | x | 15 | |

### 2. E-Business Management Concentration

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Tut | Lab | Cr. Hrs. | |
| xxxxxxx | Major Elective I | x | 0 | x | 3 | xxxxxxx |
| 3084020 | Business Intelligence and Data warehousing | 3 | 0 | 0 | 3 | 3153020 |
| 3153220 | Web Technologies | 2 | 0 | 2 | 3 | 3153040 |
| 3154240 | E-Commerce | 2 | 0 | 2 | 3 | 3153040 |
| 4003960 | Fundamentals of Finance | 3 | 0 | 0 | 3 | 4002920 |
| TOTAL | | x | 0 | x | 15 | |

## EIGHTH SEMESTER

### 1. Project Management Concentration

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Tut | Lab | Cr. Hrs. | |
| xxxxxxx | Major Elective II | x | o | x | 3 | xxxxxxx |
| 3084040 | Information Systems Strategy and Acquisition | 3 | 0 | 0 | 3 | 99 Cr. Hrs |
| 3084050 | Information Systems Project | 1 | 0 | 4 | 3 | 99 Cr. Hrs |
| 3084060 | IT Resource Management | 3 | 0 | 0 | 3 | 99 Cr. Hrs |
| 3084130 | Project Quality and Risk Management | 3 | 0 | 0 | 3 | 3153070 |
| TOTAL | | x | 0 | x | 15 | |

SUMMER SESSION: Internship training

### 2. E-Business Management Concentration

| Course Code | Course Name | Credit Hours | | | | Prerequisite |
|---|---|---|---|---|---|---|
| | | Lec | Tut | Lab | Cr. Hrs. | |
| xxxxxxx | Major Elective II | x | o | x | 3 | xxxxxxx |
| 3084040 | Information Systems Strategy and Acquisition | 3 | 0 | 0 | 3 | 99 Cr. Hrs |
| 3084050 | Information Systems Project | 1 | 0 | 4 | 3 | 99 Cr. Hrs |
| 3084060 | IT Resource Management | 3 | 0 | 0 | 3 | 99 Cr. Hrs |
| 3084220 | E-Marketing | 3 | 0 | 0 | 3 | 4003950 |
| TOTAL | | x | 0 | x | 15 | |

SUMMER SESSION: Internship training

## MINOR IN COMPUTER SCIENCE

### Study Plan-A

The study plan of the Minor in Computer Science for sudents of the College of Engineering is as follows:

**(a) Compulsory Courses (9 Credit Hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3152010 | Object Oriented Programming | 2 | 2 | 0 | 3 | 3151020* |
| 3152030 | Computer Organization | 3 | 0 | 0 | 3 | 1041100 |
| 3152040 | Data Structures and Algorithms | 2 | 2 | 0 | 3 | 3152010 |

** Or equivalent prerequisite.*

**(b) Optional Courses (6 credit hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| 3152050 | Fundamentals of Data Communications and Networking | 2 | 2 | 0 | 3 | 3152030 |
| 3153020 | Database Management Systems | 2 | 2 | 0 | 3 | 3152010 |
| 3153050 | Fundamentals of Software Engineering | 2 | 2 | 0 | 3 | 3152040 |

## Admission and Completion Requirements

The admission and completion requirements are specified in AU's Minor Programs Policy. Specific requirements of the College of Information Technology are:

1. Only registered students of the Colleges of Engineering, Business Administration, and Scientific majors of the College of Education at AU can register for the minor in Computer Science. Students of the College of Information Technology are not eligible to register in this minor.
2. Students accepted for a Minor in Computer Science must successfully complete 15 credit hours from the courses described in the minor's study plan.
3. Any course taken or to be taken by the student as part of his major study plan cannot count towards the minor and must be replaced by another course from the list of options available for the minor.

## MINOR IN COMPUTER SCIENCE

### Study Plan-B

The study plan of the Minor in Computer Science for other colleges except College of Engineering is as follows:

**(c) Compulsory Courses (12 Credit Hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3151020 | Probem Solving and Programming | 2 | 2 | 0 | 3 | 1041100 |
| 3152010 | Object Oriented Programming | 2 | 2 | 0 | 3 | 3151020 |
| 3152030 | Computer Organization | 3 | 0 | 0 | 3 | 1041100 |
| 3152040 | Data Structures | 2 | 2 | 0 | 3 | 3152010 |

**(d) Optional Courses (6 credit hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3152050 | Fundamentals of Data Communications and Networking | 2 | 2 | 0 | 3 | 3152030 |
| 3153020 | Database Management Systems | 2 | 2 | 0 | 3 | 3152010 |
| 3153050 | Fundamentals of Software Engineering | 2 | 2 | 0 | 3 | 3152040 |

## Admission and Completion Requirements

The admission and completion requirements are specified in AU's Minor Programs Policy. Specific requirements of the College of Information Technology are:

1. Only registered students of the Colleges of Business Administration, Law, Information and Mass Communications and scientific majors of the College of Education at AU can register for the minor in

Computer Science. Students of the College of Information Technology are not eligible to register in this minor.

2. Students accepted for a Minor in Computer Science must successfully complete 18 credit hours from the courses described in the minor's study plan.
3. Any course taken or to be taken by the student as part of his major study plan cannot count towards the minor and must be replaced by another course from the list of options available for the minor.

## MINOR IN INFORMATION SYSTEMS

### Study Plan

The Minor in Information Systems provides a range of courses to suit requirements of students of different majors. The study plan of the Minor in Information Systems is as follows:

**(e) Compulsory Courses* (9 Credit Hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs | Prerequisite |
|---|---|---|---|---|---|---|
| 3082050 | Systems Analysis and Design | 2 | 2 | 0 | 3 | 50 Cr. Hrs |
| 3084020 | Business Intelligence and Data Warehousing | 3 | 0 | 0 | 3 | 3153020 |
| 3153020 | Database Management Systems | 2 | 2 | 0 | 3 | 50 Cr. Hrs |

** A compulsory course which is part of the student's major must be replaced by another optional course.*

**(f) Optional Courses** (6 credit hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs | Prerequisite |
|---|---|---|---|---|---|---|
| 3082090 | Business Process Management | 3 | 0 | 2 | 3 | 60 Cr. Hrs |
| 3084040 | Information Systems Strategy and Aquisition | 3 | 0 | 0 | 3 | 99 Cr. Hrs |
| 3153070 | IT Project Management | 2 | 2 | 0 | 3 | 60 Cr. Hrs |

***An optional course which is part of the student's major cannot be taken.*

### Admission and Completion Requirements

The admission and completion requirements are specified in AU's Minor Programs Policy. Specific requirements of the College of Information Technology are:

1. Only registered students of majors offered by colleges at AU other than the Information Technology College can apply for a Minor in Information Systems.
2. Students accepted for a Minor in Information Systems must successfully complete 15 credit hours from the courses described in the minor's study plan.
3. Any course taken or to be taken by the student as part of his major study plan cannot count towards the minor and must be replaced by another course from the list of options available for the minor.

# MINOR IN INFORMATION TECHNOLOGY

## Study Plan-A

The study plan of the Minor in Information Technology for students of the College of Engineering is as follows:

**Compulsory Courses (9 Credit Hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3152010 | Object Oriented Programming | 2 | 2 | 0 | 3 | 3151020* |
| 3153020 | Database Management Systems | 2 | 2 | 0 | 3 | 3152010 |
| 3153040 | Fundamentals of Web Systems | 2 | 2 | 0 | 3 | 3152010 |

** Or equivalent prerequisite.*

**(g) Optional Courses (6 credit hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3084020 | Business Intelligence and Data Warehousing | 3 | 0 | 0 | 3 | 3153020 |
| 3153220 | Web Technologies | 2 | 2 | 0 | 3 | 3153040 |
| 3154240 | E-Commerce | 2 | 2 | 0 | 3 | 3153220 |

## Admission and Completion Requirements

The admission and completion requirements are specified in AU's Minor Programs Policy. Specific requirements of the College of Information Technology are:

1. Only registered students of majors offered by colleges at AU other than the Information Technology College can apply for a Minor in Information Technology.
2. Students accepted for a Minor in Information Technology must successfully complete 15 credit hours from the courses described in the minor's study plan.
3. Any course taken or to be taken by the student as part of his major study plan cannot count towards the minor and must be replaced by another course from the list of options available for the minor.

# MINOR IN INFORMATION TECHNOLOGY

## Study Plan-B

The study plan of the Minor in Information Technology for students of all other colleges except the College of Engineering is as follows:

**(h) Compulsory Courses (12 Credit Hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3151020 | Problem Solving and Programming | 2 | 2 | 0 | 0 | 1041100 |
| 3152010 | Object Oriented Programming | 2 | 2 | 0 | 3 | 3151020 |
| 3153020 | Database Management Systems | 2 | 2 | 0 | 3 | 3152010 |
| 3153040 | Fundamentals of Web Systems | 2 | 2 | 0 | 3 | 3152010 |

**(i) Optional Courses (6 credit hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3084020 | Business Intelligence and Data Warehousing | 3 | 0 | 0 | 3 | 3153020 |
| 3153220 | Web Technologies | 2 | 2 | 0 | 3 | 3153040 |
| 3154240 | E-Commerce | 2 | 2 | 0 | 3 | 3153220 |

## Admission and Completion Requirements

The admission and completion requirements are specified in AU's Minor Programs Policy. Specific requirements of the College of Information Technology are:

1. Only registered students of majors offered by colleges at AU other than the Information Technology College can apply for a Minor in Information Technology.
2. Students accepted for a Minor in Information Technology must successfully complete 18 credit hours from the courses described in the minor's study plan.
3. Any course taken or to be taken by the student as part of his major study plan cannot count towards the minor and must be replaced by another course from the list of options available for the minor.

# MINOR IN NETWORKING and SECURITY

## Study Plan

The study plan of the Minor in Networking and Security for students of the College of Engineering is as follows:

**(j) Compulsory Courses (9 Credit Hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3153030 | Fundamentals of Information security | 3 | 0 | 0 | 3 | 3152050* |
| 3153110 | Advanced Computer Networks | 2 | 2 | 0 | 3 | 3152050* |
| 3153120 | Network Security | 2 | 2 | 0 | 3 | 3153030 |

** Or equivalent prerequisite.*

**(k) Optional Courses (6 credit hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3154110 | Network Design and Implementation | 2 | 2 | 0 | 3 | 3153110 |
| 3154120 | Wireless and Mobile Computing | 2 | 2 | 0 | 3 | 3153120 |
| 3154140 | Enterprise Security | 3 | 0 | 0 | 3 | 3153120 |
| 3154150 | Network Management | 2 | 2 | 0 | 3 | 3153110 |

## Admission and Completion Requirements

The admission and completion requirements are specified in AU's Minor Programs Policy. Specific requirements of the College of Information Technology are:

1. Only registered students of the College of Engineering at AU can register for the minor in Networking and Security. Students of the College of Information Technology are not eligible to register in this minor.
2. Students accepted for a Minor in Networking and Security must successfully complete 15 credit hours from the courses described in the minor's study plan.
3. Any course taken or to be taken by the student as part of his major study plan cannot count towards the minor and must be replaced by another course from the list of options available for the minor.

# MINOR IN WEB DEVELOPMENT

### Study Plan-A

The study plan of the Minor in Web Development for the students of the College of Engineering is as follows:

**(l) Compulsory Courses (9 Credit Hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3152010 | Object Oriented Programming | 2 | 2 | 0 | 3 | 3151020* |
| 3153040 | Fundamentals of Web Systems | 2 | 2 | 0 | 3 | 3152010 |
| 3153220 | Web Technologies | 2 | 2 | 0 | 3 | 3153040 |

** Or equivalent prerequisite.*

**(m) Optional Courses (6 credit hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3153020 | Database Management Systems | 2 | 2 | 0 | 3 | 3152010 |
| 3154210 | Web Application Design and Development | 2 | 2 | 0 | 3 | 3153220 |
| 3154270 | Advanced Web Topics | 2 | 2 | 0 | 3 | 3153220 |

## Admission and Completion Requirements

The admission and completion requirements are specified in AU's Minor Programs Policy. Specific requirements of the College of Information Technology are:

1. Only registered students of majors offered by colleges at AU other than the Information Technology College can apply for a Minor in Web Development.
2. Students accepted for a Minor in Web Development must successfully complete 15 credit hours from the courses described in the minor's study plan.
3. Any course taken or to be taken by the student as part of his major study plan cannot count towards the minor and must be replaced by another course from the list of options available for the minor.

# MINOR IN WEB DEVELOPMENT

## Study Plan-B

The study plan of the Minor in Web Development for students of other colleges except the College of Engineering is as follows:

**(n) Compulsory Courses (12 Credit Hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3151020 | Problem Solving and Programming | 2 | 2 | 0 | 3 | 1041100 |
| 3152010 | Object Oriented Programming | 2 | 2 | 0 | 3 | 3151020 |
| 3153040 | Fundamentals of Web Systems | 2 | 2 | 0 | 3 | 3152010 |
| 3153220 | Web Technologies | 2 | 2 | 0 | 3 | 3153040 |

**(o) Optional Courses (6 credit hours)**

| Course No. | Course Title | Th. | Lab. | Tut. | Cr. Hrs. | Prerequisite |
|---|---|---|---|---|---|---|
| 3153020 | Database Management Systems | 2 | 2 | 0 | 3 | 3152010 |
| 3154210 | Web Application Design and Development | 2 | 2 | 0 | 3 | 3153220 |
| 3154270 | Advanced Web Topics | 2 | 2 | 0 | 3 | 3153220 |

## Admission and Completion Requirements

The admission and completion requirements are specified in AU's Minor Programs Policy. Specific requirements of the College of Information Technology are:

1. Only registered students of majors offered by colleges at AU other than the Information Technology College can apply for a Minor in Web Development.
2. Students accepted for a Minor in Web Development must successfully complete 18 credit hours from the courses described in the minor's study plan.
3. Any course taken or to be taken by the student as part of his major study plan cannot count towards the minor and must be replaced by another course from the list of options available for the minor.

# Courses Descriptions

### 3082010 Information Systems Management

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 Information Systems in Business Today, Global E-business and Collaboration, Information Systems Organizations and Strategy, Achieving Operational Excellence and Customer Intimacy, E-commerce, Digital Goods, Managing Knowledge, Enhancing Decision Making, Building Information Systems, Managing Projects, Managing Global Systems.

### 3082020 Business Statistics

This course provides students with good knowledge and skills related to: sampling Methods, parameters estimation, Confidence Intervals for Mean and Proportion; testing the hypothesis about Mean, Proportion, and Variance, for both finite and large populations, and to design and use the Analysis of Variance.

### 3082030 Fundamentals of Computer Systems

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.

### 3082050 System Analysis and Design

This course introduces the phases of the system development cycle. Topics include: Systems Development Methodologies, Project Team Roles and Skills; software project planning; requirement analysis phase; system design; Human Computer Interaction Layer Design; Physical Architecture Layer Design; and implementation phase. Systems analysis and design using UML will be discussed.

### 3082060 Communication Management

The course aims at equipping the students with effective business communication skills. The course provides a thorough practice in business letters, memos, reports, resumes and job applications. In addition to developing written communication, the course teaches verbal communication skills such as speeches, interviews, and other dyadic forms of communication. The entire teaching process is focused on building effective communication skills among students.

### 3082090 Business Process Management

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.

### 3083070 Change Management

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 provides students with an understanding of the principles, objectives, implementing, and managing changes. Among the topics that Students will be able to master, include comprehending the complexity of change within organizational cultures and systems, managing resistance for change, and understanding the role of leader, manager, and change agent in change management. Besides theoretical component, students will be given case studies to build concrete understanding of real-life examples.

### 3983090 Knowledge Management

The aim of this course is to introduce basic concepts, terminologies, tools, and techniques of Knowledge Management (KM). Topics covered include: the origins and units of organizational knowledge; knowledge management life-cycle models, knowledge management implementation models, knowledge capture and codification, knowledge sharing, knowledge management tools and knowledge management strategies.

### 3084020 Business Intelligence and Data Warehousing

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 the basic of data warehouse and how to deal with business intelligence – an information technology approach to data collection, data storage and data analysis to support a wide variety of management tasks, from performance evaluation to trend spotting and policy making. The students learn effective modeling techniques and use them to extract business intelligence and present them to users.

### 3084040 Information Systems Strategy & Acquisition

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.

### 3084050 Information Systems Project

This 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 teamwork and communication skills, both oral and written as well as ethical issues involved.

### 3084060 IT Resource Management

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.

### 3084070 Information Systems Internship

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.

### 3084080 Selected Topics in Information Systems

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 if IS. Specific content of the course will depend on the particular area taught at the time.

### 3084090 Individual Project

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.

### 3084110 IT Services and Operations Management

This course provides a detailed, modular introduction to the concepts, terms, definitions, benefits, objectives, and relationships within 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.

### 3084120 Project Planning, Scheduling and Cost Control

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.

### 3084130 Project Quality and Risk Management

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.

### 3084220 E-Marketing

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.

### 3121120 Computer Programming

This course provides knowledge and skill of problem solving and programming concepts using pseudo code and a computer programming language. Topics cover: the problem- solving process; data types; variables, constants, and memory locations; simple sequential programs; basic input/output; selection and repetition control structures; arrays and strings; and user-defined methods.

### 3122110 Programming for Engineers

This course extends the programming concepts developed in the earlier courses and provides the students an opportunity to learn the advanced concepts that are used in engineering applications including digital design. The course also offers an in-depth exposure to advanced programming techniques in JAVA and the MATLAB programming environment.

### 3122150 Circuit Analysis

This course covers the topics of DC and AC circuit analysis. It includes the topics impedance and admittance, mesh, nodal, superposition, Thevenin's and Norton's theorem, transient response of RC and RLC circuits, sinusoidal steady state response, resonance, phasor representation, and two-port networks.

### 3122420 Digital Logic Design

One of the main goals of this course is to teach students the fundamental concepts in classical digital design and to demonstrate clearly the way in which digital circuits are designed and analyzed today. The purpose is to make students familiar with modern hierarchy of digital hardware and enlighten them the state-of-the-art computer hardware design methodologies. Moreover, the contents of the course provide students the basic idea of how to design and simulate logic circuits.

### 3122460 Computer Organization & Architecture

Introduction to computer organization, the major components of a computer system and the interaction between them, including CPU, memory, I/O devices and buses. Machine instructions, assembly language programming, CPU performance and metrics, non-pipelined and pipelined processor design, datapath and control unit, pipeline hazards, memory system and cache memory.

### 3122510 Electronics I

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.

### 3123006 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.

### 3123030 Electronics II

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.

### 3123210 Digital System Design

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.

### 3123221 Instrumentation and Measurements

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 multi-meters, electronic counters. Logic Analyzers, Data Generators, Data acquisition and control using plug-in cards. Development of virtual instruments using software.

### 3123480 Microprocessor Systems

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.

### 3123490 Embedded Systems

This course introduces the hardware and software design of embedded systems using microcontrollers. Students are introduced to microcontroller programming in both assembly and C. Important subsystems of the microcontroller are covered such as timers, interrupts, serial transmission of data, analog to digital and digital to analog converters. There are a series of exercises introduced into the lectures and labs which give students hands-on experience with working with microcontroller. At the end of the course, each student will choose a design project to work on during the last few weeks.

### 3124300 Selected Topics in computer Engineering

This course covers some advanced topics related to computer engineering, computer science and its related areas that are not covered in the curriculum, and are considered useful and additional learning material for students majoring in computer engineering. Course contents are subject to the approval of the department.

### 3124310 Project I

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.

### 3124320 Project II

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.

### 3124400 Digital Integrated Circuits

This course covers the, design, operation, and analysis of various digital integrated circuit families, MSI digital circuits, and memories.

### 3124460 Engineering Ethics

This course is designed to introduce undergraduate Computer Engineering students to the concepts, theory and practice of engineering ethics. Topics include professionalism, code of ethics, moral framework, safety & risk, honesty, intellectual properties, privacy, computer crimes, economic and global issues.

### 3151010 Calculus for Information Technology

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.

### 3152080 Computerized Accounting

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.

### 3151020 Problem Solving and Programming

This course provides knowledge and skill of problem solving and programming concepts using pseudo code and a computer programming language. Topics cover: the problem- solving process; data types; variables, constants, and memory locations; simple sequential programs; basic input/output; selection and repetition control structures; arrays and strings; and user-defined functions.

### 3151030 Information Technology in Business

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.

### 3152010 Object Oriented Programming

The primary objective of this course is to introduce the concepts of object-oriented programming: classes, objects, methods, object interaction, encapsulation, inheritance, container classes, polymorphism, exception handling, and recursive algorithms. This course is not meant as a comprehensive introduction to all of Java concepts such as applets and socket programming.

### 3152020 Discrete Mathematics

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, recursion, binary relations including order relations, and equivalence relations, graphs, trees, and functions.

### 3152030 Computer organization

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.

### 3152040 Data Structures

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.

### 3152060 human Computer Interaction

Concepts, human information processing (cognition, perception, movement, culture, communication, human diversity, motivation for computer interaction, human performance models, etc.), user interface design principles, information presentation, visual, auditory and tactile displays, speech communication, data entry, controls, tools and feedback, human factors in computer programming, workspace design, environmental and legal considerations. We will study the modeling, the building and the evaluation aspects.

### 3152050 Fundamental of Data Communications and Networking

Introduction to computer networks and the Internet. Protocol layers and the OSI model. Application layer: HTTP, FTP, SMTP, POP3, DNS and peer-to-peer applications. Transport layer: UDP, TCP and congestion control. Network layer: virtual circuits, routers, IP protocols and routing algorithms. Link layer: error detection and correction, multiple access, MAC addressing, switches, ARP, Ethernet, local area networks and wide area networks. Wireless and mobile networks.

### 3153010 Operating Systems

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. To introduce the learner to the principles and practice of operating systems with respect to effective and convenient management and operation of a computer system.

### 3153020 Database Management Systems

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, and relational data model, converting E-R models to relational model, SQL language, and normalization. Oracle software is used in the Lab.

### 3153030 Fundamental of Information Security

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.

### 3153040 Fundamentals of Web Systems

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.

### 3153050 Fundamentals of Software Engineering

The course emphasizes object-oriented techniques and the use of UML. Topics covered in this course include: overview of the software engineering process, software process models, UML syntax and semantics, software requirement analysis, software design principles and models, component-level design, and software testing. Student will work in teams on software projects.

### 3153060 Computer Ethics and Professional Practices

This course will examine the ethical issues that arise in the use of computers, and the responsibilities of those who work with computers, either as computer science professionals or end users. Topics covered include: legal, social and ethical issues surrounding computer technology and its use; privacy; intellectual property rights and copy right laws; information technology code of ethics; issues of privacy and confidentiality; risks of using computers; and computer crime: computer viruses, hacking, phishing & pharming, scams, etc.

### 3153070 Information Technology Project Management

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.

### 3153080 Enterprise Systems

This course introduces students to the new concept of enterprise systems and shows 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.

### 3153090 Cloud Computing

This course aims to introduce students to theory and practice of cloud computing. Topics include: introduction to cloud computing; parallel and distributed systems; cloud infrastructure; applications and paradigms; resource virtualization; resource management and scheduling; networking support; cloud storage systems; cloud security.

### 3153110 Advanced Computer Networks

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.

### 3153120 Network Security

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 AES, MAC & hash operations and cipher modes.

### 3153210 Database Administration

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.

### 3153220 Web Technologies

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.

### 3154010 Information Technology Project

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.

### 3154020 Information Technology Internship

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.

### 3154030 Selected Topics in Information Technology

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.

### 3154040 Individual Project

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.

### 3154050 Knowledge Based Systems

The aim of this course is to introduce the concepts, principles, design and operation of a knowledge base systems (KBS) with particular emphasis on 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 in the lab.

### 3154060 Computer Modeling and Simulation

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 variates, design of simulation experiments and output analysis, verification and validation of simulation models. Students are expected to submit a simulation project.

### 3154110 Network Design & Implementation

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. This course defines a technical project plan and timeline for implementation, and discussing overall project benefits, possible technical issues and required resources to complete the project.

### 3154120 Wireless and Mobile Computing

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.

### 3154130 Network Operating Systems

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.

### 3154140 Enterprise Security

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.

### 3154150 Network Management

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.

### 3154160 Data Compression

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.

### 3154170 Distributed Systems

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.

### 3154180 Wireless Network Security

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 phenomena 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.

### 3154210 Web Application Design and Development

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.

### 3154220 Information Architecture

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.

### 3154230 Advanced Database Design & Implementation

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.

### 3154240 E-Commerce

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

### 3154250 Distributed and Object Databases

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.

### 3154260 Knowledge Management

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.

### 3154270 Advanced Web Topics

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.

### 3154280 Data Warehousing and Data Mining

Today's IT deals with gigantic amount of information. The success of any organization greatly depends on ts 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.

# College of Mass Communication & Humanities

## Home

The College of Mass Communication & Humanities awards two bachelor's degrees in Arts. Bachelor of Arts in Mass Communication started in the second semester of the academic year 2008-2009 as one of the scientific programs at the College of Mass Communication and Humanities at Ajman University. It includes four concentrations: Graphic Design, Electronic and Printed Press and Radio and TV (Ajman Campus) & Public Relations & Advertising (Ajman and Fujairah Campuses). Enrolled students of this program should finish (42) courses successfully, which are equivalent to (126) credit hours. The Bachelor of Arts in Sociology and Social Work started in the first semester of the academic year 2011- 2012 (Ajman & Fujairah Campuses) as one of the scientific programs in the college. The program was launched to build on the initial authorization granted in this regard from the Academic Accreditation Committee of the Ministry of Higher Education and Scientific Research. Students enrolled in this program must complete 42 courses which make 126 credit hours.

## Dean's Message

Throughout history, the importance of the intellectual aspect has always been universally acknowledged in building the cultures of great nations. This clarifies the importance of human sciences which deal with the studying of human intellect and its applications since the time of immemorial. Therefore, the quest of the College of Mass Communication & Humanities has been to prepare highly-educated professionals who are creative, able to build and go forward in acquiring educational abilities and high-level skills in Mass Communication with all its various majors, and Sociology & Social Work.

The college has witnessed, in recent years, quantitative and qualitative developments in terms of the number of students, faculty, facilities, laboratories, studios and technical equipment. The college pays special interest in creativity as a pivotal work in the media and sociology. Thus, it takes care of the media talents and works hard to provide means and programs of study in order to keep pace with the information revolution.

The college also takes special interest in the theoretical formation and practical training of the students majoring in; Journalism, Radio and Television, Public Relations, Graphic Design, as well as Sociology & Social Work. This is achieved in accordance to the latest standards in the training and qualification in this field. The college issues "Afaq" newspaper which is prepared by the college students. The college also supervises the production of different TV programs presented by students. Through graduation projects, students make distinctive works such as producing films, organizing exhibitions, scientific sociological projects, issuing magazines and preparing, executing media and public relations campaigns and

organizing scientific trips for Sociology and Social Work to various social and scientific institutions across the UAE.

Moreover, the college exerts every possible effort in developing the programs in accordance with the latest theories and approaches. A boom will take place in the near future, in offering new programs that should keep pace with the requirements of the modern age and the needs of the job market.

May Allah guide us all and keep Ajman University a beacon of knowledge and herald of excellence.

Dr. Hossam Salamah

Dean of College of Mass Communication & Humanities

## College Vision:

In today's world, the globalization and modern technology forces increasingly impose a unified social model, which, in many aspects, threatens the world's cultural diversity as well as the diversified human legacy. A

dire need, more than ever, emerged for universities and institutions of higher education with a broader vision; a vision that reflects the national ambition for progress and modernity, which should come in line with the national culture and identity as well as preserving the authentic traditions and values.

In the context of the above, the College of Mass Communication and Humanities aims to promote and support the educational process in the society, and seeks to pick these effects, and it adopts the positive aspects of modernity. The college believes that education, research and training require continuous development. Such a development will be achieved only in an environment that is open to innovation and stimulates creativity and encourages the spread of centers of excellence, an environment that has a solid infrastructure, capable of supporting the process of communication and academic interaction.

## College Mission:

The College mission is to provide students with solid academic education in both the four media tracks: Print and Electronic Journalism, Radio and Television, Public Relations and Advertisement and Graphic Design, and Sociology and Social Work. That is in line with the best international standards and in order to come up with generations of specialists who are able to cope perfectly, efficiently and professionally with the latest technological developments and advances in all these fields.

## College Objectives:

- To introduce the latest and the most important theoretical knowledge in the media program's four tracks: Print and Electronic Journalism, Radio and Television, Public Relations and Advertisement and Graphic Design. That is in order to provide students with strong and modern knowledge background helping them to be familiar with the theoretical side of the field and competent in practice
- Provide students with the needed applied skills to produce different media items and programs in the four tracks of the program by using the college studios and labs or through the field training
- Upgrade their performance in accordance with working legislations and ethics and to promote the role of media in society
- Develop critical and innovative thinking of students helping them to evaluate the local, regional and international media work environment
- Promote media sociological research methods which enable graduates to work in research centers or continue their higher studies

Students who wish to join the BA media program are required to score 450 in TOFEL or its equivalent according to the directions of the Academic Accreditation Commission's letter No. CAA00541D112 on 04-04-2012. As for the sociology program students, they are exempted of the above condition.

## Facilities

Educational Technological Resources

In accordance with its efforts to provide the appropriate educational environment and in compliance with the standards adopted by ACC and the educational strategies, the AU has provided the appropriate studying halls to meet all the needs of the teaching process like data show and an easy access to the Internet to expose students to the practical aspects during teaching.

## Laboratories

Within its annual plan to develop and support labs, the college tries to meet the required standards. The labs contain modern instruments and programs such as mac lab and multimedia lab.

## Studios

- Digital photography studio
  There are two digital photography studios for students of graphic design: one for women students and one for men students. These studios help students understand the materials and the instruments used in photography as well as the different ways of digital photography through which students practice and train in taking photos for various items.
- Radio and Television Camera Studio
- Radio and Television Studio
  This studio is established and designed according to the High Definition digital system (HD) so as to help students be acquainted with the great development and trends that we notice today in the field of audio-visual media. The studio is provided with the latest types of digital cameras for television camera and with instruments used in the process of producing radio and television programs. For safety measures, the studio is provided with fire extinguishing system in J2 building in accordance with the civil defense requirements.

## Atelier

A drawing room is established for students of graphic design. It is used to make students aware of the material and tools, and with the different ways of drawing through practicing different ways of simulation for different items and by different materials using pencils.

Students are encouraged to realize the plastic art relations among the elements and the different touches, and between light and shadow through understanding form of designing. The drawing room also emphasizes the principle of creation, and the principle and the concept of designed solutions through drawing simple arithmetic shapes. At the end, there is simulation through drawing the silent nature. The drawing room serves several courses like infographics.

## Teaching staff (Ajman Campus)

| # | Name | Dept. | Rank | الاسم |
|---|---|---|---|---|
| 1 | Hosam Ali Ali Salama | Mass Comm. | Associate Professor | حسام علي علي سلامة |
| 2 | Tarek Ismail Mohamed Abdellatif | Mass Comm. | Professor | طارق إسماعيل محمد عبداللطيف |
| 3 | Abboodi Jawad Hasan | Mass Comm. | Professor | عبودي جواد حسن |
| 4 | Emad Eldin Tag Elsir Fageer Omer | Mass Comm. | Associate Professor | عماد الدين تاج السر فقير عمر |
| 5 | Mustafa H. Kadhem | Mass Comm. | Associate Professor | مصطفى حميد كاظم |
| 6 | Maha Abdelmegid Salah A. Attia | Mass Comm. | Associate Professor | مها عبدالمجيد صلاح عطية |
| 7 | Shaymaa Elsaid Salim Omar | Mass Comm. | Associate Professor | شيماء السيد سالم عمر |
| 8 | Khaled Mostafa Ahmed Mohamed | Mass Comm. | Associate Professor | خالد مصطفى أحمد محمد |

| | | | | |
|---|---|---|---|---|
| 9 | Hesham Mohamed Abdelghaffar Mohamed | Mass Comm. | Associate Professor | هشام محمد عبدالغفار |
| 10 | Basma Mortada Mohamed Seifelnasr Fouda | Mass Comm. | Associate Professor | بسمة مرتضى محمد فودة |
| 11 | Safa Mahmoud Osman Mohamed Darwish | Mass Comm. | Associate Professor | صفا محمود عثمان درويش |
| 12 | Abdu Mohamed Dawood Hafiz | Mass Comm. | Assistant Professor | عبده محمد داوود حافظ |
| 13 | Bashier Salih Husain Salih | Mass Comm. | Assistant Professor | بشير صالح حسين صالح |
| 14 | Belal M.J. Ibrahim | Mass Comm. | Assistant Professor | بلال محمد جميل إبراهيم |
| 15 | Ebrahim Rashed Ali Rashed | Mass Comm. | Assistant Professor | إبراهيم راشد علي راشد |
| 16 | Hayam Abdul Kareem Al Maamare | Mass Comm. | Assistant Professor | هيام عبدالكريم المعمري |
| 17 | Amal Mohamed Nabil A. A. Badr | Mass Comm. | Assistant Professor | أمل محمد نبيل بدر |
| 18 | Nidal Mahmoud Al Said | Mass Comm. | Assistant Professor | نضال محمود السعيد |
| 19 | Nasrelden Ali | Mass Comm. | Assistant Professor | نصر الدين عبد القادر عثمان |
| 20 | Merhan Mohsen Mohammed Elsayed | Mass Comm. | Assistant Professor | ميرهان محسن طنطاوي |
| 21 | Mona Ali Mohammed Abdelrahman | Mass Comm. | Assistant Professor | منى علي محمد عبدالرحمن |
| 22 | Sheren Ali Mousa Mohmmed Nawar | Mass Comm. | Assistant Professor | شيرين علي موسى نوار |
| 23 | Alya Ali Mouhamed Ali Anter | Mass Comm. | Assistant Professor | علياء علي محمد علي عنتر |
| 24 | Dina Al Khattat | Mass Comm. | Assistant Professor | دينا الخطاط |
| 25 | Abdul Raouf Abdulla Bin Talab | Mass Comm. | Lecturer | عبدالرؤوف عبدالله بن ثعلب |
| 26 | Layal Ayoub | Mass Comm. | Teaching Assistant | ليال أيوب |
| 27 | Manar Emad Dhaher | Mass Comm. | Teaching Assistant | منار عماد ظاهر |
| 28 | Basem Sami Hashish | Mass Comm. | Teaching Assistant | باسم سامي حشيش |
| 29 | Asmaa Altmena | Mass Comm. | Teaching Assistant | أسماء التمنة |
| 30 | Fajer Alami | Mass Comm. | Teaching Assistant | فجر العلمي |
| 31 | Saeed Amin Mohamed Nasef | Sociology | Professor | سعيد أمين ناصف |

| | | | | |
|---|---|---|---|---|
| 32 | Omer Ahmed El Garrai | Sociology | Associate Professor | عمر أحمد القراي |
| 33 | Osman Siraj Eldeen F. Ahmed | Sociology | Associate Professor | عثمان سراج الدين أحمد |
| 34 | Ashraf Mohamed Abouelyzid Alazab | Sociology | Associate Professor | أشرف محمد العزب |
| 35 | Alaa Zuhir Abduljawad AlRawashdeh | Sociology | Associate Professor | علاء زهير الرواشدة |
| 36 | Amna Abdulla Hamad Abushahab | Sociology | Assistant Professor | آمنة عبدالله أبو شهاب |
| 37 | Rasha Mohamed A. Abdel Rahman | Sociology | Assistant Professor | رشا محمد عبدالرحمن |
| 38 | Nagwa Babiker Abdalla Yousif | Sociology | Assistant Professor | نجوى يوسف |
| 39 | Khetam Husin Tamem | Sociology | Assistant Professor | ختام تميم |
| 40 | Asma Rebhi Khaleel Alarab | Sociology | Associate Professor | أسماء ربحي العرب |
| 41 | Maha Ezzat Mohammed Aboraya | Sociology | Assistant Professor | مها عزت أبو رية |
| 42 | Enaam Mohammed Youssef | Sociology | Lecturer | إنعام يوسف |
| 43 | Mahra Al Malek | Sociology | Lecturer | مهرة آل مالك |

## Teaching Staff-Fujairah Campus

| No | Name | الاسم | التخصص | Designation |
|---|---|---|---|---|
| 1 | Dr. El Mahi Abdullah Elmahi | د. الماحي عبدالله الماحي | اللغة الإنجليزية | Assistant Prof. |
| 2 | Prof. Yas Khudair Al- Bayati | أ.د. ياس خضير البياتي | علم إجتماع وخدمة إجتماعية | Prof. |
| 3 | Prof. Mustafa Abdelathem Faramawy | أ.د. مصطفى عبدالعظيم فرماوي | علم إجتماع وخدمة إجتماعية | Prof |
| 4 | Dr. Yassine Adam Busati | د. ياسين آدم بساط | علاقات عامة وإعلان | Assistant Prof. |
| 5 | Dr. Faisal Ibrahim Matalkah | د. فيصل إبراهيم | علم إجتماع وخدمة إجتماعية | Associated Prof. |
| 6 | Dr. Khalid Khalfallah Sulaiman | د. خالد خلف الله سليمان | علاقات عامة وإعلان | Assistant Prof. |
| 7 | Dr. Magda Khalfalla Elibed | د. ماجدة خلف الله | علاقات عامة وإعلان | Assistant Prof. |
| 8 | Dr. Elsayed Mohamed Abdelrahman | د. السيد محمد عبدالرحيم | علم إجتماع وخدمة إجتماعية | Assistant Prof. |

# 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, 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:

Bachelor of Pharmacy (BPharm) (Ajman & Fujairah Campuses)

Master of Science in Pharmacy (Ajman Campus)

## 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 all year round 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

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.

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:

- Demonstrate knowledge of the basic and clinical science background of pharmacy practice
- Implement the processes of compounding and dispensing medications, interpreting prescription orders and applying calculations related to the compounding and dispensing of medicines
- Demonstrate knowledge of the basic skills and techniques involved in drug manufacture and development, drug design and screening and quality assurance of pharmaceutical products
- Demonstrate knowledge of the rational use of herbal supplements, fundamentals of phytotherapy and the hazards of poisonous and abused natural products
- Participate in patient care by influencing optimal drug choice and dosage through effective communication with health care providers and patients
- Display legal, moral and ethical attitudes and behaviors consistent with the standards of the profession
- Demonstrate the ability to lead and to function both independently and as a member of a team
- Develop self-learning skills, problem solving and critical thinking abilities and the ability to retrieve, evaluate and manage information in the literature
- Demonstrate the ability to write clear and organized reports, and to present oral communications
- Develop the necessary skills in information use and management to educate health care professionals and the public in optimal drug therapy

**Mapping of the B. Pharm PLOs to the UAE's qualification framework.**

| UAE's Qualifications Frameworks Learning Outcomes Strands | B. Pharm. Program learning outcomes (PLOs) |
|---|---|
| **On successful completion of the B.Pharm program, graduates will be able to:** | |
| **Knowledge** | K1. Demonstrate knowledge of the basic and clinical science background of pharmacy practice. |
| | K2. Demonstrate knowledge of the basic skills and techniques involved in drug manufacture and development, drug design and screening and quality assurance of pharmaceutical products. |
| | K3. Demonstrate knowledge of the rational use of herbal supplements, fundamentals of phytotherapy and the hazards of poisonous and abused natural products. |
| **Skill** | S1. Implement the processes of compounding and dispensing medications, interpreting prescription orders and applying calculations related to the compounding and dispensing of medicines. |
| | S2. Participate in patient care by influencing optimal drug choice, type of dosage form and the design of dosage regimens. |

| | | |
|---|---|---|
| | | S3. Develop problem solving and critical thinking abilities and the ability to retrieve, evaluate and manage information in the literature. |
| | | S4. Demonstrate the ability to write clear and organized reports, and to present oral communications. |
| Aspects of Competence | **Autonomy and responsibility** | C1. Demonstrate the ability to lead and to function both independently and as a member of a team. |
| | **Role in context** | C2. Display legal, moral and ethical attitudes and behaviours consistent with the standards of the profession.<br>C3. Develop communication skills in order to effectively counsel patients on their medications.<br>C4. Develop the necessary skills in information use and management to educate health care professionals and the public in optimal drug therapy. |
| | **Self-development** | C5. Develop independent study skills for life-long learning and continuous professional development. |

## 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 | - |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 students with basic knowledge of pharmaceutical calculations needed for compounding and dispensing of medications. It includes 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 covers basic skills and abilities needed to identify various pharmaceutical incompatibilities and basic techniques needed for extraction of crude drugs.
Pre-requisite: None

### 700 112 Physical Pharmacy I (2-2-3)

The course comprises the application of physicochemical principles to pharmaceutical systems. It covers the following basic physical pharmacy concepts: states of matter, phase equilibria and phase rule, nonelectrolyte solutions and their colligative properties and solubility and distribution phenomena.

Pre-requisite: 700 11

### 700 212 Physical Pharmacy II (2-2-3)

This course aims to provide students with basic physicochemical principles needed to explain characteristics and behavior of pharmaceutical dispersions like colloids, suspensions, emulsions, ointments, creams and aerosols. It also covers rheological properties of both Newtonian and non-Newtonian systems.
Pre-requisite: 700 112

### 700 213 Pharmaceutical Dosage Form 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 Form II (2-2-3)

This course covers basic principles of drug stability, routes of drug degradation and various means of avoiding them. It also covers sterile products including parenteral and ophthalmic preparations; their advantages & disadvantages, formulations, quality control tests and various sterilization procedures. In addition, aseptic techniques applied during the preparations of sterile products shall be covered. The course also includes an introduction to sustained released products, as well as packaging materials.
Pre-requisite: 700 213

### 700 311 Biopharmaceutics 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, physiological or pathological factors related to the patient's condition. It also provides basic methods for assessing bioavailability 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-requisite: 700 214, 700 422

### 700 312 Biopharmaceutics 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 covers theoretical background & practical demonstration of different manufacturing unit processes like; heat transfer, filtration, particle size reduction, and particle size analysis, mechanisms of mixing, powder flow, granulation, and drying that are applied in pharmaceutical industries. The course also comprises the design & operation of clean rooms with special emphasis on quality assurance & good manufacturing practice guidelines.
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 Biotechnology

This course introduces the student to the field of biotechnology with especial emphasis on its applications in the preparation of biopharmaceuticals. The course entails definitions, brief history and major areas of contribution of biotechnology. The course shall also cover recombinant DNA technology including cloning of DNA, PCR and Gene libraries. In addition, different methods adopted for the preparation of biotechnology drug products and their evaluation, handling and storage shall be covered. Current marketed biotechnology drug products, as well as the future prospects of biotechnology shall be discussed.

Pre-requisite: 700232

## 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 including plant cell structure, type of cells, cell contents and the general study of the plant organs (leaves, barks, flowers, seeds, fruits) macroscopically and microscopically.

Pre-requisite: None

### 700 127 General Pharmacognosy (3-2-4)

Pharmacognosy deals with the study of physical, chemical and biological properties of important medicinal plants. The study includes their origin, morphology, histology, chemical constituents and their 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 fundamentals of certain topics in organic chemistry. It covers 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 acids 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 includes 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 flourimetry; 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 the treatment of different ailments of the human body. The study includes the active constituents of these natural products, pharmacokinetic and pharmacodynamic effects of these constituents, appropriate dosage forms and their preparations. Monographs 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 Human 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. A study of the different organ systems and their respective roles and function in the organization of the body. Gross anatomy is covered in its broadest aspects and includes the anatomy of different systems; muscular, respiratory, digestive, cardiovascular, nervous, reproductive, skeletal, endocrinal and urinary. The physiology is integrated with anatomy for each system of the human body. Topics which are covered in details include the organization, regulation and functions of the muscular, gastrointestinal, respiratory, cardiovascular, blood, lymphatic, renal, endocrinal, nervous & special senses 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) with special emphasis on the various pathophysiological aspects and conditions. Systems covered are the nervious, cardiovascular, lymphatic, respiratory, renal, special senses and reproductive system.

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. Nutrition, starvation and obesity 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), rental system, hematopoietic 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 the following: General microbiology including sterilization, anatomy and growth of bacteria, bacterial genetics and antimicrobials. Systemic microbiology including bacterial diseases, viral diseases and fungal diseases accompanied by the etiology, clinical picture, lab diagnosis, treatment, prevention and control of these diseases

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, anthelmintic, antineoplastic agents.

Pre-requisite: 700 311, 801 318

### 700 434 Bioassays and Drug Screening (2-2-3)

This course covers general methods used in the preclinical drug development. These include general methods used in the screening for a new drug and the determination of the potency using biological objects.

The course covers the general methods of bioassay and drug screening of drugs acting on the autonomic nervous system, cardiovascular system, neuromuscular junction, gastrointestinal tract, respiratory system, central nervous system and hormones. It also deals with the design and analysis of pharmacological experiments.

Pre-requisites: 700311, 0130130

### 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: 700 432

### 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. Nageeb Abdul Galil Mohamed Hassan | Head, Dept. of Pharmacology and Toxicology, Professor | Clinical Pharmacology | PhD | 1994 | University of Manchester, UK |
| 2 | Dr. Samir Issa Bloukh | Associate Professor | Virology | PhD | 1991 | University of Manchester, UK |
| 3 | Dr. Farah Hamad Farah Ahmed | Associate Professor | Pharmaceutics | PhD | 1982 | University of Nottingham, UK |
| 4 | Dr. Moyad Jamal Said Shahwan | Associate Professor | Clinical Biochemistry | PhD | 2000 | Aligarh Muslim University, India |
| 5 | Dr Moyad Jamal Al Omer | Assistant Professor | Clinical Pharmacoinformatics | PhD | 2010 | University Sains Malaysia, Malaysia |
| 6 | Dr Moawiya Al Tabakha | Associate Professor | Pharmaceuitical Technology | PhD | 2000 | University of Wales, Cardiff, UK |
| 7 | Dr El-Shimaa Arafa | Assistant Professor | Pharmacology | PhD | 2009 | Ohio State University, Ohio, USA. And Cairo University, Egypt |
| 8 | Dr Mohammad Waseemul Islam | Assistant Professor | Clinical Physiology/Drug Designing | PhD | 1975 | Aligarh Muslim University, India |
| 9 | Dr Akram Ashames | Assistant Professor | Material Sciences Chemistry | PhD | 2015 | Colorado School of Mines, USA |
| 10 | Dr Zehra Edis | Assistant Professor | Chemistry | PhD | 1999 | University of Cologne, Germany |
| 11 | Dr. Nihal Abdulla Ibrahim | Assistant Professor | Clinical Physiology | PhD | 2010 | Alexandria University, Alexandria, Egypt |
| 12 | Dr Sanah Hasan | Assistant Professor | Clinical Pharmacy | PhD | 2013 | Monash University, Melbourne, Australia |
| 13 | Dr. Richie Rashmin Bhandare | Assistant Professor | Medicina Cheistry | PhD | 2013 | Monash University, Melbourne, Australia |

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|---|---|---|---|---|---|---|
| 14 | Mr Yaseen Khalid Al Hariri | Lecturer | Clinical Pharmacy | MSc | 2007 | University of Science Malaysia, Malaysia |
| 15 | Mrs Zelal Jaber Kharaba | Lecturer | Envirofood- Nutritional Medicine and Protection | MSc | 2008 | Hohenheim University, Germany |
| 16 | Mrs Sundos Qassim Alebrahim | Lecturer | Clinical Pharmacy | MSc | 2013 | AU |
| 17 | Mrs. Sawsan Deeb Mohammed Shanableh | Lecturer | Clinical Pharmacy | MSc | 2013 | AU |
| 18 | Mrs. Aala Farajullah | Lecturer | Clinical Pharmacy | MSc | 2014 | AU |
| 19 | Mr Ahmed Gaili | Teaching Assistant | Clinical Pharmacy | MSc | 2015 | AU |
| 20 | Mr Ahmed H. Khattab | Teaching Assistant | Clinical Pharmacy | MSc | 2015 | AU |
| 21 | Mr. Hamed Abu Sara | Lab Technician | Microbiology, Chemistry & Zoology | B.Sc. | 1998 | Bangalore University, India |
| 22 | Mr. Basil Hassan Alemam | Lab Technician | Chemistry | B.Sc. | 1980 | Damascus University, Syria |
| 23 | Mr. Mamduh Mohamad Eldmerdash | Lab Technician | Quality Production | B.Sc. | 1987 | Zagazig University, Egypt |
| 24 | Mr. Mohammed Siddiq Mohajir | Lab Technician | B.Z.C | B.Sc. | 1984 | Osmania University, India |
| 25 | 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, 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 |

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|---|---|---|---|---|---|---|
| 4 | Dr. Shihab El Tahir Diab | Assistant Professor | Pharmacology / Toxicology | PhD | 2014 | Florida A & M University |
| 5 | Dr. Mousa Adel Qarwai | Assistant Professor | Pharmaceutics | PhD | 1997 | University of Bath, UK |
| 6 | Dr. Yaser Al worafi | Associate Professor | Clinical pharmacy | PhD | 2011 | USM – University of Science in Malaysia |
| 7 | Nader A.H. Abu Mukhaimer | Teaching Assistant | Pharmacy | B.Sc | 1998 | University of Applied Science and Technology, Jordan |
| 8 | Miran Abdel Ghani Al-Halabi | Teaching Assistant | Pharmacy | B.Pharm | 2001 | AU |
| 9 | Mohamed Abdel Gadir | Teaching Assistant | Chemical Engineering Technology | B.Sc | 1993 | Aljazeera University, Sudan |
| 10 | Tarek Diaa ElDin Shahin | Teaching Assistant | Pharmacy | B.Sc | 2012 | AU |

# College of Medicine

## Introduction

Consonant with Ajman University's vision of enhancing its standing as one of the leading comprehensive institutions of higher education in the Gulf region and an active contributor to the advancement and development of UAE society, the University decided to establish a College of Medicine offering the Bachelor of Medicine and Bachelor of Surgery (MBBS) program in 2018. The new MBBS program adds to the lineup of distinguished programs already on offer at Ajman University and push the envelope in scholarship and community service.

## Vision

The Ajman University College of Medicine (AUCoM) is committed to carving out a place for itself as a national and international leader in Medicine, Medical Education, research and service delivery within the context of meeting the aspirations of the UAE for excellence and leadership in regional and global standards.

## Mission

To train healthcare professionals who strive for professional excellence while contributing to the social, economic, and cultural development of the UAE and inculcating in graduates an attitude of lifelong learning, ethical conduct, and excellence in service and research.

## Goals

To fulfill the mission and vision of the AUCoM, the following goals are set forth:

- To establish a premier CoM that will prepare outstanding socially responsible physicians for an illustrious career in clinical practice, teaching and research.
- To develop an academic atmosphere conducive to the development of a high degree of scientific knowledge and clinical skill.
- To develop a state-of-the-art health care delivery system that will serve as a model for the nation that will provide extended health care for the region in an innovative program that will be emulated elsewhere.

## Program Offered

The College offers a highly innovative 6-year full time program consisting of one year of Foundation and 5 years of medical studies leading to the award of the degree of Bachelor of Medicine and Bachelor of Surgery (MBBS)

## Admission Requirements to the Foundation Year:

Admission is open to students from all types of curriculum (UAE National Curriculum, American, British, CBSE (Indian), French, etc.)

The criteria for admission are summarized below:

A. **Complete at least 12 years of schooling**

B. **Requirements according to high school curricula:**

1. **UAE National Curriculum (Science Stream)**
   - Minimum high school grade **90%**
2. **American Curriculum**

a. Minimum high school grade **90%**
b. SAT I Test – minimum **1000/1600**
c. SAT II Test – any **2** subjects (Biology, Chemistry, Physics, and Math II) with minimum **550/800** per subject

3. **British Curriculum**
   a. 12th grade report card from school
   b. 'O' level with minimum 4 **B**s in Biology, Chemistry, Physics and Math
      **Plus** AS level with an **A** and a **B** in any 2 of the 4 subjects (Biology, Chemistry, Physics and Math)

      **OR** **'**O' level with minimum 4 **B**s in Biology, Chemistry, Physics and Math

      **Plus** A2 level with minimum of 2 **B**s in any 2 of the 4 subjects (Biology, Chemistry, Physics and Math)

4. **International Baccalaureate (IB)**
   a. 12th grade report card from school
   b. IB High Level (HL) in 3 of the 4 subjects (Biology, Chemistry, Physics and Math) with scores of **5, 4, 4**
      **Plus** IB Diploma Total of at least **26**

5. **Other Curricula**
   a. India/Pakistan Boards (e.g. **CBSE**), **at least 75%**
   b. Students from other international systems can submit documents that prove that they have finished 12 years of schooling in their home countries and have their high school documents equalization completed in the UAE Ministry of Education.

C. **English Language Proficiency for ALL Curricula**

Need to fulfil any **ONE** of the following requirements (or equivalent):

- **EmSAT English – Achieve – 1400+**
- **TOEFL IBT – 60**
- **OOPT – B1**
- **IELTS – 5.5**

D. **Personal Interview**

Candidates who fulfilled the requirements A – C may be shortlisted for a personal interview. A 'Pass' in the interview will be required for final admission.

For further information please refer to the University admissions policy.

## Facilities

### Academic Staff

To attain our projected high standards, the AU CoM is in the process of recruiting highly experienced and motivated faculty for an academically challenging but highly rewarding experience for the students. Our experienced faculty will be expected to not only deliver in their area of specialization, but nurture and inspire the students as well.

### Laboratories

The College has a Multipurpose Laboratory for training in human physiological recordings, gross and microscopic Pathology and Microbiology. Our Anatomy dry and dissection laboratories, equiped with a virtual reality (VR)/AR setup will be used to teach human structure. We also have a state-of-the-art clinical skills laboratory to ensure that students acquire the necessary techniques (including communication skills, history taking, physical examination and basic investigative skills), before practicing on real patients.

### Clinical Training Sites

Ajman University College of Medicine has key training arrangements with Sheikh Khalifa Medical City Ajman (a large UAE Ministry of Presidential Affairs Hospital under the management of the Swedish Healthcare Management firm Global Health Partners). Our second clinical training site is the very modern Amina Hospital, a private hospital in the heart of downtown Ajman.

## MBBS PROGRAM LEARNING OUTCOMES

### Knowledge

On successful completion of the MBBS program, graduates will be able to:

1. Recognize the normal structure and function of the human body (as an intact organism) and of each of its major organ systems, taking cognizance of the molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis.
2. Recognize and relate the various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic) of illness/disease and the ways in which they interfere with normal function of the body (pathogenesis).
3. Recognize the altered structure and function (pathology and pathophysiology) of the body and its major organ systems that are seen in various diseases and conditions.
4. Recognize the important non-biological determinants of health and of the economic, psychological, social, and cultural factors that contribute to the development and/or continuation of disease.
5. Identify the most frequent clinical, laboratory, radiological, and pathologic manifestations of common diseases.
6. Recognize the power of "the scientific method" in establishing the causation of disease and efficacy of traditional and non-traditional therapies.
7. Describe the principles of disease prevention and epidemiology of common diseases appropriate for specific populations.

8. Demonstrate knowledge of the laws and systems of professional regulation through the UAE Ministry of Health, relevant to medical practice and abide by the UAE's Code of Ethics and Professional Conduct.
9. Understand the framework in which medicine is practiced in the UAE, and the roles of, and relationships between the MOH, Health Authorities and the private health sector in protecting and promoting individual and population health.

### Skill

1. The ability to obtain an accurate holistic medical history that covers all essential aspects of a patient and his/her problem, including issues related to age, gender and socio-economic status.
2. Apply a medical problem-solving process in order to arrive at a clinical diagnosis.
3. Perform both a complete and a focused organ system specific examination, including a mental status examination.
4. Perform routine technical procedures at a level suitable to a fresh medical graduate.
5. Construct appropriate management strategies (both diagnostic and therapeutic) for patients with common conditions related to different age groups and genders, both acute and chronic, including medical, psychiatric, and surgical conditions, and those requiring short- and long-term rehabilitation.
6. Formulate a treatment plan, demonstrating the ability to take action by balancing the relative risks and benefits of outcomes and treatment options.
7. Recognize patients with immediately life threatening cardiac, pulmonary, or neurological conditions regardless of etiology, and to institute appropriate initial therapy applying Basic Life Support and Advanced Life Support principles.
8. Interpret laboratory tests (recognizing their limitations), and integrate clinical and laboratory findings in the diagnosis and management of a patient's problem.
9. Document and share patient-specific information, demonstrating the ability to record in the hospital management systems, specific findings about a patient and orders directing the further care of the patient.
10. Define and describe the characteristics of a population, to include its demography, cultural and socioeconomic constitution, circumstances of living, and health status, and to relate these factors to the health and health care of patients and their families.
11. Recognize own personal and professional limits and seek help from colleagues and supervisors when necessary.

## Competence

### Autonomy and Responsibility

1. Acquire, assess, apply and integrate new knowledge, learn to adapt to changing circumstances and ensure that patients receive the highest level of professional care.
2. Show responsibility and independent technical and clinical decision-making to evaluate and manage complex and unpredictable clinical work appropriate to a primary care practice.
3. Illustrate adherence to current best practice methods in a mature manner.

## Role in Context

1. Function effectively as a mentor and teacher including contributing to the appraisal, assessment and review of colleagues, giving effective feedback, and taking advantage of opportunities to develop these skills.
2. Understand and respect the roles and expertise of health and social care professionals in the context of working and learning as an interdisciplinary team.
3. Demonstrate ability to build team capacity and positive working relationships and undertake various team roles including leadership and the ability to accept leadership by others.
4. Demonstrate awareness of the role of doctors as managers, including seeking ways to continually improve the use and prioritization of resources.

## Self-development

1. Establish the foundations for lifelong learning and continuing professional development appropriate to a fresh medical graduate.
2. Continually and systematically reflect on practice to evaluate and improve care of patients with aim of safeguarding a high quality of clinical care.
3. Recognize own personal health needs, consult and follow the advice of a suitably qualified professional, and protect patients from any risk posed by own health.
4. Value professional ethics, positive criticism and feedback, and engage in a life-long learning.
5. Be polite, considerate, trustworthy and honest, act with integrity, maintain confidentiality, respect patients' dignity and privacy, and understand the importance of appropriate consent and respect all patients, colleagues and others regardless of their age, colour, religion, culture, disability, ethnic or national origin, gender, or social or economic status.

## Career Opportunities

A career in Medicine can be quite rewarding indeed. Upon graduation and completion of the pre-registration internship (known as housemanship in certain jurisdictions), career options in the many specialties of Medicine abound.

## Graduation Requirements

Students will be awarded the MBBS degree upon fulfilment of the following requirements:

Completing successfully the required credit hours (224 Credit Hours), including the University requirement courses, with an cumulative grade point average (CGPA) not less than 2.5 (out of 4) and obtaining a minimum grade of C in every course.

The courses to be completed, including University general education courses are as follows:

## CURRICULUM DESCRIPTION

The curriculum consists of full-time one year of Foundation and five years of medical studies.

## The Foundation Year

It was decided to start with a foundation year as we expect most of our potential students to come from diverse backgrounds with varying levels of high school attainment, depending on the type of curriculum they studied (e.g. UAE National, American, British, Indian, French, etc curricula are on offer in the UAE). The Foundation Year is necessary to raise levels of science knowledge before commencing the five-year medical program. The courses to be taken include Human Biology (Anatomy & Physiology), Introduction to Biochemistry, Medical Physics and Medical Terminology. In addition, the students will complete four of the five University required general education courses during the foundation year. This helps to ensure that they can comfortably complete all University general education compulsory and elective courses before the clinical years, when it is logistically very difficult.

## The Five-Year Medical Program

The program is designed as an integrated, systems based, spiral curriculum, which is divided into three phases. There is both horizontal and vertical integration such that as the student progresses through the phases, they revisit the same organ systems at higher levels of complexity and clinical content until graduation.

A unique feature of the AUCoM curriculum is the application of “Parallel Courses”**.** These are semester long courses running alongside (parallel to) the integrated blocks. In many instances, the parallel courses align their content to the blocks but they do not have to. For example, the content of the Molecular Medicine parallel course in Semester I (MOL 114) will be aligned with the GIT 113 block such that GI Biochemistry (digestion/absorption), will be taught at the appropriate time.

Parallel courses address one of the main criticisms in integrated PBL-type curricula; the niggling feeling that the students are not learning core concepts in sufficient depth. In this regards certain subject areas tend to lose out more than others. These include Molecular Medicine and Genetics (so important in the medicine of the future), Behavioral Science, Biostatistics, Evidence Based Medicine, etc. Quite often it is difficult to come up with PBL cases that would generate fundamental concepts in these areas as “learning needs”.

A secondary advantage of the parallel courses option is that the program has greater flexibility in formally introducing new or topical subjects into the curriculum, e.g. simple one credit hour courses in Complementary and Alternative Medicine (CAM), Forensic Medicine, Medical Informatics, etc, has potential to greatly enrich the curriculum. Such flexibility is lacking or limited in the common integrated curricula on offer at most medical schools in the region. Experience at a young medical school (<10 years), applying a similar mix of integrated and parallel courses has produced graduates who are exceptionally competitive in external benchmarking and licentiate assessments.

## Phase I (4 Semesters)

- Semesters I and II: In these two semesters, the core curriculum is presented as integrated organ systems concentrating essentially on structure and function only. In addition to the lectures and labs being copiously illustrated with clinical examples, there are TBL (Team-Based Learning) sessions at the end of each week where cases for problem solving are used to consolidate learning.
- Semesters III and IV: A ten-week block called pathogenesis of disease (POD), is introduced in Semester III. During the POD block, the students are introduced to fundamentals of Pathology, Pharmacology, Microbiology and Immunology. The cases and TBLs in this block are richer in clinical content. Semester IV is the transition between Phase I and Phase II. In the core blocks during this semester (Head and Neck and Skin, Neuroscience and Special Senses), structure

function is fully integrated with the clinical sciences. The learning in each week is anchored by a clinical case which drives the theme for the lectures, labs and clinical skills sessions.

## Phase II (2 Semesters)

- Semesters V and VI: During these two semesters in Phase II, the organ systems are revisited but the blocks are disease-based with limited structure function overviews only. Each week's learning is themed according to the clinical case of the week.
- The principal rationale for this phase is to get the students to study most of the key pathological conditions in each organ system. This addresses an important challenge in medical education in the UAE and the region at large. Medical schools generally lack leverage when it comes to recruitment of hospital consultants involved in clinical training of medical students during the clerkship years. This is especially problematic when existing government or other hospital facilities are used for training. Although this has improved somewhat, the training of adjunct clinical faculty involved in teaching medical students remains a challenge. An additional challenge is the difficulties encountered by medical students in accessing patients to complete their prescribed number of patients they must interview (clerk) and examine. The Phase II program helps the student to be much better prepared for the clinical clerkship phase, minimizing the need for a lot of handholding by the clinical adjunct faculty.

## Phase III (Four 20-week Semesters)

- Consists of four semesters (7-10) of clinical rotations in designated hospitals, including Medicine, Surgery, Paediatrics and Obstetrics and Gynaecology; and their sub-specialties. Each rotation is 10 weeks in the major specialties and two to three weeks in each sub-specialties.

## Sequence of Courses

**AJMAN UNIVERSITY COLLEGE OF MEDICINE**

**MBBS PROGRAM**

| Phase | | S# | Course Code | Year | Sem | Course Title | Credit Hrs | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *** |
| Foundation Year | Foundation Semester 1 | 1 | BIC011 | F | 1 | Biochemistry I | 3 | (3+0+0) |
| | | 2 | BIL011 | F | 1 | Biochemistry I lab | 0* | (0+0+1) |
| | | 3 | HBG012 | F | 1 | Human Biology I | 3 | (3+0+0) |
| | | 4 | HBL012 | F | 1 | Human Biology I Lab | 0* | (0+0+1) |
| | | 5 | MPY013 | F | 1 | Medical Physics | 3 | (3+0+0) |
| | | 6 | MPL013 | F | 1 | Medical Physics Lab | 1 | (0+0+2) |
| | | 7 | 1021401 | F | 1 | Arabic Language (University requirement) | 3 | (3+0+0) |
| | | 8 | 1021101 | F | 1 | Islamic culture (University requirement) | 3 | (2+2+0) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | **Total Credit Hours for Semester-1** | | | | **16** | |
| | | | | | | | *** |
| **Foundation Semester 2** | 1 | BIC021 | F | 2 | Biochemistry II | 3 | (3+0+0) |
| | 2 | BIL021 | F | 2 | Biochemistry II lab | 1 | (0+0+1) |
| | 3 | HBG022 | F | 2 | Human Biology II | 3 | (3+0+0) |
| | 4 | HBL022 | F | 2 | Human Biology II Lab | 1 | (0+0+1) |
| | 5 | MTL023 | F | 2 | Medical Terminology | 3 | (3+0+0) |
| | 6 | 1041200 | F | 2 | IT fundamentals (University requirement) | 3 | (3+0+0) |
| | 7 | 1031332 | F | 2 | Statistics (University requirement) | 3 | (3+0+0) |
| | | **Total Credit Hours for Semester-1** | | | | **17** | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | *** |
| Phase I - Man and His Environment | Semester 1 | 1 | GCT111 | 1 | 1 | General Concepts Block (General anatomy, histology, embryology and cell physiology; 4 weeks) | 2 | (1+0+2) |
| | | 2 | MSK112 | 1 | 1 | Musculoskeletal Block (8 weeks) | 5 | (3+2+2) |
| | | 3 | GIT113 | 1 | 1 | Gastrointestinal Block (4 weeks) | 4 | (2+2+2) |
| | | 4 | MOL114 | 1 | 1 | Molecular Medicine I (Biochemistry & Cell Biology) (parallel course) | 2 | (1+2+0) |
| | | 5 | PRO115 | 1 | 1 | Communications Skills (parallel course) | 1 | (0+2+0) |
| | | 6 | COM116 | 1 | 1 | Primary Health Care & Rural Health (parallel course) | 1 | (0+2+0) |
| | | 7 | 107110 | 1 | 1 | Critical thinking (University requirement) | 3 | (3+0+0) |
| | | 7 | 115160 | 1 | 1 | Emirates Society (University requirement) | (OR) 3 | (3+0+0) |
| | | | **Total Credit Hours for Semester-1** | | | | **18** | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Semester 2 | 1 | CVB121 | 1 | 2 | Cardiovascular + Blood Block (8 weeks) | 5 | (3+2+2) |
| | 2 | RSP122 | 1 | 2 | Respiratory Block (3 weeks) | 2 | (1+0+2) |
| | 3 | REN123 | 1 | 2 | Renal Block (5 weeks) | 4 | (2+2+2) |
| | 4 | GEN124 | 1 | 2 | Genetics | 2 | (2+0+0) |
| | 5 | MOL125 | 1 | 2 | Molecular Medicine II (Biochemistry & Cell Biology) | 2 | (2+0+0) |
| | 6 | 112140 | 1 | 2 | Introduction to Art | 3 | (3+0+0) |
| | 6 | 107130 | 1 | 2 | Introduction to digital photography | (OR) 3 | (3+0+0) |
| | | | | | | **18** | |
| Semester 3 | 1 | ENR231 | 2 | 3 | Endocrine and Reproductive System Block (6 Weeks) | 4 | (2+2+2) |
| | 3 | POD232 | 2 | 3 | Pathogenesis of Diseases (Basic Principles of Pharma, Micro, Patho & Immuno; 10 Weeks) | 6 | (4+2+2) |
| | 4 | PRO233 | 2 | 3 | Introduction to Medical Skills | 1 | (0+2+0) |
| | 5 | BSE234 | 2 | 3 | Basics of Biostatics & Epidemiology | 3 | (2+0+2) |
| | 6 | 1151100 | 2 | 2 | History of Science in Islam | 3 | (3+0+0) |
| | 6 | 1151200 | 2 | 2 | Scientific Pioneering | OR 3 | (3+0+0) |
| | 7 | 1141300 | 2 | 3 | Innovation and Entrepreneurship | 3 | (3+0+0) |
| | | **Total Credit Hours for Semester 3** | | | | **20** | |
| Semester 4 | 1 | HNS241 | 2 | 4 | Head & Neck and Integumentary System (5 weeks) | 4 | (2+2+2) |
| | 2 | NEU242 | 2 | 4 | Neuroscience and Special Senses (8 weeks) | 5 | (3+2+2) |
| | 3 | SPS243 | 2 | 4 | Special Senses (3 weeks) | 3 | (1+2+2) |
| | 4 | BHS244 | 2 | 4 | Behavioral Science | 2 | (2+0+0) |
| | 5 | PRO245 | 2 | 4 | Professional Skills IV (Integrated with Clinical Sessions) | 2 | (0+2+2) |
| | 6 | COM246 | 2 | 4 | Evidence Based Medicine & Research | 1 | (0+2+0) |
| **Total Credit Hours for Semester 4** | | | | | | **17** | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Phase II - The Organ System | Semester 5 | 1 | MSK351 | 3 | 5 | Musculoskeletal block (4 weeks) | 3 | (2+2+0) |
| | | 2 | GIT352 | 3 | 5 | Gastrointestinal Block (4 weeks) | 3 | (2+2+0) |
| | | 3 | END353 | 3 | 5 | Endocrine Block (4 Weeks) | 3 | (2+2+0) |
| | | 4 | REP354 | 3 | 5 | Reproductive & Beast Block (4 weeks) | 3 | (2+2+0) |
| | | 5 | PRO355 | 3 | 5 | Professional Skills V (Integrated with Clinical Sessions) | 2 | (0+4+0) |
| | | 6 | ELC356 | 3 | 5 | End of Life Care & Geriatrics | 1 | (0+2+0) |
| | | 7 | MIF357 | 3 | 5 | Medical Informatics | 2 | (1+2+0) |
| | | 8 | COM358 | 2 | 5 | Occupational & Environmental Medicine | 1 | (0+2+0) |
| | | **Total Credit Hours for Semester-5** | | | | | **18** | |
| | Semester 6 | 1 | CVS361 | 3 | 6 | Cardiovascular Block (4 weeks) | 4 | (3+2+0) |
| | | 2 | RES362 | 3 | 6 | Respiratory Block (4 weeks) | 3 | (2+2+0) |
| | | 3 | REN363 | 3 | 6 | Renal Block (4 weeks) | 3 | (2+2+0) |
| | | 4 | HEM364 | 3 | 6 | Hematology/Oncology Block (4 weeks) | 2 | (1+2+0) |
| | | 5 | PRO365 | 3 | 6 | Professional Skills VI (Integrated with Clinical Sessions) | 2 | (0+4+0) |
| | | 6 | COM366 | 3 | 6 | Family Medicine | 1 | (0+2+0) |
| | | 7 | NTN367 | 3 | 6 | Nutrition | 1 | (0+2+0) |
| | | **Total Credit Hours for Semester-6** | | | | | **16** | |
| Phase III - The Clerkship | Semester 7 & 8 | 1 | MED471 | 4 | 7 | Medicine (10 weeks) | 10 | (2+16+0) |
| | | 2 | PED472 | 4 | 7 | Paediatrics (10 weeks) | 10 | (2+16+0) |
| | | 3 | HMQ473 | 4 | 7 | Health Economics & Management | 2 | (2+0+0) |
| | | 4 | SUR481 | 4 | 8 | Surgery (10 weeks) | 10 | (2+16+0) |
| | | 5 | GYN482 | 4 | 8 | Obstetrics & Gynaecology (10 weeks) | 10 | (2+16+0) |
| | | **Total Credit Hours for Year-4 (Semesters 7 & 8)** | | | | | **42** | |
| | Semester | 1 | IMD591 | 5 | 9 | Sub-Specialty Medicine (10w: Cardio 4w, Hem/Onc 4w) | 10 | (2+16+0) |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 2 | INS592 | 5 | 9 | Integrated Neuroscience (10w: Neuro 4w, Psy 4w) | 10 | (2+16+0) |
| | 3 | SSP5X1 | 5 | 10 | Surgical Sub-Specialty (10w: ER & Anesthesia 4w, Orth 4w) | 10 | (2+16+0) |
| | 4 | AMB5X2 | 5 | 10 | Ambulatory Care (10 weeks: ENT+Opth 4w, FM+Derma 4w) | 10 | (2+16+0) |
| | 5 | CEL483 | 4 | 8 | Electives (6 weeks Summer of Yr 4) | 2 | (0+4+0) |
| | | **Total Credit Hours for Year-5 (Semesters 9 & 10)** | | | | **42** | |
| | | **Aggregate Credit Hours for UG Course** | | | | | 224 |

*** (1+2+0) 1 is Didactic session, 2 is Tutorial, Practicals, Clinical or Field training session and 0 is Laboratory

University compulsory and elective general education courses are shown in red

Semester long “parallel courses” are shown in brown

## General Education (embedded in the sequence of courses in phases I and II shown above)

### Offered General Education Courses:

Every AU student is required to complete 30 credit hours of General Education covering the following areas: Mathematics, Science, Information Technology, Languages, and Social Sciences & Humanities. After a review of all offered programs at AU, the Council of Academic Affairs identified 24 out of the 30 credit hours of General Education that could be taken by all AU students independently of their specialization. In fact, the Unit of General Studies is responsible for offering 15 credit hours, that are compulsory to all students and 9 credit hours of university requirements.

### Obligatory (15 Credit Hours):

| Sr | Compulsory | Course Code | Course Name | Credit Hours |
|---|---|---|---|---|
| 1 | Orientation | 1010000 | Orientation | 0 |
| 2 | Arabic (3 credit hours) | 1021400 | Communication Skills in Arabic (Arabic Medium Schools) | 3 |
| | | 1021401 | Arabic for Non-Arabs | 3 |

| | | | | |
|---|---|---|---|---|
| | | 1021402 | Communication Skills in Arabic-E- (English Medium Schools) | 3 |
| 3 | Islamic (3 credit hours) | 1021100 | Islamic Culture (Arabic) | 3 |
| | | 1021101 | Islamic Culture (English) | 3 |
| | | 1021300 | Islamic Civilization (Arabic) | 3 |
| | | 1021301 | Islamic Civilization (English) | 3 |
| 4 | Innovation and Entrepreneurship (3 credit hours) | 1141300 | Innovation and Entrepreneurship | 3 |
| 5 | Information Technology (3 credit hours) | 1041200 | IT Fundamentals | 3 |
| | | 1041201 | IT in Health Sciences | 3 |
| | | 1041202 | IT in Business | 3 |
| | | 1041203 | IT Fundamentals (Arabic) | 3 |
| 6 | Quantitative and Critical Reasoning (3 credit hours) | 1031331 | Statistics for Sciences | 3 |
| | | 1031332 | Statistics for Health Sciences | 3 |
| | | 1031333 | Statistics for Business | 3 |
| | | 1071400 | Critical and Analytic Thinking | 3 |
| | | 1031330 | Applied Quantitative Analysis for Social Sciences (Arabic) | 3 |

## Elective courses (9 credit hours):

Elective general education courses to be chosen from a large number of courses covering the different areas of General Education. University elective general education courses are categorized into three groups:

1. Humanities and arts.
2. Natural and applied sciences.
3. Social or behavioral sciences.

Students are required to choose one elective from the social or behavioral sciences group, another elective from the humanities or arts group and the third from the natural and applied science.

## Electives (9 Credit Hours)

| Course Code | Course Name | Credit Hours |
|---|---|---|
| 1. Humanities / Arts | | |
| 1021501 | Introduction to Hadeeth and Sunna | 3 |
| 1071200 | Academic Writing (English) | 3 |
| 1071300 | Introduction to Digital Photography | 3 |
| 1091200 | French Language | 3 |
| 1121100 | Principles of Architecture | 3 |
| 1121200 | Principles of Interior design | 3 |
| 1121400 | Introduction to Art | 3 |
| 1151500 | The Art of Written Expression (Arabic) | 3 |
| 1191500 | The Art of Public Speaking (English) | 3 |
| 1201150 | Legal Culture | 3 |
| 2. Natural and Applied Sciences | | |
| 1031200 | Environmental Science | 3 |
| 1031300 | Research Methodology | 3 |
| 1081200 | General Physics | 3 |
| 1121300 | Modern Technology and Society | 3 |
| 1131100 | Internet Concepts | 3 |
| 1131200 | Introduction to information System | 3 |
| 1151100 | History of Science in Islam | 3 |
| 1151200 | Scientific Pioneering | 3 |
| 1151400 | Principles of Mathematics | 3 |
| 1151700 | Educational Technology | 3 |
| 1161200 | Astronomy | 3 |
| 1171100 | General Chemistry | 3 |
| 1171200 | Fundamental of Human Nutrition (English) | 3 |
| 1171201 | Fundamental of Human Nutrition (Arabic) | 3 |
| 1171300 | First Aid (English) | 3 |

| | | |
|---|---|---|
| 1171301 | First Aid (Arabic) | 3 |
| 1171500 | Application of Remote Sensing and GIS | 3 |
| 1181200 | General Biology | 3 |
| 1181300 | Oral Health | 3 |
| 3. Social or Behavioral Sciences | | |
| 1071100 | Critical Thinking | 3 |
| 1071500 | Family System | 3 |
| 1131400 | Library Information System | 3 |
| 1141100 | Economic Concepts | 3 |
| 1141200 | Entrepreneurship development | 3 |
| 1151600 | Emirates Society (English) | 3 |
| 1151601 | Emirates Society (Arabic) | 3 |
| 1191100 | English Communication Skills | 3 |
| 1191200 | Introduction to communication Sociology | 3 |
| 1191300 | Information Society | 3 |
| 1191400 | Media Culture | 3 |
| 1191600 | Communication Between Cultures | 3 |
| 1151300 | General Psychology (English) | 3 |
| 1151301 | General Psychology (Arabic) | 3 |

# Course Descriptions for Undergraduate Foundation and Phases I and II

### BIC011 Biochemistry I

This course introduces the students to chemical methods and measurement; structure of the atom; structure and properties of ionic and covalent compounds; calculations of chemical equation; states of matter: gases, liquids, and solids; solutions; osmotic pressure and electrolytes; energy, rate, and equilibrium; acids and bases and oxidation-reduction reactions; the nucleus, radioactivity, and nuclear medicine and introduction to saturated and unsaturated hydrocarbons.

### BIL011 Biochemistry I lab

This course includes safety procedures in the laboratory, perform qualitative and quantitative acid base titrations, perform crystallization, determination of melting points and freezing points, use data to calculate amounts of reactants and products, perform extractions using vacuum, perform chromatography experiments, classify tests functional groups such as ketones and aldehydes, alcohols and phenols, amines and amides, carry out a variety of synthetic organic compounds such as, esters, amides, aspirin and benzoic Acid.

### HBG012 Human Biology I

This course covers an overview of anatomy and physiology of the human body, introduces the students to cells and tissues, general embryology including fertilization and embryogenesis, skin and body membranes, integumentary system, developmental aspects of skin, the muscular system, microscopic anatomy, skeletal muscle activity, muscle movements, types and names and the special senses including the eye and the ear.

### HBL012 Human Biology I Lab

This course covers the following 7 labs: covering parts of the microscope and its use, the structure of epithelial tissue, connective tissue proper, skeletal connective tissue cartilage, skeletal connective tissue bone, the muscular tissue and the integumentary tissue.

### MPY013 Medical Physics

This course covers atomic spectra, nuclear physics, x-ray applications in biology and medicine, fluids, electricity and magnetism, geometrical optics and waves and sounds.

### MPL013 Medical Physics Lab

This course includes experiments covering the following topics : General instructions, analysis and graphing data, measuring devices, density, forces at equilibrium, motion along a straight line(A), motion along a straight line(B), force of buoyancy, heat equivalent of electrical energy, linear thermal expansion, simple DC circuits, electrical instruments and DC measurements, magnetic field of current carrying conductors, reflection refraction and total internal reflection, radiation detection.

### BIC021 Biochemistry II

This course includes the structure and molecular properties of biomolecules, the structure and functions of carbohydrates, proteins and metabolic defects in amino acids metabolism leading to metabolic diseases; the structure and functions of haemoglobin and myoglobin and abnormal haemoglobin including sickle cell anaemia and thalassaemia; the classification of enzymes, enzyme kinetics, inhibition and allosteric enzymes; the bioenergetics including glycolysis, TCA and electron transport chain; the biological important sugars; gluconeogenesis, glycogen metabolism and glycogen storage diseases; galactose metabolism and galactosaemia.

### BIL021 Biochemistry II Lab

This course includes practical sessions in biochemistry including enzyme kinetics, the determinations between Km and Vmax, the effect pH and enzyme inhibitions on Km and Vmax, and reducing sugars, properties of proteins, electrophoresis of haemoglobin, sickle cell anaemia and thalassaemia, the difference between glycogen and starch.

### HBG022 Human Biology II

The course focuses on the physiology and structure of the human body systems including the cardiovascular system, renal, respiratory, digestive and endocrine systems. This course introduces the students to the basic structures and physiological functions of the above systems and the composition and functions of the immune and blood systems and relate it to the homeostatic imbalance in these systems.

### HBL023 Human Biology II Lab

This course covers the following three topics: osmosis and tonicity, blood, plasma, WBC, RBC and Platelets, human cardiovascular system covers permeability properties of membranes and the effect of various solutions on RBC. Platelets experiments include total white blood cell count, hemocytometer, differential white blood cell count, peripheral blood film. The RBC includes: Haematocrit/packed cell volume (PCV), haemoglobin concentration, erythrocyte sedimentation rate (ESR), blood typing (ABO Rh). Platelets and include: bleeding time & coagulation time. Part three including heart sounds, pulse determinations, blood pressure and electrocardiogram ECG.

### MTL023 Medical Terminology

This course helps the students to communicate with the language used in medicine and familiarizing them with the medical terminology in their respective fields. Special attention will be given to teaching students the principles of the construction of medical terms. The course also aims to develop students' general academic skills and independent learning skills. Academic vocabulary and relevant grammatical structures will be highlighted and practiced. Oral communication skills will be developed through encouraging students to make short oral presentations. It is also expected to apply this knowledge to understanding texts in their fields of study. Students will become familiar with case studies, and be introduced to the conventions of medical records, writing, team work, etc. The course will link the basic concepts with some clinical applications related to the fields of study in the clinical years.

### GCT111 General Concepts (General anatomy, histology, embryology and cell physiology)

This introductory general concepts course introduces the first year medical student to key concepts in general anatomy, histology, embryology and general/cell physiology. This is a lecture and laboratory course that introduces the students to the structural and functional organization of the human body and how cells, organs, and systems function together to maintain homeostasis. Common histologic methods, principles of tissue staining, cell structure and organization, the electrical properties of cell membranes and transport of substances across the cell membrane, are also covered in this block.

### MSK112 Musculoskeletal Block

The Musculoskeletal system is concerned with the study of muscles, bones and joints with their blood vessels, lymphatics and nerves. This block will consist mainly of the anatomy of the upper and lower limbs, including the development of musculoskeletal system (embryonic development of dermatomes and myotomes and congenital anomalies. In addition, muscle (muscle contraction and excitation-contraction coupling), and bone physiology will be covered.

### GIT113 Gastrointestinal Block

The Gastrointestinal Tract (GIT) Block is designed to help students acquire basic knowledge of the morphologic and histological features and specific physiologic functions of the various organs comprising the GIT. The overall objective is to stress structural/functional correlates of the different organ systems within the GIT and how they contribute to the digestion and absorption of ingested nutrients. The knowledge acquired should provide a solid foundation for the understanding of GIT diseases in Phase II.

### MOL114 Molecular Medicine I (Biochemistry & Cell Biology)

This course describes the structure and function of lipids including free fatty acids, triglycerides, cholesterol, eicosanoids and polyunsaturated fatty acids. It explains the synthesis and metabolic role of omega-3, omega-6, phospholipid, sphingolipid, steroids, lipoproteins, chylomicrons, VLDL, LDL and HDL in human health and disease. It explains the detail mechanisms for the synthesis of the components of plasma proteins and their role in health and disease. It explains the role of lipoprotein lipase enzyme in the incidence of myocardial infarction.

### PRO115 Communications Skills

Learning in Communication Skills is designed to assist the student in developing fundamental clinical skills upon which they will build throughout their professional lives. This course highlights the communicative methodology, as practiced by senior physicians, residents, interns and medical students during their daily interaction with patients, health care teams, nurses and supervising consultants. Simulated clinical encounters are underpinned by the use of Simulated Patient's (SP's) and Small Group Discussions which serve to polish each student's individual communication skills. This technique is set against a background of the Patient Centered Interview (PCI) and other methods which embrace empathetic strategies to connect with each patient's concerns. Students explore communicative methods that work best for them. This a semester-long parallel course.

### COM116 Primary Health Care & Rural Health

The goal of this semester-long parallel course is to introduce first year medical students to the field of Public Health, by highlighting its important implications on the health and safety of the entire community by combining historical as well as examples from their daily activities. This interactive course will allow students to share their opinions, provide their own examples and challenge their assumptions all in safe and scientific environment. Towards the end of each weekly session, students will leave class with a take-home message related to the module being taught which will summarize and solidify their learning experience.

### CVB121 Cardiovascular + Blood Block

This course deals with the metabolic pathways in the kidney and describes how the kidney filters the blood, activates vitamin D, and describes how it balances the blood pH. This course describes the structure, function and energy supply to skeletal muscle, and describes the catabolic pathways of nucleotides resulting in the production of uric acid and the medical effects of hyperuricaemia. This course also describes the fuels available to the brain in the fed and fasting states, and stem cell therapy. It finally deals with how hormones are classified and the functions of the different hormones, as well as explains the biochemical bases of semen analysis and pregnancy tests.

### RSP122 Respiratory Block

This module builds upon an understanding of the structure and function of the cardiovascular system, and enables students to integrate basic science and clinical concepts related to this system, with emphasis on the structure-function relationships. Appropriate examples of medical imaging and diagnostic techniques are also introduced. In this block, major concepts related to blood and various blood cells shall be addressed.

Specific emphasis will be placed on blood types, transfusion, and tissue and organ transplantation. Students shall also be exposed to basic concepts of haemostasis and thrombosis. Further, the various functions of white blood cells and lymphatics will be addressed with an emphasis on their role in resisting infection. It will include issues such as inflammation and immunity. Finally, complementary clinical issues will be introduced, such as, classification of anaemias, bleeding disorders and various coagulation deficiencies, thrombotic disorders as well as diseases of leucocytes, spleen and thymus. This section will include an introduction to approaches to patients with these disorders.

### REN123 Renal Block

During the renal block, the student will be exposed to normal renal function and understand how failure of any of these renal functions can have a significant effect on other systems as well as a significant impact on homeostasis. The above learning objectives will be achieved by a combination of didactic lectures, structural and functional laboratories, large group discussion sessions, and Team-Based Learning (TBL) sessions. All these discussion sessions will emphasize learning normal renal anatomy and normal renal physiology.

### GEN124 Genetics

This course deals with areas of genetics, which was crowned by the completion of the Human Genome Project a decade ago. This course helps the students who are the future physicians to understand the essence of health and disease; paving the way for myriads of medical and research applications. The course links the principles of human genetics and its applications in medicine to the integral part in the clinical practice. The course aims to provide future physicians with core knowledge in genetics as well as an understanding of the role of genetic factors in health and disease.

### MOL125 Molecular Medicine II (Biochemistry & Cell Biology)

This course deals with the metabolic pathways in the kidney and describes how the kidney filters the blood, activates vitamin D, and describes how it balances the blood pH. This course describes the structure, function and energy supply to skeletal muscle, and describes the catabolic pathways of nucleotides resulting in the production of uric acid and the medical effects of hyperuricaemia. This course also describes the fuels available to the brain in the fed and fasting states, and stem cell therapy. It finally deals with how hormones are classified and the functions of the different hormones, as well as explains the biochemical bases of semen analysis and pregnancy tests.

# Academic Calendar for Fall Semester

## Academic Year 2017 - 2018

| Day | Date | Description |
|---|---|---|
| Sunday | August 20, 2017 | Faculty members report to work |
| | | 11:00: Deans welcome the new students |
| | | 12:00-13:00: Tour of the campus |
| | | 13:00-14:00: Tutorial session on course registration |
| Sunday-Thursday | August 20 - 24, 2017 | Course registration for continuing & new students |
| | | Examinations for incomplete removal |
| | | Period for accepting credit transfer requests |
| | | Period for accepting changing major requests |
| Sunday | August 27, 2017 | Beginning of classes |
| Sunday-Thursday | August 27 - 31, 2017 | Add & drop period |
| Thursday | August 31, 2017 | Last date for dropping courses or registration suspension with 100% refund |
| Thursday -Sunday | August. 31– Sep. 3, 2017 | Arafat Day ,Eid Al-Adha Holiday |
| Sunday - Thursday | September 3 - 14, 2017 | Period suspension of registration with 50% refund |
| Thursday | September 21, 2017 | Last date for dropping courses |
| Friday | September 22, 2017 | Al Hijra holiday |
| Sunday-Thursday | October 15 - 26, 2017 | Mid-term examinations period |
| Sunday | October 29 , 2017 | Beginning of admission period for spring semester 2017-2018 |
| Thursday | November 16, 2017 | Last date for withdrawal |
| Sunday-Thursday | November 19 - 30, 2017 | Period for course evaluation |
| | | Early registration for spring semester 2017-2018 |
| Thursday | November 30, 2017 | UAE Martyr's Day<br>Al Mawlid Al Nabawi holiday |
| Saturday - Sunday | December 2 - 3, 2017 | UAE National Day holiday |
| Saturday - Tuesday | December 9 - 19, 2017 | Final examinations period |
| | | Last date for requesting incomplete |

| | | |
|---|---|---|
| Thursday | December 21, 2017 | 10:00 : Colleges Council meeting |
| | | 15:00 Council for Academic Affairs meeting |
| | | Announcement of final examinations results |
| Sunday-Thursday | Dec. 24, 2017 - Jan. 4, 2018 | Fall-Semester vacation |

*Islamic holidays are determined after sighting the moon. Thus, actual dates may not coincide with the dates in this calender.*

# Academic Calendar for Spring Semester

## Academic Year 2017 – 2018

| Day | Date | Description |
|---|---|---|
| Sunday-Thursday | January 7 - 11, 2018 | 11:00: Deans welcome the new students |
| | | 12:00-13:00: Tour of the campus |
| | | 13:00-14:00: Tutorial session on course registration |
| | | Course registration for continuing & new students |
| | | Examinations for incomplete removal |
| | | Period for accepting credit transfer requests |
| | | Period for accepting changing major requests |
| Sunday | January 14, 2018 | Beginning of classes |
| Sunday-Thursday | January 14 - 18, 2018 | Add & drop period |
| Thursday | January 18, 2018 | Last date for dropping courses or registration suspension with 100% refund |
| Sunday-Thursday | Jan. 21 - Feb. 1, 2018 | period for suspension of registration with 50% refund |
| Monday – Tuesday | February 5 - 6, 2018 | Graduation Ceremony for the fall semester 2017-2018 |
| Thursday | February 8, 2018 | Last date for dropping courses |
| Sunday-Thursday | March 4 - 15, 2018 | Mid-term examinations period |
| Sunday-Thursday | March 25 - April 5, 2018 | Spring semester vacation |
| Sunday | April 8, 2018 | Beginning of admission period for Fall Semester 2018-2019 |
| Friday | April 13, 2018 | Al Isra'a Wal Mi'raj holiday |
| Sunday-Thursday | April 15 -26, 2018 | Period for course evaluation |
| | | Early registration for Summer Semester 2017-2018 |

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|---|---|---|
| Thursday | April 19, 2018 | Last date for withdrawal |
| Sunday – Thursday | April 29 - May 10, 2018 | Early registration for Fall Semester 2018-2019 |
| Saturday –Thursday | May 12 -24, 2018 | Final examinations period |
| Tuesday | May 29, 2018 | Last date for requesting incomplete |
| | | 10:00 : Colleges Council meeting |
| Thursday | May 31 , 2018 | 15:00 Council for Academic Affairs meeting |
| | | Announcement of final examinations results |
| Sunday | June 3, 2018 | Beginning of Summer vacation |

*Islamic holidays are determined after sighting the moon. Thus, actual dates may not coincide with the dates in this calender.*

# Academic Calendar for Summer-1 Semester

## Academic Year 2017 – 2018

| Day | Date | Description |
|---|---|---|
| Wdnesday – Thursday | June 6 - 7, 2018 | Course registeration |
| Sunday | June 10, 2018 | Beginning of classes |
| Sunday-Monday | June 10 - 11, 2018 | Add & drop period |
| Thursday – Sunday | June 14 - 17 , 2018 | 30 Ramadan, Eid Al-Fitr holiday |
| Sunday | June 24, 2018 | Beginning of mid-term examinations |
| Thursday | June 28, 2018 | Last date for withdrawal |
| Wednesday – Thursday | July 18 - 19, 2018 | Final examinations period |
| Monday | July 23 , 2018 | 13:00 Council for Academic Affairs meeting |
| | | Announcement of final examinations results |

*N.B: 2 hours per class session.*

# Academic Calendar for Summer-2 Semester ( Field training)

## Academic Year 2017 – 2018

| Day | Date | Description |
|---|---|---|
| Sunday | July 22 , 2018 | Beginning of training |
| Monday - Thursday | Augest 20-23 2018 | Arafat Day, Eid Al-Adha holiday |
| Thursday | August 30, 2018 | End of 6 weeks training |
| Sunday | September 9 , 2018 | Announcement of 6 weeks training results |
| Thursday | September 13, 2018 | End of 8 weeks training |
| Sunday | September 23, 2018 | Announcement of 8 weeks training results |

*Islamic holidays are determined after sighting the moon. Thus, actual dates may not coincide with the dates in this calender.*

**Important Note:**

Field training for students expected to graduate in summer 2 of Academic Year 2017-2018.

**Office of Admissions & Registration**

University Registrar

# Glossary of Terms

The terms defined below are mostly based on the definitions given in CAA's *Standards* 2011. Other terms have been added for the sake of completeness.

**College.** An administrative unit within the University, comprising of one or more departments, to offer undergraduate and graduate programs, such as College of Dentistry or College of Engineering. Each college has a Dean to oversee the operation of the college.

**Undergraduate**. A student enrolled on a bachelor's degree or taking undergraduate courses.

**Baccalaureate or Bachelor's degree**. The Baccalaureate (Bachelor's degree) is awarded after completing undergraduate program of study typically completed in four to five years of full-time study, with a minimum of 120 semester credits. The most common undergraduate degrees are Bachelor of Art (BA) and Bachelor of Science (BSc).

**Graduate Diploma.** A graduate diploma typically includes one year or at least 24 semester credits (or equivalent) of course work beyond the bachelor's degree.

**Master's degree.** A Master's degree typically requires at least one year of study, or a minimum of 30 semester credits of course work (or equivalent) beyond the bachelor's degree. The minimum credits are not inclusive of any non-credit bridge courses which may be required. A Master's degree often, though not always, requires a substantial research paper, a thesis, or a project.

**Academic Doctorate.** It requires one or more years of coursework beyond the master's degree as well as academic research. Doctorates are nearly always awarded in recognition of academic research that is of a publishable standard and that represents some original contribution to human knowledge. The research is usually assessed by submission and defense of a doctoral thesis or dissertation. The usual degree title is the PhD (Doctor of Philosophy).

**Professional Doctorate.** A professional doctorate requires a minimum of one year of coursework beyond the master's degree and independent research. The emphasis of the degree is on research skills and advanced professional knowledge in an applied field of specialization. Examples include the Doctor of Education (EdD), Doctor of Psychology (PsyD), and Doctor of Business Administration (DBA).

**Course.** A *course* consists of a number of instructional activities over a prescribed period of time. It deals with a single subject and is commonly described by title, number, credits, and expected learning outcomes in the University Catalog.

**Program.** The set of courses and other formally established learning experiences which together lead to a qualification. *Program* may also refer to a specific aspect of the curriculum, such as the general education *program*.

**Curriculum.** The term refers both to the range of courses offered by the University and to a set of related courses constituting an area of specialization, such as the electrical engineering *curriculum.*

**Course Syllabus.** A description of course goals, course learning outcomes, contents, assessment instruments and grading criteria, week-by-week study plan, examination dates, etc. that is provided to the students at the beginning of their classes.

**Credit or Credit Hour.** A credit, or credit hour, is a unit of measurement defining the student's overall effort towards attaining a qualification. One semester credit or credit hour equals approximately 1 hour of time in class per week over a semester of 15 weeks or longer. For laboratory, 1 semester credit normally is given for two hours of laboratory time per week over a 15-week semester.

**Credit Load.** The total number of credit hours a student can register during a specific semester.

**Semester.** A *semester* is a period of time, typically a minimum of 15 weeks, during which the University offers courses. Some courses may be offered in a time-shortened period, such as summer semester, which nonetheless offers class contact time and out-of-class assignments equivalent to a semester course. AU offers courses in fall and spring semesters and optionally in summer semester.

**Academic Calendar.** It represents important semester-specific dates and deadlines for students, academic and administrative departments, and instructors.

**Academic Year.** The period of instruction composed of the fall, spring, and summer semesters. The academic year begins at the start of the fall semester and ends after the last day of the summer semester.

**Add/Drop Period.** Days set aside by the University for students to change their study schedule by adding or dropping courses in a specific semester.

**Graduate Student.** A student who has enrolled in a Graduate Diploma, a Master's or Doctoral degree program.

**Academic Advisor.** A faculty member who advises students on their study plan and course selection, monitors their academic progress, assists in their career planning, and guides in other academic and non-academic matters.

**Academic Warning.** A graduate student is issued an academic warning if his/her CGPA falls below 3.0 at the end of a semester. Such a student is said to be not in good academic standing. If this also happens at the end of another semester, the student is issued second academic warning and placed on academic probation.

**Academic Dismissal.** If a graduate student on academic probation (with two academic warnings) fails to raise his/her cumulative GPA (CGPA) at the end of the next semester, the student is academically dismissed from the University.

**In-Progress (IP).** A grade indicating that a course is still in progress and will be completed at a later date.

**Conditional Admission.** A student may be give conditional admission requiring him/her to successfully complete some specified coursework and/or fulfill other requirements in order to progress into the full set of courses within an academic program.

**Learning Outcomes.** Refers to knowledge, skills, and aspects of competence that a student is expected to know and be able to do at each level of qualification.

**Credit Transfer.** A system whereby successfully completed unit of study contributing towards a degree can be transferred from one program to another within AU or from another university to AU.

**Prerequisite.** A course or courses that serve as foundations for continued (advanced) courses. A student must successfully pass a prerequisite course before taking a course for which it is a prerequisite.

**Electives.** Courses which are not compulsory for students. *Electives* may be *free*—selected by the student from any course offerings, or *restricted*—chosen from a pre-determined list of options.

**Developmental or Remedial Courses.** Such courses prepare a student for enrolling in a regular curriculum, and aid the student in rectifying an area or areas of deficiency. Developmental or remedial courses are non-credit courses and do not count toward the requirements of an academic qualification. The University limits the number of credit-bearing courses that a student may take while enrolled in developmental or remedial courses.

**Bridge Program**. A program intended to bridge the gap between a student's prior work and the background required for the program he/she is entering. Typically such a program would be needed by students entering graduate business education where the student's undergraduate major was in an area other than business, or graduate engineering programs where the student's major was in a different engineering specialty. The courses in a bridge program typically do not carry degree credit. The University may choose to require enrollment in bridge programs as a condition of admission.

**Directed Study/Independent Study**. A course in which a student is individually supervised by a faculty member, which enables a student to undertake a learning opportunity which is otherwise unavailable. Directed learning or independent study courses must have an appropriate learning plan (typically a syllabus), learning outcomes, end of term evaluations and appropriate assessment.