



# CATALOGUE

( UNDERGRADUATE STUDIES )

## 2021-2022



**Dhofar University**  
[www.du.edu.om](http://www.du.edu.om)

Accredited by OAAA (Oman) - Accredited by ASIC (UK) - QS Five Stars Rated University



## ACCOMPLISHMENTS

- ★ FIRST UNIVERSITY IN OMAN TO BE ACCREDITED NATIONALLY BY OAAAQA - DECEMBER 2018
- ★ FIRST UNIVERSITY IN OMAN TO BE ACCREDITED INTERNATIONALLY BY ASIC (UK) - APRIL 2019
- ★ RANKED BY QS IN WORLD UNIVERSITY RANKING (ARAB REGION) 2021 IN THE BAND 121-130
- ★ THE FIRST AND THE ONLY HEI IN OMAN HAVING FIVE-STAR RATING BY QS - FEBRUARY 2021
- ★ THE WINNER OF 'CHAIRMAN'S AWARD' FROM ASIC (UK) FOR THE DEVELOPMENT OF OUTSTANDING STUDENT-CENTERED EDUCATION - APRIL 2019
- ★ THE WINNER OF 'INCLUSIVITY AWARD' FROM ASIC (UK) FOR ITS WORK IN PROMOTING OPPORTUNITIES FOR PEOPLE WITH A DISABILITY – MARCH 2021
- ★ ISO 9001:2015 CERTIFIED WORKSHOP IN COLLEGE OF ENGINEERING - SEPTEMBER 2021



# **DHOFAR UNIVERSITY**

## **UNDERGRADUATE STUDIES CATALOGUE 2021-2022**

**Salalah  
Sultanate of Oman**

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College of Commerce and Business  
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College of Law

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### **Centers and Units**

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Students with Disability Support Students Unit

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Learning Support Center

Tel: 23237266

International Students Center

Tel: 23237044



## **Student Responsibility for Catalogue Information**

Students are responsible for reading the information in this catalogue. Failure to read and comply with College and University regulations will not exempt students from whatever penalties they may incur.

### **Notes:**

- 1) Information in this catalogue applies to the academic year 2021-22 as of September 1, 2021. The University reserves the right to make changes without prior notice in programs, course offerings, academic requirements, and teaching staff as the need arises.
- 2) The catalogue has been drafted to conform to related Omani laws and Ministry of Higher Education, Research & Innovation (MoHERI) rules and regulations. In the event of a contradiction, related Omani laws and MoHE rules and regulations take precedence.

This catalogue can also be viewed at <http://www.du.edu.om>

# College Academic Calendar for AY 2021-22

## Fall Semester (2021-22)

Month	Week	Date	Day	Activity/Event
September		01-04	Wed. - Sat.	Online Registration
		05-07	Sun. - Tue.	Online Add/Drop
	<b>W01</b>	12	Sun.	First day of classes
	<b>W03</b>	26	Sun.	Last day for incomplete "I"
October	<b>W07</b>	18	Mon.	Birth of Prophet ( <i>tentative</i> )
November	<b>W10</b>	17-18	Wed. - Thu.	National Day ( <i>tentative</i> )
December	<b>W14</b>	12	Sun.	Spring 2021-22 schedule announcement
	<b>W15</b>	23	Thu.	Last day for course withdrawal "W"
	<b>W16</b>	28	Tue.	Last day of classes
December - January	<b>W16-18</b>	30-12	Thu. – Wed.	Final exams
January		26-27	Wed. – Sun.	Incomplete Exams (Pending until experimenting it at the end of Spring 20-21)

## Spring Semester (2021-22)

Month	Week	Date	Day	Activity/Event
January		29-30	Sat. - Sun.	Online Registration
January - February		31-03	Mon. - Thu.	Online Add/Drop (Y2 - Y4 - Y3 - Y1)
	<b>W01</b>	06	Sun.	First day of classes
	<b>W03</b>	20	Sun.	Last day for incomplete "I"
February	<b>W05</b>	28	Mon.	Al-Israa wal Meraaj ( <i>tentative</i> )
March	<b>W09</b>	30-31	Wed. - Thu.	DU Cultural Week
May	<b>W13-14</b>	02-05	Mon. - Thu.	Eid Al-Fitr ( <i>tentative</i> )
	<b>W14</b>	12	Thu.	Fall 2022-23 schedule announcement
	<b>W16</b>	22	Sun.	Last day for withdrawal "W"
	<b>W16</b>	26	Thu.	Last day of classes/ Summer 2021-22 schedule announcement
May – June	<b>W17-18</b>	29-09	Sun. –Thu.	Final exams
June		12-13	Sun.- Mon	Incomplete Exams (Pending until experimenting it at the end of Spring 20-21)

## Summer Semester (2021-22)

Month	Week	Date	Day	Activity/Event
June		15-16	Wed.-Thu.	Online Registration
		19-20	Sun-Mon.	Online Add/Drop
	<b>W01</b>	21	Tue.	First day of classes
July	<b>W04</b>	09-12	Sat.-Tue.	Eid al-Adha ( <i>tentative</i> )
	<b>W06</b>	27	Wed.	Last day for withdrawal "W"
	<b>W07</b>	30	Sat	Last day of classes
August	<b>W07</b>	02-03	Tue.- Wed	Final exams
		29-30	Mon.- Tue	Incomplete Exams (Pending until experimenting it at the end of Spring 20-21)

## FP Academic Calendar for AY 2021-22

Fall Semester (Term 1) 2021-2022				
MONTH	WEEK	DATE	DAY	ACTIVITY/EVENT
September	1	1	Wed	Start of the Fall Semester
		2	Thu	Online registration for continuing students (L2 & L3)
				Re-sit & Makeup (English)
		5	Sun	Online registration for continuing students (L2 & L3)
				Re-sit & Makeup (Math & IT)
		6	Mon	First day of classes (L2 & L3)
		13 & 15	Mon & Wed	First & Second Placement Test
October	6	11-14	Mon - Thu	Midterm Test
		7	18	Tue
	11	17-18	Thu	National day ( <i>tentative</i> )
		12	21	Sun
22-25			Mon-Thu	Final Exam/Exit Exam L3
13	28-30	Sun - Tue	Marking, Finalizing grades and posting	
Spring Semester (Term 2) 2021-2022				
MONTH	WEEK	DATE	DAY	ACTIVITY/EVENT
December	1	12	Sun	Start of the Spring Semester
		13	Mon	First Placement Test
				Re-sit Exam & Makeup Test
				Online registration for continuing students (L2 & L3)
		14	Tue	Second Placement Test
		15	Wed	Registration for all students (L1, L2 & L3)
				Registration for all students (L1, L2 & L3)
16	Thu	First day of classes (L2 & L3)		
January	6	17-20	Mon-Thu	First day of classes for L1
February	12	27	Sun	Midterm Test
	12	28	Mon	Last day of classes
March	12	1-5	Mon - Sat	Al-Israa wal Meraaj ( <i>tentative</i> )
	13	6-8	Sun - Tue	Final Exam/Exit Exam L3
Marking, Finalizing grades and posting				
Summer Semester (Term 3) 2021-2022				
MONTH	WEEK	DATE	DAY	ACTIVITY/EVENT
March	1	20	Sun	Start of the Summer Semester
		21	Mon	First Placement Test
				Re-sit Exam & Makeup Test
				Online registration for continuing students (L2 & L3)
		22	Tue	Second Placement Test
		23	Wed	Registration for all students (L1, L2 & L3)
				Registration for all students (L1, L2 & L3)
24	Thu	First day of classes (L2 & L3)		
May	6	25-28	Mon-Thu	First day of classes for L1
	7	2-5	Mon-Thu	Midterm Test
June	13	12	Sun	Eid Al-Fitr ( <i>tentative</i> )
		13-16	Mon-Thu	Last day of classes
	14	19-21	Sun-Tue	Final Exam/Exit Exam L3
Marking, Finalizing grades and posting				

## **BOARD OF TRUSTEES**

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HE Yousuf Bin Alawi Bin Abdullah Al Ibrahim, Vice Chairman

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HE Sheikh Saeed Bin Ahmad Al Shanfari

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Dr. Sanjay Deodutta Ramteke, Director of the Department of Quality Assurance

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Dr. Israr Ul Hassan, Dean of the College of Engineering

Dr. Syed Ahsan Jamil, Dean of the College of Commerce and Business Administration

Dr. Ahmed Mohamed Elzein, Acting Dean of the College of Law.

Mr. Faical Al Hamadi, Director of the Foundation program

Dr. Tareq AlHousary, Acting Dean of Admission, Registration and Students Affairs'

Dr. Iryna Lenchuk, Representative of CAAS

Dr. Hesham R Tuwair, Representative of CE

Dr. Rabia Imran, Representative of CCBA



## **ACADEMIC OFFICERS**

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Dr. Syed Ahsan Jamil, Acting Deputy Vice Chancellor

Dr. Khalid Al Mashikhi, Dean of the College of Arts and Applied Sciences

Dr. Vijay S. Thakur, Assistant Dean of the College of Arts and Applied Sciences

Dr. Israr Ul Hassan, Dean of the College of Engineering

Dr. Manaf Zghaibeh, Assistant Dean of the College of Engineering

Dr. Syed Ahsan Jamil, Dean of the College of Commerce and Business Administration

Dr. Mawih Kareem shaker Al Ani, Assistant Dean of the College of Commerce and Business Administration

Dr. Ahmed Mohamed Elzein, Acting Dean of the College of Law

Mr. Faical Al Hamadi, Director of the Foundation program

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## **ADMINISTRATIVE OFFICERS**

Prof. Hassan Kashoob, Vice Chancellor

Dr. Syed Ahsan Jamil, Acting Deputy Vice Chancellor

Dr. Sanjay Ramteke, Director of Department of Quality Assurance

Dr. Tareq Al Housary, Acting Dean of Admission, Registration and Students Affairs'

Dr. Samir Hammami, Acting Director of Community Services and Continuing Education Center

Mr. Abdulqader Ba Omar, Director of the Department of Administrative Affairs

Mr. Mohammed Tabook, Director of the Department of Financial Affairs

Ms. Salama Al Mashani, Director of the Department of Admission and Registration

Ms. Fatima Qatan, Director of the Vice Chancellors Office

Eng. Mohammad Dimachkieh, Director of the Computing and Networking Center

Mr. Musallem Kashoob, Director of the Department of Human Resources

Eng. Baskaran Ramadoss, Director of the Department of Technical Affairs

Mr. Abdullah Hussein Al Hafeedh, Director of the Department of Purchase

Mr. Abdulrahman Ba Omar, Director of the Department of Public Relations and External Cooperation

Mr. Ali Bakhit Al Awaid, Director of the Library

Ms. Fatima Ahmed Al Baraami, Director of Hostel Services

Mr. Mohammed Salim Al Rawas, Acting Director of Student Affairs

## ABRIDGED TABLE OF CONTENTS

Section	Particulars	Page No.
I	The University .....	1-24
II	Foundation Program .....	25-38
III	College of Arts and Applied Sciences .....	39-186
	• Department of Computer Science	46
	• Department of Education	65
	• Department of English Language and Literature	109
	• Department of Arabic Language and Literature	135
	• Department of Social Sciences	145
	• Department of Mathematics and Sciences	170
IV	College of Commerce and Business Administration	187-238
	• Department of Accounting	200
	• Department of Finance and Economics	207
	• Department of Management	214
	• Department of Marketing and Entrepreneurship	221
	• Department of Management Information Systems	232
V	College of Engineering .....	239-356
	• Department of Architectural Engineering	246
	• Department of Chemical Engineering	271
	• Department of Civil and Environmental Engineering	283
	• Department of Electrical and Computer Engineering	297
	• Department of Mechanical and Mechatronics Engineering	327
VI	College of Law .....	357-371
VII	New Program: Diploma in computer science for students with hearing impairments	372-378

# **THE UNIVERSITY**

# TABLE OF CONTENTS

<b>The University</b>		
<b>No.</b>	<b>Particulars</b>	<b>Page No.</b>
<b>1</b>	<b>The University .....</b>	<b>3</b>
	• <i>Background</i>	3
	• <i>Vision</i>	3
	• <i>Mission</i>	3
	• <i>Core Values</i>	3
	• <i>Graduate Attributes</i>	3
	• <i>Location and Climate</i>	3
	• <i>Campus Facilities .....</i>	4
<b>2</b>	<b>Admission Policies and Procedures .....</b>	<b>4</b>
	• <i>Deanship of Admission, Registration and Student Affairs</i>	4
	• <i>Admission Requirements</i>	4
	• <i>Application Procedure</i>	5
	• <i>Registration</i>	5
	• <i>Special Students</i>	5
	• <i>Academic Advisors</i>	5
<b>3</b>	<b>Fees and Expenses .....</b>	<b>6</b>
	• <i>Tuition Fees</i>	6
	• <i>Tuition Fees Refund</i>	6
<b>4</b>	<b>Academic Programs and Degrees Offered .....</b>	<b>6</b>
<b>5</b>	<b>Colleges and Foundation Program .....</b>	<b>7</b>
	• <i>College of Arts and Applied Sciences</i>	7
	• <i>College of Commerce and Business Administration</i>	8
	• <i>College of Engineering</i>	8
	• <i>College of Law</i>	8
	• <i>Foundation Program</i>	9
<b>6</b>	<b>Graduation Requirements .....</b>	<b>9</b>
	• <i>Diploma</i>	9
	• <i>Bachelor Degree</i>	9
	• <i>Study Period</i>	9
	• <i>Residency Requirements</i>	9
	• <i>Studying Abroad</i>	9
<b>7</b>	<b>Course Requirements for Academic Programs .....</b>	<b>10</b>
	• <i>University Requirements:</i>	10
	• <i>College Requirements:</i>	10
	• <i>Major requirements:</i>	11
	• <i>Elective requirements:</i>	11
	• <i>Seeking a Second Bachelor Degree from DU</i>	11
<b>8</b>	<b>Academic Rules and Regulations .....</b>	<b>11</b>
	• <i>Grading System</i>	11
	• <i>Credit Load</i>	12



<b>9</b>	<b>Students' Academic Assessments .....</b>	<b>12</b>
	• <i>Performance Assessment</i>	12
	• <i>Incomplete Work - "I"</i>	12
	• <i>Submission of Final Grades</i>	13
	• <i>Appeal for the Final Course Grade</i>	13
	• <i>Change of Grade</i>	13
<b>10</b>	<b>Dean's Honor List .....</b>	<b>14</b>
<b>11</b>	<b>Failing, Repeating and Substituting of Courses .....</b>	<b>14</b>
	• <i>Failing Courses</i>	14
	• <i>Repeating Courses</i>	14
	• <i>Substituting Courses</i>	14
<b>12</b>	<b>Dropping and Adding of Courses .....</b>	<b>15</b>
	• <i>Drop and Add Period</i>	15
	• <i>Dropping and Adding Rules</i>	15
<b>13</b>	<b>Attendance and Withdrawal .....</b>	<b>15</b>
	• <i>Class Attendance and Absence Rules</i>	15
	• <i>Withdrawal from Courses</i>	15
	• <i>Postponement of a semester</i>	16
	• <i>Withdrawal from a Semester</i>	16
	• <i>Withdrawal from the University</i>	16
<b>14</b>	<b>Academic Standing .....</b>	<b>16</b>
	• <i>Classification of Students</i>	16
	• <i>Academic Probation for Students Admitted to Colleges before Fall 2018-19</i>	17
	• <i>Academic Probation for Students Admitted to Colleges from Fall 2018-19 onwards</i>	17
	• <i>Academic Dismissal</i>	17
<b>15</b>	<b>Transfer .....</b>	<b>18</b>
	• <i>Transfer from another recognized college/university</i>	18
	• <i>Course Equivalency Criteria</i>	18
	• <i>Transferring within DU majors or colleges</i>	19
<b>16</b>	<b>Disclosure Policy .....</b>	<b>19</b>
<b>17</b>	<b>Academic Support Services .....</b>	<b>19</b>
	• <i>Department of Public Relations and External Cooperation</i>	19
	• <i>Computing and Networking Center (CNC)</i>	19
	• <i>Library</i>	20
	• <i>DU Bookstore</i>	20
	• <i>Community Service and Continuing Education Center</i>	21
	• <i>DU Clinic</i>	21

<b>18</b>	<b>Department of Student Affairs .....</b>	<b>22</b>
	• <i>Identification Card (ID)</i>	22
	• <i>Orientation</i>	22
	• <i>International Students</i>	22
	• <i>Student Activities and Clubs</i>	22
	• <i>Athletics and Recreation</i>	23
	• <i>Counseling Services</i>	23
	• <i>Career Guidance Services</i>	23
	• <i>Student Employment/Training Program</i>	23
	• <i>Cafeterias and Coffee Shops</i>	23
	• <i>Student Disciplinary System</i>	23
	• <i>Smoking Policy</i>	24
<b>19</b>	<b>Department of Students' Hostel Services .....</b>	<b>24</b>
<b>20</b>	<b>Department of Quality Assurance .....</b>	<b>24</b>

# **1. The University**

## **1.1. Background**

Dhofar University (DU) is a private institution of higher education in Salalah, Sultanate of Oman, established by Ministerial Decree No. 5/2004 issued in January 2004. The University formally commenced its operations in September 2004. DU has a Board of Trustees that represents its highest policy making body.

## **1.2. Vision**

Dhofar University aspires to occupy a distinct position among the leading institutions of higher education.

## **1.3. Mission**

To achieve excellence in teaching and learning, and engage in impactful research and community service, in an inspiring environment conducive to creativity and innovation.

## **1.4. Core Values**

The core values of DU are:

- 1) Educational Excellence
- 2) Integrity
- 3) Commitment
- 4) Accountability
- 5) Life-long learning
- 6) Active citizenship

## **1.5. Graduate Attributes**

The graduate attributes of DU are:

- 1) Master theoretical knowledge and practical skills in the students' chosen discipline commensurate with program level and objectives.
- 2) Demonstrate capacity for effective communication, critical thinking, creativity and innovation.
- 3) Exhibit honesty, discipline and accountability.
- 4) Practice tolerance, humility, respect for differences and commitment to service.
- 5) Practice life-long learning.

## **1.6. Location and Climate**

Being in Salalah, the University community enjoys the well-known geographic beauty of Dhofar region and the mild weather throughout the year particularly in the Summer, which is locally known as Khareef. The temperature remains steady in the upper twenties, with occasional rise to mid-thirties. The long and clean sandy shores of Salalah, one of the most beautiful in the world, are ideal for fishing and swimming. The nearby mountains are ideal for hiking.

## **1.7. Campus Facilities**

DU campus is designed to conform to local needs and cultural context while meeting both international design standards and those of the Ministry of Higher Education (MoHE). The campus includes an administration building, three buildings for the four colleges and the Foundation Program (FP), a common classroom building, a library building, a student activities center, a Conference Hall, a Mosque, female student dormitories (Hostel), housing for the senior administration and an engineering workshop.

## **2. Admission Policies and Procedures**

### **2.1. Deanship of Admission, Registration and Student Affairs**

There are three departments under the Deanship of Admission, Registration and Student Affairs (DARSA). These are: Department of Admission and Registration (DAR), Department of Student Affairs (DSA) and Department of Student Hostel (DSH) Services. Each of these departments is headed by a Director who has a set of authorities and responsibilities that enables him/her achieving the objectives of his/her concerned department.

### **2.2. Admission Requirements**

- 1) Students are admitted to the undergraduate Programs on the basis of their:
  - a) General Education Diploma Certificate or its equivalent; and
  - b) Results of the English, Mathematics and IT placement tests conducted by DU Foundation Program (FP).
- 2) Based on the results of placement tests, accepted students are divided into two groups as follows:
  - a) Students who need remedial work; will join the FP, for one or more semesters, until they successfully complete the Program; and
  - b) Students who are ready, proceed directly to the first year of the Diploma or Bachelors Program.
- 3) Students may be exempted from English, Mathematics or IT Foundation requirements and admitted directly to their chosen fields of specialization if they meet the following criteria:
  - a) Exemption from English requires a minimum score of 50 on the Cambridge English Placement Test (CEPT), or a minimum score of 5 in IELTS, or a minimum of 500 in TOFEL.

During Covid-19 lockdown, IELTS providers started to provide IELTS Indicator - the online version of the official IELTS. DU has recognized this version of the exam and henceforth accepts the certificate thereof. The minimum requirement of a score of 5.0 remains as is.
  - b) Exemption from Mathematics requires a minimum score of 60 on the Moodle-based Math Placement Test.
  - c) Exemption from IT requires a minimum score of 70 in the Moodle-based IT Placement test or an International (English) IC3 certificate. In case of the provision of a domestic (Arabic) IC3 certificate, students shall be required to take an IT Challenge Test and score a minimum of 60% to clear IT.



***Please note that the validity of these international tests is limited to two years from the date of taking the exam. Applicants must submit the original certificate of test results and the University reserves the right to verify the authenticity of the certificate. Holders of IELTS and Test of English as a Foreign Language (TOEFL) certificates issued by institutions outside Oman may be asked to take the CEPT.***

### **2.3. Application Procedure**

Every applicant is required to submit an **online** application through the DU Website ([www.du.edu.om](http://www.du.edu.om)), along with uploading copies of the following color-scanned supporting documents:

- 1) A recent photograph
- 2) A valid passport (first and second pages) in addition to the Omani visa page for non-Omanis.
- 3) The national identity card for Omanis OR residence card for non-Omanis.
- 4) A certified copy of the General Education Diploma Certificate or its equivalent
- 5) A non-refundable application fee of RO 30 for Diploma/Bachelor program. Payment can be made to the bank account of Dhofar University as mentioned in the online application.

It is important to note that any certificate that has been issued outside Oman must be authenticated by the Ministry of Education for the high school certificate, and from the Ministry of Higher Education for the Diploma certificate and Bachelor degree.

***Please make sure you read the application and registration procedures and instructions that are posted on the DU Website ([www.du.edu.om](http://www.du.edu.om)), DU Instagram account (dh\_university) especially with the current covid-19 nationwide application of the standard safety measures as set by the Omani supreme council dedicated for this purpose! The updated safety standards might affect the way students are required to admit to the university!***

### **2.4. Registration**

Periods of registration are announced in the academic calendar, which is published in the DU catalogue and on DU Website.

### **2.5. Special Students**

DU accepts students of other HEIs who would like to take a certain number of courses and transfer their credits to their Universities. DU allows them to register for courses as special students. These students are required to present documents that show their credentials and preparedness to take courses in the University.

### **2.6. Academic Advisors**

Each student is assigned an academic advisor at DU. The academic advisor is a faculty member in the academic department in which the student is enrolled. The role of the academic advisor is to assist the advisee in preparing course schedule during registration, support and guide him/her during the university studies, monitor the academic progress, and offer counselling on any academic difficulties or problems the student may experience.

### **3. Fees and Expenses**

#### **3.1. Tuition Fees**

Tuition fees are as follows:

- 900 RO for each of three semesters for the Foundation Program.
- 70 RO for each credit hour taken in the Fall, Spring and Summer semesters for all Undergraduate Programs.

***The above fees do not include books, transportation or late registration.***

#### **3.2. Tuition Fees Refund**

A student may withdraw from a semester after registration, but the refund of tuition fees depends on the timing of the withdrawal:

- 1) Full tuition fees will be refunded only to those students who withdraw from the semester before the end of the first week of classes.
- 2) 50% of tuition fees will be refunded to those students who withdraw before the end of the second week of classes.
- 3) NO REFUND to be made to students who withdraw from the semester from the beginning of the third week of classes onwards.

### **4. Academic Programs and Degrees Offered**

DU offers 59 Academic Programs, comprising of 16 Diploma Programs, 29 Bachelor Programs, 13 Master Programs and 1 Teaching Diploma Program. Further, DU also offers variety of courses and training Programs for its staff, executives and employees of government agencies and commercial firms and for adult learners in local community through its Community Service and Continuing Education Centre (CSCEC).

Academic Programs follow the American model of higher education and use English as the medium of instruction, except for some programs as shown in Section 5, which are delivered in Arabic.

The academic year is divided into two semesters of sixteen weeks of instruction each, and a Summer term of eight weeks of instruction (it delivers the same number of contact hours as in the regular semester).

***A student is awarded either a Diploma or a Bachelor degree, in accordance with the choice he/she had made when he/she joined DU.***

If a Bachelor bound student decided, for a legitimate reason, to forgo his/her desire to finish the Bachelor Program in the middle of a semester and decided to receive a diploma instead, then he/she may decide to drop all courses in progress pertaining to the Bachelor program. A Diploma will then be awarded contingent to completing the requirements of the Diploma Program, subject to the approval of the College Council. However, scholarship students will need to have the approval of their sponsor before changing their degree.

## 5. Colleges and Foundation Program

The University has four Colleges: The College of Arts and Applied Sciences (CAAS), the College of Commerce and Business Administration (CCBA), the College of Engineering (CE) and the College of Law (CL). In addition, there is a Foundation Program (FP) that is designed to bridge the gap between secondary education and university undergraduate studies.

**The programs offered in each college are summarised below.**

### 5.1. College of Arts and Applied Sciences

CAAS offers the following Programs:

1	Diploma in Computer Science
2	Diploma in English Language
3	Diploma in Mathematics
4	Diploma in Social Work (English)
5	Diploma in Social Work (Arabic)
6	Bachelor of Education in Teaching Mathematics
7	Bachelor of Education in Teaching Science
8	Bachelor of Education in Teaching English Language
9	Bachelor of Education in Teaching Information Technology
10	Bachelor of Science in Computer Science
11	Bachelor of Science in Mathematics
12	Bachelor of Arts in English Language
13	Bachelor of Arts in Translation
14	Bachelor of Arts in Arabic Language
15	Bachelor of Arts in Social Work (English)
16	Bachelor of Arts in Social Work (Arabic)
17	Bachelor of Education: Teacher of Field I
18	Bachelor of Education: Teacher of Field II
19	Master of Education in Educational Administration (Arabic)
20	Master of Education in Psychological Counselling (Arabic)
21	Master of Education in Curriculum and Instruction: Teaching English Language
22	Master of Education in General Curriculum & Instruction (Arabic)
23	Master of Science in Information Technology
24	Master of Arts in Language Studies (Arabic)
25	Master of Arts in Literature and Criticism (Arabic)
26	Master of Social work (Arabic)
27	Teaching Diploma (Arabic)

## 5.2. College of Commerce and Business Administration

CCBA offers the following Programs:

1	Diploma in Accounting
2	Diploma in Finance
3	Diploma in Management
4	Diploma in Marketing
5	Diploma in Management Information Systems
6	Bachelor of Arts in Business Administration in Accounting
7	Bachelor of Arts in Business Administration in Finance
8	Bachelor of Arts in Business Administration in Management
9	Bachelor of Arts in Business Administration in Marketing
10	Bachelor of Arts in Business Administration in MIS
11	Bachelor of science in Logistics & Supply chain management
12	Master of Business Administration
13	Master in Management (Arabic)
14	Master of Science in Accounting (Arabic)

## 5.3. College of Engineering

CE offers the following Programs:

1	Diploma in Civil and Environmental Engineering
2	Diploma in Chemical Engineering
3	Diploma in Electrical and Computer Engineering
4	Diploma in Mechanical Engineering
5	Diploma in Interior Architecture Engineering
6	Diploma in Mechatronics Engineering
7	Bachelor of Science in Chemical Engineering
8	Bachelor of Science in Civil Engineering
9	Bachelor of Science in Computer and Communications Engineering
10	Bachelor of Science in Electrical and Electronics Engineering
11	Bachelor of Science in Mechanical Engineering
12	Bachelor of Science in Internal Architecture Engineering
13	Bachelor of Science in Architectural Engineering
14	Bachelor of Science in Mechatronics Engineering
15	Bachelor of Science in Software Engineering

## 5.4. College of Law

LAW offers the following Programs:

1	Bachelor of Law (Arabic)
2	Master in Private Law (Arabic)
3	Master in Public Law (Arabic)

## **5.5. Foundation Program**

DU offers a Foundation Program, which is aligned with Oman Academic Standards (OAS) for General Foundation Program (GFP). All students admitted to DU have to take a placement test conducted by the FP. The students are placed at the appropriate level, depending on their performance in the placement test. There are three levels in the FP for English language and two each for Maths and IT.

**A student can progress to his/her major in the College only after successfully completing all FP requirements (English, Maths and IT).**

## **6. Graduation Requirements**

### **6.1. Diploma**

To receive a Diploma, students must satisfactorily complete 60 - 75 credit hours, depending on the program, with a cumulative grade point average (CGPA) of 65 percent. Other graduation requirements are stated in the corresponding section of this catalogue.

### **6.2. Bachelor Degree**

To receive a Bachelor Degree, a student must satisfy the following conditions:

- 1) Complete the total number of credit required for the program which ranges from 120 up to 150 credits based on the major.
- 2) Reach a (CGPA) of 65 percent,
- 3) Reach a major cumulative grade point average (MCGPA) of 70 percent in the compulsory major courses,

### **6.3. Study Period**

The study period that a student must spend in a Diploma Program ranges from a minimum period of two academic years, up to a maximum period of four academic years.

The study period that a student must spend in a Bachelor Program ranges from a minimum period of four academic years, up to a maximum period of eight academic years. However, if the student joins in second or third year the maximum period will be proportionately reduced.

### **6.4. Residency Requirements**

Students transferring to DU from other Higher Education Institution (HEI) must earn at least 60 credits (30 credits) required for graduation while in residence at DU for a Bachelor Degree (Diploma). In other words, an equivalency of a transfer student cannot exceed 50% of the total number of credits for the academic program he/she is joining at DU.

### **6.5. Studying Abroad**

A DU student in good academic standing who did not transfer to DU from another HEI and wishes to study abroad must seek the approval of the College Council to spend up to one year and earn up to 30 credits at another HEI; however, the student must spend his/her final year of study at DU.

## 7. Course Requirements for Academic Programs

The course requirements for the academic program are stated in the student's plan of study (PoS). Even though the PoS of one program is different from another, still all these PoS for undergraduate programs share a same structure of the course distribution as given below.

### 7.1. University Requirements

This includes courses that are common for all programs across DU Colleges. These courses aim to provide essential knowledge and skills that are required to be acquired by all DU students. The courses of this category must be completed by all students of DU.

The total number of "University Requirements" for bachelor's program is upto 30 credits and for diploma program upto 21 credits. The English and Mathematics courses are designed separately for the needs of the students based on their colleges/majors. The other courses are common for all students across the university.

#### The university requirement courses are:

- 1) ARAB101: Academic Writing in Arabic
- 2) ENGL101: Basic Academic English
- 3) ENGL102A: English for Arts, Humanities and Social Sciences I, or  
ENGL102B: English for Business I, or  
ENGL102C: English for Computer Sciences I, or  
ENGL102E: English for Engineering and Sciences I
- 4) ENGL203A: English for Arts, Humanities and Social Sciences II, or  
ENGL203B: English for Business II, or  
ENGL203C: English for Computer Science II, or  
ENGL203E: English for Engineering and Sciences II
- 5) ENGL204: Advanced English for Academic Purposes and Research
- 6) ENGL305: Advanced English Language and Communication Skills
- 7) ENTR200: Entrepreneurship: Innovation and Creativity
- 8) CMPS100A: Introduction to Technical Computing for Arts, or  
CMPS100B: Introduction to Technical Computing for the Sciences
- 9) MATH103: Mathematics for Social Sciences, or  
MATH103B: Mathematics for Business, or  
MATH199: Calculus I
- 10) SOCS102: Omani Society

### 7.2. College Requirements

This includes courses that are common among the students of the same college only. The number of credit hours differ based on the level of the degree and the nature of the program. The courses of this category must be completed by all students who belong to the same college. These are mentioned under the particular program and college in this catalogue.

### 7.3. Major requirements

Students of the same major have to study a specific group of courses that differ according to the major and level of the degree. The courses of this category must be completed by all students who belong to the same major. These are mentioned under the particular program and college in this catalogue.

### 7.4. Elective requirements

This category is only available at the bachelor level where students have the freedom to select from a number of courses within the required number of credits allotted for this category. Under this category there are sub categories which are: general electives, social electives, college electives and major electives. These are mentioned under the particular program and college in this catalogue.

### 7.5. Seeking a Second Bachelor Degree from DU

A student who already holds a Bachelor's Degree and wishes to obtain a second Bachelor Degree in a different major of study must complete, after admission to the new College, all major credit hours as well as fulfil any other non-major graduation requirements for the new degree.

## 8. Academic Rules and Regulations

### 8.1. Grading System

The undergraduate grading system adopted at DU and its equivalence to the Letter Grade system and the Grade Points Average (GPA) system are shown below:

Numerical Grades	Grades Type	Equivalent Letter Grades	Equivalent Grade Points
95-100	Excellent	A	4.0
90-94		A-	3.7
87-89	Very Good	B+	3.3
83-86		B	3.0
80-82		B-	2.7
77-79	Good	C+	2.3
73-76		C	2.0
70-72		C-	1.7
65-69	Pass	D+	1.3
60-64		D	1.0
Below 60	Fail	F	0.0

### Abbreviations

Incomplete	I
Pass	P
In Progress	PR
Withdrawal	W

Withdrawn for Excessive Absence	<b>WA</b>
Fail	<b>F</b>
No Grade Reported	<b>-</b>
Pass Transferred	<b>PT</b>
Exempted	<b>EX</b>

## 8.2. Credit Load

- 1) A full-time student should register for not less than 12 credits and no more than 15 credits (18 for engineering and Law students) in any regular (Fall and Spring) semester.
- 2) A student may register for up to 18 credits (19 for engineering and Law students) if he/she has a cumulative average of at least 80 or a semester average of 80 for two consecutive semesters. However, the approval of the college is required for cases beyond these conditions.
- 3) A student can register in a summer semester for a maximum of 6 credit hours. There will be no academic status (probation) for the summer semester. The student's academic status will remain as it is in the previous semester.
- 4) Credit for incomplete courses will be included in the semester in which the incomplete courses were taken. The evaluation for that semester will be carried out as soon as the grades for the incomplete courses have been finalized.

## 9. Students' Academic Assessments

### 9.1. Performance Assessment

A student's academic performance is assessed throughout the semester using various instruments: home works, exams, research papers, projects, practical works, researches, etc. The student has the right to receive continuous feedback about his/her performance. The instructor completes a through-the-term performance assessment to give students a chance to withdraw from the course before the end of the withdrawal period and to help academic advisors to better advice students for the next semester registration.

Normally, all courses have final examinations that students must take. The instructor announces the course syllabus at the beginning of the semester where course components and associated assessment criteria are clearly stated. The course components and their allotted grades comply with the University policies.

### 9.2. Incomplete Work - "I"

A student who misses the final exam shall receive a grade of zero for that. However, if the student makes a petition (through the DU website) with a valid excuse for his/her absence, and the petition is approved, a grade of incomplete 'I' would be posted on the student's record.



Normally, no incomplete grade of “I” is given as a final grade in any course. In exceptional cases, and provided the guidelines stated below are met, a student may be allowed to make up the incomplete work. These guidelines are:

- 1) For securing permission to complete the work for a course, a student must submit an online “incomplete petition” with a valid excuse up to two weeks from the last day of the scheduled examination for that semester. Students should be aware that approval is not automatically granted.
- 2) Students permitted to complete the work for a course must do so up to two (2) weeks of the start of the immediate next semester. However, incomplete work of Spring semester can be completed within two (2) weeks of Fall semester.
- 3) After the incomplete work is done and evaluated, the course instructor submits a “change of grade” form to DARSA after approving it by the concerned College Council.
- 4) If no valid excuse is presented or the work, if permitted, is not completed within the time limit specified above, the “I” will be replaced with numeric grade scored that becomes the final grade in the course.

### **9.3. Submission of Final Grades**

Instructors submit their final results to DARSA through the DU SIS Portal. A parallel hard copy of the final grades should be submitted to DARSA after the approval of the Dean’s Office/ FP Director’s Office by the predefined deadline.

### **9.4. Appeal for the Final Course Grade**

Any student, who feels that the grading was unfair, must promptly discuss the matter with the course instructor. If the student and the instructor are unable to arrive at a solution, the student can submit an online “Grade Appeal” petition available on the DU Website up to one week from the end of the final exams period.

The Department Chairperson of the concerned course investigates the student’s arguments and may request the College Council to review the instructor’s evaluation of the student. If the grade is due for change, an approved electronic change-of-grade form should be sent to DARSA by the college/FP (see 9.5).

### **9.5. Change of Grade**

Normally, grades cannot be changed after the submission of the final grades to the DARSA. Under exceptional circumstances as mentioned above, the Course Instructor submits, electronically, an approved “Change-of-Grade Form” to the DARSA stating the reasons for the change and endorsed by the Department Chairperson and the Dean, or Assistant Dean, of the College. The DARSA should receive the approved “Change of Grade form” up to two (2) weeks from the beginning of the following semester.

## **10. Dean's Honor List**

To be placed on the Dean's Honour List at the end of a given Fall or Spring semester, a student must:

- 1) Be carrying at least 12 credits
- 2) Never been on probation
- 3) Have passed all the courses of the semester and attained a semester average of 90 or more
- 4) Have finished at least 24 credits
- 5) Have not been subject to any disciplinary action within the University, and be deemed worthy by the Dean to be on the Honour List

## **11. Failing, Repeating and Substituting of Courses**

### **11.1. Failing Courses**

If a student fails a course, no re-sit examination is permitted. A student who fails a required course must repeat the course at the earliest opportunity. A student who fails an elective course may not have to repeat it as long as he/she can achieve the minimum cumulative average and the minimum number of credits required for graduation. A student must pass all core courses to be eligible for graduation. Please read the "Academic Dismissal" section for related important information.

### **11.2. Repeating Courses**

- 1) A student may repeat any course for which he/she received a grade of less than 70.
- 2) A student who fails in a course four times (Original attempt plus three repeats) will be dropped from the University/ College/ program/ major depending on the case of the student.
- 3) When a course is repeated, the highest grade will be considered in the calculation of the CGPA/ CMGPA. All course grades will remain a part of the student's permanent record.
- 4) A student who, at the end of her/his forth year, fails to attain CGPA of 65% or CMGPA of 70%, will be required to repeat courses in which the student has scored low grades.

### **11.3. Substituting Courses**

A student may be allowed to substitute a course for another in the PoS provided that the substituted course is of the same level or higher than the one being substituted for and is not a major course. Approval of the College Council is required.

## **12. Dropping and Adding of Courses**

### **12.1. Drop-and-Add Period**

The drop and add period is announced in the DU academic calendar. Only the courses that remain in the schedule after the add-and-drop period will appear on the student's permanent academic record and transcript.

### **12.2. Dropping and Adding Rules**

DU follows the credit hour system where students register for a certain number of credits per semester. A student is given an opportunity to choose his/her courses with the help of academic advisor during the registration period. Students should use the advanced online registration system of DU to register and make any Drop/Add operation. However, if for any reason, the online facility was not possible, the student has an opportunity to make changes during the Add-and-Drop period by submitting a "Add-and-Drop Form" approved by the academic advisor to the DARSA.

## **13. Attendance and Withdrawal**

### **13.1. Class Attendance and Absence Rules**

Attendance of all classes and course-related activities is obligatory. The maximum absences allowed for a student is 25% of the total number of sessions of a particular course. Before reaching the withdrawal stage, DU system warns the students by way of three warnings sent to their DU email account by DAR. This email messages to students is a formal communication of the university with its students so they are strongly advised to access their DU email accounts on daily basis to track their absences, along other important things, to respond appropriately when needed.

The warnings of absences are as follows:

- 1) **First warning:** this is when a student's absence reaches **7%** of the total number of sessions of a particular course.
- 2) **Second warning:** this is when a student's absence reaches **14%** of the total number of sessions of a particular course.
- 3) **Third (Final) warning:** this is when a student's absences reach **21%** of the total number of sessions of a particular course.

If the absence crosses 25%, the student will be dismissed from the course and a "WA" will be shown in his/her transcript against the dismissed course and dismissal letter will be sent to his DU email account.

### **13.2. Withdrawal from Courses**

A student may withdraw from one or more courses after the Drop-and-Add period subject to the following conditions:

- 1) Student cannot withdraw or be withdrawn from a course after the announced deadline (not later than 14 weeks from the start of the semester or the number of the week in the Summer Term as mentioned in the academic calendar).

- 2) Student cannot withdraw or be forced to withdrawn from a course if this results in his/her being registered for less than 12 credits without the approval of his College Council.

***Students who withdraw from a course are given a grade of “W”, but those whose absences exceed 25% will receive a grade of “WA”.***

### **13.3. Postponement of a semester**

A student can apply to postpone a semester at any time up to the last day of the Add-and-Drop period using the Clearance and Postponement forms on the DU SIS. The maximum number of times a self-funded student can postpone a semester is four times while it is two times for a MoHE sponsored students as of its instructions for the academic year 2019-2020, given that he/she does not exceed the maximum period allowed to study the program, i.e. eight years for bachelor program and four years for the diploma program. When a student returns to the university after semester postponement (for one semester or more), he/she should submit a ‘Resumption of Studies Approval Form’ for this purpose through the DU SIS.

### **13.4. Withdrawal from a Semester**

A student can apply to withdraw from a semester at any time after the Add-and-Drop period until the last day of course withdrawal, using the Clearance and Withdrawal forms on the DU SIS. The maximum number of times a student can withdraw from a semester is four times, given that he/she does not exceed the maximum period allowed to study the program, i.e. eight years for bachelor program and four years for the diploma program. When a student returns to the university after semester withdrawal (for one semester or more), he/she should fill in and submit a ‘Resumption of Studies Approval Form’ for this purpose through the DU SIS.

### **13.5. Withdrawal from the University**

A student may apply to withdraw from the University by submitting a Student’s Clearance and Withdrawal forms available on the DU SIS/DU Website.

## **14. Academic Standing**

### **14.1. Classification of Students**

Based on the academic program, an undergraduate student shall be considered to have completed one or more academic years based on the number of credit hours completed successfully by him/her as shown below:

- 1) For completion of the first year: 30 to 38 credits.
- 2) For completion of the second year: 60 to 75 credits.
- 3) For completion of the third year: 90 to 104 credits.
- 4) For completion of the fourth year: 120 to 150 credits.

## **14.2. Academic Probation for Students Admitted to Colleges before Fall 2018-19**

- 1) A diploma or a bachelor student is placed under “Academic Probation” if:
  - a) His/her Semester Grade Point Average (SGPA) is less than 63% at the end of the second semester.
  - b) His/her SGPA is less than 64% at the end of the third semester.
  - c) His/her SGPA is less than 65% at the end of the fourth semester or any subsequent semester, excluding the summer semester.
- 2) The probationary status of a student shall be removed when he/she attains a SGPA of 64% or more in the third semester or a SGPA of 65% or more in the fourth or any subsequent semester.

A student can be placed under probation for a maximum of three times. The 3rd (Strict) probation is the final stage of academic probation, which means that the student must clear his/her probation or else he/she will be dismissed from the program, college or from the university depending on the case of the student.

## **14.3. Academic Probation for Students Admitted to Colleges from Fall 2018-19 onwards**

- 1) A diploma or a bachelor student is placed under “Academic Probation” if his/her SGPA is less than 65% at the end of the first or any subsequent semester.
- 2) The probationary status of a student shall be removed when he/she attains a SGPA of 65% or more in the second or any subsequent semester.

A Diploma degree student can be placed on “Academic Probation” for a maximum of two times; while a bachelor degree student can be placed on “Academic Probation” for a maximum of three times. For the diploma degree student, the sequence of probation is: first probation and strict (final) probation. Likewise, for the bachelor degree student, the sequence of probation is: first probation, second probation and strict (final) probation.

### **Applicable to both the categories of students mentioned in 1.2 and 14.3**

In general, a student under probation cannot register for more than 12 credit hours. However, a student under strict probation cannot register for more than 9 credit hours.

## **14.4. Academic Dismissal**

A student can be dismissed from a major, college or DU for any of the following reasons:

- 1) If he/she fails to clear her/his strict academic probation, which, as was stated earlier, is the final stage in academic probation, excluding the Summer term. The dismissal from a major, college or DU depends on the student’s specific problem which should be determined by the college Council based on the advisor’s opinion. That is, the student is dismissed because of a major required

course then the dismissal should be from the major. If, otherwise, the probation was caused by a particular failure in a college required course, then the dismissal should be from the college and the student should change the college.

- 2) If he/she fails in any compulsory course for a total of four times. A student can be dismissed for this reason even if he/she is in the final year at DU. When a student is dismissed from DU because of this reason, he/she cannot resume at DU in any program or college till he/she passes the same/similar course (approved by the course department) from other recognized HEI.
- 3) A student who is dismissed from a major can change it to another major within or outside the college. A student who is dismissed from a college should change the college.

## **15. Transfer**

### **15.1. Transfer from another recognized College/ University**

Students who have started their studies in some other HEI recognized by MoHE, in or outside Oman, and wish to move and continue their study at DU can do so by submitting an application form with the required documents in addition to their previous transcripts and course descriptions to DARSA, the Admission Section in the DAR. The transfer students are advised to apply as early as possible prior to the start of the semester, as announced in the academic calendar on DU Website, in order to get the course equivalency process done by the beginning of the registration period.

Such students are admitted after the following conditions are satisfied:

- 1) they meet DU's admission requirements
- 2) they satisfy the residency requirements (for non-Omanis)
- 3) they were not dismissed from the previous HEI for any disciplinary reason.

If any of the submitted documents is found to be fabricated, then the University reserves the right to dismiss the student from the University with no obligations from its end.

### **15.2. Course Equivalency Criteria**

A course taken for credit by a transfer student at another HEI prior to joining DU may be transferred to DU credit subject to the following conditions:

- 1) The relevant documents should be provided to DU at the time of admission for the first time. Students who bring documents for courses after starting their study at DU will not be considered for equivalency.
- 2) The course is deemed equivalent to a course offered at DU, i.e. it covers 70% of the topics, involves the same components (lecture, lab, tutorial), and has the same number of credits or more
- 3) At any circumstances, the number of transferred courses must not exceed 50% of the total number of credit hours required for the academic program the student is applying to.

### **15.3. Transferring within DU majors or colleges**

A student may transfer from one major to another within the same college or to different college after meeting the admission requirements of the new major and college at the time of transfer/change request. The student of this case should duly complete a “Change of Degree/ Major” form available on the DU SIS. This should be done at least one month before the beginning of the new semester.

## **16. Disclosure Policy**

The University may disclose general information without prior written consent from the student and this information may include only: student’s name, degrees granted, major and minor fields of study, awards received and participation in official activities and sports.

However, the University shall not release other information from academic records, unless it receives the written consent of the student, and this written consent must specify the information that is to be disclosed, the purpose of the disclosure, and the names and addresses of the individuals or institutions to whom disclosure is to be made.

However, the University may disclose information, including information on academic records, without prior consent of the student in the following cases:

- 1) Upon the request of officers of other educational institutions where the student seeks to enrol (in such cases the student will be given, upon his/her request, a copy of the information sent to the institution.);
- 2) As necessary to academic officers, academic advisors, and faculty members within the University;
- 3) In compliance with a judicial order; and
- 4) To financial aid services in connection with financial aid for which the student has applied or has received.

## **17. Academic Support Services**

### **17.1. Department of Public Relations and External Cooperation**

The DPREC is the frontline for the University in regards to relations with the community and the public at large. As such, DPREC plays a dynamic role in fulfilling the University’s mission and vision in all of its activities by creating an atmosphere of understanding, trust and appreciation within and outside the University. Its work covers a wide range of activities including reaching to the community, producing newspaper articles about various DU activities, visual media coverage, University publications, information, translation and advertising.

### **17.2. Computing and Networking Center**

CNC provides an integrated environment of information technology networks that support and enhance the academic activities. Academic computing capability is provided by numerous laboratories, as well as by campus-wide networked facilities. All laboratories are networked and have access to local and remote

servers as well as the Internet. All University buildings and labs are connected with fibre optics networks. E-mail services are available to all faculty, students and staff.

### **17.3. Library**

Dhofar University library is one of the main pillars of the educational process at the university. It is called Sheikh Mustheel bin Ahmed bin Ali Al-Mashani's library. It was established in 2004 and moved to the current building in 2010. DU library provides information services to students and faculty from various sources, such as books, references, periodicals and other electronic databases and Websites. The current printed sources collection consists of over (34,000) Thirty-four thousand books and references, more than (410,000) four hundred and ten thousand of electronic books, and (125,000) one hundred and twenty-five thousands of electronic university theses. The library provides the services of counseling, lending, and reserving for all eligible individuals.

The library is located in a separate building which consists of three floors with a total area of 4000 square meters equipped with a lift. The library occupies a convenient place amid university colleges and administration building. The building divided into reading rooms, computer labs and special shelves for books, references, and periodicals. It also has administrative departments that manage technical operations and provide services for library users.

The library uses electronic systems such as Virtua and RFID to computerize the holdings and management affairs. The library uses Library of Congress Classification system, MARC 21 system and Anglo American Cataloguing Rules for organizing the library sources. This enables students to search for books through the e-library site on the internet. In the library there are computers distributed among the floors along with three computer labs with 90 computers for search in the internet and a computer lab with 40 computers in the electronic library for searching electronic resources e.g. books, journals, electronic and theses.

The library seeks to ensure an appropriate environment enhanced with rich information to serve beneficiary community for all majors and research according to the university programs. The library works on qualifying and training its staff to be able to employ professional methods and modern technology in the processing and delivery of information services for the library users. The library established relationships with other university libraries, information and cultural institutions for inter-library loan purposes and sharing different information sources. The library offers its services through five departments with specific tasks as follows: Acquisition Department, Circulation Department, Reference Department, Cataloguing and Classification Department, periodicals and e-Library. The library is open on all working days from 8.00 am to 8.00 pm.

### **17.4. DU Bookstore**

The Dhofar University bookstore has been established in February 2017. It is located on the ground floor of Common Classroom Building. It aims to provide convenient and easy access to the students and faculties for their textbooks to support their courses.



## **17.5. Community Service and Continuing Education Center**

### **1) Continuing Education**

The CSCEC offers training Programs to meet the ongoing professional and personal needs of Dhofar's community at large. It also provides services to applicants who aspire to enter the University but fail in the placement tests conducted by the Foundation program. CSCEC is dedicated to serving individuals in the private and public sectors in new and innovative ways. It offers solutions to training needs and provides the local community with the combined support of a professional staff and the diversity of resources at DU.

CSCEC provides on-campus and off-campus offerings that include certificate programs, workshops, seminars, conferences, and customised training programs to meet the needs of individuals and organizations. All CSCEC's certificate programs, workshops, and other activities are taught by experts who bring their hands-on experience into the classroom. Programs and courses are offered in English or Arabic as reflected by the course outlines.

The programs of CSCEC are developed to create an opportunity for strengthening and updating skills and learning new techniques for achieving personal and organizational goals. CSCEC prepares participants for a world of change and their organizations for success by using an innovative approach and programs specifically developed by expert DU faculty members.

### **2) Community Service**

The CSCEC at DU aspires to assist the Dhofar community in solving local issues. CSCEC aims to link the University with all of its resources and expertise with the needs of the community. The CSCEC partners with public and private organisations to support initiatives in the local community.

CSCEC encourages DU students and faculty to make meaningful connections with the local community through participating in various events and programs organised by the Centre.

## **17.6. DU Clinic**

DU has an on-campus clinic that serves the basic health needs of students. A nurse is available on campus for 24 hours a day during which students can visit and seek consultation. The Clinic provides basic medical assistance for minor physical injury and sickness. Urgent and emergency cases are transferred to the nearby Saada Medical Complex or to city hospitals. This medical assistance is also made available to female students in the DU hostel on a 24/7 basis.

DU and non-DU emergency contact numbers are listed hereafter:

- DU Clinic: 23237135/23237131
- Emergency Office: 23237060
- Emergency GSM: 99496766
- Civil Defence Centre and Ambulance: 9999
- Civil Defence Centre and Emergency Management: 23234971

- Police Office (Salalah): 23290099
- Police Station (Saada): 23234170
- Sultan Qaboos Hospital (Salalah): 23216100
- Health Centre (Saada): 23225613

## **18. Department of Student Affairs**

### **18.1. Identification Card (ID)**

The Department of Student Affairs (DSA) issues an ID card for all new DU students in accordance with the following procedure:

- 1) Students' submit the placement test permission slip issued to them by DAR to DSA.
- 2) Three weeks later the student gets her/his ID card from Student Services Section.

***All students must carry their DU ID on campus and an extra caution not to miss the DU ID during the final exams! Missing the DU ID will lead a student to miss her/his final exam.***

### **18.2. Orientation**

During the period of registration and placement exams, the DSA arranges orientation sessions for new students. The sessions should be attended by all new students as they provide important academic and related information including location of various facilities and services. There is a "Welcoming Committee" composed of students and staff to facilitate the orientation.

### **18.3. International Students**

DU welcomes students from all over the world. For facilitating this, DU has an office dedicated for the international students for easy reach to information about Oman, Salalah and Dhofar University various aspects. In addition, this office is meant to coordinate with the other DU departments to facilitate an easy and smooth admission, reception and settlement of the international students in the city of Salalah. For more information of interest on this part please refer to the "International Students" section available on the DU Website.

### **18.4. Student Activities and Clubs**

Students participate in social, cultural, and scientific events and activities organized by DSA. The Cultural Week is an occasion that allows students to organize cultural, social, intellectual, and entertainment activities. It stretches over a few days, usually in the last week of April, during which students display their talents and artistic productions for the pleasure of fellow students and the Community at large. Student activities are usually sponsored and coordinated by members of the DSA.

### **18.5. Athletics and Recreation**

DU provides some facilities outside campus, particularly the football field and the gymnasium. Counsellors of DSA organize sports events such as football, volleyball, swimming, camps, athletics, and tennis.

### **18.6. Counseling Services**

The Student Counselling Office provides a comprehensive support service to assist DU students in adjusting to the demands of University environment. The services are designed to enhance students educational experience by supporting their development. Its goal is to help students' self – understanding and awareness, so that they are able to better meet the demands of College life and enjoy College experience.

### **18.7. Career Guidance Services**

The Career Guidance Office provides these services to students through various activities, lectures, and reading materials. Students are assisted in writing resumes, preparing for job interviews, and searching for suitable employment.

### **18.8. Student Employment/ Training Program**

DU offers its students an opportunity to gain work experience with possible income as well. Students who wish to join the Student Employment/ Training Program can apply to the Career Guidance Office (CGO) at the DSA. According to this program, a student may work for a maximum of ten hours per week. This work may be subject to payment on hourly basis with prior DSA approval.

### **18.9. Cafeterias and Coffee Shops**

DU has two cafeterias in the main classroom building, one for male students and the other one for female students. There is also a coffee shop located in the courtyard of each College. These serve snacks, sandwiches and beverages. In addition, in the ladies' hostel, there is a large restaurant with kitchen facility to cater to their requirements of meals and snacks. The hostel also has a mini supermarket to cater to their daily needs.

### **18.10. Student Disciplinary System**

Whereas DU aims to develop a student's social character, knowledge, and professional skills, it is also committed to graduating law-abiding and responsible citizens who deserve to carry the DU name. To that end, the University reserves the right to implement a range of disciplinary measures that are commensurate with violations of Omani laws or the rules and regulations of the University including academic misconduct.

Disciplinary measures range from warning to expulsion from the University based on the nature of the offence. Course instructor is authorized to apply some disciplinary measures, while suspension or expulsion shall only be administered by the Student Disciplinary Committee. The harshest action, final expulsion from the University, requires the consent of the University Council. Furthermore, each University employee who observes any offence by any student is required to

report the offensive action to the Students' Disciplinary Committee (SDC) through her/his Dean of the College.

### **18.11. Smoking Policy**

Smoking inside all buildings on campus is prohibited. Any student, faculty or staff member who violates this policy shall be subjected to the appropriate disciplinary action in accordance with University rules and regulations.

## **19. Department of Students' Hostel Services**

DU Hostel is under the supervision of the Director of Student Housing Services. It has four on-campus buildings for female students who come from distant places to study at DU. It provides them with free furnished accommodation and local transportation. The University also provides security service and supervision of students through female supervisors and security guards working 24 hours. Other facilities available inside the hostel include: restaurant, supermarket, study hall and gymnasium.

There is no hostel facility for male students. However, those male students who are not from Salalah are assisted in finding appropriate accommodation.

## **20. Department of Quality Assurance**

The Department of Quality Assurance is responsible for maintaining quality of teaching, research, and support services to students, staff, and the DU community by suggesting and reviewing DU policies relating to academic, academic support and non-academic services. The Department develops appropriate qualitative and quantitative measures of teaching and service performance, taking into account local, regional and international recommended practices, including standards set by OAAA and other international accreditation boards. The Department consults with all stake-holders before making recommendations and reports directly to the Vice-Chancellor.

# **FOUNDATION PROGRAM (FP)**

## TABLE OF CONTENTS

<b>Foundation Program</b>		
<b>No.</b>	<b>Particulars</b>	<b>Page No.</b>
1	Officers of the Program .....	27
2	Organizational Structure .....	27
3	Vision .....	27
4	Mission .....	27
5	Program Overview .....	27
6	Structure of the Program .....	28
7	Study Skills .....	28
8	Placement in and Exemption from FP .....	28
	• <i>Placement criterion for English</i> .....	28
	• <i>Placement criterion for Math</i> .....	28
	• <i>Placement criterion for IT</i> .....	29
9	Promotion and Exit Policy .....	29
10	Study Plans .....	29
	• <i>Regular Program</i> .....	29
	• <i>Evening Program</i> .....	30
	• <i>Law Program</i> .....	30
	• <i>Social Work Program (Arabic)</i> .....	30
	• <i>Arabic Program</i> .....	30
<b>English Language Unit</b>		
1	Personnel .....	31
2	Overview .....	31
3	Learning Outcome .....	31
4	Course Description .....	32
<b>Mathematics Unit</b>		
1	Personnel .....	34
2	Overview .....	34
3	Learning Outcome .....	34
4	Course Description .....	34
<b>IT Unit</b>		
1	Personnel .....	36
2	Overview .....	36
3	Learning Outcome .....	36
4	Course Description .....	37

# FOUNDATION PROGRAM

## 1. Officers of the Program

Director	Ben Khalifa, Faïçal
Deputy Director	Lotze, Nathaniel

### Administrative Staff:

Senior Executive Secretary	Barham, Fatima
Executive Secretary	Al-Shahri, Nasser
Data Center Specialist	Hankins, Michael

## 2. Organizational Structure

The Foundation Program (FP) is headed by a Director overseeing the following three units

- 1) English Language Unit
- 2) Mathematics Unit
- 3) Information Technology (IT) Unit

## 3. Vision

The Foundation Program aspires to occupy a position of distinction amongst general foundation programs in the Sultanate by imparting quality education.

## 4. Mission

The Foundation Program strives to equip students with quality outcome-based education in a rich teacher-learner environment conducive to academic excellence and life-long learning.

## 5. Program Overview

The General FP is a one-year bridge program intended to equip high school graduates to pursue university majors and is undertaken by most university students in Oman. The program focuses on four major areas: English, Mathematics, IT and General Study Skills.

DU's FP follows the standards outlined by the Oman Academic Standards (OAS) for General Foundation Programs (GFPs). It aims to impart quality education to students and prepare them for their various majors. With courses ranging from elementary to upper intermediate, it caters to the curricular and co-curricular needs of students to actively bridge the gap between secondary and tertiary education.

Since its inception, the FP has successfully met both these needs and the academic expectations of DU. There are presently around 41 faculty members of various nationalities in the FP. The richness of their professional expertise and experience, their enthusiasm, and their involvement in the community constitute the backbone of the FP.

## 6. Structure of the Program

The FP is designed to bridge the gap between secondary education and university undergraduate studies. The program's focus is to ensure the students' readiness to embark on their university studies. The curriculum is aligned with the learning outcomes stated in the OAS for GFPs. The English program is divided into three levels and focuses on academic skills along with general study and communication skills. The Mathematics program is divided into three levels as well, with Basic, Applied and Pure courses. The IT program is comprised of two levels along with a pre-IT supporting level.

## 7. Study Skills

General study skills are integrated in the English, Mathematics and IT Programs and aim to help students develop the range of useful study skills that they need to succeed at the university level. They learn how to use and organize their time, read faster with comprehension, expand their vocabulary, take good notes in class, keep track of assignments, interpret and analyze graphic information, and adopt the most effective communication strategies.

## 8. Placement in and Exemption from the FP

Students are placed in the appropriate level or exempted from the FP based on their results in the placement tests for English, Mathematics and IT.

### 8.1. Placement criterion for English

Criterion	Level	Remarks
0-32	1	Students who (a) score 50+ on the Cambridge University Online Placement Test (CEPT) or (b) produce either an IELTS certificate with a band of 5+ or a TOEFL certificate indicating a score of 500+ are exempted from the FP's English program.
33-42	2	
43-49	3	
50+	Exempt	

### 8.2. Placement criterion for Mathematics

Criterion	Level	Remarks about Exemption
0-39	pre	Students who score 60+ on the Moodle-Based Mathematics Placement Test are exempted from the FP's Mathematics program.
40-49	1	
50-59	2	
60+	Exempt	



### 8.3. Placement criterion for IT

Criterion	Level	Remarks about Exemption
0-59	1	Students who (a) score 70+ on the Moodle-based IT Placement Test, (b) provide an International (English) IC3 or (c) provide a Domestic (Arabic) IC3 or any other equivalent certificates AND achieve a 60% score on an in-house IT Challenge Test are exempted from the FP's IT program.
60-69	2	
70+	Exempt	

### 9. Promotion and Exit Policy

Students are evaluated regularly to help determine their progress and attainment of the set goals. They are provided with every opportunity to be promoted to upper levels based on the promotion policy requirements stated in each syllabus. Students who fulfill the promotion requirements of English Level 3 are eligible to exit the FP and join their desired university majors; however, all English Level 3 students are required to take an Exit Exam as part of the promotion requirements to the University.

#### Please note the following:

- a) The validity of these international tests is limited to two years from the date of taking the exam. Applicants must submit the original certificate of test results and the University reserves the right to verify the authenticity of the certificate. Holders of IELTS and Test of English as a Foreign Language (TOEFL) certificates issued by institutions outside Oman may be asked to take the CEPT.
- b) Students can progress to their majors in the College only after successfully completing all FP requirements (English, Maths and IT).
- c) Students majoring in Architectural Engineering must score no less than 70% in English, Math and IT to be able to proceed to college.

### 10. Study Plan

The following tables summarize the FP study plan.

#### 10.1. Regular Program

Level 1		
Code	Course Title	Hours/Week
FPE 101A	English Level 1	20-25
FPM 100	Mathematics pre-	4
FPT 100	IT pre-	2
Level 2		
Code	Course Title	Hours/Week
FPE 102B	English Level 2	20
FPM 101A	Mathematics Level 1	4
FPT 101A	IT Level 1	4

Level 3		
Code	Course Title	Hours/Week
FPE 103C	English Level 3	20
FPM 102B	Math Level 2	4
FPT 102B	IT Level 2	4

## 10.2. Evening Program

Level 1		
Code	Course Title	Hours/Week
FPE 101A	English Level 1	20-25
FPM 100	Mathematics pre-	4
FPT 100	IT pre-	2
Level 2		
Code	Course Title	Hours/Week
FPE 102B	English Level 2	20
FPM 101A	Mathematics Level 1	4
FPT 101A	IT Level 1	4
Level 3		
Code	Course Title	Hours/Week
FPE 103C	English Level 3	20
FPM 102B	Mathematics Level 2	4
FPT 102B	IT Level 2	4

## 10.3. Law Program

Level 1		
Code	Course Title	Hours/Week
FPEL 100	English (Law) Level 1	20
FPML 100	Mathematics Level 1	4
FPTL 100	IT Level 1	3

## 10.4. Social Work Program (Arabic)

Level 1		
Code	Course Title	Hours/Week
FPES 100	English (SW) Level 1	20
FPMS 100	Mathematics Level 1	4
FPTS 100	IT Level 1	3

## 10.5 Arabic Program

Level 1		
Code	Course Title	Hours/Week
FPMA 100	FP Mathematics for Arabic	4
FPTA 100	FP IT for Arabic	3

## 10.6 Education Program

Level 1		
Code	Course Title	Hours/Week
FPEE 100	English (Education) Level 1	20
FPME 100	FP Mathematics for Education	4
FPTE100	FP IT for Education	3

## 10.7 Computer Science Program

Level 1		
Code	Course Title	Hours/Week
FPEC 100	English (CS) Level 1	20
FPMC 100	FP Mathematics for Computer Science	4
FPTC100	FP IT for Computer Science	3

## English Language Unit

### 1. Personnel

Coordinators: Dr. Bontha, Umamaheswara (Level 3); Williams, David (Level 2);  
Dr. Sakhamuri, Ramadevi (Level 1)

Assistant Professor:  
Bontha, Umamaheswara

Lecturers: Al Ani, Ahmed; Al Mughrabi, Hyder; Ali Shah, Syed; Ben Khalifa, Faical; Bhargavi, Chowlur; Charuvila, Merin; Eteiwi, Adnann; Gopalan,; Hankins, Carmel; Kashoob, Dunnette, Jonathan; Fatima Kashoob; Iqbal, Rashida; Lotze, Nathaniel; Momani, Ebaa; Bashir, Shahid; Sakhamuri, Ramadevi; Veetil, Mahija; Williams, David; Hassan Mursi, Amal

Instructors: Achamsi, Mohamed; Al Haddadi, Adla; Al Mashani, Fatima; Al Shanfari, Anfal; Bailey, Erica; Kadarkarai, Thangadurai; Paulose, Millie; Rafeet, Nada; Lauren, Mertens; Al Mashani, Laila; Sampliner, Steven

### 2. Overview

As English is the medium of instruction at DU, there is a clear need to approach English education in a systematic, meaningful, and purposeful manner. The English Unit offers incoming students with low proficiency in English an intensive program to help them pursue their studies in the major of their choice through the medium of English with the aim of immersing them in the language.

Ten to fifteen hours a week are dedicated to Reading & Writing, with ten hours a week dedicated to Listening & Speaking. Students take a midterm and a final exam. Grades are determined by summative as well as formative assessment,

portfolios, progress tests, and quizzes. The weighting for each skill area is as follows:

Skill	Weighting (%)	Midterm exam weighting	Final exam weighting	Formative assessment weighting
Reading	25%	30%	40%	30%
Writing	25%			
Listening	25%			
Speaking	25%			

### 3. Learning Outcomes

- 1) Actively participate in a discussion on a topic relevant to their studies by asking questions, agreeing/disagreeing, asking for clarification, sharing information, expressing and asking for opinions.
- 2) Paraphrase information (orally or in writing) from a written or spoken text or from graphically presented data.
- 3) Prepare and deliver a talk of at least 5 minutes. Use library resources in preparing the talk, speak clearly and confidently, make eye contact and use body language to support the delivery of ideas. Respond confidently to questions.
- 4) Write texts of a minimum of 250 words, showing control of layout, organization, punctuation, spelling, sentence structure, grammar and vocabulary.
- 5) Produce a written report of a minimum of 500 words showing evidence of research, note-taking, review and revision of work, paraphrasing, summarizing, use of quotations and use of references.
- 6) Take notes and respond to questions about the topic, main ideas, details and opinions or arguments from an extended listening text (lecture, news broadcast, etc.).
- 7) Follow spoken instructions in order to carry out a task with a number of stages.
- 8) Listen to a conversation between two or more speakers and be able to answer questions in relation to context, relationship between speakers, register (i.e., formal or informal).
- 9) Read a one to two-page text and identify the main ideas and extract specific information in a given period of time.
- 10) Read an extensive text broadly relevant to the student's area of study (minimum three pages) and respond to questions that require analytical skills, e.g. prediction, deduction, inference.

### 4. Course Descriptions

**FPE 101A      Foundation Program English Level 1**

**(20/25 hrs)**

FP 101A is an intensive pre-intermediate level English course designed to develop both English skills and good study habits. Skills taught include Reading & Writing and Listening & Speaking. Learning outcomes are aligned with Oman Academic Standards. Upon completion, students transition to FPE 102B (Level 2).

**FPEL 100      Foundation Program English for Law      (20 hrs)**

FPEL 100 is an intensive elementary-level English course for intended law-degree students designed to develop both English skills and good study habits. Skills taught include Reading & Writing and Listening & Speaking. Upon completion, students are expected to have attained an elementary level of English.

**FPES 100      Foundation Program English for Social Work Arabic      (20 hrs)**

FPEL 100 is an intensive elementary-level English course for intended Social Work-degree students designed to develop both English skills and good study habits. Skills taught include Reading & Writing and Listening & Speaking. Upon completion, students are expected to have attained an elementary level of English

**FPEE 100: Foundation English for Education      (20 hrs)**

FPEE 100 is an intensive elementary-level English course for intended education-degree students designed to develop both English skills and good study habits. Skills taught include Reading & Writing and Listening & Speaking. Upon completion, students are expected to have attained an elementary level of English.

**FPEC 100: Foundation English for Computer Science      (20 hrs)**

FPEE 100 is an intensive elementary-level English course for intended computer science -degree students designed to develop both English skills and good study habits. Skills taught include Reading & Writing and Listening & Speaking. Upon completion, students are expected to have attained an elementary level of English.

**FPE 102B      Foundation Program English Level 2      (20 hrs)**

FPE 102B is an intensive intermediate English course designed to develop both English skills and good study habits. Skills taught include Reading & Writing and Listening & Speaking. Learning outcomes are aligned with Oman Academic Standards. Upon completion, students transition to FPE 103C (Level 3).

**FPE 103C      Foundation Program English Level 3      (20 hrs)**

FPE 103C is an intensive upper intermediate English course designed to prepare students to meet the IELTS Band 5.0 requirement for exiting the program. Skills taught include Reading & Writing and Listening & Speaking. Upon completion, students transition to their respective majors.

# Mathematics Unit

## 1. Personnel

Coordinator: Mustafa, Mohammad

Assistant Professor: Dawood Al Jubouri, Wajdi

Lecturers: Ahmad Khan, Waqar; Al Karadsheh, Wesam; Mustafa, Mohammad; Mefleh, Tareq

Instructor: Muhammad Siddique

## 2. Overview

This three-semester course aims at bridging gaps in students' knowledge of Mathematics. Students are placed either in Pre-math, Math Level 1 or Math Level 2 as per their math placement test score (see 8.2 above). Level 2 Math has two programs, i.e. Pure or Applied Math. Students are placed in either Pure or Applied Mathematics as per their majors.

## 3. Learning Outcomes

- 1) Obtain the common factors, factor by grouping, and factor second degree polynomials using special factoring rules.
- 2) Reduce rational expressions and apply different operations.
- 3) Identify exponent and simplify expressions.
- 4) Differentiate between all types of linear equations and inequalities.
- 5) Define functions graphically and by set, finding the domain of certain types of functions and evaluating them.
- 6) Graph linear and quadratic functions.
- 7) Identify exponential functions, draw their graphs, and solve their equations.
- 8) Define the logarithmic functions, draw their graphs, and solve their equations.
- 9) Define and apply the rules, identities, and proofs of trigonometric functions.
- 10) Define and solve different trigonometric functions, and express them graphically.
- 11) Know the basic equations of parabolas.
- 12) Measure central tendency, mean, median, mode, variance, standard deviation, sample space and probability.

## 4. Course Descriptions

### **FPM 100      Pre-Foundation Mathematics Program      (4 hrs)**

The aim of this course is to help incoming students to understand basic concepts of Mathematics. This four-hour course reinforces basic concepts and terminologies through the medium of the English language. The course covers real number systems, basic rules of addition, subtraction, multiplication and division, Properties of basic arithmetic operations, Polynomials, Factoring

Polynomials, and reducing rational Expressions, addition and subtraction of algebraic rational expressions, first-degree equations and inequalities.

**FPM 101A      Foundation Program Mathematics Level 1 (Basic)      (4 hrs)**

The aim of this course is to teach conceptual understanding and problem solving. The course covers Graphing Linear equations using intercepts, Graphing linear inequalities in two variables, Metric Units conversions, Exponents, Graphing quadratic equations, equations of circles, straight lines, Basic Trigonometric Functions and Pythagorean Theorem.

**FPM 102B      Foundation Program Mathematics Level 2      (4 hrs)**  
**(Pure & Applied)**

The aim of this course is to prepare students for further study of higher-level mathematics at higher and other non-mathematics-related subjects. The course covers Concept of functions, Exponential and Logarithmic functions, and Recognizing three types of symmetric of functions, basic statistics, and introduction to probability. For Pure Course, in addition to that, other topics are covered such as Graphing Trigonometric functions, Identities, and using law of Sine and cosine to solve triangle and basic concepts of Partial Fractions and Long division for factorization of polynomials.

**FPML 100      Foundation Program Mathematics for Law      (4 hrs)**

The aim of this course is to provide students who intend to major in Law with a basic understanding of mathematical concepts, Sets and Real numbers. Basic mathematical Operations and their properties, Metric Unit Conversion, adding and subtracting Polynomials, Straight Lines, Circles, and Basic Trigonometric Functions.

**FPMA 100      Foundation Program Mathematics for Arabic      (4 hrs)**

The aim of this course is to provide students who intend to major in Arabic with a basic understanding of mathematical concepts, Sets and Real numbers. Basic mathematical Operations and their properties, Metric Unit Conversion, adding and subtracting Polynomials, Straight Lines, Circles, and Basic Trigonometric Functions.

**FPMS 100      Foundation Program Mathematics for Social Work Arabic      (4 hrs)**

The aim of this course is to provide students who intend to major in Social work with a basic understanding of mathematical concepts, Sets and Real numbers. Basic mathematical Operations and their properties, Metric Unit Conversion, Adding and subtracting Polynomials, Straight Lines, Circles, and Basic Trigonometric Functions

**FPME 100      Foundation Mathematics for Education      (4 hrs)**

The aim of this course is to provide students who intend to major in education with a basic understanding of mathematical concepts, Sets and Real numbers. Basic mathematical Operations and their properties, Metric Unit Conversion, Adding and Subtracting Polynomials, Straight Lines, Circles, and Basic Trigonometric Functions.

# Information Technology Unit

## 1. Personnel

Coordinator: Maruthappan, Veeraiyan

Lecturers: Chinta, BhagyaLatha; Maruthappan, Veeraiyan; Venugopal, Anita

Instructors: Rawas, Fatima; Marfadi, Amal; Shahri, Omar

## 2. Overview

This two-semester course aims to bridge the gap for students who wish to join DU but lack university-level IT competency skills. It emphasizes the essential parts of a standard curriculum in IT as required by OAS for GFP. The curriculum provides students with a basic understanding of computers, File management, use of word-processing, spreadsheet, presentation softwares, internet use, World Wide Web (WWW), email and essential IT skills. It follows a practical approach through the investigation of a variety of situations from across the spectrum of technology. The overall courseware equips students to appear for International Certification such as IC<sup>3</sup> on digital literacy.

## 3. Learning Outcomes

- 1) Define fundamental terms (e.g., RAM, ROM, CPU, input and output devices, kilobytes and megabytes, etc.).
- 2) Differentiate between system and application software, search for information on the Internet and download files.
- 3) Use a computer keyboard properly and type effectively using both hands.
- 4) Distinguish among features of Operating Systems and Application Software's.
- 5) Open, save, and organize folders, subfolders, files and file extensions.
- 6) Apply various features of MS Word (e.g., File, Edit, Format, Tools, Table and Insert).
- 7) Become aware of Omani data protection legislation and consequences of copyright violations.
- 8) Identify various components of spreadsheets and explain basic terms (e.g., cells, addresses, etc.).
- 9) Create, open, save, and edit worksheets, insert and manipulate data, insert new rows and columns, and delete and duplicate sheets.
- 10) Create various types of charts in MS Excel, apply mathematical functions, references and sort and filter data.
- 11) Create, open, and save PowerPoint presentations.
- 12) Apply various types of slide layouts and differentiate between master slides and other types of slides.
- 13) Insert pictures and objects in slides, duplicate slides, and use headers and footers and automatic numbering for presentation.
- 14) Explain about Transition, Animation and Colour schemes and their effects.



- 15) Identify various styles of presentation and apply different print options.
- 16) Identify network fundamentals, types and the benefits and risk of network computing.
- 17) Identify the purpose of a browser in accessing information on the World Wide Web (WWW) and navigate the Web.
- 18) Create emails and manage mailboxes.

## 4. Course Descriptions

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### **FPT 100      Pre-Foundation IT Program      (2 hrs)**

The aim of this course is to help incoming students to understand basic concepts of IT and Computer access. This two-hour course reinforces basic concepts and terminologies through the use of the English language. The course covers basic typing skills, using DU SIS, DU Web Mail, basic computer operations and use of keyboard. The students are also exposed to the Moodle platform environment and Pearson IT MyLab practical activities.

### **FP101A      Foundation Program IT Level 1      (4 hrs)**

The aim of this course is to equip students with the knowledge and skills of IT necessary to source, communicate, and process information related to higher education. Students experience hands-on training with various day-to-day software packages, including MS Windows and Word processing. Students are also exposed to basic IT-related concepts, hardware, software, operating system, file management and E-mail concept. This courseware is designed to cover IC3 (Internet and Computing Core Certification) exam module Computing Fundamentals.

### **FPT 102B      Foundation Program IT Level 2      (4 hrs)**

The aim of this course is to further equip students with the knowledge and skills of IT necessary to source, communicate, and process information related to higher education. Students experience hands-on training with various day-to-day software packages including spreadsheet and presentation. Students are able to understand the concept of network, mobile devices, security and maintenance. Students are also exposed to concepts, practices, and usage of the Internet in day-to-day life. This courseware is designed to cover IC3 (Internet and Computing Core Certification) exam modules, Key Applications and Living Online

### **FPTL 100      Foundation Program IT for Law      (3 hrs)**

The aim of this course is to equip Law students with the knowledge and skills of IT necessary to source, communicate, and process information. Students experience hands-on training with various day-to-day software packages, including MS Windows, Word, and Excel. Students are also exposed to basic IT-related concepts, computer operation, and file management.

**FPTA 100      Foundation Program IT for Arabic      (3 hrs)**

The aim of this course is to equip students who intend to major in Arabic with the knowledge and skills of IT necessary to source, communicate, and process information. Students experience hands-on training with various day-to-day software packages, including MS Windows, Word, and Excel. Students are also exposed to basic IT-related concepts, computer operation, and file management.

**FPTS 100      Foundation Program IT for Social Work Arabic      (3 hrs)**

The aim of this course is to equip students who intend to major in Social Work with the knowledge and skills of IT necessary to source, communicate, and process information. Students experience hands-on training with various day-to-day software packages, including MS Windows, Word, and Excel. Students are also exposed to basic IT-related concepts, computer operation, and file management.

**FPTE 100      Foundation IT for Education      (3 hrs)**

The aim of this course is to equip education students with the knowledge and skills of IT necessary to source, communicate, and process information related to higher education in the field of computer science. Students experience hands-on training with various day-to-day software packages, including MS Windows, Word, and Excel. Students are also exposed to basic IT-related concepts, computer operation, and file management.

# **COLLEGE OF ARTS AND APPLIED SCIENCES (CAAS)**

## TABLE OF CONTENTS

<b>College of Arts and Applied Sciences</b>		
<b>No.</b>	<b>Particulars</b>	<b>Page No.</b>
1	Officers of the College .....	41
2	Organizational Structure .....	41
3	Vision .....	41
4	Mission .....	41
5	Academic Programs Offered .....	41
	• <i>Diploma Programs</i> .....	42
	• <i>Bachelor Programs</i> .....	42
	• <i>Arabic Minors</i> .....	42
	• <i>Master Programs</i> .....	42
	• <i>Postgraduate Diploma</i> .....	42
6	Admission Requirements .....	43
	• <i>Undergraduate Programs</i> .....	43
	• <i>Graduate (Master) Programs</i> .....	43
7	Graduation Requirements .....	43
8	University Requirements .....	45
9	College Requirements .....	45
10	Program Requirements .....	45
<b>Department of Computer Science</b>		
1	Personnel .....	46
2	Vision .....	46
3	Mission .....	46
4	Programs Offered .....	46
<b>Bachelor of Science in Computer Science</b>		
1	Program Overview .....	47
2	Program Objectives .....	47
3	Program Learning Outcomes .....	47
4	Admission Requirements .....	48
5	Graduation Requirements .....	48
6	University Requirements .....	48
7	College Requirements .....	48
8	Program Requirements .....	48
9	Plan of Study .....	50
10	Course Descriptions .....	51
<b>Diploma in Computer Science</b>		
1	Program Overview .....	62
2	Program Objectives .....	62
3	Program Learning Outcomes .....	62
4	Admission Requirements .....	62
5	Graduation Requirements .....	62
6	University Requirements .....	63

7	College Requirements .....	63
8	Program Requirements .....	63
9	Plan of Study .....	64
10	Course Descriptions .....	64
<b>Department of Education</b>		
1	Personnel .....	65
2	Vision .....	65
3	Mission .....	65
4	Programs Offered .....	65
<b>Bachelor of Education</b>		
1	Program Overview .....	66
2	Program Objectives .....	66
3	Program Learning Outcomes .....	66
4	Admission Requirements .....	66
5	Graduation Requirements .....	67
6	University Requirements .....	67
7	College Requirements .....	67
8	Program Requirements .....	67
9	Specialisation Requirements .....	68
	• <i>Teaching English Language</i> .....	68
	• <i>Teaching Mathematics</i> .....	69
	• <i>Teaching Science</i> .....	70
	• <i>Teaching Information Technology</i> .....	71
10	Plan of Study .....	72
	• <i>Teaching English Language</i> .....	72
	• <i>Teaching Mathematics</i> .....	73
	• <i>Teaching Science</i> .....	75
	• <i>Teaching Information Technology</i> .....	77
11	Course Descriptions .....	78
<b>Bachelor of Education: Teacher of Field I</b>		
1	Program Overview .....	85
2	Program Objectives .....	85
3	Program Learning Outcomes .....	86
4	Admission Requirements .....	86
5	Graduation Requirements .....	86
6	University Requirements .....	87
7	College Requirements .....	87
8	Program Requirements .....	87
9	Plan of Study .....	88
10	Course Descriptions .....	90

<b>Bachelor of Education: Teacher of Field II</b>		
1	Program Overview .....	96
2	Program Objectives .....	96
3	Program Learning Outcomes .....	97
4	Admission Requirements .....	97
5	Graduation Requirements .....	97
6	University Requirements .....	98
7	College Requirements .....	98
8	Program Requirements .....	98
9	Plan of Study .....	99
10	Course Descriptions .....	101
<b>Department of English Language and Literature</b>		
1	Personnel .....	109
2	Vision .....	109
3	Mission .....	109
4	Programs Offered .....	109
<b>Bachelor of Arts in English Language</b>		
1	Program Overview .....	110
2	Program Objectives .....	110
3	Program Learning Outcomes .....	110
4	Admission Requirements .....	111
5	Graduation Requirements .....	111
6	University Requirements .....	111
7	College Requirements .....	111
8	Program Requirements .....	112
9	Plan of Study .....	113
10	Course Descriptions .....	114
<b>Diploma in English Language</b>		
1	Program Overview .....	124
2	Program Objectives .....	124
3	Program Learning Outcomes .....	124
4	Admission Requirements .....	124
5	Graduation Requirements .....	124
6	University Requirements .....	124
7	College Requirements .....	124
8	Program Requirements .....	125
9	Plan of Study .....	125
10	Course Descriptions .....	126
<b>Bachelor of Arts in Translation</b>		
1	Program Overview .....	126
2	Program Objectives .....	126
3	Program Learning Outcomes .....	127
4	Admission Requirements .....	127

5	Graduation Requirements .....	127
6	University Requirements .....	127
7	College Requirements .....	128
8	Program Requirements .....	128
9	Plan of Study .....	130
10	Course Descriptions .....	131
<b>Department of Arabic Language and Literature</b>		
1	Personnel .....	135
2	Vision .....	135
3	Mission .....	135
4	Programs Offered .....	135
<b>Bachelor of Arts in Arabic Language</b>		
1	Program Overview .....	135
2	Program Objectives .....	136
3	Program Learning Outcomes .....	136
4	Admission Requirements .....	136
5	Graduation Requirements .....	136
6	University Requirements .....	136
7	College Requirements .....	137
8	Program Requirements .....	137
9	Plan of Study .....	138
10	Course Descriptions .....	139
•	<b>Arabic Minors</b> .....	<b>144</b>
<b>Department of Social Sciences</b>		
1	Personnel .....	145
2	Vision .....	145
3	Mission .....	145
4	Programs Offered .....	145
<b>Bachelor of Arts in Social Work (English)</b>		
1	Program Overview .....	146
2	Program Objectives .....	146
3	Program Learning Outcomes .....	146
4	Admission Requirements .....	147
5	Graduation Requirements .....	147
6	University Requirements .....	147
7	College Requirements .....	147
8	Program Requirements .....	147
9	Plan of Study .....	148
10	Course Descriptions .....	150
<b>Diploma in Social Work (English)</b>		
1	Program Overview .....	155
2	Program Objectives .....	155

3	Program Learning Outcomes .....	156
4	Admission Requirements .....	156
5	Graduation Requirements .....	156
6	University Requirements .....	156
7	College Requirements .....	157
8	Program Requirements .....	157
9	Plan of Study .....	157
10	Course Descriptions .....	158
<b>Bachelor of Arts in Social Work (Arabic)</b>		
1	Program Overview .....	158
2	Program Objectives .....	158
3	Program Learning Outcomes .....	159
4	Admission Requirements .....	160
5	Graduation Requirements .....	160
6	University Requirements .....	160
7	College Requirements .....	160
8	Program Requirements .....	160
9	Plan of Study .....	161
10	Course Descriptions .....	163
<b>Diploma in Social Work (Arabic)</b>		
1	Program Overview .....	166
2	Program Objectives .....	167
3	Program Learning Outcomes .....	167
4	Admission Requirements .....	167
5	Graduation Requirements .....	168
6	University Requirements .....	168
7	College Requirements .....	168
8	Program Requirements .....	168
9	Plan of Study .....	169
10	Course Descriptions .....	169
<b>Department of Mathematics and Sciences</b>		
1	Personnel .....	170
2	Vision .....	170
3	Mission .....	170
4	Programs Offered .....	170
<b>Bachelor of Science in Mathematics</b>		
1	Program Overview .....	171
2	Program Objectives .....	171
3	Program Learning Outcomes .....	171
4	Admission Requirements .....	171
5	Graduation Requirements .....	171
6	University Requirements .....	172
7	College Requirements .....	172
8	Program Requirements .....	172
9	Plan of Study .....	173
10	Course Descriptions .....	175



## **Diploma in Mathematics**

1	Program Overview .....	183
2	Program Objectives .....	183
3	Program Learning Outcomes .....	183
4	Admission Requirements .....	183
5	Graduation Requirements .....	183
6	University Requirements .....	183
7	College Requirements .....	184
8	Program Requirements .....	184
9	Plan of Study .....	184
10	Course Descriptions .....	185

# **COLLEGE OF ARTS AND APPLIED SCIENCES**

## **1. Officers of the College**

Dean:	Khalid Almashikhi
Assistant Dean:	Vijay Singh Thakur
Senior Executive Secretary:	Noor Al-Qamar Amer Jeed
Secretary :	Azad Ali Bait Said

## **2. Organizational Structure**

The College of Arts and Applied Sciences (CAAS) is headed by a Dean overseeing the following **six Departments**:

- 1) Department of Arabic Language and Literature
- 2) Department of Computer Science
- 3) Department of Education
- 4) Department of English Language and Literature
- 5) Department of Mathematics and Sciences
- 6) Department of Social Sciences

## **3. Vision**

The College of Arts and Applied Sciences at Dhofar University aspires to offer high-quality programs in the humanities, basic, natural and social sciences that are recognized nationally and internationally and prepare highly motivated students to be successfully engaged citizens in an increasingly technological and global society.

## **4. Mission**

The College of Arts and Applied Sciences provides the core of liberal arts education at Dhofar University. It aims at enabling all University students to benefit from sustained independent learning through the general University Requirement courses and the CAAS majors. The College focuses on reaching excellence in learning through interdisciplinary knowledge and skills in arts and sciences, the development of critical thinking skills, and engagement in the society with focus on preserving the cultural values of the Omani society.

## **5. Academic Programs Offered**

The College offers five (5) Diploma programs, thirteen (13) Bachelor programs, eight (8) Graduate (Master) programs and one (1) Postgraduate Diploma. In addition, it offers two Arabic Minors. The medium of instruction in all these programs is English except for Bachelor of Arts in Arabic Language and some master programs wherein it is Arabic. Also, Bachelor of Arts in Social Work and Diploma in Social Work programs are offered in both English and Arabic medium. These programs are:

### **a) Diploma Programs**

- 1) Diploma in Computer Science
- 2) Diploma in English Language
- 3) Diploma in Mathematics
- 4) Diploma in Social Work (English)
- 5) Diploma in Social Work (Arabic)

### **b) Bachelor Programs**

- 1) Bachelor of Education in Teaching Mathematics
- 2) Bachelor of Education in Teaching Science
- 3) Bachelor of Education in Teaching English Language
- 4) Bachelor of Education in Teaching Information Technology
- 5) Bachelor of Science in Computer Science
- 6) Bachelor of Science in Mathematics
- 7) Bachelor of Arts in English Language
- 8) Bachelor of Arts in Translation
- 9) Bachelor of Arts in Arabic Language
- 10) Bachelor of Arts in Social Work (English)
- 11) Bachelor of Arts in Social Work (Arabic)
- 12) Bachelor of Education: Teacher of Field I
- 13) Bachelor of Education: Teacher of Field II

### **c) Arabic Minors**

- 1) Minor in Arabic Language
- 2) Minor in Arabic Literature

### **d) Master Programs**

- 1) Master of Education in Educational Administration
- 2) Master of Education in Psychological Counseling
- 3) Master of Education in Curriculum and Instruction: Teaching English Language
- 4) Master of Education in General Curriculum and Instruction
- 5) Master of Science in Information Technology
- 6) Master of Arts in Language Studies (Arabic Language)
- 7) Master of Arts in Literature and Criticism (Arabic Language)
- 8) Master of Social Work

**(Details of Master Programs are given in Graduate Studies Catalogue)**

### **e) Postgraduate Diploma**

- 1) Teaching Diploma

**(Details of Postgraduate Diploma are given in Graduate Studies Catalogue)**

## 6. Admission Requirements

### a) Undergraduate Programs

#### I) General Requirements

For admission to any of the undergraduate programs offered by CAAS, a student must have:

- A General Education Certificate or its equivalent, and
- Passed FP from DU or any other HEI recognised by MoHE

**OR**

Be exempted from FP English, Maths and IT courses based on placement tests conducted by DU FP

#### II) Program-Specific Requirements

Program-Specific admission requirements, if any, are given in the concerned section in this catalogue.

### b) Graduate (Master) Programs

(For admission requirements of Master Programs, refer to Graduate Studies Catalogue.)

## 7. Graduation Requirements

To receive a Diploma in any of the majors in the College of Arts and Applied Sciences, students must satisfactorily complete the required credit hours for his/her major, with a cumulative average of 65 percent.

To receive a Bachelor Degree in any of the majors in the College of Arts and Applied Sciences, the student must satisfactorily complete the required credit hours for his/her major with an overall minimum cumulative average of 65 percent, and a cumulative average of 70 percent in the major courses.

The total number of required credits varies by major. The following table summarizes the number of credits normally required for each undergraduate program in CAAS.

Program	Requirements				Total Credit Hours
	University	College	Program (Major)		
			Core	Elective	
Diploma in Computer Science	24	3	27	6	60
BS in Computer Science	30	12-13	57	21	120-121
Diploma in English Language	27	6	24	3	60
BA in English Language	30	12	42	36	120
BA in Translation	30	12	48	30	120
B. Ed. in English Language	30	6	69	15	120

B. Ed. in Information Technology	30	6	72	12	120
B. Ed. In Mathematics	30	6	77	9	122
Diploma in Mathematics	27	3	32	0	62
BS in Mathematics	30	12-13	64	15	121-122
Diploma in Social Works (English)	24	6	30	0	60
Diploma in Social Works (Arabic)	15	42	3	0	60
BA in Social Works (English)	30	12	66	12	120
BA in Social Works (Arabic)	12	18	75	15	120
BA in Arabic Language	15	0	57	48	120
B. Ed. In Teaching Science	30	6	70	15	121
M. Ed in Curriculum & Instruction: Teaching English Language (Thesis Option/ Comprehensive Exam)	0	0	27 (Core + thesis)	6	33
M. Ed. in Educational Administration (Thesis Option/ Comprehensive Exam)	0	0	27 (Core + thesis)	6	33
M. Ed. in Counseling (Thesis Option/ Comprehensive Exam)	0	0	27 (Core + thesis)	6	33
Master of Science in Information Technology (Thesis Option)	0	0	27 (Core + thesis)	15	36
Master of Social Work (Thesis Option/ Comprehensive Exam)	0	0	27 (Core + thesis)	6	33
M. Ed in General Curriculum & Instruction: (Arabic) (Thesis Option/ Comprehensive Exam)	0	0	27 (Core + thesis)	6	33
M. A. in Language Studies (Thesis Option/ Comprehensive Exam)	0	0	27 (Core + thesis)	6	33

M. A. in Literature and Criticism (Thesis Option/ Comprehensive Exam)	0	0	27 (Core + thesis)	6	33
Teaching Diploma	0	0	30	0	30

## 8. University Requirements

The university requirement courses are:

- 1) ARAB101: Academic writing in Arabic
- 2) ENGL101: Basic Academic English
- 3) ENGL102A: English for Arts, humanities and social sciences I, or  
ENGL102B: English for business I, or  
ENGL102C: English for computer sciences I, or  
ENGL102E: English for engineering and sciences I
- 4) ENGL203A: English for Arts, humanities and social Sciences II, or  
ENGL203B: English for business II, or  
ENGL203C: English for computer science II, or  
ENGL203E: English for engineering and sciences II
- 5) ENGL204: Advanced English for academic purposes and research
- 6) ENGL305: Advanced English language and communication skills
- 7) ENTR200: Entrepreneurship: Innovation and Creativity
- 8) CMPS100A: Introduction to technical computing for arts, or  
CMPS100B: Introduction to technical computing for the sciences, or  
MATH103: Mathematics for social sciences, or
- 9) MATH199: Calculus I
- 10) SOCS102: Omani Society

The number of credits to be taken by a student depends on the nature and level of the program. These are listed separately for each program in this catalogue.

## 9. College Requirements

Undergraduate students who are enrolled in any of the academic programs in the College of Arts and Applied Sciences are required to take a minimum of twelve credits in mathematics, natural sciences, social sciences, and elective courses. These are listed in the respective section in this catalogue.

## 10. Program Requirements

Program requirements vary from 78-115 credit hours from within and outside the department, depending on the chosen major, in which the student is enrolled. These are listed in the respective section in this catalogue.

# Department of Computer Science

## 1. Personnel

Chairperson	Zied Bouyahia
Assistant Professors	Hedi Haddad, Zied Bouyahia, Biju Sayed, Nurul Akhmal Mohd Zulkefli
Lecturers	Mukesh Madanan Nasser Tabook
Secretary	Muna Suhail Zabanoot

## 2. Vision

Through effective teaching, research and community services, the Department of Computer Science yearns to provide its community an immaculate learning environment while infusing the state of the art curriculum open to a world of global Information technological opportunities.

## 3. Mission

The computer science department aims at providing students with balanced theoretical and practical background in a variety of computer science topics. Through the fulfillment of coursework, practical projects, and community service activities, students are endowed with the necessary skills and experiences to develop successful careers in computer science and information technology. The program also prepares students to pursue higher education and research in computer science by promoting life-long independent learning.

## 4. Programs Offered

The department offers the following Diploma, Bachelor and Master programs:

### a) Diploma Program

- 1) Diploma in Computer Science

### b) Bachelors Program

- 1) Bachelor of Science in Computer Science

### c) Master Programs

- 1) Master of Science in Information Technology

**(Details of Master Programs are given in Graduate Studies Catalogue.)**

## **5. Bachelor of Science in Computer Science**

### **5.1. Program Overview**

The BS in Computer Science is a four-year, 121-122 Credit Hours program designed to enable its holders to contribute to improving and modernizing the lifestyle and work culture through the computerization and automation of a wide range of processes in the industries and the society. The program content is very much in line with the current standards and guidelines established by the Association of Computing Machinery (ACM).

### **5.2. Program Objectives**

The objectives of the Computer Science undergraduate programs are to:

- 1) Promote effective learning by exposing students to balanced theoretical and practical experiences that demand thinking and practice;
- 2) Provide excellent teaching by adopting advanced knowledge in computing and other information and communication technologies and effective teaching practices;
- 3) Offer the students opportunities to develop careers in computer science and information technology;
- 4) Prepare students to assume positions in public and private sectors, computer industry, or educational institutions;
- 5) Offer the graduates opportunities to pursue higher education in computer science;
- 6) Provide students with solid liberal education, training and appropriate learning skills and values; and
- 7) Promote life-long independent learning.

### **5.3. Program Learning Outcomes**

Based on the objectives mentioned above, the specific educational outcomes for the Computer Science undergraduate programs are by the time of graduation:

- 1) Mastering knowledge of basic and advanced computer science topics
- 2) Exhibiting an ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
- 3) Demonstrating an ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs
- 4) Having an understanding of mathematics appropriate for computer science
- 5) Demonstrating an ability to locate and use technical information from multiple sources
- 6) Having an ability to use current techniques, skills, and tools necessary for computing practices
- 7) Exhibiting an understanding of the links between technology and society
- 8) Having an ability to participate effectively in a class or project team
- 9) Having an ability to undertake independent learning
- 10) Demonstrating an ability to communicate effectively in speech and writing
- 11) Be prepared to enter a graduate program in Computer Science
- 12) Having an understanding of professional, ethical and social responsibilities



## 5.4. Admission Requirements

Admission requirements for a Bachelor of Science Degree in Computer Science Program are as specified in **College Section 6-a on page 42.**

## 5.5. Graduation Requirements

To graduate with a Bachelor of Science Degree in Computer Science, students must satisfactorily complete 121/122 credits taken over four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The university, college, and program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
30	12-13	58	21	121-122

## 5.6. University Requirements

The University requirements for a Bachelor program consist of the following ten courses comprising of 30 credit hours:

- 1) ARAB101: Academic Writing in Arabic
- 2) ENGL101: Basic Academic English
- 3) ENGL102C: English for Computer Sciences I
- 4) ENGL203C: English for Computer Science II
- 5) ENGL204: Advanced English for Academic Purposes and Research
- 6) ENGL305: Advanced English Language and Communication Skills
- 7) ENTR200: Entrepreneurship: Innovation and Creativity
- 8) CMPS100B: Introduction to Technical Computing for the Sciences
- 9) MATH199: Calculus I
- 10) SOCS102: Omani Society

## 5.7. College Requirements

The College requirement for a Bachelor program consists of four (4) courses comprising a minimum of 12-13 credit hours distributed as follows.

- One course in physical/natural sciences electives
- One course in social/humanities electives
- Two courses in any other majors.

## 5.8. Program Requirements

The program requirements for a Bachelor program consists of 25 courses encompassing 79 credit hours distributed as follows.

### I) Major Core Courses

The following 20 core course encompassing 58 Credit hours are required:

- 1) CMPS 110N: Introduction to Problem Solving and Programming
- 2) CMPS 150: Computer Programming
- 3) CMPS 180: Digital System Design
- 4) CMPS 215: Computer Organization with Assembly Language

- 5) CMPS 220: Data Structures
- 6) CMPS 240: Analysis of Algorithms
- 7) CMPS 250: Computer Networks
- 8) CMPS 260: Operating Systems
- 9) CMPS 270: Database Systems
- 10) CMPS 300: Human Computer Interaction
- 11) CMPS 310N: Programming Languages
- 12) CMPS 365: Artificial Intelligence
- 13) CMPS 410N: Software Engineering
- 14) CMPS 433: Ethics for IT Professional
- 15) CMPS 449: Final Project 1
- 16) CMPS 499: Final Project 2
- 17) MATH 200: Calculus II
- 18) MATH 250: Probability and Statistics
- 19) MATH 320: Linear Algebra I
- 20) MATH 370: Discrete Mathematics

## **II) Major Elective Courses**

Seven courses encompassing 21 credit hours (Three of these courses should be above 300 levels) chosen from the following set:

- 1) CMPS 200: Analysis and Design of Information Systems
- 2) CMPS 205: Introduction to Multimedia Concepts
- 3) CMPS 210: Digital Image and Video Processing
- 4) CMPS 225: Introduction to Data Communications
- 5) CMPS 230: Introduction to System Programming
- 6) CMPS 235: Numerical Computing
- 7) CMPS 255: Graphical User Interface
- 8) CMPS 265: Introduction to Microprocessors
- 9) CMPS 290: Introduction to Database Management
- 10) CMPS 295: Practical Training
- 11) CMPS 320: Introduction to Computer Security
- 12) CMPS 325: Mobile Application Development
- 13) CMPS 330: Computer Architecture
- 14) CMPS 335: Introduction to Game Design and Development
- 15) CMPS 340: Advanced Programming in Java
- 16) CMPS 345: Research Methods
- 17) CMPS 350: Theory of Computation
- 18) CMPS 360: Parallel Computing
- 19) CMPS 370: Distributed Database Systems
- 20) CMPS 415: Wireless Network
- 21) CMPS 420: Internet Programming and Web Design
- 22) CMPS 425: Computer Graphics

- 23) CMPS 430: Compiler Construction
- 24) CMPS 435: Embedded Systems and Real-Time Systems
- 25) CMPS 440: Selected Topics in Computer Science
- 26) CMPS 445: User-Centered Design
- 27) CMPS 450: Machine Learning
- 28) CMPS 455: Digital Media
- 29) CMPS 460: Software Quality Assurance
- 30) CMPS 465: Natural Language Processing
- 31) CMPS 470: Knowledge Representation
- 32) CMPS 475: Data Mining & Warehousing
- 33) CMPS 485: Client-Server Computing

## 5.9. Plan of Study: Bachelor in Computer Science

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
CMPS 100B	Introduction to Technical Computing for the Sciences	3
CMPS 110N	Introduction to Problem Solving and Programming	3
ENGL 101	Basic Academic English	3
MATH 199	Calculus I	3
Semester 2 (Spring)		15 Credits
Code	Course Title	Credit Hours
CMPS 150	Computer Programming	3
CMPS 180	Digital System Design	3
ENGL 102C	English for Computer Science I	3
MATH 370	Discrete Mathematics	3
SOCS 102	Omani Society	3
Year II		
Semester 3 (Fall)		15 Credits
Code	Course Title	Credit Hours
CMPS 215	Computer Organization with Assembly Language	3
CMPS 220	Data Structures	3
CMPS 240	Analysis of Algorithms	3
ENGL 203C	English for Computer Science II	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
Semester 4 (Spring)		15 Credits
Code	Course Title	Credit Hours
CMPS 250	Computer Networks	3
CMPS 260	Operating Systems	3
CMPS 270	Database Systems	3
Code	Major Elective	3
Code	General Elective	3

Year III		
Semester 5 (Fall)		15 Credits
Code	Course Title	Credit Hours
CMPS 300	Human-Computer Interaction	3
CMPS 310N	Programming Languages	3
ENGL 204	Advanced English for Academic Purposes & Research	3
MATH 200	Calculus II	3
Code	General Elective	3
Semester 6 (Spring)		15 Credits
Code	Course Title	Credit Hours
CMPS 365	Artificial Intelligence	3
MATH 320	Linear Algebra I	3
ENGL 305	Advanced English Language & Communication Skills	3
Code	Major Elective	3
Code	Major Elective	3
Year IV		
Semester 7 (Fall)		17 Credits
Code	Course Title	Credit Hours
CMPS 410N	Software Engineering	3
CMPS 433	Ethics for IT Professionals	3
CMPS 449	Final Project 1	2
MATH 250	Probability & Statistics	3
Code	Major Elective	3
Code	Humanities/Social Sciences Elective	3
Semester 8 (Spring)		14-15 Credits
Code	Course Title	Credit Hours
CMPS 499	Final Project 2	2
Code	Major Elective	3
Code	Major Elective	3
Code	Major Elective	3
Code	Physical/ Natural Sciences Elective	3-4
Completion of the BS in Computer Science - Total Credits 121-122		

## 5.10. Course Descriptions

### **CMPS 100A Introduction to Technical Computing for the Arts (3 crs.)**

This course introduces technical computer literacy. Students are expected to learn how computers affect the way we live and work. Students will become familiar with typical software applications such as database application, web page design and publication software. In addition, the course will familiarize with the basics and concepts of multimedia. *Prerequisite: FPT 102B or FPTL 100.* This course is open to arts/engineering students only.

**CMPS 100B Introduction to Technical Computing for the Sciences (3 crs.)**

In addition to covering some aspects of CMPS100A like database application and web page design, this course provides an extension to HTML/java scripts. Topics also include programming concepts, using appropriate tool, whereby students will be introduced with concepts like loops and conditional statements. *Prerequisite: FPT 102B.* This course is open to science/business/engineering students only.

**CMPS 105 Introduction to Computer Graphics (3 crs.)**

Through lectures, demonstrations, and practical experiences, the course covers the basics of page layout programs and image handling, utilizing various desktop publishing software programs. An emphasis is placed on graphics for print: posters, brochures, etc. *Prerequisite or Co-requisite: CMPS 100A or CMPS 100B.* This course cannot be taken by computer science students.

**CMPS 106 Introduction to Web Design (3 crs.)**

This course introduces the application of graphic design techniques to develop effective, aesthetically, pleasant, and useful websites. It serves as an introduction to the basic principles of web design. Students will learn how to plan and develop well-designed websites that combine effective navigation techniques with the creative use of graphics and typography. They will also learn the appearance of their choices in different browsers and gain a critical eye for evaluating website design. *Prerequisite or Co-requisite: CMPS 100A or CMPS 100B.* This course cannot be taken by computer science students.

**CMPS 110 Introduction to Programming (3 crs.)**

Introduction to the methodology of programming and its use in solving a variety of problems with computers. Topics include the introduction of a high level language with emphasis on procedural abstraction, adequate programming style and the concept of algorithm design. *Prerequisite or Co-requisite: CMPS 100A or CMPS 100B.*

**CMPS 110N Introduction to Problem Solving and Programming (3 crs.)**

This course provides an overview of the theory, foundations, and practice of computer science; and introduces the application of problem solving techniques to solve a variety of real-life problems. It provides an introduction to a high-level programming language with emphasis on procedural abstraction and modular algorithm design. Topics include evolution of computers, computer system components and relationship between hardware and software, data expressions, conditional statements, loops, subroutines and parameter passing. *Prerequisite/Co-requisite: CMPS 100B*

**CMPS 150 Computer Programming (3 crs.)**

This course provides a conceptual and practical introduction to object oriented programming. Topics include program structure and organization, object-oriented programming (classes, objects, methods, interfaces, packages, inheritance, encapsulation and polymorphism) and graphical user interfaces. *Prerequisite(s): CMPS 110*

**CMPS 160      Data Abstraction      (3 crs.)**

This course is a continuation of CMPS 110. It emphasizes algorithm design and programming techniques in large programs. It also includes detailed studies of data structures and data abstraction such as queues, linked lists, and trees. The course also offers an introduction to program complexity and verification. *Prerequisite: CMPS 110.*

**CMPS 180      Digital System Design      (3 crs.)**

This course is an introduction to the digital design of electronic circuits. Digital circuits are employed in the design and construction of systems such as digital computers, data communications, digital recordings and other applications that require digital hardware. The course provides the students with the basic tools for the design of digital circuits as well as the fundamental concepts in the design of digital systems such as combinational logic, synchronous sequential logic, programmable logic and other essential concepts. *Prerequisite: CMPS 100A or CMPS 100B.*

**CMPS 200      Analysis and Design of Information Systems      (3 crs.)**

This course highlights the main techniques used to model and design information systems. It differentiates between the conceptual, logical, and physical levels of modeling. Using a structured method, it presents the main phases of analysis and design, including requirement analysis, analysis, design, implementation, and testing. In this course, the student will learn the most important techniques of conceptual data modeling (e.g. entity-relation approach) and process modeling (e.g. information flow diagrams). The student will also learn the main techniques of processing design. *Prerequisite or Co-requisite: CMPS 100A or CMPS 100B.*

**CMPS 205      Introduction to Multimedia Concepts      (3 crs.)**

This course introduces the general concepts of multimedia. Students will learn the principles of graphics, sound, video, and animation. Topics include learning scripting techniques with the most common multimedia programs available to develop and create an interactive multimedia project. *Prerequisite: CMPS 100A or CMPS 100B.*

**CMPS 210      Digital Image and Video Processing      (3 crs.)**

This course introduces the basic techniques of automated (computer) processing, analysis, and understanding of image/video data. Topics include geometry and physics of image formation, image enhancement, feature extraction, video imagery, and multi-view imagery analysis. *Prerequisite: CMPS 100A or CMPS 100B.*

**CMPS 215      Computer Organization with Assembly Language      (3 crs.)**

This course deals with the fundamentals of computer organization using assembly language as an aid to studying computer organization. Topics include machine level representation of data, digital logic design, ALU and CPU design, memory system organization and architecture, object code, microprogramming, CISC, RISC, and parallel computers. *Prerequisite: CMPS 180.*

**CMPS 220      Data Structures      (3 crs.)**

This course is a continuation of CMPS 150. It emphasizes algorithm design and programming techniques in large programs. It also includes detailed studies of

data structures and data abstraction such as queues, linked lists, and trees. The course also offers an introduction to program complexity and verification. *Prerequisite: CMPS 150.*

**CMPS 225 Introduction to Data Communications (3 crs.)**

This course is an introduction to Data Communications concepts with practical applications to enhance understanding of those concepts. The course includes examination of the principles of data communications for computers and computer terminals, including data transmission performance, communications software, protocols, switching, and simple networks. Easy-to-understand language and clear examples explain many technical terms associated with data communications networks. *Prerequisite: CMPS 215*

**CMPS 230 Introduction to System Programming (3 crs.)**

This course highlights the features of the C language commonly used in systems programming, application to systems programming in a UNIX environment. Topics include C pre-processor macros, I/O, bit-manipulation facilities, timesharing system concepts, file permissions, shell script programming, make files and source code control, basic system calls like fork and exec, pointers and dynamic memory allocation, libraries and relocation and linking concepts including assembler handling of symbol tables. Prior knowledge of a programming language similar to C is presumed. *Prerequisite: CMPS 215.*

**CMPS 235 Numerical Computing (3 crs.)**

This course surveys the following areas: set theory, mathematical induction, number theory, relations, functions, algebraic structures and introductory graph theory. The topics to be discussed are fundamental to most areas of mathematics and have wide applicability to computer science. *Prerequisite: MATH 370.*

**CMPS 240 Analysis of Algorithms (3 crs.)**

This course examines the techniques of designing and analyzing efficient algorithms and advanced data structures. Topics include: asymptotic analysis, divide and conquer, greedy algorithms, dynamic programming, and optimization algorithms. Students will apply the techniques to problems such as searching, sorting, graphs, matrices, and set manipulation. *Co or Prerequisite: CMPS 220. Prerequisite: MATH 370*

**CMPS 250 Computer Networks (3 crs.)**

This course discusses the foundation of computer networks. It presents a top-down view of the layered architectural elements of communication systems, focusing on the Internet and TCP/IP. Topics include client/server systems, packet switching, protocol stacks, queuing theory, application protocols, socket programming, remote service calls, reliable transport, UDP, TCP, and security. *Prerequisite: CMPS 220 and CMPS 180.*

**CMPS 255 Graphical User Interface (3 crs.)**

This course deals with concepts and techniques used in the design and implementation of interactive systems. Topics include interface design guidelines, human factors, technical methods of user interface design, and the design and execution of usability studies. Students will learn how to apply various

techniques through designing, creation, and testing of an interactive software application. *Prerequisite: CMPS 220.*

**CMPS 260 Operating Systems (3 crs.)**

This course is an overview of operating systems. Topics include: operating system principles, scheduling and resource management, virtual memory, file systems, concurrent processing and synchronization, Deadlocks, and Disk Scheduling. Programming under UNIX is an essential part of this course with the emphasis on concurrency, and inter-process communication (IPC). *Prerequisites: CMPS 215.*

**CMPS 265 Introduction to Microprocessors (3 crs.)**

This course covers the historical development of microprocessors including its internal structure, units' functions, and principles of operation. Dealing with synchronous data transfer inside the computers, the pin configuration, and pins functions are covered. The modern technologies of pipelining and parallel processing are also included. *Prerequisite: CMPS 180.*

**CMPS 270 Database Systems (3 crs.)**

This course is an introduction to data modeling and various relational models (with relational algebra, and calculus) in a database system. Other topics include: the entity relationship model, SQL and integrity constraints, file organization and index files; and normalization. *Prerequisite: CMPS 220, and MATH 370.*

**CMPS 280 Introduction to Internet Programming & Web Design (3 crs.)**

This course provides an introduction to programming on the internet. It covers the “nuts and bolts” of internet programming. In addition to core fundamentals, students are introduced to web page construction, HTML, managing an account on a web server, client-server model, and JavaScript programming. *Prerequisite: CMPS 160.*

**CMPS 290 Introduction to Database Management (3 crs.)**

The main objective of this course is to introduce students to fundamentals of database technology by studying databases from three viewpoints: those of the database user, the database designer, and the database administrator. It teaches the use of a database management system (DBMS) by treating it as a black box, focusing only on its functionality and its interfaces. Topics include: introduction to database systems, relational database systems, database design methodology, SQL and interfaces, database application development, concept of transactions, ODBC, JDBC, database tuning, database Administration, and advanced topics (distributed databases, data warehouses, data mining). *Prerequisite: CMPS 270.*

**CMPS 295 Practical Training (3 crs.)**

This course consists of two components: internship and professionalism. Internship requires students to spend a minimum of four weeks employed, full-time, as IT interns or trainees. During this period, they are engaged in work of direct relevance to their program of study. The Internship provides students with practical, real-world experience and represents a valuable complement to their academic training. Students need to understand their professional roles when working as computer professionals as well as the responsibility that they will bear. They also need to develop the ability to ask serious questions about the



social impact of computing and to evaluate proposed answers to those questions. Topics may include programming, IT support, social context of computing, risks, safety and security concerns for computer professionals, professional and ethical responsibilities, and continuing professional development. *Prerequisite(s): Coordinator's Approval*

**CMPS 300 Human Computer Interaction (3 crs.)**

This course provides a process-oriented approach to human-computer interaction for learning the interdisciplinary skills needed for interaction design, human-computer interaction, information design, web design, and ubiquitous computing. Students will be introduced to principles that apply to interaction design and how these principles can be applied. Topics will include discussion on the latest technology such as social networking, Web 2.0 and mobile devices; and how to design interactive products that enhance and extend the way people communicate, interact, and work. *Prerequisite(s): CMPS 240*

**CMPS 310N Programming Languages (3 crs.)**

This course is a comparative study of the design and implementation of advanced programming language features in imperative, scripting, object-oriented, functional, logic, and visual languages. Formal methods for syntactic and semantic description of imperative programming languages are examined. Topics include statement types, data types, variable binding, method binding, and backtracking mechanisms. *Prerequisite: CMPS 220.*

**CMPS 315 Advanced Programming in C++ (3 crs.)**

This course introduces advanced programming techniques in C++. It is structured in such a way that a good theoretical knowledge and practical experiences are gained in the advanced concepts and features of object oriented programming. The course covers: An introduction to classes and objects, class functions and constructors, overloaded constructors, public and private access to functions, operators, use of conditional and iterative control statements, accessing arrays subscripts and pointers, inheritance, inherited and overridden functions, use of the stream library functions to access files and use of user defined classes to write object-oriented programs. *Prerequisite: CMPS 160.*

**CMPS 320 Introduction to Computer Security (3 crs.)**

This course is an introduction to cryptography and the security of networks and databases. Topics include classical encryption; modern encryption techniques; public key encryption; elliptic curve cryptography; message authentication, message digest functions; and methods for relational database security, including access control. *Prerequisite: MATH 370*

**CMPS 325 Mobile Application Development (3 crs.)**

This course deals with the development of applications on mobile and wireless computing platforms. Android will be used as a basis for teaching programming techniques and design patterns related to the development of standalone applications and mobile portals to enterprise and m-commerce systems. Emphasis is placed on the processes, tools and frameworks required to develop applications for current and emerging mobile computing devices. Students will work at all stages of the software development life-cycle from inception through

to implementation and testing. In doing so, students will be required to consider the impact of user characteristics, device capabilities, networking infrastructure and deployment environment, in order to develop software capable of meeting the requirements of stakeholders. *Prerequisite(s): CMPS 220*

**CMPS 330 Computer Architecture (3 crs.)**

This course provides a comprehensive understanding of the structure and function of a computer system from architectural and integration viewpoint. It focuses on two broad architectural perspectives: the internal perspective, which entails the architecture and design integration of the data path logic, control path logic, memory and I/O; and the external perspective, which provides consumer views and system selection aspects. Examples of real machines are used in the course. *Prerequisite: CMPS 215.*

**CMPS 335 Introduction to Game Design and Development (3 crs.)**

This course presents an overview of the games development process including important historical perspective, content creation strategies, production techniques, and a look into the future. The course covers game development history, platforms, goals and genres, player elements, story and character development, gameplay, levels, interface, audio, development team roles, game development process, and marketing and maintenance. Students will play games, analyze them, and complete portions of game designs with appropriate documentation. *Prerequisite(s): CMPS 240*

**CMPS 340 Advanced Programming in Java (3 crs.)**

This course provides the basic theoretical understanding and the necessary practical experience of advanced Java programming. The topics include: - types, operators and expressions, control flow, IO functions and program structure, Object- Oriented software design techniques, features of the Java language and commonly used application systems programming, testing and debugging techniques, analysis, design and systems software lifecycles. *Prerequisite: CMPS 220.*

**CMPS 345 Research Methods (3 crs.)**

The course aims to prepare students to conduct research across the range of IT disciplines, including computer science, software engineering, information systems and information management. It introduces students to major research philosophies and paradigms, the principles of research design, research ethics, and research methods and techniques of data collection and analysis appropriate to IT research and their discipline. Skills developed and knowledge acquired from this unit will prepare students to conduct and communicate their own research, as well as to be knowledgeable and critical interpreters of others' research. *Prerequisite: CMPS 240*

**CMPS 350 Theory of Computation (3 crs.)**

This course introduces to formal languages and computational models. Topics covered include finite automata, pushdown automata, Turing machines, undecidability, recursive and recursively enumerable functions. Some applications to computer science are also discussed, such as compiler design and text processing. *Prerequisites: MATH 370 and CMPS 150*

**CMPS 360 Parallel Computing (3 crs.)**

This course introduces the essentials of parallel computers and the methodology of programming using such computers. The basic architecture of parallel computers including shared memory, message passing, meshes, and hypercubes are introduced. Topics include: the basic techniques of parallel computations, portioning and divide-conquer, and the basic algorithms such as searching algorithms, numerical algorithms, etc. *Prerequisites: CMPS 215 and CMPS 240.*

**CMPS 365 Artificial Intelligence (3 crs.)**

This course is an introduction to the automation of intelligent capabilities, including knowledge representation and reasoning (search and logical inference), interpreting, behaviour modeling and learning. Expert systems, knowledge acquisition, and machine learning will also be stressed. Programming projects will be given, some of which will be in Prolog. *Prerequisites:* CMPS 240.

**CMPS 370**    **Distributed Database Systems**    **(3 crs.)**

This course focuses on the architecture, design, and implementation of massive-scale data systems. The course discusses foundational concepts of distributed database theory including design and architecture, security, integrity, reliability, privacy, query processing and optimization, transaction processing and management, concurrency control, and fault tolerance. It then applies these concepts to both large-scale data warehouse and cloud computing systems. Cloud computing topics include MapReduce, massive-scale cloud databases, and cloud analytics. The course also provides an insight to Mobile Adhoc Networks, Mobile Computing, Streaming Databases, Video Conferencing and Peer to Peer systems. *Prerequisite(s): CMPS 270 and CMPS 250*

**CMPS 410N Software Engineering (3 crs.)**

This course examines the overall process of software development. Students will learn the principles of software requirements, analysis, implementation, testing, and maintenance. Other topics include professional ethics, practices, risks and liabilities. A brief survey of available tools will be presented covering analysis, planning, design and structure charts, system and information flow diagrams, testing and quality control. Students complete a project by implementing a significant software system in teamwork. *Prerequisites: CMPS 240.*

## CMPS 415 Wireless Networks (3 crs.)

This course introduces fundamental concepts of wireless networks. The course will combine lectures with a set of assignments in which students will run experiment on wireless networks. The lectures will provide an introduction to the wireless physical layer (accessible for students with mostly a computer systems background), discuss commonly used wireless MAC mechanisms, give an wireless data communication standards, and review a number of more advanced topics. Specifically, the range of topics will comprise of Wireless networking challenges, Wireless communication, Wireless MAC concepts, Overview of cellular standards and WiMax (802.16), Overview of wireless MAC protocols including 802.11, bluetooth and personal area networks. The students will also have insight into supporting mobility, TCP over wireless, mobility, security, and review selected advanced topics, e.g. mesh and vehicular networks, sensor networks, and DTNs.

*Prerequisite(s): CMPS 250 and MATH 370*

**CMPS 420      Internet Programming and Web Design      (3 crs.)**

This course provides a hands-on approach in understanding how medium-sized interactive client/server Web applications are built using different types of integrated Web technologies. Students will learn how to implement a database-driven website, and gain understanding of the relevant technologies involved in each tier of the web architectural model. Topics include the accessibility of Web agents and end-users, Web caching and proxy techniques, and security issues and strategies of Web-based applications. *Prerequisites: CMPS 250 and CMPS 270.*

**CMPS 425      Computer Graphics      (3 crs.)**

This course introduces the fundamentals of computer graphics with emphasis on 2-D graphics. An application-based approach is used to introduce various topics such as: graphics output primitives, their attributes, colors, transformations, anti-aliasing, texture mapping, and curves and surfaces. Other topics include: 2D graphics algorithms, essentials of user interface and window management systems, and graphics hardware. Programming using OpenGL is an essential part of this course. *Prerequisites: CMPS 220.*

**CMPS 430      Compiler Construction      (3 crs.)**

This course examines how compilers work. Topics include a simple compiler, context-free grammars, lexical analysis, top-down parsing, bottom-up parsing, semantic analysis, and code generation. Programming projects are an essential part of this course. *Prerequisites: CMPS 215 and CMPS 310.*

**CMPS 433      Ethics for IT Professional      (3 crs.)**

This course introduces students to ethical and social issues related to the development and use of computer technology, ethical theory, and social, political, and legal considerations. Scenarios in problem areas: privacy, reliability and risks of complex systems, and responsibility of professionals for applications and consequences of their work. *Prerequisite(s): CMPS 260*

**CMPS 435      Embedded Systems and Real-Time Systems      (3 crs.)**

This course covers the principles of real-time and embedded systems inherent in many hardware platforms and applications being developed for engineering and science as well as for ubiquitous systems, including robotics and manufacturing, interactive and multimedia, immersive and omnipresent applications. As part of this course, students will learn about real-time and quality of service system principles, understand real-time operating systems and the resource management and quality of service issues that arise, and construct sample applications on representative platforms. Platforms range from handheld and mobile computers to media and real-time server systems. Platforms may also include specialized systems used in application-specific contexts, such as autonomous robotics, smart sensors, and others. *Prerequisite(s): CMPS 215 and CMPS 310*

**CMPS 440      Selected Topics in Computer Science      (3 crs.)**

This course requires the presentation of a selected topic, according to the interests of the instructors and/or students. Topics will be chosen from state-of-the-art innovations in software and computer information systems. *Prerequisite: Instructor Approval.*

**CMPS 445 User-Centered Design (3 crs.)**

This course explores the user-centered design paradigm via readings, case studies and hands-on design experience. It offers a broad perspective that emphasizes how user research and prototype assessment can be integrated into different phases of the design process. Students are exposed to the entire user-centered design process, from planning and discovery to launch, promotion and maintenance. *Prerequisite(s): CMPS 300*

**CMPS 449 Final Project 1 (2 crs.)**

During the first semester of the fourth year, students will be involved in research and selection of an ideal project suiting their area of interests. They will be specifying and analyzing the problem and suggesting a possible solution, and submitting a project proposal and software requirement specification (SRS) document along with a Project Plan.

**CMPS 450 Machine Learning (3 crs.)**

This course introduces to the study of computer systems that can learn from experience and adapt to their environments. It also includes an overview of the main models and algorithms used in the field including supervised and unsupervised learning, learning theory and reinforcement learning. Experiments with some machine learning techniques and their application to simple problems. *Prerequisite(s): MATH 370 and CMPS 310*

**CMPS 455 Digital Media (3 crs.)**

This course covers technical aspects of digital media. Topics include capturing, storage, digital representation, compression, and generation of digital media. The forms of media to be covered include text, images, 2D animation, video, sound, and 3D graphics and animation. *Prerequisite: CMPS 310.*

**CMPS 460 Software Quality Assurance (3 crs.)**

This course introduces software testing principles and practice as used in the industry. Practical software testing goals and approaches to testing software through all phases of the Software Testing Lifecycle will be discussed. The course material will include the following – software testing standards and metrics, types of testing (black-box and white-box), test planning, analysis, test case generation, quality gates, estimating test resources, test scheduling, test execution, assessing and managing risk, test prioritization, automation strategy, defect management, test execution. Software quality assurance activities will be discussed as part of a dynamic process that is flexible and constantly tuned to the changing needs of a project. The course will cover the difference between ideal testing practice and real-life scenarios where standards are not given appropriate level of importance. Testing techniques and principles: Defects vs. failures, equivalence classes, boundary testing. *Prerequisite(s): CMPS 240*

**CMPS 465 Natural Language Processing (3 crs.)**

General introduction to the study of computational systems dedicated to understand and/or generate human language. Fundamental concepts and techniques are discussed including language models, statistical techniques for sequence tagging, parsing, information extraction, and information retrieval. *Prerequisite(s): MATH 250 and CMPS 310*

**CMPS 470 Knowledge Representation (3 crs.)**

This course is designed to introduce how knowledge about the world can be represented in a computer system and what kinds of reasoning can be done with that knowledge. It provides an overview of some frameworks developed in Artificial intelligence, their key concepts and inference methods. It focuses on propositional logic, first-order logic and probabilistic models for reasoning and decision making. *Prerequisite(s): MATH 370 and CMPS 310*

**CMPS 475 Data Mining & Warehousing (3 crs.)**

The course is composed of two parts. The first part is an overview of the fundamental concepts related to data warehouses such as techniques of processing huge data volumes, building warehouse schemas and OLAP query retrieval techniques. The second part explores the different theoretical and practical aspects of knowledge discovery within large databases. Main currently used techniques are covered including clustering, classification and association rules mining. *Prerequisite(s): CMPS 270 and CMPS 310.*

**CMPS 485 Client-Server Computing (3 crs.)**

This course focuses on the client-server architecture and programming techniques involved. Major topics will include the evolution of client-server technology, two tier and three tier client server architectures, programming considerations, clean layering, advanced graphical user interface controls, database processing, transaction processing and monitoring, synchronization and semaphores. The Novell Netware and Windows Architecture along with Server communication model will form part of the case study. *Prerequisite(s): CMPS 220*

**CMPS 499 Final Project 2 (2 crs.)**

During the second semester of the fourth year, the students will be designing the solution according to the software requirement specification (SRS), developing the software architecture, along with implementation and testing plans. The deliverables will include a final project report, briefing all details of the project including the challenges they faced, software system developed and a user manual of the developed system. Students will explore security issues of their project and its potential impact on society. Teams will also make presentations as well as demonstrate their software. Additionally, this course would cover topics related to computer science profession including ethics and professional responsibility, entrepreneurship, leadership, and project management. *Prerequisite(s): CMPS 449*

## **6. Diploma in Computer Science Program**

### **6.1. Program Overview**

The Diploma in Computer Science is a 60-credit-hour program distributed over two years of study. It is competency oriented as required by the IT industry standards with emphasis on the following concepts:

- Computer Platforms
- System Analysis
- Programming
- Database Design
- Personal Skills Development.

The program strikes a balance between theory and practice. Although it emphasizes practical work, it also covers the theoretical foundations in order to establish adequate links with education at a higher level and keep the students abreast of current knowledge in the field. Students will have hands-on experience with computer hardware, software, and methodologies of software evaluation and development of computer applications with strong emphasis on developing programming skills, including programming for the World Wide Web. In addition, the program follows a modern liberal arts approach by exposing the students to a sound knowledge of general sciences, the arts, study of the Omani culture, mastery of general computing skills, and efficient usage of Arabic and English languages.

Although the Diploma holders may exit the university education with this degree, they will also have opportunities to continue their education to complete a Bachelor of Science in Computer Science if they satisfy the requirements for admission to that program, then all the credits that are successfully completed in the Diploma program are transferable to the B.S. program.

### **6.2. Program Objectives**

Refer to Bachelor of Science in Computer Science Program Sections 5.2.

### **6.3. Program Learning Outcomes**

Refer to Bachelor of Science in Computer Science Section 5.3.

### **6.4. Admission Requirements**

Admission requirements for a Diploma in Computer Science Program are as specified in **College Section 6-a on page 42**.

### **6.5. Graduation Requirements**

To graduate with a Diploma in Computer Science, students must satisfactorily complete 60 credits taken over two academic years, with an overall minimum average of 65 percent. The university, college, and program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
24	3	27	6	60

## 6.6. University Requirements

The University requirements for a Diploma in Computer Science program consist of the following eight (8) courses comprising of 24 credit hours:

- 1) ARAB101: Academic Writing in Arabic
- 2) ENGL101: Basic Academic English
- 3) ENGL102C: English for Computer Sciences I
- 4) ENGL203C: English for Computer Science II
- 5) ENTR200: Entrepreneurship: Innovation and Creativity
- 6) CMPS100B: Introduction to Technical Computing for the Sciences
- 7) MATH199: Calculus I
- 8) SOCS102: Omani Society

## 6.7. College Requirement

The College requirement for a Diploma in Computer Science program consists of one (1) course of 3 credit hours chosen from any other major.

## 6.8. Program Requirements

The program requirements for a Diploma in Computer Science program consists of eleven (11) course encompassing of 33 credit hours distributed as follows.

### I) Major Core Courses:

The following nine (9) core course encompassing 27 Credit hours are required:

- 1) CMPS 110: Introduction to Programming
- 2) CMPS 160: Data Abstraction
- 3) CMPS 180: Digital System Design
- 4) CMPS 215: Computer Organization with Assembly Language
- 5) CMPS 240: Analysis of Algorithms
- 6) CMPS 250: Computer Networks
- 7) CMPS 260: Operating Systems
- 8) CMPS 270: Database Systems
- 9) MATH 370: Discrete Mathematics

### II) Major Elective Courses:

Two (2) courses encompassing 6 credit hours are chosen from the following set:

- 1) CMPS 200: Analysis and Design of Information Systems
- 2) CMPS 205: Introduction to Multimedia Concepts
- 3) CMPS 210: Digital Image and Video Processing
- 4) CMPS 225: Introduction to Data Communications
- 5) CMPS 230: Introduction to System Programming
- 6) CMPS 235: Numerical Computing



- 7) CMPS 255: Graphical User Interface
- 8) CMPS 265: Introduction to Microprocessors
- 9) CMPS 280: Introduction to Internet Programming & Web Design
- 10) CMPS 290: Introduction to Database Management
- 11) CMPS 315: Advanced Programming in C++
- 12) CMPS 320: Introduction to Computer Security
- 13) CMPS 340: Advanced Programming in Java

## 6.9. Plan of Study: Diploma in Computer Science

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
CMPS 100B	Introduction to Technical Computing for the Sciences	3
CMPS 110	Introduction to Programming	3
ENGL 101	Basic Academic English	3
MATH 199	Calculus I	3
Semester 2 (Spring)		15 Credits
Code	Course Title	Credit Hours
CMPS 160	Data Abstraction	3
CMPS 180	Digital System Design	3
ENGL 102C	English for Computer Science I	3
MATH 370	Discrete Mathematics	3
SOCS 102	Omani Society	3
Year II		
Semester 3 (Fall)		15 Credits
Code	Course Title	Credit Hours
CMPS 215	Computer Organization with Assembly Language	3
CMPS 240	Analysis of Algorithms	3
ENGL 203C	English for Computer Science II	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
Code	Major Elective (Suggested: CMPS200)	3
Semester 4 (Spring)		15 Credits
Code	Course Title	Credit Hours
CMPS 250	Computer Networks	3
CMPS 260	Operating Systems	3
CMPS 270	Database Systems	3
Code	Major Elective	3
Code	General Elective	3

## 6.10. Course Descriptions

Refer to Bachelor of Science in Computer Science Program Sections 5.10.

# Department of Education

## 1. Personnel

Chairperson:	Moosa Ahmed Bait Ali Sualiman
Professor:	Nasser Abdelrasheed
Associate Professors:	Khalid Almashikhi, Abdelkader El Sayed, Sobhy Suliman, Mosleh Almajaly,
Assistant Professors:	Moosa Ahmed Bait Ali Suliman, Ahmed Al Maashani, Sumaya Al Barami, Yousef Al Barami, Nizar Mohammed Souidi, Raed Abdelkarim
Secretary:	Jamila Qatan

## 2. Vision

The Education Department makes every effort to provide programs of study and research contributions to qualify to be amongst the best in the Sultanate of Oman.

## 3. Mission

The Education Department provides its students with the knowledge and skills that qualify them to be successful teachers and educational administrators in their fields of specialization. It encourages them to conduct research in their fields, learn independently, and develop themselves as students, teachers and administrators. Moreover, it encourages them to think critically and get involved in their society's activities to participate actively in its development and progress.

## 4. Programs Offered

The department offers following Bachelor programs, Master programs and Postgraduate Diploma:

### a) Bachelor Program

- 1) Bachelor of Education (B.Ed.) in:
  - Teaching English Language
  - Teaching Mathematics
  - Teaching Science
  - Teaching Information Technology

### b) Master Programs

- 1) Master of Education in Curriculum and Instruction: Teaching English Language
  - 2) Master of Education in Educational Administration
  - 3) Master of Education in Psychological Counseling
  - 4) Master of Education in General Curriculum and Instruction
- (Details of Master Programs are given in Graduate Studies Catalogue)**

### c) Postgraduate Diploma

- 1) Teaching Diploma
- (Details of Postgraduate Diploma are given in Graduate Studies Catalogue)**

## **5. Bachelor of Education Program**

### **5.1. Program Overview**

The Bachelor of Education (B.Ed.) curriculum includes 30 credit hours of university requirements, 6 credit hours of college requirements, and 84-86 credit hours of major requirements (depending on the choice of major), including language and technical writing courses. Administration and emphasis on Education are important elements that are integrated throughout the curriculum. It is designed to grant students the Bachelor of Education degree upon the successful completion of the four-year program.

The program offers a wide range of courses in the subject matter specialization, psychology of learning, teaching methodology which optimize meaningful learning by students, using information and communication technologies in education and practicum in school settings.

### **5.2. Program Objectives**

The objectives of the Education Program are to:

- 1) provide students with quality education and content pedagogy that will prepare them to become productive teachers in schools and responsible professionals and citizens;
- 2) prepare caring and reflective teachers who are critical thinkers, problem-solvers, and can easily adapt to the changes in the relevant fields of knowledge;
- 3) prepare teachers who respect their cultural heritage, understand the main issues of modern society, and appreciate the role that both play in the lives of students;
- 4) provide students with solid liberal education, training and appropriate learning skills and values; and
- 5) promote life-long independent learning.

### **5.3. Program Learning Outcomes**

By the end of their studies, students at the Education Department will be able to:

- 1) teach successfully in public and private schools;
- 2) carry out different activities in their schools;
- 3) participate in their society's development and activities;
- 4) participate in the administration of their schools and other activities related to the MOE;
- 5) think critically in their lives and participate in the development of their schools;
- 6) carry out research that benefits their schools and society;
- 7) be aware of up-to-date pedagogy that qualifies them to be productive teachers;
- 8) continue to develop themselves as life-long learners; and
- 9) prepare them to become responsible and productive citizens in Oman.

### **5.4. Admission Requirements**

The General Admission requirements for a Bachelor of Education Program are as specified in **College Section 6-a on page 42**.

### Program Specific Admission Requirements

The program specific admission requirements for the Bachelor of Education Program are as per the Ministry of Higher Education regulations given below:

- 1) a minimum average of 75% in the General Education Certificate for all specializations.
- 2) a minimum grade of 80% in English/Mathematics/Science/IT for those who plan to specialize in teaching any of these subjects.

### 5.5. Graduation Requirements

To graduate with a Bachelor of Education Degree, students must satisfactorily complete 120-122 credit hours, depending on the specialisation, taken over four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The university, college, and program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
30	6	69-77	9-15	120-122

### 5.6. University Requirements

The University requirements consist of the following ten (10) courses comprising of 30 credit hours:

- 1) ARAB101: Academic writing in Arabic
- 2) ENGL101: Basic Academic English
- 3) ENGL 102 A: English for Arts, Humanities and Social Sciences I
- 4) ENGL 203 A: English for Arts, Humanities and Social Sciences II
- 5) ENGL204: Advanced English for academic purposes and research
- 6) ENGL305: Advanced English language and communication skills
- 7) ENTR200: Entrepreneurship: Innovation and Creativity
- 8) CMPS 100A: Introduction to Technical Computing for the Arts or CMPS 100B: Introduction to Technical Computing for the Sciences (teaching Mathematics, Science, and Information Technology).
- 9) MATH 103: Mathematics for Social Sciences I or MATH 199: Calculus I (for Teaching Mathematics and teaching Science)
- 10) SOCS102: Omani Society

### 5.7. College Requirements

The College requirement consist of following two (2) courses encompassing 6 credit hours for English, Math, science, and IT.

- One (1) course in physical/natural sciences electives (3 Cr. hrs.)
- One (1) course in humanities/social sciences electives (3 Cr. hrs.)

### 5.8. Program Requirements

#### I) Required Education Courses:

The following set of ten (10) Education courses encompassing 30 credit hours is required in all Specializations:

- 1) EDUC 120: Learning and Child Development
- 2) EDUC 150: Introduction to Foundations of Education
- 3) EDUC 300: Curriculum Development and Analysis
- 4) EDUC 303: School Visits & Classroom Observation
- 5) EDUC 320: Instructional Methods and Strategies
- 6) EDUC 360: Educational Systems in Oman and the GCC Countries
- 7) EDUC 365: Information and Communication Technologies (ICT) in Education
- 8) EDUC 420: Introduction to Research Methodology in Education
- 9) EDUC 490: Senior Project
- 10) PSYC 150: Introduction to Psychology

## **II) Elective Education Courses:**

English Language, Sciences, and Information Technology specializations are required to choose two (2) courses encompassing 6 credit hours, and Math specialization is required to choose one (1), 3 Credit hours course from the list of elective education courses given below.

- 1) EDUC 200: Introduction to Guidance and Counseling
- 2) EDUC 205: Introduction to Special Education
- 3) EDUC 210: Children's Literature
- 4) EDUC 250: Education in Islam
- 5) EDUC 260: Environmental Education
- 6) EDUC 305: Approaches to Integration in Education
- 7) EDUC 310: Visual Arts Education
- 8) EDUC 355: Behavior Modification
- 9) EDUC 370: Learning Difficulties
- 10) EDUC 400: Professional Development in Education
- 11) EDUC 425: Foundations of Health Education
- 12) EDUC 430: Educational Administration
- 13) EDUC 460: Senior Seminar: Issues in Education

## **5.9. Specialization Requirements**

### **a) Teaching English Language**

This specialization consists of 15 Courses encompassing 48 Credit hrs distributed as follows.

#### **I) Required Specialized Education Courses**

This set includes four (4) courses encompassing 15 Credit Hours chosen from the following list:

- EDUC 350E: Methods of Teaching EFL& ESL I
- EDUC 410E: Methods of Teaching EFL& ESL II
- EDUC 440E Assessment and Evaluation in teaching EFL& ESL
- EDUC 485E: Practicum in Teaching EFL& ESL

#### **II) Required Subject Courses**

This set includes eight (8) courses encompassing 24 Credit Hours chosen from the following list:

- 1) ENGL 120: Grammar in Context
- 2) ENGL 160: Introduction to Literature
- 3) ENGL 210: Introduction to Linguistics
- 4) ENGL 215: Phonetics and Phonology
- 5) ENGL 230: Prose Fiction in English
- 6) ENGL 270: Situational English
- 7) ENGL 285: Writing Workshop
- 8) ENGL 265: Culture in the Classroom

### **III) Elective Subject Courses**

This set includes three (3) courses encompassing 9 Credit Hours chosen from the following list

- 1) ENGL 220: Morphology
- 2) ENGL 240: Introduction to Language
- 3) ENGL 255: Psycholinguistics
- 4) ENGL 260: Shakespeare
- 5) ENGL 265: Culture in the classroom
- 6) ENGL 275: Rhetoric
- 7) ENGL 280: Business English
- 8) ENGL 315: The Novel
- 9) ENGL 350: Advanced Writing for Humanities
- 10) ENGL 355: Sociolinguistics
- 11) ENGL 440: Special Topic in Literature or Language
- 12) TRAN 150: Introduction to Translation
- 13) TRAN 220: Translation Theory
- 14) TRAN 250: Contrastive Analysis
- 15) TRAN 260: Translation Techniques

### **b) Teaching Mathematics**

This specialization consists of 18 Courses encompassing 53 Credit hrs distributed as follows:

#### **I) Required Specialized Education Courses**

This set includes four (4) courses encompassing 15 Credit Hours chosen from the following list

- EDUC 350M: Methods of Teaching Mathematics I
- EDUC 410M: Methods of Teaching Mathematics II
- EDUC 440M: Assessment and Evaluation in teaching Mathematics
- EDUC 485M: Practicum in Teaching Mathematics

#### **II) Required Subject Courses**

This set includes twelve (12) courses encompassing 32 Credit Hours chosen from the following list

- 1) CHEM 130: Chemical Principles I
- 2) CHEM 130L: Introductory Chemistry Laboratory
- 3) MATH 200: Calculus II
- 4) MATH 205: Calculus III
- 5) MATH 210: Differential Equations

- 6) MATH 240: Mathematics Computer Applications I
- 7) MATH 250: Probability and Statistics
- 8) EDUC 290: Mathematics for Teacher
- 9) MATH 260: Numerical Analysis I
- 10) MATH 220: Linear Algebra I
- 11) PHYS 170: Fundamentals of Physics I
- 12) PHYS 170L: Introductory Physics Laboratory

### **III) Elective Subject Courses**

This set includes two (2) courses encompassing 6 credit hours chosen from the following list

- 1) MATH 120: Geometry and Trigonometry
- 2) MATH 204: Mathematics for Social Sciences II
- 3) MATH 215: Elementary Statistics for Social Sciences
- 4) MATH 305: Advanced Calculus
- 5) MATH 355: Statistical Inference
- 6) MATH 370: Discrete Mathematics
- 7) MATH 280: Mathematics Computer Applications II
- 8) MATH 390: Differential Equation II

## **c) Teaching Science**

This specialization consists of 18 Courses encompassing 49 credit hours distributed as follows.

### **I) Required Specialized Education Courses**

This includes four (4) courses encompassing 15 credit hours chosen from the following list.

- EDUC 350S: Methods of Teaching Science I
- EDUC 410S: Methods of Teaching Science II
- EDUC 440S: Assessment and Evaluation in teaching Science
- EDUC 485S: Practicum in Teaching Science

### **II) Required Subject Courses**

This includes eleven (11) courses encompassing 25 credit hours chosen from the following list

- 1) BIOL 120: Introductory Biology
- 2) BIOL 120L: Introductory Biology Lab
- 3) CHEM 130: Chemical Principles I
- 4) CHEM 130L: Introductory Chemistry Laboratory
- 5) BIOL 160: Contemporary Issues in Biology
- 6) CHEM 170: Chemical Principles II
- 7) MATH 200: Calculus II
- 8) PHYS 170: Fundamentals of Physics I
- 9) PHYS 170L: Introductory Physics Laboratory
- 10) PHYS 210: Fundamentals of Physics II
- 11) PHYS 210L: Physics Lab II

### **III) Elective Subject Courses**

This includes three (3) courses encompassing 9 credit hours chosen from the following list

- CHEM 260: Analytical Chemistry
- CHEM 280: Environmental Chemistry
- MATH 205: Calculus III
- MATH 210: Differential Equations
- MATH 215: Elementary Statistics for Social Sciences
- MATH 240: Mathematics Computer Applications I

### **d) Teaching Information Technology**

This specialization consists of 15 Courses encompassing 48 credit hours distributed as follows.

#### **I) Required Specialized Education Courses**

This includes four (4) courses encompassing 15 credit hours chosen from the following list:

- EDUC 350C: Methods of Teaching Information Technology I
- EDUC 410C: Methods of Teaching Information Technology II
- EDUC 440C: Assessment and Evaluation in teaching Information Technology
- EDUC 485C: Practicum in Teaching Information Technology

#### **II) Required Subject Courses**

This includes nine (9) courses encompassing 27 credit hours chosen from the following list

- EDUC 110: Introduction to Educational Technology
- EDUC 160: Introduction to Instructional Design
- EDUC 180: Instructional Computer
- EDUC 185: Learning Resources & Technology Centers
- EDUC 215: Designing and Producing Multimedia
- EDUC 220: Individualized Instruction
- CMPS 250: Computer Networks
- CMPS 260: Operating Systems
- CMPS 270: Database Systems

#### **III) Elective Subject Courses**

This includes two (2) courses encompassing 6 credit hours chosen from the following list

- CMPS 200: Analysis and Design of Information Systems
- CMPS 205: Introduction to Multimedia Concepts
- CMPS 210: Digital Image and Video Processing
- CMPS 225: Introduction to Data Communications
- CMPS 230: Introduction to System Programming
- CMPS 235: Numerical Computing
- CMPS 265: Introduction to Microprocessors



- CMPS 290: Introduction to Database Management
- CMPS 420: Internet Programming & Web Design
- EDUC 450: Distance Learning and Use of Internet

## 5.10. Plan of Study

### I. Teaching English Language

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
CMPS 100A	Introduction to Technical Computing for the Arts	3
MATH 103	Mathematics for Social Sciences I	3
ENGL 101	Basic Academic English	3
ENGL 120	Grammar in Context	3
Semester 2 (Spring)		15 Credits
Code	Course Title	Credit Hours
EDUC 150	Introduction to Foundations of Education	3
ENGL 102A	English for Arts, Humanities & Social Science I	3
ENGL 160	Introduction to Literature	3
EDUC 120	Learning and Child Development	3
PSYC 150	Introduction to Psychology	3
Year II		
Semester 3 (Fall)		15 Credits
Code	Course Title	Credit Hours
ENGL 203A	English for Arts, Humanities & Social Science II	3
ENGL 210	Introduction to Linguistics	3
ENGL 215	Phonetics and Phonology	3
ENGL 230	Prose Fiction in English	3
SOCS 102	Omani Society	3
Semester 4 (Spring)		15 Credits
Code	Course Title	Credit Hours
ENGL 204	Advanced English for Academic Purposes & Research	3
ENGL 270	Situational English	3
ENGL 285	Writing Workshop	3
ENGL 265	Culture in Classroom	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3

Year III		
Semester 5 (Fall)		15 Credits
Code	Course Title	Credit Hours
EDUC 300	Curriculum Development and Analysis	3
EDUC 303E	School Visits and Classroom Observation in EFL & ESL	3
EDUC 320	Instructional Methods and Strategies	3
Code	English Major Elective	3
Code	Physical/Natural Sciences Elective	3
Semester 6 (Spring)		15 Credits
Code	Course Title	Credit Hours
EDUC 360	Educational Systems in Oman and the GCC Countries	3
EDUC 365	Information and Communication Technologies (ICT) in Education	3
EDUC 350E	Methods of Teaching EFL & ESL I	3
Code	Major Education Elective	3
Code	English Major Elective	3
Year IV		
Semester 7 (Fall)		18 Credits
Code	Course Title	Credit Hours
EDUC 420	Introduction to Research Methodology in Education	3
ENGL 305	Advanced English Language and Communication Skills	3
EDUC 440E	Assessment and Evaluation in Teaching EFL & ESL	3
EDUC 410E	Methods of Teaching EFL & ESL II	3
Code	English Major Elective	3
Code	Humanities & Social Science Elective	3
Semester 8 (Spring)		12 Credits
Code	Course Title	Credit Hours
EDUC 485E	Practicum in Teaching EFL & ESL	6
EDUC 490E	Senior Project: Teaching EFL & ESL	3
Code	Major Education Elective	3

## II. Teaching Mathematics

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
CMPS 100B	Introduction to Technical Computing for the Sciences	3
EDUC 120	Learning and Child Development	3
ENGL 101	Basic Academic English	3
MATH 199	Calculus I	3

<b>Semester 2 (Spring)</b>		<b>16 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
CHEM 130	Chemical Principles I	3
CHEM 130L	Introductory Chemistry Laboratory	1
EDUC 150	Introduction to Foundations of Education	3
ENGL 102A	English for Arts, Humanities & Social Science I	3
MATH 200	Calculus II	3
PSYC 150	Introduction to Psychology	3
<b>Year II</b>		
<b>Semester 3 (Fall)</b>		<b>16 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
ENGL 203A	English for Arts, Humanities & Social Science II	3
MATH 205	Calculus III	3
MATH 210	Differential Equations	3
PHYS 170	Fundamentals of Physics I	3
PHYS 170L	Introductory Physics Laboratory	1
MATH 240	Mathematics Computer Applications I	3
<b>Semester 4 (Spring)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
ENGL 204	Advanced English for Academic Purposes & Research	3
MATH 250	Probability and Statistics	3
EDUC 290	Mathematics for Teacher	3
MATH 260	Numerical Analysis I	3
SOCS 102	Omani Society	3
<b>Year III</b>		
<b>Semester 5 (Fall)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
EDUC 300	Curriculum Development and Analysis	3
EDUC 303M	School Visits and Classroom Observation: Teaching Mathematics	3
EDUC 320	Instructional Methods and Strategies	3
MATH 220	Liner Algebra I	3
Code	Mathematics Major Elective	3
<b>Semester 6 (Spring)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
EDUC 360	Educational System in Oman and GCC Countries	3
EDUC 365	Information and Communication Technologies in Education	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
EDUC 350M	Methods of Teaching Mathematics I	3
Code	Mathematics Major Elective	3

Year IV		
Semester 7 (Fall)		18 Credits
Code	Course Title	Credit Hours
EDUC 420	Introduction to Research Methodology in Education	3
ENGL 305	Advanced English Language and Communication Skills	3
EDUC 440M	Assessment and Evaluation in Teaching Mathematics	3
EDUC 410M	Methods of Teaching Mathematics II	3
Code	Mathematics Major Elective	3
Code	Humanities & social Science Elective	3
Semester 8 (Spring)		12 Credits
Code	Course Title	Credit Hours
EDUC 485M	Practicum in Teaching Mathematics	6
EDUC 490M	Senior Project: Teaching Mathematics	3
Code	Major Education Elective	3
Completion of the B. Ed. In Education - Total Credits 122		

### III. Teaching Science

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
CMPS 100B	Introduction to Technical Computing for the Sciences	3
EDUC 120	Learning and Child Development	3
ENGL 101	Basic Academic English	3
MATH 199	Calculus I	3
Semester 2 (Spring)		16 Credits
Code	Course Title	Credit Hours
CHEM 130	Chemical Principles I	3
CHEM 130L	Introductory Chemistry Laboratory	1
EDUC 150	Introduction to Foundations of Education	3
ENGL 102A	English for Arts, Humanities & Social Science I	3
MATH 200	Calculus II	3
PSYC 150	Introduction to Psychology	3
Year II		
Semester 3 (Fall)		14 Credits
Code	Course Title	Credit Hours
BIOL 120	Introductory Biology with Laboratory	3
BIOL 120L	Introductory Biology Laboratory	1
ENGL 203A	English for Arts, Humanities & Social Science II	3
PHYS 170	Fundamentals of Physics I	3
PHYS 170L	Introductory Physics Laboratory	1
SOCS 102	Omani Society	3

<b>Semester 4 (Spring)</b>		<b>16 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
BIOL 160	Contemporary Issues in Biology	3
CHEM 170	Chemical Principles II	3
ENGL 204	Advanced English for Academic Purposes and Research	3
PHYS 210	Fundamentals of Physics	3
PHYS 210L	Physics Lab II	1
Code	Physical/Natural Sciences Elective	3
<b>Year III</b>		
<b>Semester 5 (Fall)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
EDUC 300	Curriculum Development and Analysis	3
EDUC 303S	School Visits and Classroom Observation: Teaching Science	3
EDUC 320	Instructional Methods and Strategies	3
Code	Physical/Natural Sciences Elective	3
Code	Physical/Natural Sciences Elective	3
<b>Semester 6 (Spring)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
EDUC 360	Educational Systems in Oman and the GCC Countries	3
EDUC 365	Information and Communication Technologies (ICT) in Education	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
EDUC 350S	Methods of Teaching Science I	3
Code	Physical/Natural Sciences Elective	3
<b>Year IV</b>		
<b>Semester 7 (Fall)</b>		<b>18 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
EDUC 420	Introduction of Research Methodology in Education	3
ENGL 305	Advanced English Language and Communication Skills	3
EDUC 410S	Methods of Teaching Science II	3
EDUC 440S	Assessment and Evaluation in Teaching Science	3
Code	Major Education Elective	3
Code	Humanities/Social Sciences Elective	3
<b>Semester 8 (Spring)</b>		<b>12 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
EDUC 485S	Practicum in Teaching Science	6
EDUC 490S	Senior Project: Teaching Science	3
Code	Major Education Elective	3
<b>Completion of the B.Ed. in Science - Total Credits 121</b>		

#### IV: Teaching Information Technology

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
EDUC 120	Learning and Child Development	3
CMPS 100B	Introduction to Technical Computing for the Sciences	3
EDUC 110	Introduction to Educational Technology	3
ENGL 101	Basic Academic English	3
MATH 103	Mathematics for Social Sciences I	3
Semester 2 (Spring)		15 Credits
Code	Course Title	Credit Hours
EDUC 150	Introduction to Foundations of Education	3
EDUC 160	Introduction to Instructional Design	3
EDUC 180	Instructional Computer	3
ENGL 102A	English for Arts, Humanities & Social Science I	3
EDUC 185	Learning Resources & Technology Centers	3
Year II		
Semester 3 (Fall)		15 Credits
Code	Course Title	Credit Hours
PSYC 150	Introduction to Psychology	3
EDUC 215	Designing and Producing Multimedia	3
EDUC 220	Individualized Instruction	3
ENGL 203A	Advanced Academic English I	3
SOCS 102	Omani Society	3
Semester 4 (Spring)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
CMPS 250	Computer Networks	3
CMPS 260	Operating Systems	3
CMPS 270	Database Systems	3
ENGL 204	Advanced English for Academic Purposes & Research	3
Year III		
Semester 5 (Fall)		15 Credits
Code	Course Title	Credit Hours
EDUC 300	Curriculum Development and Analysis	3
EDUC 303C	School Visits and Classroom Observation: Teaching Information Technology	3
EDUC 320	Instructional Methods and Strategies	3
ENGL 305	Advanced English Language and Communication Skills	3
Code	Physical/Natural Sciences Elective	3

Semester 6 (Spring)		15 Credits
Code	Course Title	Credit Hours
EDUC 360	Educational Systems in Oman and the GCC Countries	3
EDUC 365	Information and Communication Technologies (ICT) in Education	3
EDUC 350C	Methods of Teaching Information Technology I	3
Code	Major Education Elective	3
Code	Computer Science Major Elective	3
Year IV		
Semester 7 (Fall)		15 Credits
Code	Course Title	Credit Hours
EDUC 420	Introduction to Research Methodology in Education	3
EDUC 410C	Methods of Teaching Information Technology II	3
EDUC 440C	Assessment and Evaluation in Teaching Information Technology	3
Code	Computer Science Major Elective	3
Code	Humanities and Social Science Elective	3
Semester 8 (Spring)		15 Credits
Code	Course Title	Credit Hours
EDUC 485C	Practicum in Teaching Information Technology	6
EDUC 490C	Senior Project: Teaching Information Technology	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
Code	Major Education Elective	3
Completion of the B.Ed. in Information Technology - Total Credits 120		

## 5.11. Course Descriptions

### **EDUC 110 Introduction to Educational Technology (3 credits)**

This course includes the concepts of educational technology, its theoretical and philosophical foundations, the components of the field of educational technology, and the roles and function of each component. In addition, this course covers the historical development of the field of educational technology, the elements that contributed to its application; and highlights the professional ethics of the practice of educational technology.

### **EDUC 120 Learning and Child Development (3 credits)**

Introduction to theories of instruction, intelligence, child development, learning and behavior management. Implications of these theories for classroom teaching.

### **EDUC 150 Introduction to Foundations of Education (3 credits)**

Brief history of major factors that influenced the development of modern education. The philosophical, psychological, and social backgrounds of education with focus on the Arabic culture and the goals of the educational systems in the Sultanate of Oman and the GCC countries.

**EDUC 160      Introduction to Instructional Design      (3 credits)**

This course aims to familiarize students with the methods of educational programs. The course provides an overview about the concept and importance of educational programs and their relationship to the educational theories. It also gives an introduction to system approach and it compares a range of educational methods for educational program design by analyzing their main components such as needs analysis, learner need analysis, concept and task analysis and by selecting the teaching strategies and the summative evaluation of the educational materials.

**EDUC 180      Instructional Computer      (3 credits)**

The course introduces students to the various applications of computers in education; and reviews the historical developments of the process of using educational computer applications in a variety of settings. The course also discusses the role of computers as a tool for the development of critical and creative thinking; collaborative computer work and the study of computer learning environments are emphasized in detail.

**EDUC 185      Learning Resources & Technology Centers      (3 credits)**

The course aims at preparing students to manage, enhance, and improve the quality of the services in Learning Resources & Technology Centers. It also explains in detail the different types of management of these centers. The course also discusses different ways to encourage teachers to adopt modern technology in teaching and student learning.

**EDUC 200      Introduction to Guidance and Counseling      (3 credits)**

An introduction to school guidance and counseling. Emphasis is on the role of guidance counselors in school and community settings. *Prerequisite: EDUC 120.*

**EDUC 205      Introduction to Special Education      (3 credits)**

An introduction to the various types of exceptionality. Educational characteristics of children with learning disabilities, emotional disturbance, mental retardation, speech, visual, and hearing impairment, and giftedness. *Prerequisite: EDUC 120.*

**EDUC 210      Children's Literature      (3 credits)**

Survey of the classics and contemporary children's literature of various genres. Topics include child development in relation to children's literature, poetry, fairy tales, epics, myths and legends, fantasy, fiction, nursery rhymes, ABC/counting and picture books. Using children's literature as an effective means to encourage reading enjoyment and self-expression is particularly stressed.

**EDUC 215      Designing and Producing Multimedia      (3 credits)**

The course reviews the characteristics of the software, and emphasizes the principles of design, production, selection, applications and assessment. Also, it discusses multimedia learning projects, and examines authoring programs such as Authorware, Hyper card, Tool box. It also compares and analyzes some of the multimedia educational software systems where students design and produce interactive programs as course requirements. *Prerequisite: EDUC 160*



**EDUC 220 Individualized Instruction (3 credits)**

The course covers the definition of individual Instruction, its importance and types, with emphasis on programed learning, personal systems of education, games and educational simulation, personal programed tutoring, audio learning systems, collaborative learning, self-study programs and their applications in the learning process.

**EDUC 250 Education in Islam (3 credits)**

This course examines the approach of Islam to education and the history of educational systems in Islamic societies.

**EDUC 260 Environmental Education (3 credits)**

The basic concepts of the environment from economic, cultural, and religious point of views. The need to preserve the environment locally and internationally to secure continuity of the human race. The local environmental problems and suggested solutions. The role of schools and educational systems to spread environmental awareness and improve environment friendly behaviors.

**EDUC 290: Math for Teachers (3 credits)**

The course aims to provide the students with basic skills of school mathematics. The course includes the following topics: Mathematical logic principles, methods of proof, groups and relationships, groupings, loops, fields, applications and binary operations, geometric transformations, coordinates, vectors: circle, ellipse, parabola, etc., space geometry.

**EDUC 300 Curriculum Development and analysis (3 credits)**

Principles of curriculum development and techniques to analyze and select curricula that is appropriate to stated goals and objectives. Focus is on the Omani curriculum at its various stages. *Prerequisite: EDUC 320.*

**EDUC 303 School Visit and Classroom Observation (3 credits)**

Visiting schools and getting acquainted with various aspects of school organization, structure, administration, teachers' duties, and the relationship between teachers and administrators. Students will be distributed in groups according to their area of specialization. *Prerequisite: One Methods Course.*

**EDUC 305 Approaches to Integration in Education (3 credits)**

Approaches to the integrated curriculum and construction of integrated thematic units. Building, analyzing, and critiquing models of integration are emphasized. Developing interdisciplinary units of learning; involving parents and community; communicating effectively with children within their unique stages of development.

**EDUC 310 Visual Arts Education (3 credits)**

Teaching visual art in the elementary school with focus on the techniques of teaching painting, drawing, paste modeling, and constructing visual products out of various media. Focus is on leading children to develop their creative thinking. The course includes observation and practice in actual classrooms.

**EDUC 320      Instructional Methods and Strategies      (3 credits)**

Exploration of known strategies and techniques of teaching, and learning. Essential teaching skills with focus on developing thinking abilities. Discussing the most commonly known theories and models such as Social Interaction Model, the Inductive Model, the Problem based Learning, Cooperative Learning, and Direct-Instruction Model. *Prerequisite: EDUC 150.*

**EDUC 350E      Methods of Teaching EFL & ESL I      (3 credits)**

Theoretical background and supervised teaching of English as a foreign language at the elementary and intermediate levels. Focus is on developing competencies in material development, instructional planning, classroom management, and methodology of teaching English as a foreign language in the elementary school. The course includes observation and application of these competencies in field settings. Micro teaching is an integral component. *Prerequisite or co-requisite: EDUC 320.*

**EDUC 350M      Methods of Teaching Mathematics I      (3 credits)**

Theoretical background and supervised teaching of mathematics in the elementary school. Focus is on developing competencies in instructional material development, instructional planning, classroom management, and methodology of teaching mathematics. The course includes observation and application of these competencies in field settings. Microteaching is an integral component. *Prerequisite or co-requisite: EDUC 320.*

**EDUC 350S      Methods of Teaching Science I      (3 credits)**

Theoretical background and supervised teaching of science at the intermediate level. Focus is on developing competencies in material development, instructional planning, classroom management, and methodology of teaching science. The course includes observation and application of these competencies in field settings. Microteaching is an integral component. *Prerequisite or co-requisite: EDUC 320.*

**EDUC 350C      Methods of Teaching Information Technology I      (3 credits)**

Theoretical background and supervised teaching of Information Technology at the intermediate level. Focus is on developing competencies in material development, instructional planning, classroom management, and methodology of teaching science. The course includes observation and application of these competencies in field settings. Microteaching is an integral component. *Prerequisite or co-requisite: EDUC 320.*

**EDUC 355      Behavior Modification      (3 credits)**

The meaning and psychological concepts that are associated with behavior. The distinction between normal and abnormal behaviors. The theoretical framework of behavior modifications in light of analytical and cognitive models with focus on the most common behavioral problems such as shyness, aggression, drug abuse, adolescent delinquency, and the role of family and school in this regard.

**EDUC 360      Educational Systems in Oman and the GCC      (3 credits)**  
**Countries**

An in-depth analysis of the educational systems in Oman and the GCC, its components and philosophy with special emphasis on input quality standards and the process of output transmission to the markets equipped with the necessary skills to complete at regional and international levels. Case studies and applied examples are used. *The course may be offered in Arabic.*

**EDUC 365      Information and Communication Technologies      (3credits)**  
**(ICT) in Education**

An of how to use technology in the classroom. Focuses on teaching and managing classroom activities using Information and Communication Technologies (ICT), evaluating the effectiveness of educational software, integrating the Internet in teaching, and developing basic educational applications such as digital presentations and educational websites.

**EDUC 370      Learning Difficulties      (3 credits)**

The basic concept and the foundations of classifying learning difficulties from biological and cognitive points of views. Focus is on the most common learning difficulties in the classroom such as speech irregularities and difficulties in writing and self-expression.

**EDUC 400      Professional Development in Education      (3 credits)**

Models of professional development in educational settings. Topics include theories of professional development in education, continuous improvement in teaching, expanded leadership roles for all teachers, providing peer assistance, and supervision for professional growth. Designing and evaluating a professional development plan.

**EDUC 410E      Methods of Teaching EFL& ESL II      (3 credits)**

A further development of the methods of teaching English as a second language at the elementary and intermediate levels that were studied in EDUC 350A. Focus is on curriculum analysis and the selection and evaluation of relevant textbooks and other support materials including computer software, and audio-visual materials. *Prerequisite: EDUC 350E.*

**EDUC 410M      Methods of Teaching Mathematics II      (3 credits)**

A further development of the methods of teaching mathematics at the elementary and intermediate levels that were studied in EDUC 350B. Focus is on curriculum analysis and the selection and evaluation of relevant textbooks and other support materials including computer software, and audio-visual materials. *Prerequisite: EDUC 350M.*

**EDUC 410S      Methods of Teaching Science II      (3 credits)**

A further development of the methods of teaching science at the elementary and intermediate levels that were studied in EDUC 350C. Focus is on curriculum analysis and the selection and evaluation of relevant textbooks and other support materials including computer software, and audio-visual materials. *Prerequisite: EDUC 350S.*

**EDUC 410C      Methods of Teaching Information Technology II      (3 credits)**

A further development of the methods of teaching Information Technology at the elementary and intermediate levels that were studied in EDUC 350C. Focus is on curriculum analysis and the selection and evaluation of relevant textbooks and other support materials including computer software, and audio-visual materials. *Prerequisite: EDUC 350C.*

**EDUC 420      Introduction to Research Methodology in Education      (3 credits)**

The importance of research in education. The basic qualitative and quantitative research methods that are suitable to education. Classroom-based research (Action Research) and its importance in improving classroom practices. The basic data collection techniques. Data types and basic data analysis techniques including frequency distributions, cross-tabulations, correlation, and hypothesis testing.

**EDUC 425      Foundations of Health Education      (3 credits)**

The foundation for improving health through modification of daily habits. Analysis of nutrition, exercise, and environmental health is emphasized. The characteristics of a healthy environment and health curriculum in schools.

**EDUC 430      Educational Administration and Classroom Management      (3 credits)**

The school structure and its relationship with central educational administration. Educational supervision and leadership with focus on the Omani environment in light of some international experiences. Classroom management and teacher relationship with the school administration.

**EDUC 440E      Assessment and Evaluation in Teaching EFL& ESL      (3 credits)**

Principles and procedures of assessment of learning English as a second language at the elementary and intermediate levels. Focus is on types of test items such as multiple choice, fill-in the blank, true and false, short answers, and essays in norm- and criterion referenced assessment; standardized tests and how to construct and administer tests. In addition, the course covers observation techniques, performance measures and alignment of assessment and instruction along with related current issues and controversies. *Prerequisite: EDUC 320.*

**EDUC 440M      Assessment and Evaluation in Teaching Mathematics      (3 credits)**

Principles and procedures of assessment of learning mathematics at the intermediate level. Focus is on types of test items such as multiple choice, fill-in the blank, true and false, short answers, and essays in norm- and criterion-referenced assessment; standardized tests and how to construct and administer tests. In addition, the course covers observation techniques, performance measures and alignment of assessment and instruction along with related current issues and controversies. *Prerequisite: EDUC 320.*

**EDUC 440S      Assessment and Evaluation in Teaching Science      (3 credits)**

Principles and procedures of assessment of learning science at the intermediate level. Focus is on types of test items such as multiple choice, fill-in the blank, true and false, short answers, and essays in norm- and criterion-referenced assessment; standardized tests and how to construct and administer tests. In

addition, the course covers observation techniques, performance measures and alignment of assessment and instruction along with related current issues and controversies. *Prerequisite: EDUC 320.*

**EDUC 440C      Assessment and Evaluation in Teaching      (3 credits)**  
**Information Technology**

Principles and procedures of assessment of learning Information Technology at the elementary and intermediate levels. Focus is on types of test items such as multiple choice, fill-in the blank, true and false, short answers, and essays in norm- and criterion-referenced assessment; standardized tests and how to construct and administer tests. In addition, the course covers observation techniques, performance measures and alignment of assessment and instruction along with related current issues and controversies. *Prerequisite: EDUC 320.*

**EDUC 450      Distance Learning and Use of Internet      (3 credits)**

The course aims to introduce students to the basics of distance learning. Also, it focuses on the importance, objectives and requirements that are conceded as important aspects in this course. In addition, this course reviews the design process of distance learning materials, as well as the introduction of teleconferencing technology. The course also covers the objectives, principles, and structure of the network applications and historical development of teaching/learning process. The course also explains other issues, such as: the principles of web page design, and the various approaches to shaping, managing, and evaluating web-based learning materials.

**EDUC 460      Senior Seminar: Issues in Education      (3 credits)**

A seminar intended for majors in elementary education focusing on one or more current issues in elementary education. *Senior Standing.*

**EDUC 485E      Practicum in Teaching EFL& ESL      (6 credits)**

Experience in classroom settings under the supervision of university instructors and cooperating school teachers. *Prerequisite: EDUC 410E*

**EDUC 485M      Practicum in Teaching Mathematics      (6 credits)**

Experience in classroom settings under the supervision of university instructors and cooperating school teachers. *Prerequisite: EDUC 410M*

**EDUC 485S      Practicum in Teaching Science      (6 credits)**

Experience in classroom settings under the supervision of university instructors and cooperating school teachers. *Prerequisite: EDUC 410S*

**EDUC 485C      Practicum in Teaching Information Technology      (6 credits)**

Experience in classroom settings under the supervision of university instructors and cooperating school teachers. *Prerequisite: EDUC 410C*

**EDUC 490      Senior Project      (3 credits)**

Methods and concepts of action research. Action research is presented as a reflective process used by practicing classroom teachers to identify and solve problems of importance in the classroom. The course includes an action research project. The course should be taken only in the spring semester of the fourth year.

## 6. Bachelor of Education: Teacher of Field I

### 6.1. نظرة عامة على البرنامج

يعد تخصص المجال الأول من التخصصات الرئيسة في الصفوف (1- 4) بمدارس التعليم الأساسي في سلطنة عُمان، إذ يتضمن تدريس مناهج اللغة العربية، والتربية الإسلامية، والدراسات الاجتماعية، ويتضمن الكثير من المهارات والمعارف التي تجعل المتعلم هو محور العملية التعليمية، وإكسابه مهارات القرن الواحد والعشرين وإكسابه القدرة على التعلم مدى الحياة. وفي ضوء نتائج دراسة الجدوى توضح الإحصائيات حاجة وزارة التربية والتعليم بشكل عام ومحافظة ظفار بشكل خاص لمعلمات المجال الأول لتزويد المدارس بمعلمات في تخصص المجال الأول نظرا لانخفاض نسبة التعمين في هذا التخصص، وعدم استقرار الهيئة التدريسية الوافدة في المدارس بسبب التنقلات وانتهاء فترة الإعارة أو التعاقد، مما يتسبب في هدر جهود وزارة التربية والتعليم فيما يتعلق بتدريب هؤلاء المعلمات على مستجدات الحقل التربوي وتطلعاته، وهو ما ينعكس سلبيا على المستوى التحصيلي للمتعلّمين في المجال الأول. من هنا رأت الجامعة أهمية إدراج برنامج المجال الأول في جامعة ظفار بكلية الآداب والعلوم التطبيقية (قسم التربية) لتلبية حاجة وطنية في إثراء الحقل التربوي بمعلمات متخصصات في هذا المجال ليحملن رسالة سامية في تعليم الجيل الواعد الذي سوف يحافظ على نهضة عُمان ويكمل مسيرة التنمية في هذا الوطن الغالي. وقد حرصت الجامعة عند إعدادها برنامج (بكالوريوس التربية: معلم مجال أول)، على مراعاة المتطلبات والمحاوِر المعمول بها في مثل هذه البرامج. يتضمن البرنامج عدداً من المقررات تنحصر في 42 مقرراً بواقع 132 ساعة معتمدة، موزعة ما بين المقررات الأكاديمية، والتربوية، والثقافية. جاء هذا البرنامج تلبية لرغبة قطاع كبير من خريجي شهادة دبلوم التعليم العام في الالتحاق بهذا التخصص.

### 6.2-أهداف البرنامج

يهدف البرنامج إلى:

1. رفد سوق العمل بكوادر تعليمية في المجال الأول للتدريس في الحلقة الأولى من التعليم الأساسي.
2. إعداد معلم مجال أول قادر على تحمل المسؤولية والتطوير الذاتي، ويمتلك القيم الجوهرية، والسلوك المهني والأخلاقي لمهنة التعليم في سلطنة عمان.
3. إكساب المتعلم المعارف والخبرات الأكاديمية والتربوية في مجالات اللغة العربية، والتربية الإسلامية، والدراسات الاجتماعية، بما يحقق له ممارسات مهنية وتربوية فعالة في الحلقة الأولى من التعليم الأساسي.
4. تزويد المتعلم باستراتيجيات وأساليب القياس والتقويم المناسبة لمجالات اللغة العربية، والتربية الإسلامية، والدراسات الاجتماعية في الحلقة الأولى من التعليم الأساسي.
5. إكساب المتعلم أساسيات البحث التربوي في مجالات اللغة العربية، والتربية الإسلامية، والدراسات الاجتماعية، لتطوير العملية التعليمية في الحلقة الأولى من التعليم الأساسي.
6. تمكين المتعلم من توظيف تكنولوجيا التعليم في تدريس اللغة العربية، والتربية الإسلامية، والدراسات الاجتماعية في الحلقة الأولى من التعليم الأساسي.
7. تزويد المتعلم بسيكولوجية الأطفال، وسماتهم الشخصية، وأساليب التعامل معهم، وكذلك صعوبات التعلم التي يواجهونها في تلك المرحلة العمرية
8. امتلاك المتعلم لمهارات القرن الحادي والعشرين والتطورات المستقبلية العالمية ذات الصلة بالمواد الدراسية للمجال الأول.
9. تزويد المتعلم بأهم الأسس التي تقوم عليها فلسفة التعليم والتشريعات والقوانين والأنظمة التربوية في سلطنة عمان، خاصة فيما يتعلق بالحلقة الأولى من التعليم الأساسي.
10. تعزيز الاتجاهات الإيجابية لدى المتعلم بما يتوافق مع متطلبات التطوير التربوي المعاصر في الحلقة الأولى من التعليم الأساسي.

### 6.3-مخرجات التعلم للبرنامج

من المتوقع بعد نهاية البرنامج أن يكون الخريج قادراً على:

1. توظيف المعلومات والمعارف والخبرات الخاصة بالمقررات الدراسية في تدريس مواد المجال الأول بالحلقة الأولى من التعليم الأساسي.
2. توظيف نظريات التعلم، وطرائق واستراتيجيات التدريس المناسبة للمواد الدراسية في المجال الأول بالحلقة الأولى من التعليم الأساسي.
3. تحليل وتطوير المناهج المدرسية في مجالات اللغة العربية، والتربية الإسلامية، والدراسات الاجتماعية، بما يتماشى مع الاتجاهات المحلية والعالمية المعاصرة.
4. توظيف وبناء أساليب وأدوات القياس والتقويم المناسبة لمجالات اللغة العربية، والتربية الإسلامية، والدراسات الاجتماعية في الحلقة الأولى من التعليم الأساسي.
5. إجراء البحوث الإجرائية لمعالجة مشكلات التعليم والتعلم في الحلقة الأولى من التعليم الأساسي، متبعاً في ذلك الأساليب العلمية والمنهجية الصحيحة.
6. توظيف المستحدثات التعليمية في تدريس اللغة العربية، والتربية الإسلامية، والدراسات الاجتماعية في الحلقة الأولى من التعليم الأساسي بما يحقق التواصل بينه وبين طلابه، وتحقيق الإنجاز المطلوب.
7. تحديد سيكولوجية الأطفال، وسماتهم الشخصية، وصعوبات التعلم التي يواجهونها في تلك المرحلة العمرية، والتغلب عليها بشكل فعال.
8. ممارسة مهارات القرن الحادي والعشرين والتطورات المستقبلية العالمية ذات الصلة بالمواد الدراسية للمجال الأول.
9. ممارسة كافة المهام والأنشطة التعليمية وغير التعليمية في مدارس الحلقة الأولى من التعليم الأساسي.
10. الاستمرار في تحمل المسؤولية، والتطوير الذاتي كمتعلم مدى الحياة.
11. المشاركة في تنمية المجتمع العماني لتحقيق المواطنة الفاعلة.
12. ممارسة أخلاقيات مهنة التعليم، والقيم الجوهرية في الحياة المهنية والعامة.

### 6.4-متطلبات القبول

1. أن لا يقل معدل الطالب في دبلوم التعليم العام أو ما يعادله عن 80% .
  2. حصول الطالب على معدل 70% في المواد التالية: التربية الإسلامية، اللغة العربية، الدراسات الاجتماعية.
  3. ألا يزيد عمر المتقدم في الأول من سبتمبر من العام الأكاديمي الذي سيتقدم فيه بالطلب عن (30) ثلاثين سنة.
  4. اجتياز البرنامج التأسيسي.
  5. اجتياز المقابلة الشخصية من قبل اللجنة المختصة في الجامعة.
- علماً بأن آلية التقدم للبرنامج خاضعة لسياسة القبول والتسجيل واشتراطات وزارة التعليم العالي والبحث العلمي والابتكار.

### 6.5-متطلبات التخرج

مجموع الساعات	متطلبات التخصص		متطلبات الكلية	متطلبات الجامعة
	المتطلبات الاختيارية	المتطلبات الإلزامية		
132	3	108	6	15

## 6.6-متطلبات الجامعة:

1. ARAB 101 : الكتابة الأكاديمية باللغة العربية
2. CMPS 100A : مدخل إلى تقنيات الحاسوب للآداب
3. ENGL 101 : اللغة الانجليزية الأكاديمية التأسيسية
4. SOCS 102 : المجتمع العماني
5. ENTR 200 : ريادة الأعمال

## 6.7-متطلبات الكلية:

1. مقرر اختياري العلوم الإنسانية والاجتماعية: يختار الطالب مقررًا واحدًا
2. مقرر اختياري العلوم الفيزيائية والطبيعية: يختار الطالب مقررًا واحدًا

## 6.8-متطلبات التخصص:

أولاً: متطلبات التخصص الإجبارية:

1. EDUC 120 : التعلم وتطور الطفل
2. SOST 150 : مدخل لتاريخ عمان والوطن العربي
3. ARAB 102 : قواعد اللغة العربية
4. ISLAM 150 : القرآن الكريم (الحفظ والتجويد والتفسير)
5. EDUC 150 : أسس التربية
6. ARAB 103 : مقدمة في الأدب العربي
7. ISLAM 160 : مدخل لعلوم الحديث والسيرة النبوية
8. EDUC 170 : علم النفس التربوي
9. ISLAM 270 : مدخل إلى العقيدة الإسلامية
10. SOST 260 : جغرافية عمان والوطن العربي
11. EDUC 250 : التربية في الإسلام
12. ARAB 202 : نحو 1
13. ISLAM 280 : الأخلاق والأسرة في الإسلام
14. SOST 270 : قضايا عالمية معاصرة
15. ARAB 205 : المعجم والدلالة
16. ARAB 206 : البلاغة العربية
17. ISLAM 290 : فقه العبادات
18. EDUC 300F1 : تطوير وتحليل المناهج الدراسية – مجال أول
19. EDUC 375 : تكنولوجيا التعليم
20. EDUC 320 : نظريات واستراتيجيات التدريس العامة
21. EDUC 301 : الاضطرابات السلوكية والانفعالية عند الطفل
22. EDUC 350F1 : طرائق واستراتيجيات تدريس المجال الأول -1
23. EDUC 353F1 : التدريس المصغر - مجال أول
24. F155EDUC 3 : تربية عملية 1 – مجال أول
25. EDUC 360 : نظام التعليم في عمان ودول مجلس التعاون الخليجي
26. EDUC 380 : أخلاقيات مهنة التعليم
27. 430EDUC : الإدارة التربوية وإدارة الصف
28. EDUC 420F : البحث الإجرائي



29. EDUC 440F1 : القياس والتقويم في التربية- مجال أول
30. EDUC 450F1 : طرائق واستراتيجيات تدريس المجال الأول- 2
31. EDUC 455F1 : تربية عملية 2- مجال أول
32. EDUC 460F1 : طرائق واستراتيجيات تدريس المجال الأول- 3
33. EDUC 485F1 : تربية عملية 3 – مجال أول
34. EDUC 490F1 :مشروع التخرج – مجال أول

### 6.9-ثانيا متطلبات التخصص الاختيارية:

مقرر اختياري تربية: يختار الطالب مقررأ واحداً من المقررات التالية:

1. EDUC 200 : مدخل إلى التوجيه والإرشاد
2. EDUC 205 :مدخل الى التربية الخاصة
3. EDUC 210 : أدب الأطفال
4. EDUC 260 : التربية البيئية
5. EDUC 305 :مداخل التكامل في التربية
6. EDUC 310 :التعليم البصري
7. EDUC 355 :تعديل السلوك
8. EDUC 430 :صعوبات التعلم
9. EDUC 400 :التطوير المهني في التربية
10. EDUC 425 :أسس التربية الصحية
11. EDUC 460 :حلقة نقاش: قضايا في التربية

### 6.10-الخطة الدراسية

رمز المقرر	عنوان المقرر	الساعات التدريسية المعتمدة
<b>السنة الدراسية الأولى (33 ساعة)</b>		
<b>الفصل الدراسي الأول</b>		
15		
ARAB 101	الكتابة الأكاديمية باللغة العربية	3
CMPS 100A	مدخل إلى تقنيات الحاسوب للأدب	3
EDUC 120	التعلم وتطور الطفل	3
ENGL 101	اللغة الانجليزية الأكاديمية التأسيسية	3
SOST 150	مدخل لتاريخ عمان والوطن العربي	3
<b>الفصل الدراسي الثاني</b>		
18		
ARAB 102	قواعد اللغة العربية	3
ISLAM 150	القرآن الكريم (الحفظ والتجويد والتفسير)	3
EDUC 150	أسس التربية	3
ARAB 103	مقدمة في الأدب العربي	3
ISLAM 160	مدخل لعلوم الحديث والسيرة النبوية	3
EDUC 170	علم النفس التربوي	3
<b>السنة الدراسية الثانية (36 ساعة)</b>		

18	الفصل الدراسي الثالث	
3	مدخل إلى العقيدة الإسلامية	ISLAM 270
3	جغرافية عمان والوطن العربي	SOST 260
3	التربية في الإسلام	EDUC 250
3	نحو 1	ARAB 202
3	الأخلاق والأسرة في الإسلام	ISLAM 280
3	المجتمع العماني	SOCS 102
18	الفصل الدراسي الرابع	
3	قضايا عالمية معاصرة	SOST 270
3	المعجم والدلالة	ARAB 205
3	البلاغة العربية	ARAB 206
3	فقه العبادات	ISLAM 290
3	ريادة الأعمال	ENTR 200
3	اختياري/ العلوم الإنسانية والاجتماعية	Code
السنة الدراسية الثالثة (33 ساعة)		
15	الفصل الدراسي الخامس	
3	تطوير وتحليل المناهج الدراسية – مجال أول	EDUC 300F1
3	تكنولوجيا التعليم	EDUC 375
3	نظريات واستراتيجيات التدريس العامة	EDUC 320
3	الاضطرابات السلوكية والانفعالية عند الطفل	EDUC 301
3	اختياري/ العلوم الطبيعية والفيزيائية	Code
18	الفصل الدراسي السادس	
3	طرائق واستراتيجيات تدريس المجال الأول-1	EDUC 350F1
3	التدريس المصغر - مجال أول	EDUC 353F1
3	تربية عملية 1 – مجال أول	EDUC F1553
3	نظام التعليم في عمان ودول مجلس التعاون الخليجي	EDUC 360
3	أخلاقيات مهنة التعليم	EDUC 380
3	الإدارة التربوية وإدارة الصف	430EDUC
السنة الدراسية الرابعة (30 ساعة)		
15	الفصل الدراسي السابع	
3	البحث الإجرائي	EDUC 420F
3	القياس والتقويم في التربية- مجال أول	EDUC 440F1

3	طرائق واستراتيجيات تدريس المجال الأول- 2	EDUC 450F1
6	تربية عملية 2- مجال أول	EDUC 455F1
15	الفصل الدراسي الثامن	
3	طرائق واستراتيجيات تدريس المجال الأول- 3	EDUC 460F1
6	تربية عملية 3 – مجال أول	EDUC 485F1
3	مشروع التخرج – مجال أول	EDUC 490F1
3	اختياري/ تربية	Code
مجموع الساعات: 132 ساعة معتمدة		

## 6.11-توصيف المقررات

### ARAB 101 الكتابة الأكاديمية باللغة العربية (3ساعات معتمدة)

يركز هذا المساق على دراسة العناصر الأساسية في الكتابة الأكاديمية العربية، ويشمل: الجمل التامة، والفقرات، والمقالات والأبحاث الأكاديمية، والتقارير، والرسائل الرسمية. ويتوجب على الطلبة إظهار قدرات متقدمة في إنتاج نصوص أكاديمية صحيحة.

### CMPS100A مدخل لتقنيات الحاسوب للعلوم (3ساعات معتمدة)

يقدم هذا المساق المعرفة التقنية الحاسوبية. من المتوقع أن يتعلم الطلاب كيف تؤثر أجهزة الكمبيوتر على طريقة حياتنا وعملنا. سيصبح الطلاب على دراية بتطبيقات البرامج النموذجية مثل تطبيق قواعد البيانات وتصميم صفحات الويب وبرامج النشر. بالإضافة إلى ذلك، كما سيغطي المقرر أساسيات ومفاهيم الوسائط المتعددة. هذا المقرر متاح لطلاب الآداب / الهندسة فقط.

### EDUC 120 التعلم وتطور الطفل (3ساعات معتمدة)

يحتوي المقرر على مقدمة حول مفهوم النمو ومراحل، والنظريات المرتبطة بالتدريس والذكاء والتطور النمائي للأطفال مع التركيز على جوانب نظريات التعلم وإدارة السلوك وتأثيراتها على عملية التعليم داخل الصف.

### Basic Academic English ENGL 101 (3ساعات معتمدة)

Consistent with its aim of enabling first year students in the university departments to become efficient communicators in English Language, this course scaffolds with their knowledge, skills and competence developed in Level 3 of the Foundation Program and continues to build on their language and study skills. This integrated skills course is designed to develop the listening, speaking, reading and writing skills of the students so that they can understand English in a range of contexts and express thoughts, opinions, arguments and a range of language functions to speakers of English and other languages with sufficient clarity and accuracy of language and pronunciation. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential.

## **SOST150 مدخل لتاريخ عُمان والوطن العربي**

(3ساعات معتمدة)

يتناول هذا المقرر تاريخ العرب قبل الميلاد والهجرات السامية، والحضارات العربية الجنوبية، الديانات العربية القديمة، العلاقات التاريخية بين العرب والأمم الأخرى، الدور الحضاري للعرب، دور العرب في الحضارة الإنسانية. كما يتضمن تعريف الطالبات بتاريخ العماني الحديث والمعاصر بكل متغيراته وأوضاعه السياسية والاجتماعية والفكرية والثقافية وأثره على الحضارة الإسلامية وأفريقيا وحتى الاستقلال. وتاريخ العرب الحديث والمعاصر بدءاً من السيطرة العثمانية على الوطن العربي عام 1516-1517م، والأوضاع السياسية والاقتصادية والاجتماعية والفكرية والثقافية، والبقعة العربية، وسقوط الدولة العثمانية، وتاريخ الجزيرة العربية (السعودية، الكويت، البحرين، قطر، إمارات ساحل عمان) منذ بداية الحماية البريطانية حتى الاستقلال، وتاريخ المغرب العربي منذ بداية الاستعمار الأوروبي (الفرنسي، الإيطالي، الإسباني) وحتى الاستقلال

## **ARAB 102 قواعد اللغة العربية**

(3ساعات معتمدة)

يتناول هذا المقرر المبادئ الأساسية في قواعد اللغة العربية، فيعرف الطالب بمستويات اللغة بصورة عامة كالمستوى الصوتي والمستوى الصرفي والمستوى النحوي والمستوى الدلالي. ثم يتناول مبادئ علم الصرف من خلال التركيز على الميزان الصرفي وأوزان الفعل ومعاني الزيادة. أما في علم النحو فيركز بصورة أساسية على دروس أقسام الكلام والمبني والمعرّب وعلامات الإعراب الأصلية والفروع والممنوع من الصرف والعدد.

## **ISLAM 150 القرآن الكريم (الحفظ والتجويد والتفسير)**

(3ساعات معتمدة)

يهدف هذا المساق إلى أن تتناول الطالبات الجزء المحدد من القرآن الكريم، وتلاوته وتجويده بطريقة صحيحة خالية من اللحن الجلية والخفية، وحفظ الصور المطلوبة باتقان، وتعرف معاني الألفاظ الجديدة والغريبة في الأجزاء المحفوظة والتدريب على أحكام التجويد والتلاوة، مما يعينهن على فهم القرآن الكريم، وأن يقف على مظاهر عظمة القرآن، ويدلل على حفظ القرآن وسلامته من أي تبديل، ويقدر جهود العلماء في خدمة القرآن الكريم والتفسير، وأن يتعرف مناهج التفسير، واتجاهات التفسير في القرآن الكريم..

## **EDUC150 مقدمة في أسس التربية**

(3ساعات معتمدة)

يركز المقرر على تاريخ موجز للعوامل الرئيسية التي أثرت على تطوير التعليم الحديث، مع التركيز على الخلفيات الفلسفية والنفسية والاجتماعية للتعليم مع التركيز على الثقافة العربية وأهداف النظم التعليمية في سلطنة عمان ودول مجلس التعاون الخليجي.

## **ARAB 103 مقدمة في الأدب العربي**

(3ساعات معتمدة)

يسعى المقرر إلى إيضاح مفهوم كلمة الأدب عبر العصور، واستعراض المراحل التي مر بها الأدب العربي منذ الجاهلية إلى بداية العصر الحديث ثم دراسة تاريخ الأدب العربي والتعرف إلى أبرز معالمه وقضاياها وإدراك بعض أعلامه مع دراسة نماذج شعرية ونثرية؛ لإكساب الطلاب مهارات التذوق الأدبي.

## **ISLAM 160 مدخل لعلوم الحديث والسيرة النبوية**

(3ساعات معتمدة)

يتناول المقرر طائفة من الأحاديث النبوية التي تعتبر المصدر الثاني بعد القرآن للتشريع والتي تبرز الهدى النبوي في تربية النبي لأُمَّته على مدى الأجيال المتعاقبة بما فيها من معاني هادفة بناءة كما يتناول المقرر القواعد التي تم من خلالها جمع سنة النبي، حتى وصلت إلينا والتفريق بين الصحيح منها والسقيم كما يبرز المقرر أهمية السنة ومكانتها من التشريع. وتعلم سيرة النبي صلى الله عليه وسلم على الوجه الصحيح، وكيف يستفيد من هذا التعلم في حياته وواقع مجتمعه.

## **EDUC 170 علم النفس التربوي**

(3ساعات معتمدة)

يهدف المقرر إلى تزويد المتعلمين بالمعرفة النفسية المرتبطة بكافة جوانب العملية التربوية والتركيز على الأسس النفسية لعمليات التعليم والتعلم لدى الأطفال، وتطبيق علم النفس في الميدان التربوي في إطار مهارة الاستيعاب لمعنى العملية التعليمية والتعلم ونظرياته وشروطه ومفاهيم التذكر والسيان وانتقال أثر التدريب والتعزيز والعقاب. فيه يتعرف المتعلم على علم النفس التربوي والإطار المفاهيمي لعملية التعلم، وشروط

عملية التعلم والأهداف التربوية ودورها في عمليتي التعليم والتعلم. كما يهدف إلى تعريف الطالب بالفروق الفردية،

### ISLAM 270 مدخل على العقيدة الإسلامية (3 ساعات معتمدة)

يهدف هذا المساق إلى التعريف بعقيدة أهل السنة والجماعة من حيث خصائصها وأصولها وبيان تفصيلي بمنهج السلف في فهم العقيدة الإسلامية. (المتطلب السابق ISLAM 150 + ISLAM 160).

### SOST 260 جغرافية عمان والوطن العربي (3 ساعات معتمدة)

يتضمن هذا المساق دراسة الجغرافية الطبيعية، والسكانية، والاقتصادية، للوطن العربي وُعمان، والأبعاد المكانية للوطن العربي، وموقعه وأهميته الاستراتيجية المميزة. والمظاهر الطبيعية للوطن العربي، من النواحي الجيولوجية، السطح، المناخ، التربة، النبات الطبيعي. والسكان في الوطن العربي، والتعرف على الأحوال السكانية في الوطن العربي. والتعرف على الخصائص السكانية لسلطنة عمان. والأنشطة الاقتصادية في الوطن العربي، وأهمية التكامل الاقتصادي بين أقطاره، مع التطبيق على تجربة مجلس التعاون الخليجي. وجغرافية سلطنة عُمان، من حيث الموقع الاستراتيجي، وأهميته، والملاحم الطبيعية والاقتصادية فيها. والسكان والنشاط البشري في عُمان.

### EDUC 250 التربية في الإسلام (3 ساعات معتمدة)

يتناول المقرر مفهوم التربية في الإسلام وأهميتها وطبيعتها ومبادئ تعلمها وأساليبها ووسائلها، ويركز على الخلفيات النظرية والعملية للتربية في الإسلام والتي يمكن للطلاب تطبيقها والاستفادة منها في مجال تخصصهم، مما يجعلهم أكثر وعياً وقدرة على مواجهة مشكلاتهم الحياتية بوجه عام، والتربوية بوجه خاص ومعالجتها بطريقة علمية موضوعية بما يتماشى مع القواعد الإسلامية الصحيحة، بالإضافة إلى التعرف على نظم التعليم في المجتمعات الإسلامية.

### ARAB 202 النحو (1) (3 ساعات معتمدة)

يستند هذا المقرر على المعرفة التي اكتسبها الطلبة في عرب 102؛ إذ سيتناول قواعد تركيب الجملة في العربية من خلال تناول أنواع الجملة وأركانها بقدر من التفصيل، بالإضافة إلى المنصوبات، مثل المفعول به والمفعول فيه والمفعول لأجله والحال والتمييز. ويستعين في ذلك كله بنصوص يوضح من خلالها آلية تركيب جمل سليمة نحويًا. (متطلب سابق عربي 102N)

### ISLAM 180 الاخلاق والأسرة في الإسلام (3 ساعات معتمدة)

يهدف هذا المساق إلى التعريف بالقيم الأخلاقية في القرآن الكريم والسنة النبوية الشريفة، وأثرها في إصلاح الفرد والمجتمع، وأهمية الأسرة في الإسلام، ودور الأسرة في تربية الأبناء من منظور إسلامي، ودور الأسرة في تعليم الأبناء تطبيق القيم الإسلامية.

### SOCS 102 المجتمع العماني (3 ساعات معتمدة)

يعد هذا المساق متطلباً جامعياً إجبارياً لكل طلبة الجامعة ويتضمن المقرر التعريف بالمجتمع العماني التقليدي ونظمه وإجراء المقارنات بينها والنظم المعاصرة والأسس التي قام عليها. والتعرف إلى مراحل التخطيط الاستراتيجي للتنمية العمانية في كافة النواحي. والتعرف إلى نماذج من صور التطور التي شهدتها المجتمع العماني والتغيرات الإيجابية فيه. والتعرف إلى خصائصه ونظمه الإدارية والسياسية والتعليمية والاقتصادية والأسرية والثقافية والصحية المعاصرة وإجراء المقارنات بينها وبين النظم التقليدية للسلطنة

### SOST 270 قضايا عالمية معاصرة (3 ساعات معتمدة)

يتضمن هذا المساق دراسة عرض وتحليل لأهم المشكلات العالمية المعاصرة: المواطنة الرقمية- المشكلة السكانية - موارد المياه العذبة، والتلوث البيئي -التصحّر -الطاقة -العولمة، مع حلول مقترحة لهذه المشاكل.

يتعرض الطالب في هذا المقرر لدراسة تاريخ المعاجم العربية وأسباب نشأتها، وأهم المدارس المعجمية بدءاً بمدرسة التقاليد الصوتية للخليل الفراهيدي مروراً بمدرسة النقفية في معاجم لسان العرب لابن منظور والصاحح للجوهري وتاج العروس للزبيدي، وصولاً إلى المدرسة الألفبائية الحديثة في معجم أساس البلاغة للزمخشري والمصباح المنير للفيومي ومعجمي (الوسيط والوجيز) لمجمع اللغة العربية. يصاحب هذا السرد التاريخي تدريب الطالب على مهارة الكشف في هذه المعاجم وفق المنهجية المتبعة فيها، فضلاً عن تقديم سرد تاريخي مدعماً بالأمثلة حول كعاجم المعاني وأهميتها والفروق بينها وبين معاجم الألفاظ. علاوة على ذلك سوف يتعرض الطالب إلى لمحة سريعة حول مصطلح الدلالة والمعنى والفرق بينهما مع الاطلاع على جهود العرب والغرب في علم الدلالة.

**ISLAM 190 فقه العبادات****(3ساعات معتمدة)**

يهدف هذا المقرر إلى تعريف الطالب بأحكام الطهارة بالتفصيل، وأحكام الصلاة بالتفصيل، وأحكام بعض النوازل المتعلقة بالطهارة والصلاة، وعرض مواضع الاتفاق والخلاف بين الأئمة في المسائل المهمة وأدلة كل قول والراجح فيها. (المتطلب السابق ISLAM 150 + ISLAM 160).

**ENTR 200 ريادة الأعمال والابتكار والإبداع****(3ساعات معتمدة)**

يوفر هذا المقرر منهجاً يمكن الطالبات لاستكشاف ريادة الأعمال كموضوع دراسة وكذلك كممارسة، حيث أصبحت ريادة الأعمال واحدة من أقوى قوة للتغيير في العالم. يهدف المقرر إلى توفير فهم أساسي لأهم المفاهيم والعمليات ذات الصلة في مجال ريادة الأعمال بالإضافة إلى التدريب العملي، يتضمن المقرر موضوعات أهمية ريادة الأعمال، ودراسة الجدوى، ونموذج الأعمال، وخطة العمل، وفهم مفهوم الفرصة، وأنواع مختلفة من ملكية الأعمال الموجودة في سلطنة عمان، بالإضافة إلى التطبيقات العملية والزيارات الميدانية.

**EDUC 300F1 تطوير وتحليل المناهج الدراسية – المجال الأول****(3ساعات معتمدة)**

يتناول المقرر مبادئ تطوير المناهج وتقنيات تحليلها واختيار ما يناسب منها مع الأهداف والغايات العامة، يتم التركيز على المنهج العماني ومراحل بنائه المختلفة.

**EDUC 375 تكنولوجيا التعليم****(3ساعات معتمدة)**

يهدف المقرر إلى كيفية استخدام التكنولوجيا المعتمدة على الحاسوب في التدريس، حيث يتضمن المقرر موضوعات تتناول تكنولوجيا التعليم بين الأهمية والخصائص، والمستحدثات التكنولوجية في مجال التعليم، مفهوم مراكز مصادر التعلم ووظائفها في إثراء العملية التعليمية، الوسائط المتعددة والتطبيقات العملية لها، أدوات الجيل الثاني من التعليم الإلكتروني وبعض تطبيقاتها في إدارة الأنشطة الصفية، انتاج بعض البرمجيات البسيطة التفاعلية وتقييم فعاليتها، بالإضافة إلى التعرف على كيفية حماية البيانات والمعلومات.

**EDUC 320 طرائق واستراتيجيات التدريس العامة****(3ساعات معتمدة)**

يهدف المقرر إلى تزويد الطلبة بالخلفيات النظرية والعملية لأساليب وطرائق واستراتيجيات التدريس العامة، وما يرتبط بها من وسائل تعليمية داعمة، وتدريبهم عليها، وكذلك تنمية مهاراتهم في التخطيط للدرس اليومية، وكيفية توفير بيئة تعليمية مناسبة قائمة على مبادئ التعلم النشط، الأمر الذي يسمح لهم بإدارة جيدة للصف وممارسة العديد من الأنشطة الصفية واللاصفية. لذا يركز هذا المقرر على الموضوعات التالية: مفهوم التدريس وأهميته قديماً وحديثاً وخصائص كل منهما، وتصنيفات طرائق واستراتيجيات التدريس، ومتطلبات كل منها، ومراحل استخدامها في التدريس، وطبيعة عمليتي التعليم والتعلم، ونظريات التعليم والتعلم المرتبطة بالتدريس، مع التركيز على النظريات والنماذج الأكثر شيوعاً مثل نموذج التفاعل الاجتماعي، والنموذج الاستقرائي، والتعلم القائم على حل المشكلات، والتعلم التعاوني ونموذج التدريس المباشر. المتطلب السابق EDUC 150

### **EDUC 301 الاضطرابات السلوكية والانفعالية عند الطفل** (3ساعات معتمدة)

يهدف المقرر إلى تزويد المتعلمين بالمعلومات الأساسية حول مفهوم الاضطرابات السلوكية والانفعالية لدى تلاميذ الحلقة الأولى بمدارس التعليم الأساسي، وخصائصهم ومظاهر الاضطرابات لديهم وكيفية التعامل معها.

### **EDUC 360 نظام التعليم في عمان ودول مجلس التعاون الخليجي** (3ساعات معتمدة)

يتناول المقرر تحليل متعمق للأنظمة التعليمية في عمان ودول مجلس التعاون من حيث عناصرها والفلسفة التي بنى عليها، مع التركيز بشكل خاص على معايير جودة المدخلات والمخرجات ومقارنتها بالمعايير الدولية والإقليمية لتحديد متطلبات سوق العمل. يتضمن المقرر دراسة حالة وأمثلة واقعية.

### **EDUC 350F1 طرائق واستراتيجيات التدريس المجال الأول I** (3ساعات معتمدة)

يهدف المقرر إلى تزويد الطلبة بالخلفيات النظرية والعملية لمناهج وطرق تدريس مواد المجال الأول (اللغة العربية، والدراسات الإسلامية، والدراسات الاجتماعية) في المستوى الأول، وتحليل تلك المناهج وتقييم واختيار الكتب والوسائل التعليمية الداعمة لها كبرامج الحاسوب والوسائل السمعية والبصرية المختلفة، مما يسهم في تعريف الطالب بطبيعة تخصصه، وكيفية تخطيط وتنفيذ وتقييم الدروس اليومية في هذا المجال، بالإضافة إلى توفير بيئة تعليمية مناسبة قائمة على مبادئ التعلم النشط. لذا يركز المقرر على الموضوعات التالية: المفاهيم والمبادئ الأساسية في تعليم وتعلم مواد المجال الأول، طبيعة مواد المجال الأول، والبناء العلمي (بنية المناهج) لها، عناصر أو مكونات منظومة مناهج مواد المجال الأول، الأهداف التعليمية وصياغتها في مجال تعليم وتعلم مواد المجال الأول، التخطيط للتدريس بما يناسب مواد المجال الأول، طرائق واستراتيجيات التدريس المناسبة لتدريس مواد المجال الأول. المتطلب السابق EDUC 320 .

### **EDUC 353F1 التدريس المصغر -مجال اول** (3ساعات معتمدة)

تعرف الطالب بمفهوم التدريس المصغر، مراحل، خصائصه، استخداماته، ويتناول التدريس من حيث ماهيته، مراحل، مهارته، والتخطيط للتدريس، اختيار محتوى الدرس، تحليل المحتوى، تحديد الأنشطة، تحديد أدوار التلاميذ، تحديد أساليب التقويم البنائي والنهائي، والتركيز على مهارات تنفيذ الدرس من حيث التمهيد، الحوار، التساؤل، إلقاء السؤال، تلقي إجابات المتعلمين، الوسائل التعليمية، إدراك بيئة التعلم إدراك الوقت، تلخيص الدرس، تنويع المثيرات، مع اكتساب مهارات إدارة الفصل من تنظيم حجرة الدراسة بما يتناسب مع الاستراتيجية المستخدمة، تحديد أدوار المتعلمين وفقاً للاستراتيجية المستخدمة، مهارات تقويم نواتج التعلم، تدريس دروس مصغرة مستخدماً مهارات التخطيط والتنفيذ والتقييم. (المتطلب السابق EDUC 320)

### **EDUC 355FI 1 التربية العملية -مجال اول** (3ساعات معتمدة)

يستهدف المقرر القيام بزيارات ميدانية للمدارس والاحاطة بمختلف الجوانب التنظيمية والإدارية بالمدرسة إلى جانب المهام المطلوبة من المعلم، والعلاقة بينه وبين الإدارة، ويتم التركيز على المشاهدات الصفية ومناقشة الجوانب الإيجابية والسلبية لعملية التعليم والتعلم. (المتطلب السابق EDUC 320)

### **EDUC 430 الإدارة التربوية وإدارة الصف** (3ساعات معتمدة)

يركز المقرر على الجوانب المختلفة للإدارة التربوية من حيث: المفهوم، الأنماط، الوظائف، بالإضافة إلى عمليات الإشراف التربوي الخاصة بالتدريس، مع التركيز على الإدارة الصفية والعوامل المؤثرة في التعلم الصفية والبيئة الصفية والتفاعل الصفية، ودور المعلم في إدارة الصف، ومعالجة المشكلات الصفية باستخدام الاستراتيجيات المناسبة.

### **EDUC 495 أخلاقيات مهنة التعليم** (3ساعات معتمدة)

تعريف الطالبات بأخلاقيات مهنة التعليم ومكانتها في الإسلام وتطبيقاتها في الحضارة الإسلامية، وفي أنظمة سلطنة عمان؛ لتعزيز التزام الطالب بها في نفسه وبيئة عمله، ولكونها من أهم أسباب النجاح في عمله وحياته، مع إكساب الطالبات مهارة تحليل الظواهر الأخلاقية المحدثة في محيط العمل ويستطيع التنبؤ بآثارها وتحديد موقفه منها، ويتعلم وسائل ترسيخ الأخلاقيات الحميدة، ووسائل حل ما يواجه تطبيقها من عقبات.

يهدف المقرر التركيز على تطوير عمليتي التعليم والتعلم، من خلال حل المشكلات الصفية والتدريسية في سياق المجتمع الصفّي في ضوء تطوير العمليات التعليمية التعلمية، وذلك من خلال التركيز على جمع البيانات اليومية للتطبيقات الصفية وتحليلها عن طريق تخطيط الدرس- تنفيذ الدرس- الملاحظة المستمرة - التأمل فيما تم إنجازه مع تحديد المشكلة و الأسئلة البحثية وكذلك نوع البيانات إضافة إلى المتغيرات الجديدة و تحليل النتائج وتفسيرها.

**EDUC 450F1 طرائق واستراتيجيات التدريس المجال الأول II****(3ساعات معتمدة)**

يتضمن هذا المقرر تطويراً إضافياً لطرائق واستراتيجيات تدريس مواد المجال الأول في الحلقة الأولى من التعليم الأساسي (اللغة العربية، والدراسات الإسلامية، والدراسات الاجتماعية) والتي تمت دراستها في المقرر السابق EDUC 350F1. يركز المقرر على الخلفيات النظرية والعملية لتعليم وتعلم مواد المجال الأول في الحلقة الأولى من التعليم الأساسي، مما يساهم في تعريف الطالب بطبيعة تلك المواد، وأهميتها، وأهداف تدريسها، وكيفية تخطيط دروسها، واختيار الكتب والوسائل التعليمية الداعمة لها كبرامج الحاسوب والوسائل السمعية والبصرية المختلفة، وتوظيف الطرائق والاستراتيجيات المناسبة لتدريسها، وكيفية توفير بيئة تعليمية مناسبة قائمة على مبادئ التعلم النشط. المتطلب السابق EDUC 350F1.

**EDUC 440F1 1 القياس والتقويم في التربية-مجال****(3ساعات معتمدة)**

يركز المقرر على الخلفيات النظرية والعملية للقياس والتقويم لتعلم طلاب المجال الأول. يتناول المقرر طبيعة عملية التقويم وأهدافها وأهميتها، والتركيز على أساليب التقويم المختلفة ذات العلاقة بالتقويم التكويني المستمر وتطبيقاتها. كما يتضمن أيضاً تدريب المتعلمين تدريباً مكثفاً على بناء الأدوات والوسائل المستخدمة وتطبيقها في قياس تعلم الطلاب في المجال الأول. (المتطلب السابق EDUC 320)

**EDUC FI 455 تربية عملية 2-مجال اول****(6ساعات معتمدة)**

يستهدف المقرر اكساب المتعلمين الخبرة التدريسية من خلال التطبيق العملي لمهارات واستراتيجيات التدريس في البيئة الصفية بالحلقة الأولى بمدارس التعليم الأساسي تحت إشراف أساتذة الجامعات والمعلمين المتعاونين في المدرسة. (المتطلب السابق EDUC 455F1)

**EDUC 460F1 طرائق واستراتيجيات التدريس المجال الأول III****(3ساعات معتمدة)**

يتضمن هذا المقرر تطويراً إضافياً لتطبيق طرائق واستراتيجيات تدريس مواد المجال الأول. يركز المقرر على الخلفيات الممارسات الفعلية للنظريات وعمليات التعلم المختلفة في مواد المجال الأول، مما يساهم في تعريف المتعلمين بطبيعة تلك المواد، وأهميتها، وأهداف تدريسها، وكيفية تخطيط دروسها، واختيار الكتب والوسائل التعليمية الداعمة لها كبرامج الحاسوب والوسائل السمعية والبصرية المختلفة، وتوظيف الطرائق والاستراتيجيات المناسبة لتدريسها، وكيفية توفير بيئة تعليمية مناسبة قائمة على مهارات القرن الحادي والعشرين. المتطلب السابق EDUC 450F1.

**EDUC 485F1 تربية عملية 3-مجال اول****(6ساعات معتمدة)**

يهدف هذا المقرر الى استكمال اكساب المتعلمين الخبرة التدريسية من خلال التطبيق العملي لمهارات واستراتيجيات التدريس في البيئة الصفية بالحلقة الأولى بمدارس التعليم الأساسي تحت إشراف أساتذة الجامعات والمعلمين المتعاونين في المدرسة. (المتطلب السابق EDUC 455F1)

**EDUC 490F1 مشروع التخرج - المجال الأول****(3ساعات معتمدة)**

يركز المقرر على تطبيق مهارات البحث الإجرائي من خلال قيام المتعلم بعمل مشروع بحثي يتناول تحديد المشكلة - بناء الفرضيات- أسئلة البحث- جمع البيانات- تحليل النتائج وتفسيرها، حيث يتم تقديم البحث الإجرائي كعملية تأملية يطبقها المتعلمون في الفصل الدراسي لتحديد وحل المشكلات التعليمية ذات الأهمية أثناء التدريس. (المتطلب السابق EDUC 420F + EDUC 455FI + EDUC 450FI)



## 7. Bachelor of Education: Teacher Field II

### 7.1- نظرة عامة على البرنامج

يعتبر برنامج بكالوريوس التربية معلم مجال ثان فريداً من نوعه في محافظة ظفار، حيث يتناول إعداد معلم المجال الثاني للعمل بمدارس الحلقة الأولى من التعليم الأساسي في سلطنة عمان، تلك المرحلة التي تشكل البناء العقلي والمعرفي والاجتماعي للطفل. يتضمن البرنامج عدداً من المقررات تنحصر في 44 مقرراً بواقع 132 ساعة معتمدة، موزعة ما بين المقررات الأكاديمية، والتربوية، والثقافية. جاء هذا البرنامج تلبية لرغبة قطاع كبير من خريجي شهادة دبلوم التعليم العام في الالتحاق بهذا التخصص، والارتقاء بمهاراتهم التخصصية والتربوية، كذلك نتيجة لتوجه وزارة التعليم العالي ووزارة التربية والتعليم لسد فجوة نقص المعلمين بالحلقة الأولى بمرحلة التعليم الأساسي. ومما يدعم فكرة استحداث هذا البرنامج هو عدم توفر برامج مشابهة له في محافظة ظفار، فضلاً على عدم وجود جامعة منافسة لجامعة ظفار بالمحافظة، مما يتيح للجامعة استيعاب عدد كبير من المتقدمين، وتلبية احتياجات سوق العمل من خريجي هذا البرنامج. مع العلم بأن خريجي هذا البرنامج ستكون لهم فرصة كبيرة إن لم تكن مضمونة في تحسين أوضاعهم المادية والوظيفية، وتطوير أدائهم داخل المدارس التي يعملون بها، ومن ثم تطوير العملية التعليمية بها، مما يعود بالنفع عليهم وعلى المؤسسات التي يعملون بها. متوسط أجور خريجي هذا البرنامج سيكون مماثلاً للأجور التي تدفع للمعلمين العاملين في حقل التربية حسب لوائح وزارة التربية والتعليم. البيانات التفصيلية مفصلة في بقية النقاط الأخرى ضمن الاستمارة الحالية. علماً بأن متطلبات استكمال الدرجة الأكاديمية والتخرج تتمثل في اجتياز الطالب جميع المقررات الدراسية بنجاح بمعدل تراكمي لا يقل عن 2 وفقاً لأساليب التقويم المتبعة لنظام الساعات المعتمدة.

### 7.2- أهداف البرنامج

تحدد أهداف البرنامج فيما يلي:

1. رفد سوق العمل بكوادر تعليمية في المجال الثاني للتدريس في الحلقة الأولى من التعليم الأساسي.
2. إعداد معلم مجال ثان قادر على تحمل المسؤولية والتطوير الذاتي، ويمتلك القيم الجوهرية، والسلوك المهني والأخلاقي لمهنة التعليم في سلطنة عمان.
3. إكساب المتعلم المعارف والخبرات الأكاديمية والتربوية في مجالات العلوم، والرياضيات، والدراسات الاجتماعية، بما يحقق له ممارسات مهنية وتربوية فعالة في الحلقة الأولى من التعليم الأساسي.
4. تزويد المتعلم باستراتيجيات وأساليب القياس والتقويم المناسبة لمجالات العلوم، والرياضيات، والدراسات الاجتماعية في الحلقة الأولى من التعليم الأساسي.
5. إكساب المتعلم أساسيات البحث التربوي في مجالات العلوم، والرياضيات، والدراسات الاجتماعية، لتطوير العملية التعليمية في الحلقة الأولى من التعليم الأساسي.
6. تمكين المتعلم من توظيف تكنولوجيا التعليم في تدريس العلوم، والرياضيات، والدراسات الاجتماعية في الحلقة الأولى من التعليم الأساسي.
7. تزويد المتعلم بسلوكيات الأطفال، وسماتهم الشخصية، وأساليب التعامل معهم، وكذلك صعوبات التعلم التي يواجهونها في تلك المرحلة العمرية.
8. امتلاك المتعلم لمهارات القرن الحادي والعشرين والتطورات المستقبلية العالمية ذات الصلة بالمواد الدراسية للمجال الثاني.
9. تزويد المتعلم بأهم الأسس التي تقوم عليها فلسفة التعليم والتشريعات والقوانين والأنظمة التربوية في سلطنة عمان، خاصة فيما يتعلق بالحلقة الأولى من التعليم الأساسي.
10. تعزيز الاتجاهات الإيجابية لدى المتعلم بما يتوافق مع متطلبات التطوير التربوي المعاصر في الحلقة الأولى من التعليم الأساسي.



## 7.6-متطلبات الجامعة:

6. ARAB 101 : الكتابة الأكاديمية باللغة العربية
7. CMPS 100A : مدخل إلى تقنيات الحاسوب للأدب
8. ENGL 101 : اللغة الانجليزية الأكاديمية التأسيسية
9. SOCS 102 : المجتمع العماني
10. ENTR 200 : ريادة الأعمال

## 7.7-متطلبات الكلية:

3. مقرر اختياري العلوم الإنسانية والاجتماعية: يختار الطالب مقررأ واحداً
4. مقرر اختياري علوم- رياضيات: يختار الطالب مقررأ واحداً

## 7.8-متطلبات التخصص:

### 7.8.1-أولاً: متطلبات التخصص الإجبارية:

35. EDUC 120: التعلم وتطور الطفل
36. SOST 150: مدخل لتاريخ عمان والوطن العربي
37. ARAB 102: قواعد اللغة العربية
38. ISLAM 150 : القرآن الكريم (الحفظ والتجويد والتفسير)
39. EDUC 150 : أسس التربية
40. ARAB 103 : مقدمة في الأدب العربي
41. ISLAM 160 : مدخل لعلوم الحديث والسيرة النبوية
42. EDUC 170 : علم النفس التربوي
43. ISLAM 270 : مدخل إلى العقيدة الإسلامية
44. SOST 260 : جغرافية عمان والوطن العربي
45. EDUC 250 : التربية في الإسلام
46. ARAB 202 : نحو 1
47. ISLAM 280 : الأخلاق والأسرة في الإسلام
48. SOST 270 : قضايا عالمية معاصرة
49. ARAB 205 : المعجم والدلالة
50. ARAB 206 : البلاغة العربية
51. ISLAM 290 : فقه العبادات
52. EDUC 300F1 : تطوير وتحليل المناهج الدراسية – مجال أول
53. EDUC 375 : تكنولوجيا التعليم
54. EDUC 320 : نظريات واستراتيجيات التدريس العامة
55. EDUC 301 : الاضطرابات السلوكية والانفعالية عند الطفل
56. EDUC 350F1 : طرائق واستراتيجيات تدريس المجال الأول -1
57. EDUC 353F1 : التدريس المصغر- مجال أول
58. F155EDUC 3 : تربية عملية1 – مجال أول
59. EDUC 360 : نظام التعليم في عمان ودول مجلس التعاون الخليجي
60. EDUC 380 : أخلاقيات مهنة التعليم
61. 430EDUC : الإدارة التربوية وإدارة الصف

62. EDUC 420F : البحث الإجرائي
63. EDUC 440F1 : القياس والتقويم في التربية- مجال أول
64. EDUC 450F1 : طرائق واستراتيجيات تدريس المجال الأول- 2
65. EDUC 455F1 : تربية عملية 2- مجال أول
66. EDUC 460F1 : طرائق واستراتيجيات تدريس المجال الأول- 3
67. EDUC 485F1 : تربية عملية 3 – مجال أول
68. EDUC 490F1 :مشروع التخرج – مجال أول

## 7.8.2-ثانيا متطلبات التخصص الاختيارية:

مقرر اختياري تربية: يختار الطالب مقررأ واحداً من المقررات التالية:

12. EDUC 200 : مدخل إلى التوجيه والإرشاد
13. EDUC 205 :مدخل الى التربية الخاصة
14. EDUC 210 : أدب الأطفال
15. EDUC 260 : التربية البيئية
16. EDUC 305 :مداخل التكامل في التربية
17. EDUC 310 :التعليم البصري
18. EDUC 355 :تعديل السلوك
19. EDUC 430 :صعوبات التعلم
20. EDUC 400 :التطوير المهني في التربية
21. EDUC 425 :أسس التربية الصحية
22. EDUC 460 :حلقة نقاش: قضايا في التربية

## 7.9-الخطة الدراسية

رمز المقرر	عنوان المقرر	الساعات التدريسية المعتمدة
<b>السنة الدراسية الأولى (30 ساعة)</b>		
<b>الفصل الدراسي الأول</b>		
15		
ARAB 101	الكتابة الأكاديمية باللغة العربية	3
CMPS 100B	مدخل إلى تقنيات الحاسوب للعلوم	3
EDUC 120	التعلم وتطور الطفل	3
ENGL 101	اللغة الانجليزية الأكاديمية التأسيسية	3
MATH 120	الهندسة وحساب المتلثات	3
<b>الفصل الدراسي الثاني</b>		
15		
CHEM 130	مبادئ الكيمياء- المستوى الأول	2
CHEM 130L	مقدمة في معمل الكيمياء	1
EDUC 150	أسس التربية	3
MATH 199	التفاضل والتكامل	3
PHYS 170	أساسيات الفيزياء - المستوى الأول	2
PHYS 170L	مقدمة في معمل الفيزياء	1
EDUC 170	علم النفس التربوي	3

السنة الدراسية الثانية (33 ساعة)		
18	الفصل الدراسي الثالث	
2	مقدمة في علم الأحياء	BIOL 120
1	مقدمة في معمل الأحياء	BIOL 120L
3	التربية في الإسلام	EDUC 250
3	مبادئ الكيمياء- المستوى الثاني	CHEM 170
3	تطبيقات الحاسوب في الرياضيات	MATH 240
3	المجتمع العماني	SOCS 102
3	اختياري/ تربية	Code
18	الفصل الدراسي الرابع	
3	موضوعات حديثة في علم الأحياء	BIOL 160
3	الاحتمالات والإحصاء	MATH 250
3	الرياضيات للمعلمين	EDUC 290
3	التحليل العددي	MATH 260
3	ريادة الأعمال	ENTR 200
3	أساسيات الفيزياء- المستوى الثاني	PHYS 210
السنة الدراسية الثالثة (33 ساعة)		
15	الفصل الدراسي الخامس	
3	تطوير وتحليل المناهج الدراسية – مجال 2	EDUC 300FII
3	الاضطرابات السلوكية والانفعالية عند الطفل	EDUC 301
3	نظريات واستراتيجيات التدريس العامة	EDUC 320
3	الجبر الخطي	MATH 320
3	اختياري/ العلوم الإنسانية والاجتماعية	Code
18	الفصل الدراسي السادس	
3	طرائق واستراتيجيات تدريس المجال الثاني - 1	EDUC 350FII
3	التدريس المصغر- مجال 2	EDUC 353FII
3	تربية عملية 1 - مجال 2	EDUC 355FII
3	نظام التعليم في عمان ودول مجلس التعاون الخليجي	EDUC 360
3	تكنولوجيا التعليم	EDUC 375
3	أخلاقيات مهنة التعليم	EDUC 380
السنة الدراسية الرابعة (36 ساعة)		

18	الفصل الدراسي السابع	
3	البحث الإجرائي	EDUC 420FII
3	الإدارة التربوية وإدارة الصف	EDUC 430
3	القياس والتقويم في التربية- مجال 2	EDUC 440FII
3	طرائق واستراتيجيات تدريس المجال الثاني - 2	EDUC 450FII
6	تربية عملية 2- مجال 2	EDUC 455FII
15	الفصل الدراسي الثامن	
3	طرائق واستراتيجيات تدريس المجال الثاني - 3	EDUC 460FII
6	تربية عملية 3 – مجال 2	EDUC 485FII
3	مشروع التخرج – مجال 2	EDUC 490FII
3	اختياري/ علوم- رياضيات	Code
مجموع الساعات: 132 ساعة معتمدة		

## 7.10- توصيف المقررات

### ARAB 101 الكتابة الأكاديمية باللغة العربية (3ساعات معتمدة)

يركز هذا المساق على دراسة العناصر الأساسية في الكتابة الأكاديمية العربية، ويشمل: الجمل التامة، والفقرات، والمقالات والأبحاث الأكاديمية، والتقارير، والرسائل الرسمية. ويتوجب على الطلبة إظهار قدرات متقدمة في إنتاج نصوص أكاديمية صحيحة.

### CMPS100B مدخل لتقنيات الحاسوب للعلوم (3ساعات معتمدة)

يتضمن هذا المساق مفاهيم البرمجة باستخدام الأداة المناسبة، حيث سيتم تعريف الطلاب بمفاهيم البرمجة والتعريف بالمتغيرات و حلقات البرمجة (loops) والتعليمات المشروطة. كما يقوم المساق بتغطية بعض جوانب المساق CMPS100A مثل تطبيق قاعدة البيانات وتصميم صفحات الويب البسيطة، وتوفير الامتداد للبرامج المعرفية كمقدمة لـ Python / HTML/Java.

### EDUC 120 التعلم وتطور الطفل (3ساعات معتمدة)

يحتوي المقرر على مقدمة حول مفهوم النمو ومراحله، والنظريات المرتبطة بالتدريس والذكاء والتطور النمائي للأطفال مع التركيز على جوانب نظريات التعلم وإدارة السلوك وتأثيراتها على عملية التعليم داخل الصف.

### Basic Academic English ENGL 101 (3ساعات معتمدة)

Consistent with its aim of enabling first year students in the university departments to become efficient communicators in English Language, this course scaffolds with their knowledge, skills and competence developed in Level 3 of the Foundation Program and continues to build on their language and study skills. This integrated skills course is designed to develop the listening, speaking, reading and writing skills of the students so that they can understand English in a range of contexts and express thoughts,

opinions, arguments and a range of language functions to speakers of English and other languages with sufficient clarity and accuracy of language and pronunciation. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential.

(3 ساعات معتمدة)

### **Geometry and Trigonometry MATH 120**

The course is designed to teach students the fundamentals of Geometry and Trigonometry.

Trigonometry: Radian measure, Pythagorean Theorem and application of theorem, trigonometric functions and inverse functions, graphs, identities, equations, applications (law of sines and law of cosines), Coordinate systems, distances. Geometry: Areas and volumes of different shapes used in mensuration, writing equations of Lines, Circles, Ellipses, Parabolas, and study of different properties for same. Drawing of lines, circles, ellipse, parabola and hyperbola for given information.

(2 ساعات معتمدة)

### **Chemical principles I CHEM130 I**

An introduction to chemical principles covering atomic structure, chemical bonding, stoichiometry, thermodynamics, net ionic equations, aqueous reaction and gas laws with emphasis on examples and problems to illustrate the applications of chemistry to engineering disciplines. [Credit hours 3]

(1 ساعات معتمدة)

### **Introductory to chemistry Laboratory CHEM130L**

Weekly introductory lab sessions for Chemical Principles I which includes an introduction to chemical principles covering atomic structure, chemical bonding, stoichiometry, gas laws, chemical equilibrium including acid-base and solubility equilibrium, electrochemistry, introductory kinetics and thermodynamics. Prerequisite or co-requisite: CHEM 130.

(3 ساعات معتمدة)

### **EDUC150 مقدمة في أسس التربية**

يركز المقرر على تاريخ موجز للعوامل الرئيسية التي أثرت على تطوير التعليم الحديث، مع التركيز على الخلفيات الفلسفية والنفسية والاجتماعية للتعليم مع التركيز على الثقافة العربية وأهداف النظم التعليمية في سلطنة عمان ودول مجلس التعاون الخليجي.

(3 ساعات معتمدة)

### **MATH 199 التفاضل والتكامل**

الاقتدرات، المجال و المدى، العمليات (هندسية وجبرية)، رسم الاقتدرات، الاقتدرات المثلثية حساب النهايات لبعض الاقتدرات، النهايات عند اللانهاية، النهايات اللانهائية، المحاذيات الأفقية و العمودية. الاتصال نهايات الاقتدرات المثلثية واتصالها. المشتقة: تعريف المشتقة وقواعد الاشتقاق، مشتقات الاقتدرات المثلثية، قاعدة السمسمة، الاشتقاق الضمني. تحليل الاقتدرات: التزايد والتناقص، التقعر، القيم القصوى، رسم المنحنيات. تطبيقات على الاشتقاق.

(2 ساعات معتمدة)

## **Fundamentals of Physics PHYS 170 I**

An introduction to physics principals (3 credits). This course is designed for students who typically have little scientific background. No formal knowledge of physical science is required. A working knowledge of high school algebra, however, is assumed. The course covers basic physics concepts and principles as related to everyday life. The major aim will be to give students an appreciation and understanding of the physical universe. A conceptual rather than a mathematical point of view is emphasized. Topics to be covered include: Linear motion, Newton's laws of motion, momentum, work and energy, gravity, and rotational motion.

(1 ساعات معتمدة)

## **Introductory Physics Laboratory PHYS 170L**

A lab experience is an integral part of your exploration of the physical universe. The laboratory is a hands-on, active environment. Working in teams, you will carry out experiments which will allow you to apply, verify, or discover concepts and laws in physics. If you have a question, comment, or complaint please let me know. Even an anonymous note under my door is fine.

(3 ساعات معتمدة)

## **EDUC 170 علم النفس التربوي**

يهدف المقرر إلى تزويد المتعلمين بالمعرفة النفسية المرتبطة بكافة جوانب العملية التربوية والتركيز على الأسس النفسية لعمليات التعليم والتعلم لدى الأطفال، وتطبيق علم النفس في الميدان التربوي في إطار مهارة الاستيعاب لمعنى العملية التعليمية والتعلم ونظرياته وشروطه ومفاهيم التذكر والنسيان وانتقال أثر التدريب والتعزيز والعقاب. فيه يتعرف المتعلم على علم النفس التربوي والإطار المفاهيمي لعملية التعلم، وشروط عملية التعلم والأهداف التربوية ودورها في عمليتي التعليم والتعلم. كما يهدف إلى تعريف الطالب بالفروق الفردية،

(2 ساعات معتمدة)

## **Introductory Biology BIOL 120**

An introduction to biological principles at the ecosystem, population, organism and organ system level using an investigative and problem-based approach. Exploration of cellular processes including metabolism and inheritance from an evolutionary perspective in an investigative, problem-based format.

(1 ساعات معتمدة)

## **Introductory Biology Laboratory BIOL 120L**

Weekly introductory lab sessions for Biology, which includes an introduction to biological principles covering the material taught in BIOL 120.

(3 ساعات معتمدة)

## **EDUC 250 التربية في الإسلام**

يتناول المقرر مفهوم التربية في الإسلام وأهميتها وطبيعتها ومبادئ تعلمها وأساليبها ووسائلها، ويركز على الخلفيات النظرية والعملية للتربية في الإسلام والتي يمكن للطلاب تطبيقها والاستفادة منها في مجال تخصصهم، مما يجعلهم أكثر وعياً وقدرة على مواجهة مشكلاتهم الحياتية بوجه عام، والتربوية بوجه خاص ومعالجتها بطريقة علمية موضوعية بما يتماشى مع القواعد الإسلامية الصحيحة، بالإضافة إلى التعرف على نظم التعليم في المجتمعات الإسلامية.



An introductory theoretical formulation of physical and analytical chemistry including the periodic table, properties of solutions, chemical equilibrium, acid-base equilibrium, electrochemistry, and an introduction to organic chemistry.

**(3 ساعات معتمدة) Mathematics and computer application MATH 240**

This course is a 3-credit course and it covers the following topics: Working with the MATLAB user interface, □Entering commands and creating variables, Writing a function, Visualizing extreme values. Analyzing vectors and matrices, Visualizing vector and matrix data. Solving system of linear equations. Calling function. Working with data files and data types.

**SOCS 102 المجتمع العماني**

يعد هذا المساق مطلباً جامعياً إجبارياً لكل طلبة الجامعة ويتضمن المقرر التعريف بالمجتمع العماني التقليدي ونظمه وإجراء المقارنات بينها والنظم المعاصرة والأسس التي قام عليها. والتعرف إلى مراحل التخطيط الاستراتيجي للتنمية العمانية في كافة النواحي. والتعرف إلى نماذج من صور التطور التي شهدتها المجتمع العماني والتغيرات الإيجابية فيه. والتعرف إلى خصائصه ونظمه الإدارية والسياسية والتعليمية والاقتصادية والأسرية والثقافية والصحية المعاصرة وإجراء المقارنات بينها وبين النظم التقليدية للسلطنة

**Contemporary Issues in Biology BIOL 160**

Focus on the scientific background to some of the current topics in biology. Students will get an in-depth treatment issues such as genetic and molecular biology, as well as topics related to environment

**Probability and Statistics MATH 250**

The course is designed to teach students the fundamentals of descriptive statistics and probability. The course will reflect the importance of these branches and how they can be used to describe raw data and measure uncertainty of events. The content of the course includes topics that are essential in descriptive statistics and probability. Namely, these topics are: Organizing data (frequency distribution), graphs (histogram, bar chart and pie chart) and distribution shapes, measures of central tendency, measures of dispersion, partition values, basic concepts in probability, probability types, types of events, probability rules, Bayes theorem, random variables, probability distributions, mathematical expectations, moment generating functions, and theoretical probability distributions.

**EDUC 290 الرياضيات للمعلمين**

يهدف المقرر إلى إكساب الطالب أساسيات ومهارات الرياضيات المدرسية بشكل عميق، لذا يتضمن المقرر الموضوعات التالية: الأعداد والعمليات عليها، الهندسة، القياس، معالجة البيانات، الجبر، حل المشكلات في الصفوف (10-1). المتطلب السابق: MATH 120

**Numerical Analysis MATH 260-**

The course is designed to teach students the broad range of numerical methods. Finding roots of nonlinear functions, interpolation methods, numerical differentiation and integration, numerical methods for initial value problems: one step methods, multi-step methods.

## ENTR 200 ريادة الأعمال والابتكار والإبداع

(3 ساعات معتمدة)

يوفر هذا المقرر منهجاً يمكن الطالبات لاستكشاف ريادة الأعمال كموضوع دراسة وكذلك كممارسة، حيث أصبحت ريادة الأعمال واحدة من أقوى قوة للتغيير في العالم. يهدف المقرر إلى توفير فهم أساسي لأهم المفاهيم والعمليات ذات الصلة في مجال ريادة الأعمال بالإضافة إلى التدريب العملي، يتضمن المقرر موضوعات أهمية ريادة الأعمال، ودراسة الجدوى، ونموذج الأعمال، وخطة العمل، وفهم مفهوم الفرصة، وأنواع مختلفة من ملكية الأعمال الموجودة في سلطنة عمان، بالإضافة إلى التطبيقات العملية والزيارات الميدانية.

## Fundamentals of Physics PHYS 210II

(3 ساعات معتمدة)

An introduction to physics principals (3 credits). This course is designed for The students are required to understand the basic physics concepts and principles as related to everyday life, to know the purpose of an appreciation and understanding of the physical universe. A conceptual rather than a mathematical point of view is emphasized. Topics to be covered include: This course is an introduction to electricity and magnetism. Many concepts integral to the study of classical physics involve theories and laws that describe the relationships that hold for electricity and magnetism and the interactions between them. Also to apply Coulomb's Law, Faraday's Law, Ohm's Law, Kirchhoff's rules and Lenz's Law to solve problems in electromagnetism. Further experiments and calculations in physics to calculate current, potentials, resistances, and electromotive forces for simple AC and DC circuits. Describe the magnetic fields, forces, and potentials involved in the interaction of point charges and of currents. Therefore, to describe how devices such as inductors, capacitors, resistors, and measurement devices such as ammeters, ohmmeters, and galvanometers are used. In view of the range of knowledge involving the analyze the motion of an object in terms of its position, velocity, and acceleration as a function of time by using the different techniques in calculus mathematics to solve the physical problems

## EDUC 300FII تطوير وتحليل المناهج الدراسية – المجال الثاني

(3 ساعات معتمدة)

يتناول المقرر مبادئ تطوير المناهج وتقنيات تحليلها واختيار ما يناسب منها مع الأهداف والغايات العامة، يتم التركيز على المنهج العماني ومراحل بنائه المختلفة.

## EDUC 301 الاضطرابات السلوكية والانفعالية عند الطفل

(3 ساعات معتمدة)

يهدف المقرر إلى تزويد المتعلمين بالمعلومات الأساسية حول مفهوم الاضطرابات السلوكية والانفعالية لدى تلاميذ الحلقة الأولى بمدارس التعليم الأساسي، وخصائصهم ومظاهر الاضطرابات لديهم وكيفية التعامل معها.

## EDUC 320 طرائق واستراتيجيات التدريس العامة

(3 ساعات معتمدة)

يهدف المقرر إلى تزويد الطلبة بالخلفيات النظرية والعملية لأساليب وطرائق واستراتيجيات التدريس العامة، وما يرتبط بها من وسائل تعليمية داعمة، وتدريبهم عليها، وكذلك تنمية مهاراتهم في التخطيط للدروس اليومية، وكيفية توفير بيئة تعليمية مناسبة قائمة على مبادئ التعلم النشط، الأمر الذي يسمح لهم بإدارة جيدة للصف وممارسة العديد من الأنشطة الصفية واللاصفية. لذا يركز هذا المقرر على الموضوعات التالية: مفهوم التدريس وأهميته قديماً وحديثاً وخصائص كل منهما، وتصنيفات طرائق واستراتيجيات التدريس، ومتطلبات كل منها، ومراحل استخدامها في التدريس، وطبيعة عمليتي التعليم والتعلم، ونظريات التعليم والتعلم المرتبطة بالتدريس، مع التركيز على النظريات والنماذج الأكثر شيوعاً مثل نموذج التفاعل الاجتماعي، والنموذج الاستقرائي، والتعلم القائم على حل المشكلات، والتعلم التعاوني ونموذج التدريس المباشر. المتطلب السابق EDUC 150

The course is designed to teach students the fundamentals of descriptive statistics and probability. The course will reflect the importance of these branches and how they can be used to describe raw data and measure uncertainty of events. The content of the course includes topics that are essential in descriptive statistics and probability. Namely, these topics are: Organizing data (frequency distribution), graphs (histogram, bar chart and pie chart) and distribution shapes, measures of central tendency, measures of dispersion, partition values, basic concepts in probability, probability types, types of events, probability rules, Bayes theorem, random variables, probability distributions, mathematical expectations, moment generating functions, and theoretical probability distributions.

**EDUC 350FII طرائق واستراتيجيات التدريس المجال الثاني- 1****(3 ساعات معتمدة)**

يهدف المقرر إلى تزويد الطلبة بالخلفيات النظرية والعملية لمناهج وطرق تدريس مواد المجال الثاني (الرياضيات والعلوم) في المستوى الأول، وتحليل تلك المناهج وتقييم واختيار الكتب والوسائل التعليمية الداعمة لها كبرامج الحاسوب والوسائل السمعية والبصرية المختلفة، مما يسهم في تعريف الطالب بطبيعة تخصصه، وكيفية تخطيط وتنفيذ وتقييم الدروس اليومية في هذا المجال، بالإضافة إلى توفير بيئة تعليمية مناسبة قائمة على مبادئ التعلم النشط. لذا يركز المقرر على الموضوعات التالية: المفاهيم والمبادئ الأساسية في تعليم وتعلم مواد المجال الثاني، طبيعة مواد المجال الثاني، والبناء العلمي (بنية المناهج) لها، عناصر أو مكونات منظومة مناهج مواد المجال الثاني، الأهداف التعليمية وصياغتها في مجال تعليم وتعلم مواد المجال الثاني، التخطيط للتدريس بما يناسب مواد المجال الثاني، طرائق واستراتيجيات التدريس المناسبة لتدريس مواد المجال الثاني. المتطلب السابق EDUC 320 .

**EDUC 353FII التدريس المصغر -مجال ثان****(3 ساعات معتمدة)**

تعرف الطالب بمفهوم التدريس المصغر، مراحله، خصائصه، استخداماته، ويتناول التدريس من حيث ماهيته، مراحله، مهارته، والتخطيط للتدريس، اختيار محتوى الدرس، تحليل المحتوى، تحديد الأنشطة، تحديد أدوار التلاميذ، تحديد أساليب التقويم البنائي والنهائي، والتركيز على مهارات تنفيذ الدرس من حيث التمهيد، الحوار، التساؤل، إلقاء السؤال، تلقي إجابات المتعلمين، الوسائل التعليمية، إدراك بيئة التعلم إدراك الوقت، تلخيص الدرس، تنويع المثيرات، مع اكتساب مهارات إدارة الفصل من تنظيم حجرة الدراسة بما يتناسب مع الاستراتيجية المستخدمة، تحديد أدوار المتعلمين وفقاً للاستراتيجية المستخدمة، مهارات تقويم نواتج التعلم، تدريس دروس مصغرة مستخدماً مهارات التخطيط والتنفيذ والتقييم. المتطلب السابق EDUC 320

**EDUC 355FII التربية العملية -مجال ثان****(3 ساعات معتمدة)**

يستهدف المقرر القيام بزيارات ميدانية للمدارس والإحاطة بمختلف الجوانب التنظيمية والإدارية بالمدرسة إلى جانب المهام المطلوبة من المعلم، والعلاقة بينه وبين الإدارة، حيث يتم تقسيم الطالبات إلى مجموعات بحسب تخصصهم . المتطلب السابق EDUC 320

**EDUC 360 نظام التعليم في عمان ودول مجلس التعاون الخليجي****(3 ساعات معتمدة)**

يتناول المقرر تحليل متعمق للأنظمة التعليمية في عمان ودول مجلس التعاون من حيث عناصرها وفلسفة التي بنى عليها، مع التركيز بشكل خاص على معايير جودة المدخلات والمخرجات ومقارنتها بالمعايير الدولية والإقليمية لتحديد متطلبات سوق العمل. يتضمن المقرر دراسة حالة وأمثلة واقعية.

**EDUC 375 تكنولوجيا التعليم****(3 ساعات معتمدة)**

يهدف المقرر إلى كيفية استخدام التكنولوجيا المعتمدة على الحاسوب في التدريس، حيث يتضمن المقرر موضوعات تتناول تكنولوجيا التعليم بين الأهمية والخصائص، والمستحدثات التكنولوجية في مجال التعليم، مفهوم مراكز مصادر التعلم ووظائفها في إثراء العملية التعليمية، الوسائط المتعددة والتطبيقات العملية لها،

أدوات الجيل الثاني من التعليم الإلكتروني وبعض تطبيقاتها في إدارة الأنشطة الصفية، انتاج بعض البرمجيات البسيطة التفاعلية وتقييم فعاليتها، بالإضافة إلى التعرف على كيفية حماية البيانات والمعلومات.

### **EDUC 380 أخلاقيات مهنة التعليم (3ساعات معتمدة)**

تعريف الطالبات بأخلاقيات مهنة التعليم ومكانتها في الإسلام وتطبيقاتها في الحضارة الإسلامية، وفي أنظمة سلطنة عمان؛ لتعزيز التزام الطالب بها في نفسه وبينه عمله، ولكونها من أهم أسباب النجاح في عمله وحياته، مع إكساب الطالبات مهارة تحليل الظواهر الأخلاقية المحدثة في محيط العمل ويستطيع التنبؤ بآثارها وتحديد موقفه منها، ويتعلم وسائل ترسيخ الأخلاقيات الحميدة، ووسائل حل ما يواجه تطبيقها من عقبات.

### **EDUC F 420 البحث الإجرائي (3ساعات معتمدة)**

يهدف المقرر التركيز على تطوير عمليتي التعليم والتعلم، من خلال حل المشكلات الصفية والتدريبية في سياق المجتمع الصففي في ضوء تطوير العمليات التعليمية التعلمية، وذلك من خلال التركيز على جمع البيانات اليومية للتطبيقات الصفية وتحليلها عن طريق تخطيط الدرس- تنفيذ الدرس- الملاحظة المستمرة - التأمل فيما تم إنجازه مع تحديد المشكلة و الأسئلة البحثية وكذلك نوع البيانات إضافة الى المتغيرات الجديدة وتحليل النتائج وتفسيرها.

### **EDUC 430 الإدارة التربوية وإدارة الصف (3ساعات معتمدة)**

يركز المقرر على الجوانب المختلفة للإدارة التربوية من حيث: المفهوم، الأنماط، الوظائف، بالإضافة الى عمليات الاشراف التربوي الخاصة بالتدريس، مع التركيز على الإدارة الصفية والعوامل المؤثرة في التعلم الصففي والبيئة الصفية والتفاعل الصففي، ودور المعلم في إدارة الصف، ومعالجة المشكلات الصفية باستخدام الاستراتيجيات المناسبة.

### **EDUC 440FII القياس والتقويم في التربية- المجال الثاني (3ساعات معتمدة)**

يركز المقرر على الخلفيات النظرية والعملية للقياس والتقويم لتعلم طلاب المجال الثاني. يتناول المقرر طبيعة عملية التقويم وأهدافها وأهميتها، والتركيز على أساليب التقويم المختلفة ذات العلاقة بالتقويم التكويني المستمر وتطبيقاتها. كما يتضمن أيضاً تدريب المتعلمين تدريباً مكثفاً على بناء الأدوات والوسائل المستخدمة وتطبيقها في قياس تعلم الطلاب في المجال الثاني.

### **EDUC 450FII طرائق واستراتيجيات التدريس المجال الثاني- 2 (3ساعات معتمدة)**

يتضمن هذا المقرر تطويراً إضافياً لطرائق واستراتيجيات تدريس مواد المجال الثاني في الحلقة الأولى من التعليم الأساسي (الرياضيات، العلوم) والتي تمت دراستها في مقرر طرائق واستراتيجيات التدريس المجال الثاني- 1. يركز المقرر على الخلفيات النظرية والعملية لتعليم وتعلم مواد المجال الثاني في الحلقة الأولى من التعليم الأساسي، مما يساهم في تعريف الطالب بطبيعة تلك المواد، وأهميتها، وأهداف تدريسها، وكيفية تخطيط دروسها، واختيار الكتب والوسائل التعليمية الداعمة لها كبرامج الحاسوب والوسائل السمعية والبصرية المختلفة، وتوظيف الطرائق والاستراتيجيات المناسبة لتدريسها، وكيفية توفير بيئة تعليمية مناسبة قائمة على مبادئ التعلم النشط. المتطلب السابق EDUC 350FII.

### **EDUC 455FII تربية عملية 2- مجال2 (6ساعات معتمدة)**

يستهدف المقرر اكساب الطالبات الخبرة في البيانات الصفية بالحلقة الأولى بمدارس التعليم الأساسي تحت إشراف أساتذة الجامعات والمتعاونين في المدرسة. المتطلب السابق EDUC 303FII

### **EDUC 460FII طرائق واستراتيجيات التدريس المجال الثاني- 3 (3ساعات معتمدة)**

يتضمن هذا المقرر تطويراً إضافياً لطرائق واستراتيجيات تدريس مواد المجال الثاني في الحلقة الأولى من التعليم الأساسي (الرياضيات، العلوم) والتي تمت دراستها في مقرر طرائق واستراتيجيات التدريس المجال الثاني- 2. يركز المقرر على الخلفيات النظرية والعملية لتعليم وتعلم مواد المجال الثاني في الحلقة الأولى من التعليم الأساسي، مما يساهم في تعريف الطالب بطبيعة تلك المواد، وأهميتها، وأهداف تدريسها، وكيفية

تخطيط دروسها، واختيار الكتب والوسائل التعليمية الداعمة لها كبرامج الحاسوب والوسائل السمعية والبصرية المختلفة، وتوظيف الطرائق والاستراتيجيات المناسبة لتدريسها، وكيفية توفير بيئة تعليمية مناسبة قائمة على مبادئ التعلم النشط. المتطلب السابق EDUC 450FII.

### **EDUC 485FII تربية عملية 3 – مجال ثان** (6ساعات معتمدة)

يستهدف المقرر اكساب الطالبات الخبرة في البيانات الصفية بالحلقة الأولى بمدارس التعليم الأساسي تحت إشراف أساتذة الجامعات والمتعاونين في المدرسة. المتطلب السابق EDUC 455FII

### **EDUC 490FII مشروع التخرج – المجال الثاني** (3ساعات معتمدة)

يركز المقرر على تطبيق مهارات البحث الإجرائي من خلال قيام المتعلم بعمل مشروع بحثي يتناول تحديد المشكلة – بناء الفرضيات- أسئلة البحث- جمع البيانات- تحليل النتائج وتفسيرها، حيث يتم تقديم البحث الإجرائي كعملية تأملية يطبقها المتعلمون في الفصل الدراسي لتحديد وحل المشكلات التعليمية ذات الأهمية أثناء التدريس.

# Department of English Language and Literature

## 1. Personnel

Chairperson:	Julius Irudayasamy
Associate Professor:	Vijay Singh Thakur, Abdelrahman Abdalla Salih, Marielle Risse
Assistant Professor:	Amer Ahmed M TH, Awadhalkareem Alhassan, Yasser Naguib Al-Sabtani, Julius Irudayasamy, Thomas Baby Kappalumakkel, Iryna Lenchuk, Murad Sawalmeh, Ali Algryani, Syerina Syahrin, Lamis Omar, Osman Yapar, Sani Yaantadu UBA, M. Ikbil Alosman
Lecturer:	Muhammad Amir Saeed, Ehsan Elahi
Secretary:	Mediha Younis

## 2. Vision

The Department of English Language and Literature strives to be a well-established high-ranked centre of languages and translation studies and research.

## 3. Mission

The Department of English Language and Literature is committed to provide a conducive learning environment for effective oral, written, conversational skills and also effective study, research and critical thinking skills in the fields of English Language, Arabic Language and Translation that are necessary for a self-sufficient, self-reliant individual to grow, develop, and contribute in a competitive world, to survive and flourish in the local and global job market, and to serve the Omani Society. The department's motto is "success through systematic planning and continuous hard work".

## 4. Programs Offered

The department offers the following Diploma and Bachelor programs:

### a) Diploma Program

- 1) Diploma in English Language

### b) Bachelors Program

- 1) BA in English Language
- 2) BA in Translation

## **5. Bachelor of Arts in English Language**

### **5.1. Program Overview**

The Bachelor of Arts (B.A.) in English Language is a four-year program encompassing 120 credit hours. It includes 30 credit hours of University Requirements, 15 credit hours of College Requirements, 48 credit hours of major Core Courses, and 27 Credit hours of Major Elective Courses. Hands-on experience in practice and emphasis on application-oriented activities and exercises are important elements that are integrated throughout the curriculum.

### **5.2. Program Objectives**

The objectives of the Program are to:

- 1) Help the students develop a high level of linguistic competence in English and Arabic through combining theoretical knowledge and extensive practice;
- 2) Prepare students for careers that need the use of English language such as teaching, editing, writing, publishing, and public relations, or for pursuing their education in English language beyond the undergraduate level;
- 3) Prepare students for careers in translation from Arabic into English and from English into Arabic, interpretation, teaching, editing, writing, publishing, and public relations, or for pursuing their education in translation beyond the undergraduate level;
- 4) Raise students' awareness regarding the importance of language structure and familiarizing them with the social, historical, and cultural contexts in which languages are used;
- 5) Provide students with a solid liberal education, training, and appropriate learning skills;
- 6) Prepare graduates to become responsible professionals and citizens with high ethical values; and
- 7) Promote life-long independent learning.

### **5.3. Program Learning Outcomes**

Graduates of the English Language Program (Diploma and Bachelor) will be able to:

- 1) Use listening skills to understand English in a range of contexts with speakers of their own and other languages and with native speakers of English.
- 2) Demonstrate speaking skills in order to express thoughts, opinions, arguments and a range of language functions to speakers of English and other languages with sufficient clarity and accuracy of language and pronunciation.
- 3) Apply a range of reading skills and strategies to cope with authentic texts in a range of contexts.
- 4) Demonstrate writing skills to express thoughts, opinions, arguments and a range of language functions in styles appropriate to the task.
- 5) Demonstrate the acquired ability to make effective use of grammatical devices and lexical resources of the language for the purposes of efficient communication.

- 6) Show informed awareness of linguistic systems of English language and demonstrate the acquired ability to identify and analyze the structure and functions of the language.
- 7) Show informed awareness of different literary genres and demonstrate the acquired ability to critically examine different literary texts in English.
- 8) Show the ability of independent/autonomous learning by using a range of learning techniques and strategies.
- 9) Apply study, research and presentation skills in order to increase academic, professional, and employment potential.

#### 5.4. Admission Requirements

Admission requirements for a Bachelor of Arts in English Language Program are as specified in **College Section 6-a on page 42**.

#### 5.5. Graduation Requirements

To graduate with a Bachelor of Arts in English Language, students must satisfactorily complete 120 credits taken over four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The university, college, and program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
30	15	48	27	120

#### 5.6. University Requirements

The University requirements consist of the following ten (10) courses encompassing 30 credit hours:

- 1) ARAB 101: Academic Writing in Arabic
- 2) CMPS 100A: Introduction to Technical Computing for the Arts
- 3) ENGL 101: Basic Academic English
- 4) ENGL 102A: English for Arts, Humanities and Social Sciences I
- 5) ENGL 203A: English for Arts, Humanities and Social Sciences II
- 6) ENGL 204: Advanced English for Academic Purposes and Research
- 7) ENGL 305: Advanced English Language and Communication Skills
- 8) ENTR 200: Entrepreneurship: Innovation and Creativity
- 9) MATH 103: Mathematics for Social Sciences I
- 10) SOCS 102: Omani Society

#### 5.7. College Requirements

The college requirements consist of the following five (5) courses encompassing 15 credit hours:

- One (3-credit hours) course in Physical/Natural Sciences elective
- One (3-credit hours) course in Humanities/Social Sciences elective
- Three (9-credit hours) courses in any other major



## 5.8. Program Requirements

The program requirements consist of 25 courses encompassing 75 Credit Hours distributed as follows.

### I) Major Core Courses:

This set includes the following 16 Courses encompassing 48 Credit hours:

- 1) ENGL 120: Grammar in Context
- 2) ENGL 160: Introduction to Literature
- 3) ENGL 210: Introduction to Linguistics
- 4) ENGL 215: Phonetics and Phonology
- 5) ENGL 220: Morphology
- 6) ENGL 230: Prose and Fiction in English
- 7) ENGL 270: Situational English
- 8) ENGL 285: Writing Workshop
- 9) ENGL 290: Poetry
- 10) ENGL 310: Syntax
- 11) ENGL 320: Introduction to Creative Writing
- 12) ENGL 335: Discourse Analysis
- 13) ENGL 340: Semantics
- 14) ENGL 375: Drama
- 15) ENGL 420: Models of Second Language Acquisition
- 16) ENGL 465: Advanced Reading

### II) Major Elective Courses:

This set consists of of 9 courses encompassing 27 Credit hours chosen from the following list:

- 1) ENGL 225: Modern Literature
- 2) ENGL 240: Introduction to Language
- 3) ENGL 255: Psycholinguistics
- 4) ENGL 260: Shakespeare
- 5) ENGL 265: Culture in the Classroom
- 6) ENGL 275: Rhetoric
- 7) ENGL 280: Business English
- 8) ENGL 300: Foundations of Linguistic Theory
- 9) ENGL 315: The Novel
- 10) ENGL 330: The Victorian Age
- 11) ENGL 350: Advanced Writing for Humanities
- 12) ENGL 355: Sociolinguistics
- 13) ENGL 360: Advanced Writing for Professional Fields
- 14) ENGL 365: Advanced Creative Writing
- 15) ENGL 405: World Literature
- 16) ENGL 410: Literary Criticism
- 17) ENGL 415: The Romantic Movement
- 18) ENGL 440: Special Topic in Literature or Language
- 19) ENGL 455: Language and Gender

- 20) ENGL 460: Politics of Language
- 21) ENGL 470: History of the English Language
- 22) EDUC 320: Instructional Methods and Strategies
- 23) TRAN 250: Contrastive Analysis
- 24) TRAN 330: Special Topic in Translation
- 25) TRAN 365: English Literature in Arabic Translations
- 26) TRAN 410: Arabic Literature in English Translation

## 5.9. Plan of Study: BA in English Language

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
CMPS 100A	Introduction to Technical Computing for the Arts	3
ENGL 101	Basic Academic English	3
ENGL 120	Grammar in Context	3
MATH 103	Mathematics for Social Sciences I	3
Code	Humanities/Social Sciences Elective	3
Semester 2 (Spring)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
ENGL 102A	English for Arts, Humanities and Social Sciences I	3
ENGL 160	Introduction to Literature	3
SOCS 102	Omani Society	3
Code	Physical/ Natural Sciences Elective	3
Year II		
Semester 3 (Fall)		15 Credits
Code	Course Title	Credit Hours
ENGL 203A	English for Arts, Humanities and Social Sciences II	3
ENGL 210	Introduction to Linguistics	3
ENGL 215	Phonetics and Phonology	3
ENGL 220	Morphology	3
ENGL 230	Prose and Fiction in English	3
Semester 4 (Spring)		15 Credits
Code	Course Title	Credit Hours
ENGL 204	Advanced English for Academic Purposes & Research	3
ENGL 270	Situational English	3
ENGL 285	Writing Workshop	3
ENGL 290	Poetry	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3

Year III		
Semester 5 (Fall)		15 Credits
Code	Course Title	Credit Hours
ENGL 310	Syntax	3
ENGL 320	Introduction to Creative Writing	3
ENGL 335	Discourse Analysis	3
Code	Major Elective	3
Code	Major Elective	3
Semester 6 (Spring)		15 Credits
Code	Course Title	Credit Hours
ENGL 340	Semantics	3
ENGL 375	Drama	3
Code	Major Elective	3
Code	Major Elective	3
Code	Major Elective	3
Year IV		
Semester 7 (Fall)		15 Credits
Code	Course Title	Credit Hours
ENGL 420	Models of Second Language Acquisition	3
ENGL 465	Advanced Reading	3
Code	Major Elective	3
Code	Major Elective	3
Code	General Elective	3
Semester 8 (Spring)		15 Credits
Code	Course Title	Credit Hours
ENGL 305	Advanced English Language and Communication Skills	3
Code	Major Elective	3
Code	General Elective	3
Code	Major Elective	3
Code	General Elective	3
Completion of the BA in English Language - Total Credits 120		

## 5.10. Course Descriptions

### ENGL 101 Basic Academic English (3 Credits)

Consistent with its aim of enabling first year students in the university departments to become efficient communicators in English Language, this course scaffolds with their knowledge, skills and competence developed in Level 3 of the Foundation Program and continues to build on their language and study skills. This integrated skills course is designed to develop the listening, speaking, reading and writing skills of the students so that they can understand English in a range of contexts and express thoughts, opinions, arguments and a range of language functions to speakers of English and other languages with sufficient clarity and accuracy of language and pronunciation. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking,

basic study and research skills in order to increase their academic, professional, and employment potential.

**ENGL 101 - A      Basic Academic English IA      (3 credits)**

This is an integrated course that focuses on improving reading skills and comprehension and developing compositional competency. Participants are guided through the processes of reading and composing various types of short essays i.e., descriptive, narrative, opinion, and comparison and contrast. Listening and speaking skills as well as grammar and vocabulary building are also enhanced. This three credit-hour course also includes 2 additional hours per week of Lab training in which students further practice the skills targeted for the course.

**ENGL 102 A      English for Arts, Humanities and Social Sciences I      (3 Credits)**

The main aim of this course is to improve students' professional communication skills for the content and tasks to which they will be exposed to in their courses related to their field of study. Scaffolding with the knowledge, skills and competence developed in ENGL 101, this course is designed to improve specialist language knowledge and communication skills of the students studying and working in the fields of Arts and Human Sciences and enable them to work more confidently and effectively. The course content covers topics common to the fields of Arts, Humanities and Social Sciences, and the classroom tasks and activities range from understanding, talking and discussing about a wide range of topics and issues related to human social affairs, reflecting about conflicts and controversies to working with a set of authentic situations and scenarios that provide problem-solving practice in the fields of Arts, Humanities and Social Sciences. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential. Prerequisite: ENGL 101/101A

**ENGL 102 B      English for Business I      (3 Credits)**

The main aim of this course is to improve students' professional communication skills for the content and tasks to which they will be exposed to in their courses related to their field of study. Scaffolding with the knowledge, skills and competence developed in ENGL 101, this course is designed to improve specialist language knowledge and communication skills of the students studying and working in the fields of Commerce and Business Administration and enable them to work more confidently and effectively. The course content covers topics common to the fields of Business and Management, and the classroom tasks and activities range from understanding, talking and discussing about a wide range of topics and issues related to Business and Commerce, reflecting about changes in the world's business and economic environments to working with a set of case studies that provide problem-solving practice in authentic Business and Management scenarios. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential. Prerequisite: ENGL 101/101A

**ENGL 102 C     English for Computer Science I****3 Credits**

The main aim of this course is to improve students' professional communication skills for the content and tasks to which they will be exposed to in their courses related to their field of study. Scaffolding with the knowledge, skills and competence developed in ENGL 101, this course is designed to improve specialist language knowledge and communication skills of the students studying and working in the fields of Computer Science and Information Technology and enable them to work more confidently and effectively. The course content covers topics common to the fields of Computer Science, and the classroom tasks and activities range from understanding, talking and discussing about a wide range of topics and issues related to computers, information technology and the multimedia, reflecting about changes in the fields of computers and information technology to working with a set of authentic situations and scenarios that provide problem-solving practice in the field. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential. Prerequisite: ENGL 101/101A

**ENGL 102 E     English for Engineering and Sciences I****(3 Credits)**

The main aim of this course is to improve students' professional communication skills for the content and tasks to which they will be exposed to in their courses related to their field of study. Scaffolding with the knowledge, skills and competence developed in ENGL 101, this course is designed to improve specialist language knowledge and communication skills of the students studying and working in the fields of Engineering and Sciences and enable them to work more confidently and effectively. The course content covers topics common to the fields of Engineering and Sciences and the classroom tasks and activities range from describing technical problems and solutions to working with drawings and a set of case studies that provide problem-solving practice in authentic Engineering and Scientific scenarios. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential. Prerequisite: ENGL 101/101A

**ENGL 120     Grammar in Context****(3 credits)**

This course offers basics of English Grammar and is designed to make students use correct and creative structures of English in realistic situations. Topics include auxiliaries, time and tense, subject-verb agreement, pronoun antecedent agreement, passive, conditionals, co-ordination and articles.

**ENGL 160     Introduction to Literature****(3 credits)**

This course is designed to acquaint students with the various literary genres. Without being comprehensive, the course emphasizes inquiry into works of major authors in poetry, drama, and prose. Through the study of thematically related texts, the course provides insights into the historical, political, and cultural contexts that influenced the work of these authors. It also introduces important literary concepts, such as character, plot, narrative, and imagery.

**ENGL 203 A    English for Arts, Humanities and Social Sciences II    (3 Credits)**

This course builds on the knowledge, skills and competence developed in ENGL 102 A and further continues to improve students' professional communication skills for the content and tasks to which they will be exposed to in their courses related to their field of study. The course is designed to improve specialist language knowledge and communication skills of the students studying and working in the fields of Arts and Human Sciences and enable them to work more confidently and effectively. The course content covers topics common to the fields of Arts, Humanities and Social Sciences, and the classroom tasks and activities range from understanding, talking and discussing about a wide range of topics and issues related to human social affairs, reflecting about conflicts and controversies to working with a set of authentic situations and scenarios that provide problem-solving practice in the fields of Arts, Humanities and Social Sciences. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential. Prerequisite: ENGL 102 /ENGL 102A

**ENGL 203 B    English for Business II    (3 Credits)**

This course builds on the knowledge, skills and competence developed in ENGL 102 B and further continues to improve students' professional communication skills for the content and tasks to which they will be exposed to in their courses related to their field of study. The course is designed to improve specialist language knowledge and communication skills of the students studying and working in the fields of Commerce and Business Administration and enable them to work more confidently and effectively. The course content covers topics common to the fields of Business and Management, and the classroom tasks and activities range from understanding, talking and discussing about a wide range of topics and issues related to Business and Commerce, reflecting about changes in the world's business and economic environments to working with a set of case studies that provide problem-solving practice in authentic Business and Management scenarios. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential. Prerequisite: ENGL 102 /ENGL 102 B

**ENGL 203 C    English for Computer Science II    (3 Credits)**

This course builds on the knowledge, skills and competence developed in ENGL 102 C and further continues to improve students' professional communication skills for the content and tasks to which they will be exposed to in their courses related to their field of study. The course is designed to improve specialist language knowledge and communication skills of the students studying and working in the fields of Computer Science and Information Technology and enable them to work more confidently and effectively. The course content covers topics common to the fields of Computer Science, and the classroom tasks and activities range from understanding, talking and discussing about a wide range of topics and issues related to computers, information technology and the

multimedia, reflecting about changes in the fields of computers and information technology to working with a set of authentic situations and scenarios that provide problem-solving practice in the field. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential. Prerequisite: ENGL 102/ ENGL 102C

**ENGL 203 E English for Engineering and Sciences II (3 Credits)**

This course builds on the knowledge, skills and competence developed in ENGL 102 E and further continues to improve students' professional communication skills for the content and tasks to which they will be exposed to in their courses related to their field of study. The course is designed to improve specialist language knowledge and communication skills of the students studying and working in the fields of Engineering and Sciences and enable them to work more confidently and effectively. The course content covers topics common to the fields of Engineering and Sciences and the classroom tasks and activities range from describing technical problems and solutions to working with drawings and a set of case studies that provide problem-solving practice in authentic Engineering and Scientific scenarios. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential. Prerequisite: ENGL 102/ENGL 102 E

**ENGL 204 Advanced English for Academic Purposes and Research (3 Credits)**

The main objective of this course is to activate, enrich and strengthen students' English for academic purposes and prepare them for research. It aims at developing a take-off level proficiency in advanced academic reading and writing skills, study and research skills along with aural-oral skills. The course is also designed to promote self-study habits among students. In this course, the students continue to increase and develop their comprehension, analysis, and synthesis skills of a variety of extended academic texts about issues across curriculum. Students will also learn how to conduct and write independent research. The course content covers different stages of writing process and elements of writing and introduces and practices writing modes such as case studies, literature reviews, essays, reports and surveys. Particular attention will be given to issues around academic vocabulary, plagiarism and reference skills. Prerequisite: ENGL 203/ENGL 203 A/ENGL 203 B/ENGL 203 C/ENGL 203 E

**ENGL 210 Introduction to Linguistics (3 credits)**

This course investigates the nature of human language through a survey of some of the major findings and research results in linguistics. Topics include the biological basis of human language, the structure of sounds, phrases, and meaning, language evolution, writing systems, linguistic variation, language acquisition, and computer analyses of speech.

**ENGL 215 Phonetics and Phonology (3 credits)**

This course is an overview of English phonetics and phonology. Topics include the articulatory process, stress, and intonation. Students will learn how to transcribe

spoken English into phonetic script and explore the range of variation found in English. This course will also help students recognize the differences among diverse sound systems.

**ENGL 220      Morphology      (3 credits)**

This course trains students to analyze and describe word constituents by means of authentic language data from a wide variety of languages. Students will learn how to correctly use common linguistic terms relating to morphology, organize data and perform morphological analyses, and write clear and adequate descriptions of the patterns discovered in the analyses.

**ENGL 225      Modern Literature      (3 credits)**

This course examines some of the substantial twentieth- and twenty-first century English voices. Major poems and other works of writing by the most important modern writers will be considered, emphasizing especially the period between post-WWI disillusionment and early internationalism. Genres studied will include nonfiction essays, diaries, editorials, fictional short stories, novel excerpts, and an array of poetry. Prerequisite: ENGL 160.

**ENGL 230      Prose and Fiction in English      (3 credits)**

This course covers a range of Anglo-American prose genres, including short stories, autobiographical writing and essays, in order to introduce some of the themes and literary techniques prevalent in British and American writing today. The course will focus on the individual and the family and will raise questions of identity and tradition. Prerequisite: ENGL 160.

**ENGL 240      Introduction to Language      (3 credits)**

The aim of this course is to introduce the study of language to both non-specialists and those who are interested in language-related careers. Areas covered are human communication, the meaning and function of language, language and culture, language and thought, language acquisition, languages of the world, and the evolution of language.

**ENGL 255      Psycholinguistics      (3 credits)**

This course introduces students to the psychological processes that underlie linguistic behavior. Topics include theories of the language-thought relationship, language processing, language production, language comprehension, language and the brain, language acquisition, theories of language learning, and bilingualism. Prerequisite: ENGL 210

**ENGL 260      Shakespeare      (3 credits)**

In this course, students will read representative plays by Shakespeare and one play of his contemporaries. Attention will be given to theatrical conventions, as well as social, cultural, and intellectual history of the period. Prerequisite: ENGL 160.

**ENGL 265      Culture in the Classroom      (3 credits)**

This course will acquaint students with the important issues related to culture in the classroom. Course topics include definitions of culture, the relationship between culture and language, teaching culture, designing culturally responsive lessons and curricula, and enhancing the cultural elements in specific English language lessons.



**ENGL 270      Situational English      (3 credits)**

This course is a hands-on workshop designed to offer students opportunities to speak English in diverse situations. Drawing on objectives learned in the Sounds of English, the student will apply the theories and knowledge to actually practice and hone their oral language abilities. Multiple role-playing scenarios will be practiced.

**ENGL 275      Rhetoric      (3 credits)**

This course focuses on developing students' ability to think critically and analytically, using language in a logical, purposeful and persuasive manner. Students will have the opportunity to improve their writing, listening and speaking skills in a series of structured debates.

**ENGL 280      Business English      (3 credits)**

This course focuses on diverse types of written business communication required in commercial areas. Among these types are business memos, letters, reports, and curriculum vitae.

**ENGL 285      Writing Workshop      (3 credits)**

This course is designed to practice writing in English. Formats for diverse genres of writing will be reviewed followed by writing clinics. The students will be required to write several drafts of each assignment under close scrutiny by their teacher and peers. Prerequisite: ENGL 203/ENGL 203 A/ENGL 203B/ENGL 203C/ENGL 203E.

**ENGL 290      Poetry      (3 credits)**

This course involves reading texts critically, particularly selected to elucidate the nature of poetic genres and modes. It also exposes students to critical theory and relevant aspects of social and political history. Prerequisite: ENGL 160.

**ENGL 300      Foundations of Linguistic Theory      (3 credits)**

This course concentrates on linguistic theories that have shaped 20th-century linguistics. This course is on theories propounded by Structural lists (e.g. Bloomfield), Transformation lists (e.g. Chomsky), Systemic Grammarians (e.g. Halliday) and Case Grammarians (e.g. Fillmore). This course also includes recurrent themes and descriptive practices. Prerequisite: ENGL 210.

**ENGL 305      Advanced English Language and Communication Skills      (3 Credits)**

This course is designed with a dual purpose of helping students succeed on their current courses and to prepare them for their career. Geared towards students' success in the standardized test IELTS (International English Language Testing System) with a target of minimum band 5, the course builds on the student's knowledge, skills and competence developed in ENGL 101 through ENGL 204. The course content covers comprehension of advanced reading texts from a wide range of disciplines and listening comprehension in social, educational and training contexts. Interactive speaking practice involves oral interviews on general/familiar topics and also prompted particular topics leading to a discussion of more abstract issues and concepts thematically linked to the prompted topics. Writing includes composing essays and reports, interpreting visual information and graphics, outlining and presenting a solution, justifying an opinion and evaluating ideas and evidence etc. Simultaneously, training in

effective time management, critical thinking and study skills will also be provided in order to increase their academic, professional, and employment potential. Prerequisite: ENGL 204

**ENGL 310      Syntax      (3 credits)**

This course is an introduction to syntactic analysis. Topics include lexical and functional categories, morphosyntactic features, theta-roles and argument structure, the structure of phrases, constituency, clause types, and syntactic relationships within the clause. Emphasis is placed on cross-linguistic variation, as well as language universals. Prerequisite: ENGL 210.

**ENGL 315      The Novel      (3 credits)**

This course introduces students to characteristics of the novel form such as narrative structure, voice, point of view, plot and characters. Students will study and analyze one novel in detail and consider the social, cultural and political forces that shape it. Prerequisite: ENGL 160.

**ENGL 320      Introduction to Creative Writing      (3 credits)**

This course offers opportunities for the students to experiment with various forms of creative writing. Students also explore literary devices used in contemporary literary texts and apply them to their own writing. Classes are conducted as workshops where students share their writing with each other and learn to revise their work. Prerequisite: ENGL 203/ENGL 203 A/ENGL 203B/ENGL 203C/ENGL 203E.

**ENGL 330      The Victorian Age      (3 credits)**

This course studies the works of major writers of the Victorian era and emphasizes their social, cultural, and philosophical background. Students will read and analyze primary literary texts in various genres like prose, poetry, and fiction. Prerequisite: ENGL 160.

**ENGL 335      Discourse Analysis      (3 credits)**

This course investigates human discourse as a means to understand the nature of language and language use. It examines different forms of discourse using various approaches including speech act theory, pragmatics, conversational analysis, and ethnography of communication-

**ENGL 340      Semantics      (3 credits)**

This course focuses on Semantics, Pragmatics and the relationship between linguistic meaning, structure, and context. Students will explore various approaches to word meaning, phrase and sentence meaning, and observe the effects of context and background information on interpretation. ENGL 210

**ENGL 350      Advanced Writing for Humanities      (3 credits)**

This course, intended for students majoring in the Social Sciences, prepares students to write and present papers related to their fields of study. It includes individual and/or group preparation of reports, term papers, multimedia presentations, and other specialized forms of writing. This class is equivalent to ENGL 360 and is offered in spring semesters. Prerequisite: ENGL 204.

**ENGL 355      Sociolinguistics      (3 credits)**

This course explores the role of language in society, and introduces the students to research methodologies applied in sociolinguistics. Topics include multilingualism and language choice, Pidgins and Creoles, regional and social variation, conventions of conversation and politeness, and interactions between languages and identity, language and social class, language and culture, and language and thought.

**ENGL 360      Advanced Writing for Professional Fields      (3 credits)**

This course, intended for students majoring in English or Education, prepares students to write and present papers related to their fields of study. It includes individual and/or group preparation of reports, term papers, multimedia presentations, and other specialized forms of writing. This course is equivalent to ENGL 350 and is offered in fall semesters. Prerequisite: ENGL 204.

**ENGL 365      Advanced Creative Writing      (3 credits)**

This course is a sequel to English 320 with the objective of refining students' creative writing skills by introducing them to several texts, while emphasizing one of the following genres: fiction, nonfiction, poetry, or drama. Prerequisite: ENGL 320.

**ENGL 375      Drama      (3 credits)**

This course emphasizes theoretical definition of dramatic form, changes in the conception of dramatic genres, and the nature of the genre as it influences the expectations of the reader. Prerequisite: ENGL 160.

**ENGL 405      World Literature      (3 credits)**

This course examines the literature of various cultures, including Middle-Eastern, African, Asian and European, in order to come to some conclusions about how literature is used to represent the fears, wishes, and dreams of different cultures. Through this study, students will improve their analytical skills, as well as see the ways their own struggles and hopes are intimately connected to those of others. Prerequisite: ENGL 160.

**ENGL 410      Literary Criticism      (3 credits)**

The course introduces students to ongoing literary debates about: what is the nature, function, and value of literature? What criteria do we use to determine a work's "greatness"? What is the function of the artist, the critic, and of criticism and theory itself? How do we account for multiple interpretations of a text? The major schools of 20<sup>th</sup> and 21<sup>st</sup> century literary criticism and theory will be presented, including structuralism, New Criticism, Post-Structuralism, reader-response theory, and cultural studies. The debates surrounding multiculturalism, political correctness, textual authority, and the literary canon will also be discussed. ENGL 230/ ENGL 290/ENGL 315/ENGL 375

**ENGL 415      The Romantic Movement      (3 credits)**

This course is an introduction to the literature of the Romantic period in Britain. Students will be asked to read and analyze a selection of poems and prose texts by representative authors such as Wordsworth, Blake, Coleridge, Keats, Byron, and Mary Shelley. Reference will be made to the cultural contexts of literature. Prerequisite: ENGL 160.

**ENGL 420                      Models of Second Language Acquisition                      (3 credits)**

This course introduces students to the study of second language acquisition and provides them with training in the collection, analysis, and interpretation of representative learner language data in second language contexts. Course topics include universals of language acquisition, major theoretical models of second language acquisition, and individual differences in second language acquisition. Implications for language teaching are also addressed.

**ENGL 440                      Special Topic in Literature or Language                      (3 credits)**

This course introduces students to independent research on a topic decided by the professor. Students will use texts by important authors or on subjects of importance to the subject of English language as a basis for their own investigations and explorations of current literary and language theory. The students' work will be shared with the class in a formal research paper and multimedia presentations. Prerequisite: ENGL 204.

**ENGL 455                      Language and Gender                      (3 credits)**

This course surveys and evaluates the research that has been done on gender differences in language use. Topics include power and solidarity, gender differences in turn-taking, choice of topic, and communicative styles, and anthropological work on men and women's speech genres. Students should complete the course with enhanced awareness of the role of language in relation to issues of inequality and sexual politics.

**ENGL 460                      Politics of Language                      (3 credits)**

This course explores the relation between politics in language. It focusses on how language can be used to achieve political ends by examining political discourse, language in the media, etc. It also studies the political dimension of standardization, multilingualism, and language choice by examining the role of public institutions in the regulation of language use.

**ENGL 465                      Advanced Reading                      (3 credits)**

This course aims to help students to improve reading skills necessary for academic success in undergraduate degree programs. The course draws on a range of topics and texts from various genres to help students understand and communicate academic content and ideas. Emphasis is placed on strengthening language and critical thinking skills in reading that promote students' engagement with a range of texts relevant to academic studies. Prerequisite: ENGL 204

**ENGL 470                      History of the English Language                      (3 credits)**

This course is a survey of the history of the English language from its earliest Indo-European origins to the present day. The nature and changes of the language are presented by reviewing the shifts that have occurred from Indo-European, Germanic, Old English, Middle English, up to Early and Modern English.

## 6. Diploma in English Language

### 6.1. Program Overview

The Diploma in English Language Program is a two-year program encompassing 60 credit hours. It includes 27 credit hours of University Requirements, 6 credit hours of College Requirements, 21 credit hours of Major Core Courses and 6 credit hours of Major Elective Courses. The course requirements for the program are described below.

### 6.2. Program Objectives

Refer to Bachelor of Arts in English Language Program Sections 5.2.

### 6.3. Program Learning Outcomes

Refer to Bachelor of Arts in English Language Program section 5.3.

### 6.4. Admission Requirements

Admission requirements for a Diploma in English Language Program are as specified in College **Section 6-a on page 42**.

### 6.5. Graduation Requirements

To graduate with a Diploma in English Language, students must satisfactorily complete 60 credits taken over two academic years, with an overall minimum average of 65 percent. The university, college, and program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
27	6	21	6	60

### 6.6. University Requirements

The University requirements consist of the following nine (9) courses encompassing 27 Credit Hours:

- 1) ARAB 101: Academic Writing in Arabic
- 2) CMPS 100A: Introduction to Technical Computing for the Arts
- 3) ENGL 101: Basic Academic English
- 4) ENGL 102A: English for Arts, Humanities and Social Sciences I
- 5) ENGL 203A: English for Arts, Humanities and Social Sciences II
- 6) ENGL 204: Advanced English for Academic Purposes and Research
- 7) MATH 103: Mathematics for Social Sciences I
- 8) ENTR 200: Entrepreneurship: Innovation and Creativity
- 9) SOCS 102: Omani Society

### 6.7. College Requirements

The college requirements consist of the following two (2) courses encompassing 6 Credit Hours:

- 1) One, 3-credit hours course in Physical/Natural Sciences elective
- 2) One, 3-credit hours course in Humanities and Social Sciences elective

## 6.8. Program Requirements

The program requirements consist of nine (9) courses encompassing 27 credit hours distributed as follows.

### I) Major Core Courses:

This set includes the following seven (7) courses encompassing 21 credit hours

- 1) ENGL 120: Grammar in Context
- 2) ENGL 160: Introduction to Literature
- 3) ENGL 210: Introduction to Linguistics
- 4) ENGL 215: Phonetics and Phonology
- 5) ENGL 220: Morphology
- 6) ENGL 230: Prose and Fiction in English
- 7) ENGL 270: Situational English

### II) Major Elective Courses:

This set includes two (2), 6-credit hour courses chosen from the following set:

- 1) ENGL 225: Modern Literature
- 2) ENGL 240: Introduction to Language
- 3) ENGL 255: Psycholinguistics
- 4) ENGL 260: Shakespeare
- 5) ENGL 265: Culture in the Classroom
- 6) ENGL 275: Rhetoric
- 7) ENGL 280: Business English
- 8) ENGL 285: Writing Workshop
- 9) ENGL 290: Poetry

## 6.9. Plan of Study: Diploma in English Language

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
CMPS 100A	Introduction to Technical Computing for the Arts	3
ENGL 101	Basic Academic English I	3
ENGL 120	Grammar in Context	3
MATH 103	Mathematics for Social Sciences I	3
Code	Humanities / Social Sciences Elective	3
Semester 2 (Spring)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
ENGL 102A	English for Arts, Humanities and Social Sciences I	3
ENGL 160	Introduction to Literature	3
SOCS 102	Omani Society	3
ENGL 210	Introduction to Linguistics	3

Year II		
Semester 3 (Fall)		15 Credits
Code	Course Title	Credit Hours
ENGL 203A	English for Arts, Humanities and Social Sciences II	3
ENGL 215	Phonetics and Phonology	3
ENGL 230	Prose and Fiction in English	3
Code	Physical / Natural Sciences Elective	3
Code	Major Elective	3
Semester 4 (Spring)		15 Credits
Code	Course Title	Credit Hours
ENGL 204	Advanced English for Academic Purposes & Research	3
ENGL 220	Morphology	3
ENGL 270	Situational English	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
Code	Major Elective	3
<b>Completion of the Diploma in English Language - Total Credits</b>		<b>60</b>

## 6.10. Course Description

Refer to Bachelor in English Language Program Sections 5.10.

# 7. Bachelor of Arts in Translation

## 7.1. Program Overview

The Bachelor of Arts (B.A.) in Translation curriculum includes 30 credit hours of University Requirements, 12 credit hours of College Requirements, and 51 credit hours of Major Core Courses and 27 credit hours of Major Elective Courses. Hands-on experience in practical training and emphasis on application-oriented activities and exercises are important elements that are integrated throughout the curriculum. It is designed to grant students the Bachelor of Arts degree upon the successful completion of the four-year program.

## 7.2. Program Objectives

The objectives of the Program are to:

- 1) Help the students develop a high level of linguistic competence in English and Arabic through combining theoretical knowledge and extensive practice;
- 2) Prepare students for careers that need the use of English language such as teaching, editing, writing, publishing, and public relations, or for pursuing their education in English language beyond the undergraduate level;
- 3) Prepare students for careers in translation from Arabic into English and from English into Arabic, interpretation, teaching, editing, writing, publishing, and public relations, or for pursuing their education in translation beyond the undergraduate level;
- 4) Raise students' awareness regarding the importance of language structure and familiarizing them with the social, historical, and cultural contexts in which languages are used;

- 5) Provide students with a solid liberal education, training, and appropriate learning skills;
- 6) Prepare graduates to become responsible professionals and citizens with high ethical values; and
- 7) Promote life-long independent learning.

### 7.3. Program Learning Outcomes

Graduates of the Translation Program will be able to:

- 1) Demonstrate the ability to understand proper approach to translation issues be it socio- and psycholinguistic, pragmatic, semantic, etc.
- 2) Show the ability to carry out comparative and contrastive analysis between the two languages.
- 3) Demonstrate the understanding of useful strategies needed to achieve equivalence at different levels between English and Arabic.
- 4) Apply the skills of translating/interpreting different text types.
- 5) Show the ability to identify the special linguistic and stylistic characteristics of each text type.
- 6) Demonstrate the ability to identify the tools and techniques of generic and discourse analyses.
- 7) Demonstrate skills of effective use of specialized dictionaries and glossaries in various fields to find closest matches of senses of translation units.
- 8) Show awareness of the complexities of cultural differences when rendering and interpreting different text types
- 9) Show the ability of independent/autonomous learning by using a range of learning techniques and strategies.
- 10) Apply study, research and presentation skills in order to increase academic, professional, and employment potential.

### 7.4. Admission Requirements

Admission requirements for a Bachelor of Arts in Translation Program are as specified in College **Section 6-a on page 42**.

### 7.5. Graduation Requirements

To graduate with a Bachelor of Arts in Translation, students must satisfactorily complete 120 credits taken over four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The university, college, and program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
30	12	51	27	120

### 7.6. University Requirements

The University requirements consist of the following ten (10) course encompassing 30 credit hours:



- 1) ARAB 101: Academic Writing in Arabic
- 2) CMPS 100A: Introduction to Technical Computing for the Arts
- 3) ENGL 101: Basic Academic English
- 4) ENGL 102A: English for Arts, Humanities and Social Sciences I
- 5) ENGL 203A: English for Arts, Humanities and Social Sciences II
- 6) ENGL 204: Advanced English for Academic Purposes and Research
- 7) ENGL 305: Advanced English Language and Communication Skills
- 8) ENTR 200: Entrepreneurship: Innovation and Creativity
- 9) MATH 103: Mathematics for Social Sciences
- 10) SOCS 102: Omani Society

### **7.7. College Requirements**

The college requirements consist of the following four (4) courses encompassing 12 Credit hours:

- One course in physical/ natural sciences electives (3 Cr. hrs.)
- One course in humanities/social sciences electives (3 Cr. hrs.)
- Two courses in any other majors (6 Cr. hrs.)

### **7.8. Program Requirements**

The program requirement includes the following 26 courses encompassing 78 credit hours:

#### **I) Major Core Courses:**

This set consists of the following 17 Courses encompassing 51 Credit hours:

- 1) ARAB 102: Arabic Grammar
- 2) ARAB 308: Morphology
- 3) ENGL 120: Grammar in Context
- 4) ENGL 210: Introduction to Linguistics
- 5) ENGL 215: Phonetics and Phonology
- 6) ENGL 335: Discourse Analysis
- 7) TRAN 150: Introduction to Translation
- 8) TRAN 220: Translation Theory
- 9) TRAN 250: Contrastive Analysis
- 10) TRAN 260: Translation Techniques
- 11) TRAN 300: Translating Business Texts
- 12) TRAN 310: Translating Journalistic Texts
- 13) TRAN 355: Technology-Assisted Translation
- 14) TRAN 360: Translating Scientific Texts
- 15) TRAN 420: Translating Legal Documents
- 16) TRAN 435: Lexicography and Terminology
- 17) TRAN 480: External Practicum

## **II) Major Elective Courses:**

This set includes nine courses encompassing 27 credit hours distributed as follows:

- a) Four Translation Elective courses encompassing 12 credit hours chosen from the following list
  - 1) TRAN 225: Introduction to Interpreting
  - 2) TRAN 235: French Language I
  - 3) TRAN 330: Special Topic in Translation
  - 4) TRAN 345: French Language
  - 5) TRAN 365: English Literature in Arabic Translations
  - 6) TRAN 370: Medical Translation
  - 7) TRAN 375: Audiovisual Translation
  - 8) TRAN 410: Arabic Literature in English Translations
  - 9) TRAN 425: Contrastive Rhetoric and Stylistics
  - 10) TRAN 465: Critical Analysis of Translation Texts
  
- b) Two Arabic Language Elective courses encompassing 6 credit hours chosen from the following list:
  - 1) ARAB 103: Introduction to Arabic Literature
  - 2) ARAB 208: Special Topic in Literature
  - 3) ARAB 250: Writing for the Media
  - 4) ARAB 305: Sociolinguistics
  - 5) ARAB 401: Modern Arabic Poetry
  - 6) ARAB 402: Syntax 2
  - 7) ARAB 406: Modern Arabic Novel
  - 8) ARAB 409: Special Topic in Language
  
- c) Three English Language Elective courses encompassing 9 credit hours selected from the following list:
  - 1) ENGL 220: Morphology
  - 2) ENGL 240: Introduction to Language
  - 3) ENGL 285: Writing Workshop
  - 4) ENGL 320: Introduction to Creative Writing
  - 5) ENGL 340: Semantics
  - 6) ENGL 350: Advanced Writing for Humanities
  - 7) ENGL 355: Sociolinguistics
  - 8) ENGL 360: Advanced Writing for Professional Purposes
  - 9) ENGL 365: Advanced Creative Writing
  - 10) ENGL 440: Special Topic in Literature or Language
  - 11) ENGL 460: Politics of Language
  - 12) ENGL 470: History of the English Language

## 7.9. Plan of Study: BA in Translation

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
CMPS 100A	Introduction to Technical Computing for the Arts	3
ENGL 101	Basic Academic English	3
MATH 103	Mathematics for Social Science I	3
Code	Humanities/Social Sciences Elective	3
Semester 2 (Spring)		15 Credits
Code	Course Title	Credit Hours
ARAB 102	Arabic Grammar	3
ENGL 102A	English for Arts, Humanities and Social Sciences I	3
ENGL 120	Grammar in Context	3
TRAN 150	Introduction to Translation	3
Code	Physical/ Natural Sciences Elective	3
Year II		
Semester 3 (Fall)		15 Credits
Code	Course Title	Credit Hours
ENGL 203A	English for Arts, Humanities and Social Sciences II	3
ENGL 210	Introduction to Linguistics	3
ENGL 215	Phonetics and Phonology	3
TRAN 220	Translation Theory	3
Code	Major Translation Elective	3
Semester 4 (Spring)		15 Credits
Code	Course Title	Credit Hours
ENGL 204	Advanced English for Academic Purposes & Research	3
TRAN 250	Contrastive Analysis	3
TRAN 260	Translation Techniques	3
Code	English Language Elective	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
Year III		
Semester 5 (Fall)		15 Credits
Code	Course Title	Credit Hours
ENGL 335	Discourse Analysis	3
TRAN 300	Translating Business Texts	3
TRAN 310	Translating Journalistic Texts	3
SOCS 102	Omani Society	3
Code	Arabic Elective	3
Semester 6 (Spring)		15 Credits
Code	Course Title	Credit Hours
ARAB 308	Morphology	3
TRAN 355	Technology-Assisted Translation	3
TRAN 360	Translating Scientific Texts	3
Code	Major Translation Elective	3
Code	General Elective	3

Year IV		
Semester 7 (Fall)		15 Credits
Code	Course Title	Credit Hours
TRAN 420	Translating Legal Documents	3
ENGL 305	Advanced English Language & Communication Skills	3
TRAN 435	Lexicography and Terminology	3
Code	English Language Elective	3
Code	General Elective	3
Semester 8 (Spring)		15 Credits
Code	Course Title	Credit Hours
TRAN 480	External Practicum	3
Code	English Language Elective	3
Code	Major Translation Elective	3
Code	Major Translation Elective	3
Code	Arabic Elective	3
Completion of the BA in Translation - Total Credits 120		

## 7.10. Course Descriptions

### **TRAN 150 Introduction to Translation (3 credits)**

This course introduces the preliminaries of translation as both a process and a product. It covers the main issues that are involved in producing a translation, the standards for acceptable translations, the cultural issues involved in translation, and the general rules that govern the translation of texts from English into Arabic and vice versa.

### **TRAN 220 Translation Theory (3 credits)**

This course introduces students to the history and theories of translation. The purpose of the course is to make students aware of the main theoretical debates that have surrounded translation throughout history and more particularly in the 20th century, in order to enable them to see the relevance of theory to the practice of translation.

### **TRAN 225 Introduction to Interpreting (3 credits)**

The aim of this course is to provide students with basic knowledge in the field of interpretation from English into Arabic and vice versa. Practical training in listening and oral skills is central to this course. Both theoretical and practical perspectives are integrated.

### **TRAN 250 Contrastive Analysis (3 credits)**

This course introduces students to the cross-cultural aspects of discourse organization for different genres and different purposes, focusing on a comparison between Arabic and English languages/cultures. Students will become acquainted with the problems of Arabic speakers in learning English and will be able to describe similarities and differences between Arabic and English.

### **TRAN 260 Translation Techniques (3 credits)**

This course provides students with general training in translation of a variety of text types. Students will become aware of the various methods that can be used to tackle challenging texts and will perform annotated translations with

commentaries, editing exercises, and textual analyses, enabling them to draw conclusions concerning the purpose of the original message and the role of the translator as communicator.

**TRAN 300      Translating Business Texts      (3 credits)**

This course provides students with training in reading, analyzing, and translating business, finance, and economics reports and articles. Students will compile a special topics portfolio of translated business texts, annotated translations with commentaries, textual analyses, and editing exercises. Prerequisite: TRAN 260.

**TRAN 310      Translating Journalistic Texts      (3 credits)**

This course provides students with training in reading, analyzing, and translating journalistic texts. Students will compile a special topics portfolio of translated journalistic texts, annotated translations with commentaries, textual analyses, and editing exercises. Prerequisite: TRAN 260.

**TRAN 330      Special Topic in Translation      (3 credits)**

This course is broad and flexible enough to accommodate the ongoing changes and developments in the field of translation. Such course would help students keep abreast with the dynamic and developments in the field of translation and interpreting. Possible topics to be covered in the course: latest advancements in technology-mediated translation and interpreting- quality assurance issues in translation-globalization and mobility and the evolving role of translators and interpreters-social responsibility of translators and interpreters–latest developments in corpus linguistics and the applications of parallel corpora (written and spoken) in translation and interpreting, etc. Most importantly, the implications of these trends and topics will be connected to the student translator/interpreter training and professional development.

**TRAN 355      Technology-Assisted Translation      (3 credits)**

This course introduces students to the most recent developments in the use of technology to help translators in their work. This covers a number of topics including machine translation, computer-assisted translation and the use of electronic dictionaries and corpora. The course offers students training in these technologically related topics.

**TRAN 360      Translating Scientific Texts      (3 credits)**

This course provides students with training in reading, analyzing, and translating scientific, technical, and technological texts. Students will compile a special topics portfolio of translated scientific and technical texts, annotated translations with commentaries, textual analyses, and editing exercises. Prerequisite: TRAN 250.

**TRAN 365      English Literature in Arabic Translations      (3 credits)**

This course deals with the metamorphosis of English literary texts in Arabic translations. Students will be familiar with the problems of literary translation, especially in terms of transplanting English texts into Arabic context. Issues like faithful, literal, free translation and cultural adaptation are dealt with extensively. Students will also be exposed to techniques of literary translation.

**TRAN 370      Medical Translation      (3 credits)**

This course is designed to provide students with a solid background in medical translation so as to be future translators in settings such as hospitals, physicians' offices and clinics. Emphasis is placed on the development of medical terminology. Upon completion, students should be able to translate a variety of medical texts from and into Arabic.

**TRAN 375      Audiovisual Translation      (3 credits)**

Audiovisual Translation is an exciting new field in Translation Studies for which there is a growing professional demand, and the need for professionals in this field has grown exponentially in the new era. The course is designed to introduce students to different areas of translation of the audiovisual material, including subtitling and dubbing. Upon completion of this course, students will acquire a basic understanding of the techniques for subtitling and dubbing of movies, documentaries and programs. In addition, the students will be able to differentiate between different modes of audiovisual translation including subtitling, dubbing and voice-over. In addition, they will be trained on translating audiovisual materials from and into Arabic, taking account of the linguistic and cultural problems that face screen translators.

**TRAN 410      Arabic Literature in English Translations      (3 credits)**

This course deals with the metamorphosis of Arabic literary texts in English translations. Students will become familiar with the problems of literary translation, especially in terms of transplanting Arabic texts into English context. Issues like faithful, literal, free translation and cultural adaptation are dealt with extensively. Students will also be exposed to techniques of literary translation.

**TRAN 420      Translating Legal Documents      (3 credits)**

This course focuses on the theory and practice of translating legal instruments (such as certificates and contracts) from and into English and Arabic. Attention is paid to linguistic features of documentary texts (such as constitutions, charters and protocols) and the nature of the translational equivalence in the two languages. *Prerequisite:* TRAN 260.

**TRAN 425      Contrastive Rhetoric and Stylistics      (3 credits)**

This course introduces students to a higher level of contrastive analysis between Arabic and English. The purpose of the course is to equip students with a firm knowledge of different styles of the two languages including idioms, figures of speech, metaphors, and so forth in order to utilize such knowledge in translating English and Arabic texts. A special focus will be on idiomatic and metaphoric styles, and the influence of cultural settings on the production and transfer of stylistic forms from Arabic to English and vice versa.

**TRAN 435      Lexicography and Terminology      (3 credits)**

This course focuses on the problems of equivalences and variability of terminologies. The phenomena of terminology banks and databases are studied, as well as the role of Arabic language academies in the creation and standardization of terminologies in Arabic.

**TRAN 465      Critical Analysis of Translated Texts      (3 credits)**

This course presents a functional pragmatic approach to the peculiarities of situational linguistics, their sources and their targets; and then assesses the results of the situation. The students will be required to write a critique of a translated work.

**TRAN 470      Machine Translation      (3 credits)**

This course offers training in machine translation and it focuses on the differences between human translation/ interpretation and machine translation.

**TRAN 480      External Practicum      (3 credits)**

This course offers an opportunity for supervised translation in a commercial or government office. Periodic reports will be a part of the requirement for this practicum course.

## 1. أعضاء الهيئة التدريسية والإدارية:

رئيس القسم : د. سعيد بيت مبارك

أستاذ مشارك: د. أحمد بن عبدالرحمن بالخير

أستاذ مساعد: د. سالم بن محاد المعشني، د. مراد الحاجي، د. شفيق طه النوباني. د. مرتضى فرح وداعة

محاضر: أ. سعيد المعشني

## 2. الرؤية:

التميز و الريادة في تقديم العربية وآدابها محلياً وإقليمياً وعالمياً.

## 3. الرسالة:

تقديم العربية وآدابها بجودة عالية تقديمياً يعزز الهوية الإسلامية ويحافظ على لغة القرآن ويعد كفاءات متميزة علمياً ومهارياً و بحثياً قادرة على مواكبة مستجدات العصر و متطلبات سوق العمل وفق ثقافة المجتمع و الهوية العربية.

## 4. البرامج المطروحة:

يطرح القسم برامج البكالوريوس والماجستير:

أ- البكالوريوس:

– بكالوريوس اللغة العربية وآدابها

ب- الماجستير:

– ماجستير الدراسات اللغوية

– ماجستير الدراسات الأدبية والنقدية

(للمزيد من المعلومات حول برامج الدراسات العليا الرجاء الرجوع للدليل الدراسات العليا)

## 5. بكالوريوس اللغة العربية وآدابها

## Bachelor of Arts in Arabic Language

### 5.1. نظرة عامة على البرنامج

يتضمن برنامج البكالوريوس في اللغة العربية 15 ساعة معتمدة من متطلبات الجامعة و 57 ساعة معتمدة من المتطلبات الإجبارية وهناك أيضا 48 ساعة معتمدة من المتطلبات الاختيارية التي يمكن للطلاب أن يختار منها ما يناسبه ليصل مجموع عدد الساعات حين تخرجه 120 ساعة معتمدة. في هذا البرنامج سيتلقى الطالب دروسه في صورة محاضرات وتمارين وفروض دراسية واختبارات تشكل في نهاية المطاف - وبعد اجتيازه للامتحانات المقررة - أهم المكونات لبرنامج البكالوريوس في اللغة العربية وآدابها الذي يمتد لأربع سنوات.



## 5.2. أهداف البرنامج

تتلخص أهداف البرنامج في الآتي:

- تعزيز القدرات اللغوية لدى الطالب وتمكينه من التعبير الصحيح.
- تعزيز قدرات الطالب وذوقه الأدبي ليتمكن من تذوق واستيعاب الأساليب المتنوعة والتعرف إلى الأجناس الأدبية.
- تعريف الطالب بالطرائق المتنوعة لاستخدام المراجع والكتب بما في ذلك كتب التراث.
- تطوير مهارات الطالب في القراءة والكتابة وجعله قادراً على التفكير المنطقي والإبداعي.
- تطوير مهارات الطالب في الكتابة وتحسين مستواه في الإملاء والترقيم.
- تطوير مهارات الطالب في الكتابة والمحادثة وتحسين مستواه النحوي وتطوير ثروته اللغوية.
- تطوير وعي الطالب بأهمية اللغة العربية ومكانتها بوصفها لغة دين وحضارة.

## 5.3. مخرجات تعلم البرنامج

من المتوقع بعد نهاية البرنامج أن يكون الدارس قادراً على:

1. توظيف مهارات الاستماع في فهم العربية من خلال سياقات متعددة.
2. إبراز مهارات التحدث من أجل التعبير عن الأفكار والآراء والبراهين والوظائف اللغوية المختلفة أمام متكلمي العربية.
3. تطبيق مهارات القراءة وإستراتيجياتها في التعامل مع نصوص عربية أصيلة في سياقات متعددة.
4. استخدام مهارات الكتابة في التعبير عن الأفكار والآراء والبراهين والوظائف اللغوية المختلفة من خلال أنماط مناسبة للمهمة المقصود تحقيقها في العربية.
5. إظهار القدرات المكتسبة على تحقيق الاستخدام الفعال للأدوات النحوية والثروة اللغوية من أجل تواصل فعال من خلال العربية.
6. إظهار وعي متقدم بالأنظمة اللغوية الخاصة بالعربية وتبيان القدرة المكتسبة على التعرف على البنى والوظائف اللغوية وتحليلها.
7. الإعراب عن وعي متقدم بالأجناس الأدبية وإظهار القدرة المكتسبة على إخضاع مختلف النصوص الأدبية باللغة العربية للتمحيص النقدي.
8. إظهار القدرة على التعليم الذاتي والمستقل من خلال استخدام التقنيات والاستراتيجيات التعليمية المتعددة.
9. تفعيل المهارات المكتسبة من خلال الدراسة والبحث والعروض التقديمية من أجل زيادة فرص العمل الأكاديمية والمهنية.

## 5.4. متطلبات القبول:

متطلبات القبول لباكوريوس الآداب في اللغة العربية موجودة في قسم الكلية a.6 صفحة 42.

## 5.5. متطلبات التخرج:

مجموع الساعات	متطلبات التخصص		متطلبات الكلية	متطلبات الجامعة
	المتطلبات الاختيارية	المتطلبات الإلزامية		
120	48	57	0	15

## 5.6. متطلبات الجامعة:

1. ARAB 101: الكتابة الأكاديمية باللغة العربية
2. Introduction to Technical Computing for the Arts: CMPS 100A
3. Basic Academic English: ENGL 101
4. Entrepreneurship: Innovation and Creativity: ENTR 200

### 5.7. متطلبات الكلية:

لا يوجد متطلبات للكلية في هذا البرنامج.

### 5.8. متطلبات التخصص

#### أولاً. متطلبات التخصص الإجبارية

1. ARAB 102: قواعد اللغة العربية
2. ARAB 103: مقدمة في الأدب العربي
3. ARAB 104: الكتابة الأكاديمية المتقدمة
4. ARAB 105: الشعر الجاهلي
5. ARAB 106: مقدمة في اللغويات
6. ARAB 202: النحو (1)
7. ARAB 203: الصوتيات
8. ARAB 205: المعجم والدلالة
9. ARAB 206: البلاغة العربية
10. ARAB 207: الشعر في عصر صدر الإسلام والعصر الأموي
11. ARAB 209: النثر العربي القديم
12. ARAB 302: الشعر العباسي
13. ARAB 303: الأدب الأندلسي
14. ARAB 307: نظرية الأدب والنقد
15. ARAB 308: الصرف
16. ARAB 309: العروض
17. ARAB 401: الشعر العربي الحديث
18. ARAB 402: النحو (2)
19. ARAB 406: الرواية العربية الحديثة

#### ثانياً. متطلبات التخصص الاختيارية

1. ARAB 107: الخطابة والمهارات القرائية والشفوية
2. ARAB 204: دراسات في القرآن والحديث
3. ARAB 208: موضوع خاص في الأدب
4. ARAB 210: اللغويات التاريخية
5. ARAB 211: مصادر الأدب واللغة
6. ARAB 212: الأدب العماني وأدب شبه الجزيرة العربية
7. ARAB 214: اللهجات العربية
8. ARAB 250: الكتابة الإعلامية
9. ARAB 305: اللغويات الاجتماعية
10. ARAB 306: الأدب في عصر النهضة العربية الحديثة
11. ARAB 310: أدب المهجر
12. ARAB 313: تذوق النص الأدبي
13. ARAB 314: ورشة عمل لغوية
14. ARAB 315: قضايا في الأدب العماني
15. ARAB 316: المتنبي
16. ARAB 404: الأدب الشعبي
17. ARAB 405: اللغويات التطبيقية
18. ARAB 407: النظام الصوتي
19. ARAB 408: الأدب المقارن
20. ARAB 409: موضوع خاص في اللغة

21. ARAB 411: الاستشراق والمستشرقون  
 22. ARAB 412: دراسات لغوية حديثة  
 23. ARAB 413: المسرح العربي الحديث  
 24. ARAB 414: أدب الأطفال

## 5.9. الخطة الدراسية لبرنامج البكالوريوس في اللغة العربية

السنة الأولى		
فصل الخريف		
الرمز	اسم المقرر	عدد الساعات
ARAB 101	الكتابة الأكاديمية باللغة العربية	3
CMPS 100A	Introduction to Technical Computing for the Arts	3
ENGL 101	Basic Academic English	3
ARAB 102	Syntax and Morphology	3
SOCS 102	Omani Society	3
فصل الربيع		
الرمز	اسم المقرر	عدد الساعات
ARAB 103	مقدمة في الأدب العربي	3
ARAB 104	الكتابة الأكاديمية المتقدمة	3
ARAB 105	الشعر الجاهلي	3
ARAB 106	مقدمة في اللسانيات	3
الرمز	مادة اختيارية	3
السنة الثانية		
فصل الخريف		
الرمز	اسم المقرر	عدد الساعات
ARAB 202	النحو (1)	3
ARAB 203	الصوتيات	3
ARAB 205	المعجم والدلالة	3
ARAB 206	البلاغة العربية	3
الرمز	مادة اختيارية	3
فصل الربيع		
الرمز	اسم المقرر	عدد الساعات
ENTR 200	Entrepreneurship: Innovation and Creativity	3
ARAB 207	الشعر في عصر صدر الإسلام والعصر الأموي	3
ARAB 209	النثر العربي القديم	3
الرمز	مادة اختيارية	3
الرمز	مادة اختيارية	3
السنة الثالثة		
فصل الخريف		
الرمز	اسم المقرر	عدد الساعات
ARAB 302	الشعر العباسي	3
ARAB 303	الأدب الأندلسي	3
الرمز	مادة اختيارية	3
الرمز	مادة اختيارية	3
الرمز	مادة اختيارية	3
فصل الربيع		
الرمز	اسم المقرر	عدد الساعات
ARAB 307	نظرية الأدب والنقد	3
ARAB 308	الصرف	3
ARAB 309	العروض	3

الرمز	مادة اختيارية	3
الرمز	مادة اختيارية	3
<b>السنة الرابعة</b>		
<b>فصل الخريف</b>		
الرمز	اسم المقرر	15 ساعة معتمدة
عدد الساعات		
ARAB 401	الشعر العربي الحديث	3
ARAB 402	النحو (2)	3
الرمز	مادة اختيارية	3
الرمز	مادة اختيارية	3
الرمز	مادة اختيارية	3
<b>فصل الربيع</b>		
ARAB 406	الرواية العربية الحديثة	3
الرمز	مادة اختيارية	3
الرمز	مادة اختيارية	3
الرمز	مادة اختيارية	3
الرمز	مادة اختيارية	3
<b>مجموع الساعات: 120 ساعة معتمدة</b>		

## 5.10 توصيف المقررات:

**ARAB 101 الكتابة الأكاديمية العربية (3ساعات معتمدة)**  
يتناول هذا المقرر أساسيات الكتابة الأكاديمية العربية من حيث قواعد كتابة الكلمة ورسمها الإملائي، وأسس صياغة الجملة من خلال تناول أنواع الجملة ومكوناتها، ويتناول المقرر أسس كتابة الفقرة بما يمكن الطالب من الكتابة في أي جنس أدبي أو مجال علمي. ولأن المادة تأسيسية في مجال الكتابة يكتفى فيها بتناول المقالة، بحكم إمكانية تناول الموضوعات المتنوعة من خلالها سواء أكانت أدبية أم علمية. ويؤخذ بعين الاعتبار تخصصات الطلبة، إذ يمكن تكليفهم بأوراق بحثية تتعلق بتخصصاتهم.

**ARAB 102 قواعد اللغة العربية (3ساعات معتمدة)**  
يتناول هذا المقرر المبادئ الأساسية في قواعد اللغة العربية، فيعرف الطالب بمستويات اللغة بصورة عامة كال مستوى الصوتي والمستوى الصرفي والمستوى النحوي والمستوى الدلالي. ثم يتناول مبادئ علم الصرف من خلال التركيز على الميزان الصرفي وأوزان الفعل ومعاني الزيادة. أما في علم النحو فيركز بصورة أساسية على دروس أقسام الكلام والمبني والمعرّب وعلامات الإعراب الأصلية والفرعية والممنوع من الصرف والعدد.

**ARAB 103 مدخل إلى الأدب العربي (3 ساعات معتمدة)**  
يستعرض هذا المقرر تاريخ الأدب العربي من عصر الجاهلية إلى العصر الحالي، ويتناول نماذج من الشعر والنثر لإبراز سماتها وخصائصها الجوهرية.

**ARAB 104 الكتابة الأكاديمية المتقدمة (3ساعات معتمدة)**  
يركز هذا المقرر على تعزيز المهارات الكتابية في الأنشطة التعليمية مثل تدوين الملاحظات والتلخيص واستيعاب الأفكار الرئيسة والمعاني الجزئية وإنشاء تعريفات، والتصنيف والاستنتاج، وإثبات الآراء والاستعانة بمراجع مثل الشبكة العنكبوتية، وكتابة التقارير وإجراء البحوث. (متطلب سابق: عربي 101)

**ARAB 105 الشعر الجاهلي (3ساعات معتمدة)**  
يستعرض هذا المقرر الجوانب الاجتماعية والسياسية والفكرية المختلفة للعرب في العصر الجاهلي من خلال نماذج شهيرة من الشعر والنثر، ويتناول بالنقد بعض أكثر المسائل المثيرة للجدل في الأدب الجاهلي مثل بداية الشعر وأوليئته ومسألة السرقات الأدبية ومسألة الرواية وتدوين الشعر الجاهلي. ويتعرف الطلبة على الخصائص والموضوعات الجوهرية للشعر الجاهلي مثل المَعْلَقَات والحواليات وشعر الصعاليك. ومن خلال هذا المقرر يتزود الطلبة بالأدوات المطلوبة لتحليل وتفسير وتمييز أجزاء القصيدة الجاهلية. (متطلب سابق عربي 103)

**ARAB 106 مقدمة في اللسانيات (3ساعات معتمدة)**  
يبحث هذا المقرر في الطبيعة الجوهرية للسانيات في مستويات الصوت والصرف والنحو والدلالة وفي العلاقة بينها، ويستعرض مناهج متعددة في دراسة اللسانيات كالمناهج التاريخية والمنهج التقابلي والمنهج المقارن. (متطلب سابق عربي 101)

**ARAB 107 الخطابة والمهارات القرآنية والشفوية (مساق اختياري) (3ساعات معتمدة)**  
سيمتج هذا المقرر الفرصة للطلبة للتمرس على المهارات الشفوية والقرآنية والخطابية، وسيؤلى الأداء الشفوي باللغة العربية المعيار أولوية من خلال مساعدة الطلبة على اكتساب النطق والتنغيم السليمين، كما سيركز المقرر على مهارة القراءة الجهرية السليمة والمعبّرة فضلاً عن تناوله لمهارة لقراءة الصامتة، وسيعرض المقرر نماذج لخطب عربية وعالمية شهيرة. (متطلب سابق عربي 101).

**ARAB 202 نحو 1 (3ساعات معتمدة)**  
يستند هذا المقرر على المعرفة التي اكتسبها الطلبة في عرب 102، حيث سيتناول قواعد تركيب الجملة في العربية من خلال تناول أنواع الجملة وأركانها بقدر من التفصيل، بالإضافة إلى المنصوبات، مثل المفعول به والمفعول فيه والمفعول لأجله والحال والتمهيز. ويستعين في ذلك كله بنصوص يوضح من خلالها آلية تركيب جمل سليمة نحوياً. (متطلب سابق عربي 102).

**ARAB 203 الصوتيات (3ساعات معتمدة)**  
يعالج هذا المقرر السمات النطقية والفيزيائية للأصوات العربية في من العربية الفصحى. ستمنح الأولوية للعلاقة بين الصوتيات من جانب والمستويات اللسانية الأخرى من جانب آخر. (متطلب سابق عربي 106).

**ARAB 204 دراسات في القرآن والحديث (مادة اختيارية) (3 ساعات معتمدة)**  
يُبرز هذا المقرر الأسلوب الفريد للقرآن الكريم وللحديث النبوي الشريف. كما يستكشف المعجزة البلاغية للغة القرآن الكريم مع التركيز على طريقة استنباط الإعجاز من النص القرآني من خلال قوانين اللغة. ويستعرض المقرر دراسات تطبيقية تبين أثر البلاغة على جمال لغة القرآن والحديث الشريف. (متطلب سابق عربي 102)

**ARAB 205 المعجم والدلالة (3ساعات معتمدة)**  
يتناول هذا المساق في الجزء الأول بنية المعجم العربي، فضلاً عن أهم المعاجم العربية في العصور القديمة والحديثة. ويتناول في الجزء الثاني المعنى في اللغة العربية من قبل النحاة والفلاسفة العرب، ويقدم رؤى جديدة في ضوء النظريات اللغوية الحديثة. (متطلب سابق عربي 102)

**ARAB 206 البلاغة العربية (3ساعات معتمدة)**  
يتناول هذا المقرر بُرُوح البلاغة العربية وتطورها. ويسعى بالدرجة الأولى إلى تمكين الطالب من تعرف الدروس البلاغية الأساسية التي جاءت من خلال علوم البلاغة: البيان، المعاني، البديع (متطلب سابق عربي 101)

**ARAB 207 الشعر في صدر الإسلام والعصر الأموي (3ساعات معتمدة)**  
يحلل هذا المقرر نماذج من الشعر العربي في عصر صدر الإسلام والعصر الأموي مع التركيز على التغيرات التي طرأت على أسلوب هذا الشعر وأغراضه بعد هجرة العديد من العرب إلى الأقاليم التي فتحوها. كما يتناول المقرر التغيرات الاجتماعية والاقتصادية والسياسية التي أثرت في ماهية الشعر في صدر الإسلام والعصر الأموي. (متطلب سابق عربي 105).

**ARAB 209 النثر العربي القديم (3ساعات معتمدة)**  
يحلل المقرر نماذج من النثر العربي القديم مثل كتابات ابن المقفع والجاحظ والتوحيدي. كما يستطلع المقرر نشوء النثر وأثره في الكتابات العربية للعصور اللاحقة. (متطلب سابق عربي 103).

**ARAB 302 الأدب العباسي (3ساعات معتمدة)**  
يعالج المقرر الشعر العباسي من خلال دراسة نماذج شعرية متميزة. ويدرس الطلبة في الشطر الأول من المقرر عدداً من أشهر الشعراء من العصر العباسي الأول الذي ينتهي في زمن الخليفة المعتصم. ويتناول الشطر الثاني من المقرر بقية الشعراء المتأخرين حتى سقوط بغداد. (متطلب سابق عربي 103)

**ARAB 303 الأدب الأندلسي (3ساعات معتمدة)**  
يهدف المقرر إلى تعريف الطلبة بأوجه التشابه والاختلاف بين الأدب العربي في الشرق ونظيره في الأندلس وشمال إفريقيا. ويتناول المقرر الموضوعات الجوهرية التي طغت على الأدب والنثر في الأندلس وشمال إفريقيا بما في ذلك الحب والغزل ووصف الطبيعة والبحث عن الحقيقة ومرثيات المُنْد. كما ويتناول المقرر الموشحات والمؤثرات التي أدت إلى نشأتها، إذ يتم ذلك كله من خلال تناول نماذج شعرية أندلسية. (متطلب سابق عربي 103 وعربي 207)

**ARAB 307 نظرية الأدب والنقد (3 ساعات معتمدة)**  
يتناول هذا المساق نظرية الأدب والنقد منذ النقد اليوناني حتى الآن. ويشير أيضا إلى الموضوعات الأدبية المفضلة للنقاد على مر العصور. (المتطلب السابق: عرب 209)

**ARAB 308 علم الصرف (3 ساعات معتمدة)**  
يتناول هذا المساق الموضوعات الصرفية الأساسية مثل أوزان الفعل، والمشتقات، والمصادر، وتأثير تشكيل الكلمة على المعنى والسياق. (المتطلب السابق: عرب 101 وعرب 102)

**ARAB 309 العروض (3 ساعات معتمدة)**  
يتناول هذا المساق علم العروض التقليدي وسماته المميزة. إذ يتعلم الطلاب كيفية التقطيع الشعري، وبحور الشعر الستة عشر، والقافية، والشعر الحر، والنظريات الحديثة المرتبطة بالإيقاع الشعري. (المتطلب السابق: عرب 203)

**ARAB 401 الشعر العربي الحديث (3 ساعات معتمدة)**  
يتناول هذا المساق قصائد مختارة من العصر الحديث. كما يدرس العوامل التي أدت إلى تطور الشعر العربي بدءاً من محاولات باكثير المبتكرة، وحركة الشعر الحر، والمسرحيات الشعرية لأحمد شوقي، والحركة الرومانسية، ومؤخراً قصائد النثر. (المتطلب السابق: عرب 103)

**ARAB 402 النحو (2) (3 ساعات معتمدة)**  
يدرس هذا المساق الموضوعات النحوية التالية: التوابع، والنداء وأسلوب الشرط، والجملة التي لها محل من الإعراب، والتي ليس لها محل من الإعراب، ولا تغفل المادة تناول نصوص يمكن من خلالها تناول هذه الموضوعات. (المتطلب السابق: عرب 202)

**ARAB 406 الرواية العربية الحديثة (3 ساعات معتمدة)**  
يركز هذا المساق على ازدهار الرواية العربية الحديثة. ويتناول أيضاً رواد الرواية العربية الحديثة الأولين ومحاولاتهم الأولى، والروائيين الحديثين الذين تأثروا بالأدب الأوروبي. ويدرس الطلبة نموذجاً روائياً على الأقل تتضح من خلاله عناصر الرواية. (المتطلب السابق: عرب 209)

**ARAB 208 موضوع خاص في الأدب (مادة اختيارية) (3 ساعات معتمدة)**  
يتناول هذا المساق أحد المواضيع الأدبية من خلال دراسة متعمقة. (المتطلب السابق: عرب 103)

**ARAB 210 اللغويات التاريخية (مادة اختيارية) (3 ساعات معتمدة)**  
يتناول هذا المساق اللغويات التاريخية مع التركيز على الدراسات السامية. وبعد إعطاء مقدمة حول أساليب المقارنة والمقابلة وإعادة بناء اللغات القديمة، سوف تتاح للطلاب فرصة تناول بعض النصوص القديمة والتعرف على الاختلافات الصوتية والنحوية والدلالية في عدد من اللغات السامية القديمة والحديثة. (المتطلب السابق: عرب 106)

**ARAB 211 مصادر الأدب واللغة (مادة اختيارية) (3 ساعات معتمدة)**  
يتعرف الطلاب من خلال دراسة هذا المقرر على المصادر المرموقة من التراث اللغوي والأدبي للغة العربية، وذلك من خلال الإطلاع على الأساليب الكتابية المختلفة للكتاب الأقدمين، ومقارنة ذلك بأساليب الكتاب المحدثين. يهدف المقرر كذلك إلى خلق رابط بين التقليدية والحداثة. يجب على الطالب دراسة المقرر (209) كمتطلب لدراسة هذا المقرر.

**ARAB 212 الأدب العُماني وأدب شبه الجزيرة العربية (مادة اختيارية) (3 ساعات معتمدة)**  
يغطي المقرر الأدب العُماني وأدب شبه الجزيرة العربية، وكذلك أدب المهاجرين العُمانيين في قارتى آسيا وإفريقيا عبر قبة تاريخية مختلفة. يتعرض المقرر كذلك إلى دراسة أشهر الأدباء في عُمان وشبه الجزيرة العربية في العصر الحديث كما يتناول بالدراسة والتحليل الاتجاهات الحديثة في مختلف ضروب الأدب من مقامات وشعر وبلاغة ونثر ورواية. حيث يمكن تحقيق هذه الأهداف جميعها من خلال تحليل نصوص أدبية من عمان والجزيرة العربية. يجب على الطالب دراسة المقرر (103) كمتطلب لدراسة هذا المقرر.

**ARAB 214 اللهجات العربية (مادة اختيارية) (3 ساعات معتمدة)**  
يتناول المقرر أوجه الاختلافات بين اللغات واللهجات من خلال دراسة أشهر نماذج من اللهجات العربية القديمة والحديثة. وذلك بالتركيز على دراسة وتطبيق مستويات التحليل اللغوي المتنوعة على هذه اللهجات من أصوات وصرف ونحو ومعان. يجب على الطالب دراسة المقرر (106) كمتطلب لدراسة هذا المقرر.

**ARAB 250 الكتابة الإعلامية (مادة اختيارية) (3 ساعات معتمدة)**  
يغطي المقرر المواضيع الإعلامية التي تتناولها وسائل الإعلام العربية المعاصرة. ويهدف المقرر إلى تمكين الطلاب وإثراء ذخيرتهم اللغوية بالمفردات اللغوية المعاصرة وتحسين مهاراتهم الخطابية. يركز المقرر على تناول ونقاش

الخصائص و السمات المميزة للغة الإعلام مما يسهم في تطوير قدرات الطلاب وتمكينهم من كتابة نصوص ذات طابع إعلامي، وكذلك رفع مستوى وعي الطلاب وتعريفهم بالطرق المختلفة لاستخدام اللغة في وسائط الإعلام لأغراض مقصودة كالدعاية والتضخيم وتوجيه الرأي العام. يجب على الطالب دراسة المقرر (عرب 104) كمطلب لدراسة هذا المقرر.

### **ARAB 305 علم اللغة الاجتماعي (مادة اختيارية) (3 ساعات معتمدة)**

يتناول هذا المقرر التباينات اللغوية في ضوء العوامل الجغرافية والاجتماعية. يركز المقرر على عدة مواضيع متعلقة بالسياسات اللغوية والتعدد اللغوي ومسائل اللغة والهوية. يجب على الطالب دراسة المقرر (عرب 203) كمطلب لدراسة هذا المقرر.

### **ARAB 306 الأدب في عصر النهضة العربية الحديثة (مادة اختيارية) (3 ساعات معتمدة)**

يتناول المقرر مسائل الانفتاح على الآداب الغربية من قبل الأدباء العرب وذلك بعرض ودراسة نماذج مختارة من نثر وشعر الرواد والمبدعين في هذا المجال الحديث. يتتبع المقرر كذلك تطور الأدب العربي منذ العام 1940 مبينا الحركات والمدارس الشعرية الجديدة والتي ظهرت إبان تلك الفترة وتأثرت بالأدب الغربي مثل الكلاسيكية الجديدة (النهضة) والرومانسية وبعض المدارس الحديثة الأخرى. سيتناول المقرر بالدراسة والتحليل نصوصا مختارة من النثر والشعر بغرض توضيح السمات المميزة لكل مدرسة من هذه المدارس الحديثة. يجب على الطالب دراسة المقرر (عرب 103) كمطلب لدراسة هذا المقرر.

### **ARAB 310 أدب المهجر (مادة اختيارية) (3 ساعات معتمدة)**

يغطي المقرر الأدب العربي في المهجر خصوصا في دول أمريكا الشمالية والجنوبية وكذلك أجزاء أخرى من العالم بما في ذلك دول جنوب وجنوب شرق آسيا. يسلط المقرر الضوء على الأسباب والذوابع لهجرة الشعراء وذلك من خلال عرض مقدمة تاريخية سريعة تبدأ عند نهاية القرن التاسع عشر الميلادي. يهدف المقرر الى التعريف بأدباء المهجر وذلك من خلال التركيز على أهم الأدباء وعرض وتحليل نماذج من أعمالهم الأدبية وإبتكاراتهم وإسهاماتهم التي أثرت الأدب العربي. كما يتناول المقرر آراء المستشرقين حول أدب المهجر. يجب على الطالب دراسة المقرر (عرب 103) كمطلب لدراسة هذا المقرر.

### **ARAB 316 المتنبي (مادة اختيارية) (3 ساعات معتمدة)**

يتناول هذا المقرر الشاعر المتنبي ومكانته المهمة في الشعر العربي. يقدم المقرر نبذة عامة عن الشاعر المتنبي وسيرته الذاتية وحياته الاجتماعية. يتعرض المقرر بالدراسة والتحليل لعينات واسعة من قصائد متعددة للشاعر كما يناقش المقرر أثر شعر المتنبي على الشعراء المحدثين. يجب على الطالب دراسة المقرر (عرب 302) كمطلب لدراسة هذا المقرر.

### **ARAB 404 الأدب الشعبي (مادة اختيارية) (3 ساعات معتمدة)**

يتناول المقرر الأدب الشعبي باستعراض نماذج مختلفة من الحكايات و القصص الشعبية، كآل ف ليلة وليلة، ومغامرات الأبطال الشعبيين أمثال بني هلال وسيف بن ذي يزن وعنتر بن شداد العيسى والوزير سالم. ويتناول المقرر أيضا نماذج من الأدب الشعبي العماني. يجب على الطالب دراسة المقرر (عرب 103) كمطلب لدراسة هذا المقرر.

### **ARAB 405 اللغويات التطبيقية (مادة اختيارية) (3 ساعات معتمدة)**

يتناول هذا المقرر استخدام اللغويات التطبيقية في تدريس اللغة العربية للمتحدثين الأصليين وغير الناطقين بها بالإضافة إلى قضايا الترجمة واكتساب اللغة وتحليل الأخطاء وعلم اللغة المقارن. (مطلب سابق ARAB106)

### **ARAB 407 النظام الصوتي (مادة اختيارية) (3 ساعات معتمدة)**

يستند هذا المقرر إلى المقرر التمهيدي ARAB 203 ويتناول دراسة أكثر تقدما لعلم الأصوات الحديثة وتطبيقه على اللغة العربية القياسية واللهجات العربية. (مطلب سابق ARAB203)

### **ARAB 408 الأدب المقارن (اختياري) (مادة اختيارية) (3 ساعات معتمدة)**

يتناول هذا المقرر العلاقة بين الأدب العربي القديم والحديث وأدب اللغات الأخرى مثل الأدب اليوناني والفارسي والعلاقة بين الشعر العربي القديم وشعراء التروبادور، وتأثير اللغة الإنجليزية الحديثة والإسبانية على الشعر العربي الحديث. كما يتناول المقرر التجربة العربية في مجال الأدب المقارن من خلال تماسها مع مدارس الأدب المقارن: الفرنسية والأمريكية والألمانية والسلافية.

### **ARAB 409 موضوع خاص في اللغة (مادة اختيارية) (3 ساعات معتمدة)**

يركز هذا المقرر على أحد جوانب اللغة على نحو مفصل. (مطلب سابق ARAB402)

### **ARAB 313 تذوق النص الأدبي (مادة اختيارية) (3 ساعات معتمدة)**

يتناول هذا المقرر ما يلي:

- النص الأدبي العربي وعلاقته بثقافة منتج النص.
- وضع اللغة، وجوانبها الدلالية المتنوعة وفهم النص الأدبي.
- القراءات المختلفة للنصوص.
- كل هذا يمكن أن يتحقق من خلال التطبيقات والتحليل عن طريق اختيار عدد من النصوص التي يمكن أن تتغير في كل فصل دراسي. المتطلب السابق: ARAB103

**ARAB 413 المسرح العربي الحديث (مادة اختيارية) (3 ساعات معتمدة)**  
يدرس المقرر المسرح العربي الحديث وتاريخ تطوره كنوع جديد من أنواع الأدب العربي. سيقوم الطلاب بدراسة وتحليل عدد من النصوص المسرحية الشهيرة. المتطلب السابق: ARAB 103

**ARAB 314 ورشة عمل لغوية (مادة اختيارية) (3 ساعات معتمدة)**  
يتناول هذا المقرر دراسة تحليل الأنماط اللغوية، بدءاً من مستوى الصوت إلى مستوى الكلمة، وبناء الجملة، والجوانب الدلالية والبلاغية. سيتناول الجزء العملي من المقرر نصوصاً مختارة (قديمة أو حديثة) يمكن من خلالها تحديد دور الوظيفة اللغوية لكل نص من هذه النصوص. المتطلب السابق: ARAB 308

**ARAB 315 قضايا في الأدب العماني (مادة اختيارية) (3 ساعات معتمدة)**  
يهدف هذا المقرر إلى إبراز أصالة الثقافة العربية في عمان من خلال دراسة مصادر مختلفة للأعمال الأدبية عبر القرون وخاصة الشعر. ولتوضيح أهمية المصادر الأدبية والشعرية للأدب العماني، من الضروري دراسة العوامل التي أثرت في اتجاهه. كما يجب دراسة الأنواع المختلفة للأدب العماني مع أمثلة لبعض الأسماء البارزة للأدباء في عمان، سواء من الأجيال القديمة أو الأجيال الحديثة. وسيشمل هؤلاء الشعراء مثل السطالي والنيهاني والغشيري وابن رزيق والشيخ مسلم البهلاني ونور الدين السالمي والشيخ عبدالله الخليلي وغيرهم. كما سيتم استعراض تاريخ الأدب في عمان من أجل تسليط الضوء على بعض القضايا الأدبية واللغوية في هذا الجزء من العالم العربي. المتطلب السابق: ARAB103

**ARAB 411 الاستشراق والمستشرقون (مادة اختيارية) (3 ساعات معتمدة)**  
يشمل هذا المقرر:  
- بدايات الاهتمام الغربي بالشرق الإسلامي وعلاقته بالحركة الاستعمارية.  
- مدارس الاستشراق.  
- جهود المستشرقين في تحقيق ودراسة التراث العربي والإسلامي.  
- جهود بروكلمان، بلانشير، ماسينيون وأندرية ميكيل في تصنيف وترجمة الأدب العربي، والوضع الحالي للمستشرقين.  
- توجهات واتجاهات الاستشراق المعاصر.  
المتطلب السابق: عرب 408

**ARAB 412 دراسات لغوية حديثة (مادة اختيارية) (3 ساعات معتمدة)**  
يتناول هذا المقرر دراسات جادة من خلال المدارس اللغوية الحديثة، كالمدرسة الوصفية، والمدرسة التوليدية التحويلية، وغيرها. المتطلب السابق: عرب 405

**ARAB 414 أدب الأطفال (مادة اختيارية) (3 ساعات معتمدة)**  
يتناول هذا المقرر مفهوم أدب الأطفال وسماته اللغوية والفنية وأهمية هذا الأدب ودوره في تنشئة الأطفال في مختلف مراحلهم العمرية، كما يحلل نماذج عالمية وعربية من أدب الأطفال، سواء أكان ذلك في مجال القصة القصيرة أو القصيدة أو الأناشيد.



## التخصصات الثانوية (Arabic Minors)

يقدم قسم اللغات والترجمة تخصصين ثانويين: أحدهما في اللغة العربية والآخر في الأدب العربي. ويمكن للطلاب المنتظمين في أي تخصص في الجامعة دراسة هذه التخصصات الثانوية. يجب على الطلاب الراغبين في دراسة تخصص ثانوي باللغة العربية تقديم طلب كتابي إلى قسم اللغات والترجمة. سوف يظهر التخصص الثانوي في اللغة العربية في السجل الأكاديمي للطلاب أثناء الدراسة وبعد التخرج. وتترد أدناه متطلبات المقررات لكل تخصص ثانوي في اللغة العربية.

### التخصص الثانوي في اللغة العربية

ويتكون هذا التخصص الثانوي من ستة مساقات تشمل 18 ساعة معتمدة موزعة على النحو التالي:

1- أربعة مساقات إجبارية تشمل 12 ساعة معتمدة:

ARAB 102 قواعد اللغة العربية

ARAB 104 الكتابة الأكاديمية المتقدمة باللغة العربية

ARAB 305 علم اللغة الاجتماعي

2- اثنان من المقررات الاختيارية تشمل 6 ساعات معتمدة يتم اختيارها من القائمة التالية:

ARAB 106 مقدمة في اللغويات

ARAB 203 الصوتيات وعلم الأصوات

ARAB 205 المعجم والدلالة

ARAB 250 الكتابة الإعلامية

ARAB 409 موضوعات خاصة في اللغة

### التخصص الثانوي في الأدب العربي

ويتكون هذا التخصص الثانوي من ستة مساقات تشمل 18 ساعة معتمدة موزعة على النحو التالي:

1- أربعة مساقات إجبارية تشمل 12 ساعة معتمدة:

ARAB 103 مقدمة في الأدب

ARAB 209 النثر والأدب القصصي العربي في العصور الأولى

ARAB 401 الشعر العربي الحديث

ARAB 406 الرواية العربية الحديثة

2- اثنان من المقررات الاختيارية تشمل 6 ساعات معتمدة يتم اختيارها من القائمة التالية:

ARAB 105 الشعر الجاهلي

ARAB 104 الكتابة الأكاديمية المتقدمة باللغة العربية

ARAB 208 موضوعات خاصة في الأدب العربي

الكتابة الإعلامية ARAB 250

## Department of Social Sciences

### 1. Personnel

Chairperson	Mohammed Foda
Associate Professor	Mohammed Tabishat
Assistant Professors	Reem Abuiyada, Zafar Mehdi, Ahmed Mukhtar, Nasser Al Sairi
Lecturer	Hussian Al Dheeb
Secretary	Ahmed Khalid Said Al-Haddadi

### 2. Vision

Department of Social Science aspires to become a high quality and recognised centre for producing active citizens with humanistic thinking, inter-disciplinary collaboration, social responsibilities and community intervention in this dynamic and changing global and technological society.

### 3. Mission

The mission of the Social Sciences Department is to provide knowledge of the historical, social and cultural context for understanding contemporary social and psychological phenomena. The mission of social work program is to advance knowledge of social work theories and effective practices and its aim is to educate students on how to practice social work sensitively and competently with diverse, multicultural, rural/urban populations of Oman and the Arabian Gulf.

### 4. Programs Offered

The department offers following Diploma, Bachelor, and Master programs:

#### a) Diploma Program

- 1) Diploma in Social Work (English)
- 2) Diploma in Social Work (Arabic)

#### b) Bachelor Program

- 1) Bachelor of Arts in Social Work (English)
- 2) Bachelor of Arts in Social Work (Arabic)

#### c) Master Program:

- 1) Master of Arts in Social Work (Arabic)

**(Details of Master Programs are given in Graduate Studies Catalogue)**

## **5. Bachelor of Arts in Social Work (English)**

### **5.1. Program Overview**

The Bachelor of Arts (B.A.) in Social Work Program focuses on developing students' awareness and knowledge of the social work profession, its skills, and ethical values and principles, relating that to religious heritage and rich diversity prevalent in Oman and the Arabian Gulf countries. Social work students will come to understand the influence of cultural heritage and religious/spiritual beliefs on the practice and application of their professional behavior. The Program prepares undergraduate students for entry-level generalist practitioners through the integration of classroom and field internship experience, allowing ambitious students to continue graduate studies in social work.

### **5.2. Program Objectives**

The objectives of the programs are to:

- 1) Equip students with the knowledge and skills in generalist social work that will enable them to apply these to a variety of different systems
- 2) Equip students with advanced knowledge of international standards and contemporary theories and practices in the field of social work.
- 3) Stimulate students to acquire the necessary skills and competencies for conducting research and utilizing modern technology in their professional practice.
- 4) Prepare students to be able to examine social work services, develop and implement social work policy and programs in Oman.
- 5) Ensure students are well qualified to be employed in different agencies and settings such as Ministry of Social Development, local social agencies, schools, the health sector, courts and other agencies that provide social services in the Omani society.
- 6) Prepare students to use communication and critical thinking skills differentially across the different client populations
- 7) Prepare students for lifelong professional development.

### **5.3. Program Learning Outcomes**

The graduates of the program will be able to:

- 1) Describe social work profession conceptually, historically and theoretically.
- 2) Re-read social work in contemporary trend: issues, challenges and relations with other disciplines.
- 3) Apply the critical knowledge of values, ethics and other principles of social work during a professional practice/intervention.
- 4) Accommodate both traditional bases and scientific theories of various liberal arts into social work discipline.
- 5) Acquire practical experience in applying the principles and skills they have learned to real work field settings
- 6) Apply different theoretical frameworks purely underpinned by empirical evidences to understand the nature, growth and development of human being across life span.

- 7) Acquire essential practice skills needed to effectively address the challenges of integrating services, care, and support for persons with health, mental health, and substance use problems
- 8) Recognize the interaction of human beings who have a multiple needs and challenges with environment, and critically analyze their behavior in individual, familial, societal and organizational context.

#### 5.4. Admission Requirements

The admission requirements for Bachelor of Arts in Social Work Program are as specified in **College Section 6.a on page 42.**

#### 5.5. Graduation Requirements

To graduate with a Bachelor of Arts in Social Work, students must satisfactorily complete 120 credits taken over four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The university, college, and program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
30	12	66	12	120

#### 5.6. University Requirements

The University requirements include the following ten (10) course encompassing 30 credit hours:

- 1) ARAB 101: Academic Writing in Arabic
- 2) CMPS 100A: Introduction to Technical Computing for the Arts
- 3) ENGL 101: Basic Academic English
- 4) ENGL 102 A: English for Arts, Humanities and Social Sciences I
- 5) ENGL 203 A: English for Arts, Humanities and Social Sciences II
- 6) ENGL 204: Advanced English for Academic Purposes and Research
- 7) ENGL 305: Advanced English Language and Communication Skills
- 8) MATH 103: Mathematics for Social Sciences I
- 9) SOCS 102: Oman Society
- 10) ENTR 200: Entrepreneurship: Innovation & Creativity

#### 5.7. College Requirements

The college requirement includes the following four (4) course encompassing 12 credit hours:

- One, 3-credit hour course in physical/ natural sciences
- One, 3-credit hour course in humanities/social sciences elective
- Two, 6-credit hours Courses in any other major

#### 5.8. Program Requirements

The program requirement includes the following 26 course encompassing 78 credit hours:

## **I. Major Core Courses:**

This set consists of the following 22 courses encompassing 66 credit hours:

- 1) SOWO 200: Introduction to Social Work
- 2) MATH 215: Statistics for Social Work
- 3) SOWO 220: Social Work and Volunteers
- 4) SOWO 235: Communication and Interviewing skills
- 5) SOWO 245: Human Behavior and the Social Environment
- 6) SOWO 255: Social Policy and Social Planning
- 7) SOWO 260: School Social Work
- 8) SOWO 280: Social Work Practice I: Working with Individuals
- 9) SOWO 285: Social Work with Disabled
- 10) SOWO 290: Social Work: Field Internship I
- 11) SOWO 300: Social Work with the Family
- 12) SOWO 310: Social and Cultural Diversity
- 13) SOWO 330: Social Work Practice II: Working with Groups
- 14) SOWO 340: Social Work Practice in Integrated Healthcare
- 15) SOWO 370: Research Methods in Social Work
- 16) SOWO 410: Social Work: Field Internship II
- 17) SOWO 440: Social Work Practice III: Working with Communities
- 18) SOWO 450: Social Work Administration
- 19) SOWO 470: Social Work Integrative Seminar
- 20) SOWO 475: Social Work in Islam
- 21) SOWO 480: Special Topics in Social Work
- 22) SOWO 490: Senior Study Project

## **II. Major Elective Courses:**

This set consists of the following 4 courses with encompassing 12 credit hours:

- 1) PSYC 150: Introduction to Psychology
- 2) PSYC 180: Human Development
- 3) PSYC 215: Social Psychology
- 4) SOCS 150: Introduction to Sociology

## **5.9. Plan of Study: Bachelor of Arts in Social Work**

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
CMPS 100A	Introduction to Technical Computing for the Arts	3
ENGL 101	Basic Academic English I	3
SOCS 102	Oman Society	3
MATH 103	Mathematics for the Social Sciences I	3

<b>Semester 2 (Spring)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
ENGL 102 A	English for Arts, Humanities and Social Sciences I	3
PSYC 150	Introduction to Psychology	3
Code	General Elective ( 1)	3
SOCS 150	Introduction to Sociology	3
Code	College Requirements (1) Humanities/Social Science	3
<b>Year II</b>		
<b>Semester 3 (Fall)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
ENGL 203 A	English for Arts, Humanities and Social Sciences II	3
PSYC 180	Human Development	3
SOWO 200	Introduction to Social Work	3
SOWO 235	Communication and Interviewing Skills	3
SOWO 245	Human Behavior and the Social Environment	3
<b>Semester 4 (Spring)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
SOWO 255	Social Policy and Social Planning	3
SOWO 260	School Social Work	3
SOWO 280	Social Work Practice I: Working with Individuals	3
SOWO 290	Social Work: Field Internship I	3
ENTR 200	Entrepreneurship: Innovation & Creativity	3
<b>Year III</b>		
<b>Semester 5 (Fall)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
ENGL 204	Advanced English for Academic Purposes & Research	3
Code	College Requirement (2): Physical/Natural Science	3
PSYC 215	Social Psychology	3
SOWO 220	Social Work and Volunteers	3
SOWO 285	Social Work with Disabled	3
<b>Semester 6 (Spring)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
SOWO 300	Social Work with the Family	3
SOWO 310	Social and Cultural Diversity	3
SOWO 330	Social Work Practice II: Working with Groups	3
MATH 215	Elementary Statistics for the Social Sciences	3
ENGL 305	Advanced English Language and Com. Skills	3

Year IV		
Semester 7 (Fall)		15 Credits
Code	Course Title	Credit Hours
SOWO 340	Social Work Practice with In Integrated Healthcare	3
SOWO 370	Research Methods in Social Work	3
SOWO 410	Social Work: Field Internship II	3
SOWO 440	Social Work Practice III: Working with Groups	3
SOWO 480	Special Topics in Social Work	3
Semester 8 (Spring)		15 Credits
Code	Course Title	Credit Hours
SOWO 450	Social Work Administration	3
SOWO 475	Social Work in Islam	3
SOWO 490	Senior Study Project	3
SOWO 470	Social Work Integrative Seminar	3
Code	General Elective (2)	3
Completion of the BA in Social Work - Total Credits 120		

### 5.10. Course Descriptions

#### **PHIL 120 Introduction to Philosophy (3 crs.)**

This course raises some of the initial questions posed by the early Greek philosophers regarding the world: What is its origin? What is it made of? What is the soul? Is it immortal? What is the relationship between mind and body? What are the moral values, like freedom and justice? How do we know them? What is good? What is the truth? The answers given to these questions by Greek philosophers are examined in light of Islamic philosophy.

#### **PHIL 160 Critical and Creative Thinking (3 crs.)**

Explores critical thinking, explaining how various philosophical schools deal with the concepts of mind, reason, critical thinking, problem solving, logical reasoning, creative thinking, logical and textual analyses, formal and informal fallacies and certainty in knowledge. Students will develop understanding of the critical and creative thinking processes and will learn to think more clearly, insightfully and effectively.

#### **PHIL 230 Principles of Professional Ethics (3 crs.)**

Deals with the meaning and authenticity of ethical life; raises issues of working in a professional environment such as: what does it mean to be a professional? What moral qualities should professionals have? What are their rights and responsibilities? How to balance one's professional responsibilities with the interests of the clients and the community? Students will be exposed to various ethical theories in order to develop an ethical perspective that makes them morally responsible professionals.

#### **PSYC 150 Introduction to Psychology (3 crs.)**

An introduction to the principles, concepts and theories of psychology with an overview of the various psychological approaches to human behavior; Explores

diverse fields in psychology such as social, cognitive, abnormal, clinical, educational, and neuropsychological.

**PSYC 180 Human Development (3 crs.)**

An overview of the psychology of development - cognitive, linguistic, emotional, and physical - from the prenatal period to adulthood; Examination of the nature of intelligence, learning, behavior management, and the influence of heredity and environment.

**PSYC 215 Social Psychology (3 crs.)**

A brief survey of social psychological theory and research; Exploration of the subjects of attitudes, intra-group and inter-group relations, social perception, and group conformity processes.

**PSYC 260 Environmental Psychology (3 crs.)**

Environmental Psychology is an interdisciplinary field that focuses on the interplay between individuals and their surroundings. The environments include both built and natural environments. This course will provide a brief survey of the field of environmental psychology and will examine the interrelationship between environments and human affect, cognition and behavior.

**SOCS 100 World Civilizations I (3 crs.)**

Survey of the main features of ancient Near Eastern, Medieval and World Civilizations from the Mesopotamian civilization circa 3500 B.C. till the Renaissance in Europe around 1400 A.D. May be offered in Arabic.

**SOCS 102 Omani Society (3 crs.)**

A brief survey of the history of the Sultanate of Oman, both ancient and contemporary; examines current features of Omani society, notably its social structure, social groups, culture, languages, customs, and the process of social change and community development. May be offered in Arabic.

**SOCS 110 History of Arab-Islamic Civilization (3 crs.)**

This course studies the intellectual and scientific developments of Arab Islamic Civilization and the transformations it has undergone, beginning with the late Pre-Islamic period up to the end of the Abbasid Caliphate.

**SOCS 150 Introduction to Sociology (3 crs.)**

An introduction to the study of human behavior; Exploration of the basic sociological concepts and theories, social groups, and critical social institutions; and Examination of the relationship between structure and change in society.

**SOCS 200 World Civilizations II (3 crs.)**

Studies some current world issues; such as globalization and its economic impact on the world market, climate change, biodiversity, genetic engineering, world population, immigration and illegal migration, urbanization and poverty. *Prerequisite: ENGL 203.*

**SOCS 210 Contemporary World Issues (3 crs.)**

Deals with Contemporary World social problems such as environment, nuclear war threat, economic development, and poverty...etc. These issues will be studied with special emphasis on developing countries including the Arab World.



**SOCS 310 Culture and Society in the Gulf (3 crs.)**

A study of contemporary societies in the Arab Gulf countries with special emphasis on the Sultanate of Oman; Examination of the social structures, social groups, cultural patterns, and processes of cultural and social change.

**SOWO 200 Introduction to Social Work (3 crs.)**

An introduction to social work as a profession; Explores the role of social work and the knowledge, values and skills required to practice it within a generalist social work model, practice skills and theoretical frameworks; the interaction between human behavior and the social environment, the intersection of culture, religion and spirituality in the helping process.

**SOWO 260: School Social Work (3 crs.)**

This course addresses areas of practice that examine the specialized knowledge and skills needed to practice within a school system that engages students, families, teachers, schools, and the community. Course explores the policies, practices, historical educational developments and legislative trends affecting students' well being. School-community relationships are examined as well as the impact of societal attitudes upon schools.

**SOWO 220: Social Work and Volunteers (3 crs.)**

This course provides a comprehensive pragmatic knowledge of volunteerism. Volunteerism is instituted in this course as an inherent source of origin of the discipline of social work. It will exhibit the inalienable relationship between volunteerism and social work in helping persons, communities and institutions. The proposed course will define a background to volunteerism conceptually, theoretically and empirically. The course will discuss the practical experiences of volunteering with both government and non-governmental organizations operating in local (Omani) context.

**SOWO 235 Communication and Interviewing Skills (3 crs.)**

Introduces students to the patterns and elements of the communication process; Practical training in dealing with people and interviewing skills which are critical for the success of holders of degrees in social work. Prerequisite: SOCS 150.

**SOWO 245 Human Behavior and the Social Environment (3 crs.)**

This course introduces ecological/systems theory as an umbrella for the generalist practice model; focuses on the reciprocal relationships between human behavior and social environments; the interaction between and among individuals, groups, societies and economic systems; Issues of values, ethics, religion, spirituality, and diversity; social and economic justice as they impact populations in the Arab Gulf are infused throughout the course. Prerequisites: PSYC 150 and SOCS 150.

**SOWO 255 Social Policy & Social Planning (3 crs.)**

Social welfare as an institution; response to human and societal needs presented from a global, national and local perspectives; Exposition of policy frameworks and their applications to the study of policy and the social and economic institutions that shape social welfare; awareness of the role of social work in policy advocating and formulation and improvement of social welfare services in Oman, and the Arab Gulf countries. *Prerequisite:* SOWO 200 and ENGL 203.

**SOWO 280 Social Work Practice I: Working with Individuals (3 crs.)**

As the first of a three courses in the generalist practice sequence, it introduces the student to social casework and the problem solving model for schools and health care settings. Students gain beginning level skills in assessment, intervention, evaluation, termination with individual, children and families and the professional use of self. This course emphasizes the cultural, religious and spiritual strengths of the diverse populations in Oman and the ArabGulf countries. Prerequisites: SOWO 200, SOWO 235 and SOWO 245.

**SOWO 285: Social Work with Disabled (3 crs.)**

This course is intended to acquaint social work students with people with disabilities. The students will gain skills in the application and assessment using appropriate therapy intervention with disabled people including children, adolescents.

**SOWO 290 Social Work: Field Internship I (3 crs.)**

This is the first of two practical training courses that require 12 hours of field work per week under the guidance of professional instructors. Students are placed in a relevant institution in order to acquire practical experience in applying the principles and skills they have learned in other Social Work courses. Prerequisites: SOWO 200, SOWO 235, SOWO 245, and SOWO 255. Co-requisite: SOWO 280.

**SOWO 300: Social Work with the Family (3 crs.)**

This course incorporates the study and analysis of problems and concerns faced by social workers working effectively with families, including the integration of social work policy, human behavior, and social work practice. This course is designed to examine and suggest strategies for social work intervention with family; it focuses on the relationship between the family and other systems that impact upon the well-being of families within the society. Issues covered include functions and changes in the family and the theoretical framework of family systems theory and ecological

**SOWO 310: Social and Cultural Diversity (3 crs.)**

This course expresses students to knowledge of different cultures to provide skills for effective intervention. The course emphasizes social-economic and environmental conditions, such as socio-cultural and political assumption. Students are guided in understanding their own cultural and ethnic heritage, increasing their sensitivity to the ethnic reality of culturally diverse groups in their country, as they prepare to work with diverse populations.

**SOWO 330 Social Work Practice II: Working with Groups (3 crs.)**

The second course in the sequence of three practice courses expands the generalist practice model through the use of theory, knowledge, research, values, ethics, and skills for generalist social work practice with groups, individuals and families. Content on values, ethics, diversity, social and economic justice, religion, spirituality, empowerment, and the professional use of self are infused throughout the course. Special attention is given to the diverse populations of Oman and the ArabGulf countries. Prerequisite: SOWO 280, SOWO 290.

**SOWO 340: Social Work Practice in Integrated Healthcare (3 crs.)**

The objective of this course is to introduce social work students to the direct practice of integrated behavioral health in primary care. Students will become knowledgeable of the roles of behavioral health providers working in primary care settings, theories and models of care, and cross-cultural issues. They will develop skills in engagement, assessment, and intervention planning and implementation, and practice evaluation. Finally, students will increase their knowledge of complementary and alternative therapies and the importance of self-care as healthcare professionals.

**SOWO 370 Research Methods in Social Work (3 crs.)**

Introducing a student to a variety of research methods in social sciences and enables them to practice social research and to critically evaluate published research work. Students learn how to link sociological theory with research methods. Prerequisite: MATH 215, SOCS 150, and ENGL 204.

**SOWO 410 Social Work: Field Internship II (3 crs.)**

This is the second and final practical training course that requires 16 hours of field work per week. After completing SOWO 290, students are given more complicated tasks in order to enrich their experience in social work practice. Prerequisite: SOWO 290, SOWO 330.

**SOWO 440 Social Work Practice III: Working with Communities (3 crs.)**

As the last course in the three course generalist social work practice sequence, it expands the problem solving model to focus on the strengths, capacities, and resources of large groups, organizations, and communities in relation to the broader environments. Students strengthen their skills in implementing the generalist social work practice model to include leadership, assessment of large systems; applying empirical knowledge and technological advances; developing, analyzing, and advocating for policies and services. Content on values, religion, spirituality, ethics, diversity, social and economic justice are infused throughout the course. Special attention is given to Oman and the ArabGulf countries. Prerequisites: SOWO 290, SOWO 330.

**SOWO 450 Social Work Administration (3 crs.)**

Examines the organization and management social service agency settings including system and environmental influences, leadership, communication, organization behavior, team development, organization design, evaluation, productivity, supervision, and performance evaluation. Prerequisites: SOWO 290, SOWO 330.

**SOWO 470: Integrative Seminar (3 crs.)**

A capstone seminar that enables students to integrate the theory, knowledge, values, skills, ethics, and cultural competence of generalist social work practice. Taken concurrently with the Social Work Practicum, this course provides students the opportunity to examine and review practice content and issues encountered in the practicum, as well as serve a process group for the complex experience of becoming a generalist professional social worker.

**SOWO 475      Social Work in Islam      (3 crs.)**

Examination of the principles of social work according to Islamic Shari'a Law and surveying the history of social welfare services in various Islamic societies. Basic social work principles in working with Muslims are presented.

**SOWO 480: Special Topics in Social Work      (3 crs.)**

Topics vary semester to semester depending on the student interest.

**SOWO 490      Senior Study Project      (3 crs.)**

In this course, the fourth year student brings together a variety of theoretical and technical skills that acquired over four years by writing a research paper on a social work topic of interest in consultation with the instructor. Prerequisite: SOWO 370, SOWO 440, and ENGL 350. Co-requisite: SOWO 410, SOWO 475, SOWO 450.

## **6. Diploma in Social Work (English)**

### **6.1. Program Overview**

The Diploma in Social work is a two-year, 60-credit hour program designed to offer basic but up-to-date theoretical knowledge with relevant skills and competencies in social work. The program focuses on pairing theoretical explanations with practical work in the form of realistic scenarios and research projects. In addition, the program follows a modern liberal arts approach by exposing the students to a sound knowledge of general sciences, the arts, study of the Omani culture, mastery of general computing skills, and efficient usage of Arabic and English languages.

The students who graduate with a Diploma may continue their education at a later stage and receive a Bachelor of Arts degree in social work, if they satisfy the requirements of admission to the B.A. in Social Work. All the credits that they have successfully completed in the Diploma program are transferable to the B.A. program in Social Work.

### **6.2. Program Objectives**

The objectives of the programs are to:

- 1) Equip students with the knowledge and skills in generalist social work that will enable them to apply these to a variety of different systems
- 2) Equip students with advanced knowledge of international standards and contemporary theories and practices in the field of social work.
- 3) Prepare students to be able to examine social work services, develop and implement social work policy and programs in Oman.
- 4) Ensure students are well qualified to be employed in different agencies and settings such as Ministry of Social Development, local social agencies, schools, the health sector, courts and other agencies that provide social services in the Omani society.
- 5) Prepare students to use communication and critical thinking skills differentially across the different client populations

### 6.3. Program Learning Outcomes

The graduates of the program will be able to:

- 1) Describe social work profession conceptually, historically and theoretically.
- 2) Re-read social work in contemporary trend: issues, challenges and relations with other disciplines.
- 3) Apply the critical knowledge of values, ethics and other principles of social work during a professional practice/intervention.
- 4) Accommodate both traditional bases and scientific theories of various liberal arts into social work discipline.
- 5) Acquire practical experience in applying the principles and skills they have learned to real work field settings
- 6) Apply different theoretical frameworks purely underpinned by empirical evidences to understand the nature, growth and development of human being across life span.
- 7) Recognize the interaction of human beings who have a multiple needs and challenges with environment, and critically analyze their behavior in individual, familial, societal and organizational context.

### 6.4. Admission Requirements

Admission requirements for a Bachelor of Science in Architectural Engineering Program are as specified in **College Section 6.a on Page 42.**

### 6.5. Graduation Requirements

To graduate with a Diploma in Social Science, students must satisfactorily complete 60 credits taken over two academic years, with an overall minimum average of 65 percent. The university, college, and program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
24	6	30	0	60

### 6.6. University Requirements

The University requirements include the following eight (8) courses encompassing 24 credit in hours:

- 1) ARAB 101: Academic Writing in Arabic
- 2) CMPS 100A: Introduction to Technical Computing for the Arts
- 3) ENGL 101: Basic Academic English
- 4) ENGL 102 A: English for Arts, Humanities and Social Sciences I
- 5) ENGL 203 A: English for Arts, Humanities and Social Sciences II
- 6) MATH 103: Mathematics for Social Sciences I
- 7) ENTR 200: Entrepreneurship: Innovation & Creativity
- 8) SOCS 102: Oman Society

## 6.7. College Requirements

The college requirement includes the following two (2) course encompassing 6 credit hours:

- One, 3-credit hour course in physical/ natural sciences
- One, 3-credit hour course in humanities/social sciences elective

## 6.8. Program Requirements

The program requirement includes the following ten (10) courses encompassing 30 credit hours:

### I. Major Required Courses:

This component consists of the following ten (10) courses constituting 30 credit hours:

- 1) PSYC 150: Introduction to Psychology
- 2) PSYC 180: Human Development
- 3) SOCS 150: Introduction to Sociology
- 4) SOWO 200: Introduction to Social Work
- 5) SOWO 235: Communication and Interviewing Skills
- 6) SOWO 245: Human Behavior and the Social Environment
- 7) SOWO 255: Social Policy and Social Planning
- 8) SOWO 260: School Social Work
- 9) SOWO 280: Social Work Practice I: Working with individuals
- 10) SOWO 290: Social Work: Field Internship I

## 6.9. Plan of Study: Diploma in Social Work

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
CMPS 100A	Introduction to Technical Computing for the Arts	3
ENGL 101	Basic Academic English	3
SOCS 102	Oman Society	3
MATH 103	Mathematics for the Social Sciences I	3
Semester 2 (Spring)		15 Credits
Code	Course Title	Credit Hours
ENGL 102 A	English for Arts, Humanities and Social Sciences I	3
Code	College Requirement: Humanities/Social Science	3
PSYC 150	Introduction to Psychology	3
SOCS 150	Introduction to Sociology	3
PSYC 180	Human Development	3

Year II		
Semester 3 (Fall)		15 Credits
Code	Course Title	Credit Hours
ENGL 203	Advanced Academic English I	3
Code	College Requirement: Physical/ Natural Science	3
SOWO 200	Introduction to Social Work	3
SOWO 235	Communication and Interviewing Skills	3
SOWO 245	Human Behavior and the Social Environment	3
Semester 4 (Spring)		15 Credits
Code	Course Title	Credit Hours
ENTR 200	Entrepreneurship: Innovation & Creativity	3
SOWO 255	Social Policy and Social Planning	3
SOWO 260	School Social Work	3
SOWO 280	Social Work Practice I: Work with Individuals	3
SOWO 290	Social Work: Field Internship I	3
Completion of the Diploma in Social Work - Total Credits 60		

## 6.10. Course Description

Refer to Bachelor of Arts in Social Work Program Sections 5.10.

## 7. Bachelor of Arts in Social Work (Arabic) (بكالوريوس الآداب في العمل الاجتماعي)

### 7.1 نظرة عامة على البرنامج

برنامج بكالوريوس الآداب في العمل الاجتماعي هو برنامج متميز في العمل الاجتماعي برؤية تطلعية لاعداد اخصائيين اجتماعيين مؤهلين معرفيا وبحثيا ومهنيًا للمساهمة في خدمة وتنمية المجتمع العماني، ويهدف إلى إعداد اخصائيين اجتماعيين ذو كفاءات بشرية عالية الجودة تمتلك بناء أكاديميا ومهنيًا على أعلى المستويات لتلبية حاجات السوق في مجال العمل الاجتماعي والبحث العلمي. كما يمتلكون بناء معرفيا وخبرة ميدانية تمكنهم من تشخيص الظواهر الاجتماعية، وكذلك بناء مهنيًا يمكنهم من الدراسة والتشخيص ووضع خطة التدخل المناسبة لجميع المستويات أفراد، جماعات، ومجتمع وتنفيذها.

### 7.2 أهداف البرنامج

يهدف برنامج بكالوريوس الآداب في العمل الاجتماعي إلى تحقيق الأهداف التالية:

#### أولاً: الأهداف العامة

1. إعداد وتأهيل كفاءات علمية مدربة في العمل الاجتماعي وقادرة على الإبداع والتطور والإسهام بفعالية في خدمة المجتمع، وتحقيق خطط التنمية المستدامة.
2. الالتزام بالميثاق الأخلاقي للخدمة الاجتماعية.
3. تحقيق الريادة والتميز محليا وعالميا في مجالات الدراسات الاجتماعية وخدمة المجتمع.
4. تعزيز الشراكة مع المجتمع المحلي.

#### ثانياً: الأهداف الفرعية

1. تزويد الطلبة بأسس نظريات العمل الاجتماعي وإكسابهم معرفة تخصصية وفهم للعمل الاجتماعي.

2. إعداد خريج البرنامج لأن يكون قادر على دراسة الحالات الفردية و تشخيصها ووضع خطة التدخل المهني و تنفيذها.
3. إكساب الطلبة مبادئ المعرفة والتفكير العلمي المنظم في ظل مبادئ وأخلاقيات المهنة.
4. إعداد الطلبة لتقديم خدمات إجتماعية متميزة وعالية الجودة والمقدرة على تطوير الخدمات إذا اقتضت الحاجة.
5. إكساب الطلبة مهارات التواصل الفعالة للتواصل مع المستفيدين والمجتمع.
6. إعداد الطلبة لأن يكونوا قادرين على العمل مع الافراد و الجماعات و خدمة المجتمع.
7. إعداد الطلبة عبر النظريات والتدريب الميداني لشغل وظائف الاخصائيين الاجتماعيين في مختلف المؤسسات الحكومية والخاصة ومنها وزارة التنمية الاجتماعية، المنظمات الاجتماعية والخيرية، المدارس، المراكز الصحية وغيرها من المؤسسات التي تقدم الخدمات الاجتماعية والانسانية.
8. تخريج الكفاءات العلمية لتلبية حاجات المجتمع والمقدرة على استكمال دراساتهم العليا.
9. تنمية القدرات البحثية لدى الطلبة وتعزيز مهارات البحث العلمي المتطورة، وإكساب الطلبة مهارات دراسة الظواهر والمشكلات الاجتماعية وتفسيرها وإيجاد الحلول المناسبة لها.
10. مواكبة متطلبات الاعتماد الأكاديمي العلمية من حيث تطوير المقررات وتوفير مصادر المعلومات وتعزيز البحث العلمي.
11. إعداد الطالب القادر على التحليل والتفسير والتنبؤ وحل المشكلات المتعلقة بدراسته.
12. تنمية شخصية الخريج القيادية والمهنية وتعزيز الهوية وروح الانتماء.
13. إعداد الطالب القادر على التحليل والتفسير والتنبؤ وحل المشكلات المتعلقة بدراسته.
14. إعداد الطلبة للتطور المهني المستمر.

### 7.3 مخرجات التعلم للبرنامج

من المتوقع بعد نهاية البرنامج أن يكون الطالب قادرا على:

1. الفهم الجيد لمفهوم العمل الاجتماعي ومبادئ وطرق واساليب وأخلاقيات ونظريات العمل الاجتماعي.
2. فهم طبيعة وخصائص المجتمع المحلي وطبيعة النظام الاجتماعي وكذلك التفاعلات بين فئات المجتمع على جميع المستويات.
3. المقدرة على فهم ودراسة السلوكيات الفردية والظواهر والمشكلات الاجتماعية وتحليلها وتفسيرها والتصدي لها من خلال البرامج الوقائية والانمائية والعلاجية.
4. المقدرة على جمع وتحليل وتفسير البيانات الهامة سواء كانت كمية أو نوعية بطريقة متنوعة.
5. ادراك المعارف المرتبطة بتخصص العمل الاجتماعي والقدرة على التحليل والتفسير وحل المشكلات المحددة والقدرة على توصيلها.
6. القدرة على اتخاذ القرارات الصحيحة حول المسائل المعقدة استنادا إلى المعرفة والمهارات وتوصيل النتائج بفعالية.
7. التطبيق الفعال لمهارات ومعارف الممارسة العامة للعمل الاجتماعي على جميع شرائح المجتمع.
8. ممارسة مهنة الخدمة الاجتماعية من خلال فهم قيم المهنة ومبادئها ومعاييرها الأخلاقية وإعداد خطة تدخل تتناسب مع جميع مستويات المستفيدين أفراد، جماعات ومجتمع.
9. المقدرة على تقديم الخدمات الاجتماعية التي تتناسب مع احتياجات المجتمع.
10. المقدرة على فهم وتحليل السياسات الاجتماعية ووضع المقترحات لتعديلها.
11. المقدرة على تطبيق مهارات التواصل الفعالة مع المستفيدين والمجتمع.
12. المقدرة على القيام بالدراسة والتشخيص ووضع خطة تدخل مهني وتنفيذها.
13. إعداد وتنفيذ البحوث العلمية ذات العلاقة الاجتماعية.
14. توثيق العلاقة مع المجتمع المحلي والمشاركة بشكل فعال في خدمة الجامعة.
15. تطوير الحلول المناسبة للمشكلات الاجتماعية من خلال العمل المشترك ضمن مجموعات.
16. تطبيق مهارات التفكير الناقد.



#### 7.4 متطلبات القبول:

متطلبات القبول لباكوريوس الآداب في العمل الاجتماعي موجودة في قسم الكلية a.6 صفحة 42

#### 7.5 متطلبات التخرج:

1. أن يجتاز الطالب بنجاح جميع المقررات الدراسية الواردة في الخطة الدراسية وإكمال عدد الساعات المطلوبة (120 ساعة معتمدة) كما هي موضحة في الجدول التالي:

مجموع عدد الساعات	متطلبات الكلية	المقررات الإلزامية		متطلبات جامعية
		متطلب	إلزامي	
120	12	18	75	15

2. أن يحصل الطالب على 65% فأكثر كمعدل عام وأن يحصل على 70% كمعدل تخصص.

#### 7.6 متطلبات الجامعة

يدرس الطالب (5) مقررات بمعدل (15) ساعة معتمدة

1. الكتابة الأكاديمية باللغة العربية : ARAB 101
2. اللغة الانجليزية الأكاديمية التأسيسية: ENGL 101
3. مدخل لتقنيات الحاسوب : CMPS 100A
4. المجتمع العماني : SOCS 102
5. ريادة الأعمال : ENTR 200

#### 7.7 متطلبات الكلية

يختار الطالب (4) مقررات بمعدل (12) ساعة معتمدة ضمن لمقررات التالية:

1. نظام التعليم في سلطنة عمان ودول مجلس التعاون الخليجي : EDUC 360
2. اللغة الانجليزية لتخصص الآداب والعلوم الانسانية : ENGL 102A
3. مقدمة في اللغة : ENGL 240
4. الكتابة الأكاديمية المتقدمة في اللغة العربية : ARAB 201
5. اللغة العربية للأعمال : ARAB 260
6. مقدمة في حل المشكلات والبرمجة : CMPS 110 N
7. مقدمة لرسومات الكمبيوتر : CMPS 105
8. مقدمة في تصميم المواقع : CMPS 106

#### 7.8 متطلبات التخصص

##### متطلبات التخصص الإلزامية

يدرس الطالب (25) مقررا بمعدل (75) ساعة معتمدة:

1. مقدمة في العمل الاجتماعي : SOWO 200A
2. السلوك الانساني والبيئة الاجتماعية : SOWO 210A
3. السياسات الاجتماعية والتخطيط الاجتماعي : SOWO 220A
4. العمل الاجتماعي مع الأفراد وأسرهم : SOWO 230A
5. الارشاد والتوجيه الاجتماعي : SOWO 240A
6. العمل الاجتماعي المدرسي : SOWO 250A
7. العمل الاجتماعي مع الجماعات : SOWO 260A
8. تدريب ميداني : SOWO 270A
9. العمل الاجتماعي في المحاكم الشرعية : SOWO 280A
10. العمل الاجتماعي في المجال الصحي : SOWO 290A

11. أساسيات العمل الاجتماعي باللغة الانجليزية : SOWO 300A
12. مناهج البحث في العمل الاجتماعي : SOWO 310A
13. العمل الاجتماعي الدولي : SOWO 320A
14. الاحصاء في العمل الاجتماعي : SOWO 330A
15. المشكلات الاجتماعية : SOWO 206A
16. العمل الاجتماعي مع المجتمع : SOWO 400A
17. إدارة المؤسسات الاجتماعية : SOWO 410A
18. تدريب ميداني متقدم : SOWO 420A
19. العمل الاجتماعي والتطوع : SOWO 430A
20. موضوعات خاصة في العمل الاجتماعي : SOWO 440A
21. مشروع التخرج : SOWO 450A
22. مدخل إلى علم الاجتماع : SOCS 100A
23. مدخل إلى علم النفس : PSYC 110A
24. علم نفس النمو والتطور : PSYC 120A
25. علم النفس الاجتماعي : PSYC 130A

#### مقررات التخصص الاختيارية

يختار الطالب (6) مقررات بمعدل (18) ساعة معتمدة ضمن المقررات التالية:

1. التنمية الاجتماعية المستدامة : SOCS 201A
2. التغير الاجتماعي : SOCS 202A
3. التخطيط الاجتماعي : SOCS 203A
4. العمل الاجتماعي مع المسنين : SOWO 204A
5. العمل الاجتماعي مع ذوي الاحتياجات الخاصة : SOWO 205A
6. إدارة الأزمات والكوارث : SOWO 207A
7. الخدمة الاجتماعية العمالية : SOWO 208A

#### 7.9 الخطة الدراسية: بكالوريوس الآداب في العمل الاجتماعي

السنة الأولى		
الفصل الدراسي الأول (خريف)		
رمز المقرر	عنوان المقرر	15 ساعة
ARAB 101	الكتابة الأكاديمية العربية	3
ENGL 101	اللغة الانجليزية الأكاديمية التأسيسية	3
CMPS 100A	مدخل لتقنيات الحاسوب	3
SOWO 200A	مقدمة في العمل الاجتماعي	3
PSYC 110A	مدخل إلى علم النفس	3
الفصل الدراسي الثاني (ربيع)		
رمز المقرر	عنوان المقرر	الساعات المعتمدة
SOCS 102	المجتمع العماني	3
PSYC 120A	علم نفس النمو والتطور	3
SOWO 210A	السلوك الانساني والبيئة الاجتماعية	3
SOCS 100A	مدخل إلى علم الاجتماع	3
رمز	إختياري كلية	3

السنة الثانية		
الفصل الدراسي الثالث (خريف)		
رمز المقرر	عنوان المقرر	15 ساعة
SOWO 220A	السياسات الاجتماعية والتخطيط الاجتماعي	3
SOWO 230A	العمل الاجتماعي مع الأفراد وأسراهم	3
SOWO 240A	الإرشاد والتوجيه الاجتماعي	3
رمز	إختياري تخصص	3
SOWO 250A	العمل الاجتماعي المدرسي	3
الفصل الرابع (ربيع)		
رمز المقرر	عنوان المقرر	15 ساعة
رمز	إختياري كلية	3
SOWO 260A	العمل الاجتماعي مع الجماعات	3
SOWO 270A	تدريب ميداني	3
SOWO 280A	العمل الاجتماعي في المحاكم الشرعية	3
SOWO 290A	العمل الاجتماعي في المجال الصحي	3
السنة الثالثة		
الفصل الخامس		
رمز المقرر	عنوان المقرر	15 ساعة
ENTR 200	ريادة الأعمال	3
PSYC 130A	علم النفس الاجتماعي	3
SOWO 300A	أساسيات العمل الاجتماعي باللغة الانجليزية	3
SOWO 310A	مناهج البحث في العمل الاجتماعي	3
رمز	إختياري تخصص	3
الفصل السادس		
رمز المقرر	عنوان المقرر	15 ساعة
SOW 320A	العمل الاجتماعي الدولي	3
SOWO 330A	الاحصاء في العمل الاجتماعي	3
SOWO 206A	المشكلات الاجتماعية	3
رمز	إختياري تخصص	3
SOWO 400A	العمل الاجتماعي مع المجتمع	3
السنة الرابعة		
الفصل السابع		
رمز المقرر	عنوان المقرر	15 ساعة
SOWO 410A	إدارة المؤسسات الاجتماعية	3
رمز	إختياري تخصص	3
SOWO 420A	تدريب ميداني متقدم	3
رمز	إختياري تخصص	3
رمز	إختياري كلية	3
الفصل الثامن		

رمز المقرر	عنوان المقرر	الساعات المعتمدة
SOWO 430A	العمل الاجتماعي والتطوع	3
SOWO 440A	موضوعات خاصة في العمل الاجتماعي	3
SOWO 450A	مشروع التخرج	3
رمز	إختياري تخصص	3
رمز	إختياري كلية	3
مجموع الساعات المعتمدة للبرنامج ككل		120

## 7.10 توصيف القرارات

### أولاً: المقررات الإجبارية

#### (3 ساعات معتمدة)

#### SOWO 200A مدخل إلى العمل الاجتماعي:

هذا المساق هو مدخل إلى مفهوم العمل الاجتماعي ونشأته وأهدافه ومقوماته ومبادئه، وعلاقة العمل الاجتماعي بالعلوم الأخرى وكذلك مجالاته، كما يتعرف الطلبة على أخلاقيات وقيم مهنة الخدمة الاجتماعية. كما يتضمن المساق إلى المعارف والمهارات التي يحتاجها الاختصاصي الاجتماعي للعمل مع المستفيدين على جميع المستويات (الأفراد، الجماعات، المجتمع).

#### (3 ساعات معتمدة)

#### SOCS 206A المشكلات الاجتماعية:

يتناول المساق التعريف بالمشكلات الاجتماعية وأنواعها ومدى انتشارها وانعكاساتها على الفرد والأسرة والمجتمع، والتعرف على كيفية تحليلها وتفسيرها ومن ثم اقتراح الحلول للتقليل من أخطارها.

#### (3 ساعات معتمدة)

#### SOWO 210A السلوك الإنساني والبيئة الاجتماعية:

يهدف هذا المساق إلى التعرف على مفهوم السلوك الإنساني وأنواعه خلال فترة الحياة، وأيضاً يركز على المعارف المتعلقة بمحددات السلوك الإنساني والتطبيع الاجتماعي، وأنواع قياس السلوك الإنساني إضافة إلى معرفة خطوات وأساليب الإرشاد للسلوك الإنساني وكيف يتم تعديله في نطاق مجموعة من النظم الاجتماعية، ومعرفة دور الخدمة الاجتماعية مع البيئة.

(متطلبات سابقة SOWO 200A, PSYC 110A)

#### (3 ساعات معتمدة)

#### SOWO 220A السياسات الاجتماعية والتخطيط الاجتماعي:

يهدف هذا المساق إلى أكساب الطلبة المفاهيم النظرية والتطور التاريخي لخدمات الرعاية الاجتماعية ودورها في تحقيق الرفاه الاجتماعي للفئات المحتاجة والمهمشة. لذا يتضمن هذا المساق على تشريعات الرعاية الاجتماعية والسياسات والبرامج والخدمات الناتجة عن هذه التشريعات في سلطنة عمان. كما يتضمن أيضاً على المجالات الرئيسية التي تقدمها برامج الرعاية الاجتماعية مثل: تحسين الدخل (برامج الضمان الاجتماعي)، الرعاية الصحية، الأمومة والطفولة، والخدمات المقدمة لكبار السن. سيركز المساق على فهم الطلبة لهيكلية وتنظيم برامج الرعاية الاجتماعية كما سيعزز فهم أثر برامج وسياسات الرعاية الاجتماعية في مساعدة الفئات المحتاجة.

(متطلبات سابقة SOWO 210A, SOWO 200A)

#### (3 ساعات معتمدة)

#### SOWO 230A العمل الاجتماعي مع الأفراد وأسره:

يهدف هذا المقرر إلى تعريف الطلبة بطريقة العمل مع الأفراد باستخدام تقنيات دراسة الحالة لفهم مشكلة العميل من جوانبها الذاتية والبيئية وتحليلها وصولاً لمساعدة العميل على حلها. ويشتمل المقرر على المهارات المتعددة والتي يحتاجها الاختصاصي للعمل مع العميل مع طرح حالات دراسية للمناقشة ولعب الأدوار.

(متطلبات سابقة SOWO 210A, SOWO 220A, PSYC 11A, PSYC 120A, SOWO 200A)

#### (3 ساعات معتمدة)

#### SOWO 240A الإرشاد والتوجيه الاجتماعي:

يهدف هذا المساق إلى تزويد الطلبة بالمعارف والمعلومات المتعلقة بالإرشاد الاجتماعي الاستشارات والعلاقة بينهما وأنواع الإرشاد الاجتماعي وخصائصه وعناصره، كما يقدم هذا المساق المفاهيم والإجراءات المتبعة في الإرشاد الاجتماعي ودور المرشد ومختلف الأساليب المتبعة والمهارات اللازمة، ودور المرشد الاجتماعي في مساعدة الحالات التي بحاجة لعملية الإرشاد.

(متطلبات سابقة SOWO 200A, SOCS 100A)

### **العمل الاجتماعي المدرسي: SOWO 250A**

يهدف هذا المساق إلى تعريف الطلبة بأسس العمل الاجتماعي في المجال المدرسي كالمفهوم والفلسفة والأهداف وتصنيفات مشكلات الطلبة ودور الاخصائي الاجتماعي في التعامل معها، بالإضافة إلى دوره في مساعدة التنظيمات المدرسية على المساعدة في مواجهة المشكلات المختلفة التي تعيق المدرسة عن أداء وظائفها، كما سيتم التركيز على الدور الوقائي والتنموي للاخصائي الاجتماعي في المجال المدرسي في سلطنة عمان (متطلبات مصاحبة SOWO 230A, SOWO 240A)

**(3 ساعات معتمدة)**

### **العمل الاجتماعي مع الجماعات: SOWO 260A**

يهدف هذا المساق إلى تزويد الطلبة بالاطار النظري والمهارات والمعرفة التطبيقية للعمل مع الجماعات ونظريات العلاج المستخدمة ووسائل التدخل المهني، كما يتناول أسس تكوين الجماعات وأنواعها ودور الاخصائي الاجتماعي فيها.

(متطلبات سابقة SOWO 230A, SOWO 240A)

**(3 ساعات معتمدة)**

### **تدريب ميداني: SOWO 270A**

يهدف هذا المساق إلى إعداد الطلبة ميدانيا وإكسابهم الخبرات والمهارات من واقع الممارسة الميدانية للعمل الاجتماعي، كما يهدف إلى تمكين الطلبة من ربط المعلومات النظرية التي درسها الطالب بالتطبيق، وسيكون هذا التدريب في المؤسسات. كما يتناول هذا المساق تطبيقات عملية ميدانية داخل هذه المؤسسات، بالإضافة لتحقيق النمو المهني للطلاب وإكسابهم قيم ومبادئ وأخلاقيات مهنة الخدمة الاجتماعية وتنمية الذات والسمات الشخصية لدى الطلبة.

(متطلب سابق SOWO 250A)

**(3 ساعات معتمدة)**

### **العمل الاجتماعي في المحاكم الشرعية: SOCS 280A**

تم طرح هذا المساق بناء على تطور مجالات العمل الاجتماعي حيث تم إنشاء مكاتب العمل الاجتماعي والارشاد الأسري والاجتماعي في المحاكم الشرعية، ويتناول المساق التعريف بالمحكمة ودورها في حل الخلافات الاجتماعية ودور الاخصائي الاجتماعي في إعادة التواصل بين أطراف المشكلة في جو أسري واجتماعي صحيح إلى جانب كيفية مساعدة القاضي في معرفة حقيقة المشكلة وتصورها بشكل أدق. كما يتناول المساق المواضيع الارشادية التي يمكن للاخصائي الاجتماعي تقديمها في المحاكم، كما سيتعرف الطالب من خلال هذا المساق على القوانين والأنظمة المتعلقة بالمحاكم الشرعية.

(متطلب سابق SOWO 240A)

**(3 ساعات معتمدة)**

### **العمل الاجتماعي في المجال الصحي: SOWO 290A**

يهدف هذا المساق إلى تعريف دور الاخصائي الاجتماعي في المجال الصحي وكيفية تطبيق أساليب العمل الاجتماعي في المؤسسات الصحية ويشتمل المساق على التعرف بالمؤسسات في سلطنة عمان. ويشتمل المساق على عدد من تعريفات المصطلحات الطبية التي يحتاجها الاخصائي الاجتماعي والتي تساعد على فهم مشكلة العميل ومساعدته.

(متطلب مصاحب SOWO 260A, متطلب سابق SOWO 220A)

**(3 ساعات معتمدة)**

### **أساسيات العمل الاجتماعي باللغة الانجليزية: SOWO 300A**

يهدف هذا المساق إلى رفع مستوى المهارة اللغوية للطلاب وتمكينه من استخدام اللغة الانجليزية في قراءة وفهم أساسيات العمل الاجتماعي، بالإضافة إلى اكسابه مهارات القراءة والاطلاع والكتابة والمحادثة والبحث باللغة الانجليزية في المصادر والمراجع الانجليزية المتخصصة الورقية منها والالكترونية.

(متطلبات سابقة SOWO 200A, ENGL 101)

**(3 ساعات معتمدة)**

### **مناهج البحث في العمل الاجتماعي: SOWO 310A**

يشتمل هذا المساق على تصميم البحث العلمي وإكساب الطالب مفاهيم ومبادئ وأساسيات البحث الاجتماعي، ويركز المساق على الاجراءات المنهجية للبحث بالإضافة إلى العمليات الاحصائية كما يركز على المعايير الأخلاقية للبحث العلمي، كذلك سيتم عمل تطبيقات عملية لكتابة الأبحاث من أجل رفع مهارة الطلبة في كتابة الأبحاث.

(متطلبات سابقة SOWO 200A, SOWO 300A)

**(3 ساعات معتمدة)**

### **العمل الاجتماعي الدولي: SOWO 320A**

يهدف هذا المساق إلى تعريف الطالب بمفهوم العولمة والعمل الاجتماعي الدولي وتعريف الطلبة بالمؤسسات الدولية التي تقدم الخدمات الاجتماعية على مستوى دولي، كما يهدف المساق إلى رفع مستوى الادراك والوعي لدى الطالب بأساليب الممارسة المهنية للعمل الاجتماعي مع الشعوب المختلفة، كما يشتمل المقرر على تأهيل الاخصائيين الاجتماعيين للعمل في المنظمات الدولية العاملة في مجال الخدمة الاجتماعية الدولية.

(متطلبات سابقة SOWO 200A, SOWO 300A)

### **الإحصاء في العمل الاجتماعي: SOWO 330A**

يتضمن المساق المبادئ الأساسية للإحصاء في مجال العمل الاجتماعي وكيفية تطبيقها حتى يتمكن الطالب من تحويل المعلومات الاجتماعية إلى بيانات يستدل من خلالها الوصول إلى نتائج بحثه. لذلك سيركز المساق على العمليات الإحصائية مثل: التوزيع التكراري، الرسوم البيانية.  
(متطلبات سابقة SOWO 310A)

**(3 ساعات معتمدة)**

### **العمل الاجتماعي مع المجتمع: SOWO 400A**

يتناول هذا المساق التعريف بالنماذج المختلفة لتنظيم المجتمع والتركيز على الدور الذي يقوم به الإحصائي الاجتماعي لتحديد الاحتياجات والخدمات الاجتماعية اللازمة لمجتمعاتهم، كذلك دراسة مشاكل المجتمع المحلي، والطرق المختلفة التي يمكن أن تستخدم لحلها عن طريق تنظيم المجتمع.  
(متطلبات سابقة SOWO 260A)

**(3 ساعات معتمدة)**

### **إدارة المؤسسات الاجتماعية: SOWO 410A**

يتضمن هذا المساق التعريف بالمؤسسات الاجتماعية وخصائصها وتصنيفها ودور الإحصائي الاجتماعي في إدارة المؤسسات الاجتماعية. يتضمن المساق أيضاً عملية التقويم وأهميته ووسائل ومراحل التقويم. كما يركز المساق على المهارات المطلوبة للقيادة الناجحة.  
(متطلبات سابقة SOWO 220A, SOWO 320A)

**(3 ساعات معتمدة)**

### **تدريب ميداني متقدم: SOWO 420A**

يهدف هذا المساق إلى إكساب الطلبة ميدانياً خبرات ومهارات من واقع الممارسة الميدانية للعمل الاجتماعي والتعرف على أهم المؤسسات الاجتماعية في السلطنة وتنمية التعاون بين هذه المؤسسات وجامعة ظفار. كما يتناول هذا المساق تطبيقات عملية ميدانية داخل هذه المؤسسات وربط المعلومات النظرية التي درسها بالتطبيق، بالإضافة لتحقيق النمو المهني لطلاب تخصص الخدمة الاجتماعية وتحقيق الألفة بين الطلبة والواقع الفعلي للعمل التي تقوم به المؤسسات الاجتماعية.  
(متطلبات سابقة SOWO 260A, SOWO 270A, SOWO 400A)

**(3 ساعات معتمدة)**

### **العمل الاجتماعي والتطوع: SOWO 430A**

يتناول هذا المساق العمل الاجتماعي التطوعي من حيث مفهومه ومراحل وأنواعه وأهدافه، ويركز المساق على العلاقة بين العمل الاجتماعي التطوعي ومؤسسات المجتمع المحلي في تقديم المساعدة والمشاركة في عملية التنمية المجتمعية كذلك يركز المساق على العناصر الأخلاقية للعمل التطوعي ثم واقع العمل التطوعي في سلطنة عمان.  
(متطلبات سابقة SOWO 200A, SOWO 400A)

**(3 ساعات معتمدة)**

### **موضوعات خاصة في العمل الاجتماعي: SOWO 440A**

يتناول المساق دراسة مواضيع مختلفة تتعلق بالعمل الاجتماعي يتم اختيارها من قبل الطلبة ومدرس المادة، لذا سيطلب من الطلبة استكمال مشروعاتهم والقيام بعرض موضوعهم داخل الفصل باستخدام الوسائل التكنولوجية المتعددة.  
(متطلبات سابقة SOWO 200A, SOWO 420A)

**(3 ساعات معتمدة)**

### **مشروع التخرج: SOWO 450A**

يهدف هذا المساق إلى تدريب الطلبة على إجراء بحث تطبيقي في أحد مجالات العمل الاجتماعي باستخدام مهارات البحث العلمي، ويتم مناقشة الأبحاث من قبل لجنة يحددها القسم.  
(متطلبات سابقة SOWO 310A, SOWO 330A)

**(3 ساعات معتمدة)**

### **مدخل إلى علم الاجتماع: SOCS 100A**

هذا المساق مدخل إلى دراسة السلوك البشري الجماعي، ويناقش العلاقة بين بنية المجتمع وما طرأ عليها من تغيير. كما يتعرف الطالب على مجالات علم الاجتماع والنظريات المفسرة للظواهر والمشكلات الاجتماعية.

**(3 ساعات معتمدة)**

### **علم نفس النمو والتطور: PSYC 120A**

يتناول هذا المساق التطور البدني، والمعرفي، والعاطفي لجميع المراحل العمرية وخاصة كل مرحلة والتغيرات التي تطرأ عليها وسلوكيات كل مرحلة.  
(متطلبات سابقة SOWO 200A, PSYC 110A)

### مدخل إلى علم النفس: PSYC 110A

يشمل هذا المساق مدخلا إلى المبادئ والمفاهيم الأساسية والنظريات الخاصة بعلم النفس، ويقدم نظرة عامة على النماذج النفسية العديدة في السلوك البشري ويستعرض الحقول المختلفة لعلم النفس كعلم النفس الاجتماعي، والمعرفي، والطبي، والتعليمي.

(3 ساعات معتمدة)

### علم النفس الاجتماعي: PSYC 130A

يتناول المساق مفهوم علم النفس الاجتماعي وتاريخه، كذلك المفاهيم الأساسية في علم النفس الاجتماعي مثل: الجماعة، التفاعل الاجتماعي، الأدوار، علم النفس الاجتماعي والصحة النفسية. (متطلبات سابقة: SOWO 200A, PSYC 110A, PSYC 120A)

### ثانياً: المقررات الاختيارية

### التنمية المستدامة: SOCS 201A

يتناول المساق إلى المفاهيم الأساسية المتعلقة بالتنمية المستدامة بالتركيز على الاستدامة الاجتماعية، ويشتمل المساق على العديد من القضايا الاجتماعية. كما يتناول المساق مفهوم المجتمع المحلي ودراسة المشكلات والحاجات وكيفية تحديد الضرورات والأولويات.

(3 ساعات معتمدة)

### التغير الاجتماعي: SOCS 202A

يهدف هذا المساق إلى تعريف الطلبة بالثقافات المختلفة والتي تساعدهم على استخدام المهارات الفعالة في عملية التدخل مع العملاء. كما سيتضمن المساق على تعريف الطلبة على ثقافتهم وتراثهم العماني والتي ستساعدهم على العمل مع مختلف فئات المجتمع.

(3 ساعات معتمدة)

### العمل الاجتماعي مع المسنين: SOWO 204A

يتناول المساق التعريف بمفهوم المسنين والمراحل التي يمرون بها وخصائص كبار السن، والتعرف على مشاكلهم وسلم احتياجاتهم وسلوكيات المجتمع تجاههم وما ينتج عنها من نتائج سلبية على المسنين أنفسهم. ويركز المساق على تزويد الطالب بمهارات التعامل معهم كخصائي اجتماعي وعلى طرق حل مشاكلهم.

(3 ساعات معتمدة)

### العمل الاجتماعي مع ذوي الاحتياجات الخاصة: SOWO 205A

يتضمن المساق التعريف بالإعاقة وأنواعها وفهمها وكيفية التدخل مع الأنواع المختلفة من الإعاقة. كما يزود المساق الطلبة بالمهارات المختلفة للتعامل مع ذوي الإعاقة ويتم التركيز على التأهيل الاجتماعي، ويتضمن المساق زيارات ميدانية لبعض المؤسسات العاملة في مجال الإعاقة وإلقاء الضوء على دور الاختصاصي الاجتماعي في العمل في هذه المؤسسات.

(3 ساعات معتمدة)

### إدارة الأزمات والكوارث: SOCS 207A

يتناول هذا المساق تعريف الطالب بمفهوم الأزمات والكوارث والطرق المختلفة للتعامل معها وإدارتها وكيفية اتخاذ القرار عند حدوثها، كما يتناول المساق كيفية التخطيط للكوارث قبل وخلال وبعد وقوع الكارثة. وكيفية ربط إدارة الأزمات والكوارث بالخطط الاستراتيجية المختلفة.

(3 ساعات معتمدة)

### العمل الاجتماعي العمالي: SOWO 208A

يهدف هذا المقرر إلى تدريب الطالب كيفية مساعدة العامل في مواجهة المشكلات المعوقة لأداء أدواره وكذلك تنمية قدراته لرفع كفاءة الإنتاج عن طريق بناء العلاقات العمالية السليمة، كما يهدف هذا المقرر إلى تعريف الطلبة بواقع ميدان العمل ودراسة القوانين العمالية المتعلقة بالعمل والعمال والتعريف بنظام التأمينات الاجتماعية.

## 8. Diploma in Social Work (دبلوم في العمل الاجتماعي)

### 8.1 نظرة عامة على البرنامج

دبلوم العمل الاجتماعي هو برنامج متميز في العمل الاجتماعي برؤية تطلعية لاعداد مساعدين اجتماعيين مؤهلين معرفياً ومهنياً للمساهمة في خدمة وتنمية المجتمع العماني، ويهدف البرنامج إلى إعداد مساعدين اجتماعيين ذو كفاءات بشرية عالية الجودة تمتلك بناءاً أكاديمياً ومهنياً على أعلى المستويات لتلبية حاجات السوق في مجال العمل الاجتماعي. كما يمتلكون بناءاً مهنياً يمكنهم من الدراسة والتشخيص ووضع خطة التدخل المناسبة لجميع المستويات أفراد، جماعات، ومجتمع وتنفيذها.

## 8.2 أهداف البرنامج

يهدف برنامج دبلوم العمل الاجتماعي إلى تحقيق الأهداف التالية:

### أولاً: الأهداف العامة

1. إعداد وتأهيل كفاءات علمية مدربة في العمل الاجتماعي وقادرة على الإبداع والتطور والاسهام بفعالية في خدمة المجتمع، وتحقيق خطط التنمية المستدامة.
2. الالتزام بالميثاق الأخلاقي للخدمة الاجتماعية.
3. تعزيز الشراكة مع المجتمع المحلي.

### ثانياً: الأهداف الفرعية

1. تمكين الخريج للعمل مع الافراد و الجامعات و خدمة المجتمع.
2. إعداد الطلبة عبر النظريات والتدريب الميداني لشغل وظائف المرشدين الاجتماعيين في مختلف المؤسسات الحكومية والخاصة ومنها وزارة التنمية الاجتماعية، المنظمات الاجتماعية والخيرية، المدارس، المراكز الصحية وغيرها من المؤسسات التي تقدم الخدمات الاجتماعية والانسانية.
3. تخرج الكفاءات العلمية لتلبية حاجات المجتمع والمقدرة على استكمال المرحلة الجامعية الأولى.
4. تنمية شخصية الخريج القيادية والمهنية وتعزيز الهوية وروح الانتماء.
5. تزويد الطلبة بأسس نظريات العمل الاجتماعي وإكسابهم معرفة تخصصية وفهم للعمل الاجتماعي.
6. إكساب الطلبة مبادئ المعرفة والتفكير العلمي المنظم في ظل مبادئ وأخلاقيات المهنة.
7. إعداد الطلبة لتقديم خدمات إجتماعية متميزة وعالية الجودة والمقدرة على تطوير الخدمات إذا اقتضت الحاجة.
8. إكساب الطلبة مهارات التواصل الفعالة للتواصل مع المستفيدين والمجتمع.
9. إعداد خريج البرنامج لأن يكون قادراً على دراسة الحالات الفردية وتشخيصها ووضع خطة التدخل المهني وتنفيذها.
10. إعداد الطلبة للتطور المهني المستمر.

## 8.3 مخرجات التعلم للبرنامج

من المتوقع بعد نهاية البرنامج أن يكون الطالب قادراً على:

1. الفهم الجيد لمفهوم العمل الاجتماعي ومبادئ وطرق واساليب وأخلاقيات ونظريات العمل الاجتماعي.
2. فهم طبيعة وخصائص المجتمع المحلي وطبيعة النظام الاجتماعي وكذلك التفاعلات بين فئات المجتمع على جميع المستويات.
3. المقدرة على فهم ودراسة السلوكيات الفردية والظواهر والمشكلات الاجتماعية.
4. التطبيق الفعال لمهارات ومعارف الممارسة العامة للعمل الاجتماعي على جميع شرائح المجتمع.
5. ممارسة مهنة الخدمة الاجتماعية من خلال فهم قيم المهنة ومبادئها ومعاييرها الأخلاقية وإعداد خطة تدخل تتناسب مع جميع مستويات المستفيدين أفراد، جماعات.
6. المقدرة على فهم السياسات الاجتماعية.
7. المقدرة على تطبيق مهارات التواصل الفعالة مع المستفيدين والمجتمع.
8. المقدرة على القيام بالدراسة والتشخيص ووضع خطة تدخل مهني وتنفيذها.
9. تطبيق مهارات التفكير الناقد.

## 8.4 متطلبات القبول:

متطلبات القبول لدبلوم العمل الاجتماعي موجودة في قسم الكلية a.6 صفحة 42



## 8.5 متطلبات التخرج:

1. أن يجتاز الطالب بنجاح جميع المقررات الدراسية الواردة في الخطة الدراسية وإكمال عدد الساعات المطلوبة (60 ساعة معتمدة) كما هي موضحة في الجدول التالي:

متطلبات جامعية	المقررات الإلزامية		مجموع عدد الساعات
	إلزامي	متطلب	
15	42	3	60

2. أن يحصل الطالب على 60% فأكثر كمعدل عام وأن يحصل على 65% كمعدل تخصص.

## 8.6 متطلبات الجامعة

يدرس الطالب (5) مقررات بمعدل (15) ساعة معتمدة

1. الكتابة الأكاديمية العربية : ARAB 101
2. اللغة الانجليزية الأكاديمية الأساسية: ENGL 101
3. مدخل لتقنيات الحاسوب : CMPS 100A
4. المجتمع العماني : SOCS 102
5. ريادة الأعمال : ENTR 200

## 8.7 متطلبات الكلية

لا توجد متطلبات كلية لبرنامج دبلوم العمل الاجتماعي.

## 8.8 متطلبات التخصص

### متطلبات التخصص الإلزامية

يدرس الطالب (14) مقررات بمعدل (42) ساعة معتمدة

1. مقدمة في العمل الاجتماعي : SOWO 200A
2. السلوك الانساني والبيئة الاجتماعية: SOWO 210A
3. السياسات الاجتماعية والتخطيط الاجتماعي : SOWO 220A
4. العمل الاجتماعي مع الأفراد وأسره : SOWO 230A
5. الارشاد والتوجيه الاجتماعي : SOWO 240A
6. العمل الاجتماعي المدرسي: SOWO 250A
7. العمل الاجتماعي مع الجماعات : SOWO 260A
8. تدريب ميداني : SOWO 270A
9. العمل الاجتماعي في المحاكم الشرعية : SOWO 280A
10. العمل الاجتماعي في المجال الصحي : SOWO 290A
11. أساسيات العمل الاجتماعي باللغة الانجليزية : SOWO 300A
12. مدخل إلى علم الاجتماع: SOCS 100A
13. مدخل إلى علم النفس : PSYC110A
14. علم نفس النمو والتطور : PSYC120A

### مقررات التخصص الاختيارية

يختار الطالب مقرر واحد بمعدل (3) ساعات معتمدة ضمن المقررات التالية:

1. التنمية الاجتماعية المستدامة : SOCS 201A
2. التغير الاجتماعي: SOCS 202A
3. التخطيط الاجتماعي : SOCS 203A

4. العمل الاجتماعي مع المسنين : SOWO 204A
5. العمل الاجتماعي مع ذوي الاحتياجات الخاصة : SOWO 205A
6. إدارة الأزمات والكوارث : SOWO 207A
7. الخدمة الاجتماعية العمالية : SOWO 208A

## 8.9 الخطة الدراسية: دبلوم في العمل الاجتماعي

السنة الأولى		
15 ساعة	الفصل الدراسي الأول (خريف)	
رمز المقرر	عنوان المقرر	الساعات المعتمدة
ARAB 101	الكتابة الأكاديمية العربية	3
ENGL 101	اللغة الانجليزية الأكاديمية التأسيسية	3
CMPS 100A	مدخل لتقنيات الحاسوب	3
SOWO 200A	مقدمة في العمل الاجتماعي	3
PSYC 110A	مدخل إلى علم النفس	3
15 ساعة	الفصل الدراسي الثاني (ربيع)	
رمز المقرر	عنوان المقرر	الساعات المعتمدة
SOCS 102	المجتمع العماني	3
PSYC 120A	علم نفس النمو والتطور	3
SOWO 210A	السلوك الانساني والبيئة الاجتماعية	3
SOCS 100A	مدخل إلى علم الاجتماع	3
SOWO 230A	العمل الاجتماعي مع الأفراد وأسراهم	3
السنة الثانية		
15 ساعة	الفصل الدراسي الثالث (خريف)	
رمز المقرر	عنوان المقرر	الساعات المعتمدة
SOWO 220A	السياسات الاجتماعية والتخطيط الاجتماعي	3
SOWO 240A	الارشاد والتوجيه الاجتماعي	3
SOWO 250A	العمل الاجتماعي المدرسي	3
SOWO 260A	العمل الاجتماعي مع الجماعات	3
ENTR 200	ريادة الأعمال	3
15 ساعة	الفصل الرابع (ربيع)	
رمز المقرر	عنوان المقرر	الساعات المعتمدة
SOWO 270A	تدريب ميداني	3
SOWO 280A	العمل الاجتماعي في المحاكم الشرعية	3
SOWO 290A	العمل الاجتماعي في المجال الصحي	3
SOWO 300A	أساسيات العمل الاجتماعي باللغة الانجليزية	3
رمز	إختياري تخصص	
مجموع الساعات المعتمدة للبرنامج ككل		60

## 8.10 توصيف المقررات الدراسية

يرجى الرجوع إلى برنامج بكالوريوس الآداب في العمل الاجتماعي بند 7.10

# Department of Mathematics and Sciences

## 1. Personnel

Chairperson:	Muhammad Asif Gondal
Professors:	Muhammad Asif Gondal
Associate Professors:	Khedr Abo Hassan, Sameen Ahmed Khan, Inayatullah Rehman
Assistant Professors:	Sabir Ali Siddiqui, Musallam Tabook, Taoufik Ben Jabeur, Gowhar Ahmed Naikoo, Husam Eldin Sadig Ahmed Sadig
Lecturers:	Mohammed Abdul Tabidi
Laboratory Technicians	Yousri Hassan Youssef, Ahmed Said Jabooob
Secretary:	Hajer Al Shanfri

## 2. Vision

The Department of Mathematics and Sciences aspires to maintain its standing for excellence in quality education and research in basic sciences along with community services.

## 3. Mission

The mission of the Department of Mathematics and Sciences is to provide the university community with a theoretical and practical experience in mathematics and the sciences. This experience can be applied to other academic disciplines, teaching, or professional fields. The Department works to provide its students with the background and critical thinking skills required for life-long learning in mathematical and scientific areas.

## 4. Programs Offered

The department offers following Diploma and Bachelor programs:

### a) Diploma Programs

- 1) Diploma in Mathematics

### b) Bachelor Programs

- 1) Bachelor of Science in Mathematics

## 5. Bachelor of Science in Mathematics

### 5.1. Program Overview

The Bachelor of Science in Mathematics is a four-year, 121-122 credit hours' study program designed to offer high quality teaching that promotes critical thinking and problem-solving skills in a variety of subjects and through related disciplines. It provides fundamental background knowledge and expertise for study in engineering and sciences.

It includes at least 30 credit hours of University Requirements, at least 12-13 credit hours of College Requirements, and at least 79 credit hours of Major Courses, including language and technical writing courses. It is designed to grant students the Bachelor of Science degree upon the successful completion of the four-year program.

The program is also offered in Diploma Degree upon the successful completion of a two-year program. The first common year with other college majors allows students to switch between the majors at the same college at the start of the second year of their study.

## **5.2. Program Objectives**

The objectives of the program are to:

- 1) Achieve the career goals of students by providing them quality education in mathematics.
- 2) Provide the students opportunities to develop careers in mathematics.
- 3) Prepare students to assume positions in public and private sectors, banking sector or educational institutions.
- 4) Produce graduates, who can apply knowledge and skills to situations, which require mathematical solutions.
- 5) Prepare students for basic and applied research, in mathematics.
- 6) Provide students with training and appropriate learning skills and values.
- 7) Promote life-long independent learning.

## **5.3. Program Learning Outcomes**

The learning outcomes for the Mathematics Program are to:

- 1) Provide a knowledge of the important theorems and techniques in pre-calculus and calculus mathematics;
- 2) Provide knowledge of the theory and applications of ideas in physics, chemistry, and biology;
- 3) Provide experience with laboratory techniques in the sciences;
- 4) Provide knowledge and experience in statistics and its applications;
- 5) Introduce and provide practice for important applications of mathematical and scientific theory;
- 6) Provide a background in advanced mathematics theory and practice, in areas of computing and numerical analysis, abstract algebra, mathematical analysis.

## **5.4. Admission Requirements**

Admission requirements for a Bachelor of Science in Mathematics Program are as specified in **College Section 6-a on Page 42**.

## **5.5. Graduation Requirements**

To graduate with a Bachelor of Science in Mathematics, students must satisfactorily complete 121-122 credits taken over four academic years, with an

overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The university, college, and program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
30	12-13	64	15	121-122

## 5.6. University Requirements

The University requirements include the following ten (10) course encompassing 30 credit hours:

- 1) ARAB 101: Academic Writing in Arabic
- 2) CMPS 100B: Introduction to Technical Computing for the Sciences
- 3) ENGL 101: Basic Academic English
- 4) ENGL 102E: English for Engineering and Sciences I
- 5) ENGL 203E: English for Engineering and Sciences II
- 6) ENGL 204: Advanced English for Academic Purposes and Research
- 7) MATH 199: Calculus I
- 8) ENTR 200: Entrepreneurship: Innovation and Creativity
- 9) SOCS 102: Omani Society
- 10) ENGL 305: Advanced English Language and Communication Skills

## 5.7. College Requirements

The college requirement consists of the following four (4) courses encompassing 12 or 13 credit hours:

- One courses in physical/natural sciences electives (3-4 Cr. hrs.)
- One course in humanities/social sciences electives (3 Cr. hrs.)
- Two courses in any other majors (6 Cr. hrs.)

## 5.8. Program Requirements

The program requirement includes the following 29 courses encompassing 79 credit hours distributed as follows:

### I) Major Requirement:

This component consists of the following 24 courses constituting 64 credit hours:

- 1) CHEM 130: Chemical Principles I
- 2) CHEM 130L: Introductory Chemistry Laboratory
- 3) CHEM 170: Chemical Principles II
- 4) MATH 120: Geometry and Trigonometry
- 5) MATH 200: Calculus II
- 6) MATH 205: Calculus III
- 7) MATH 210: Differential Equations
- 8) MATH 220: Linear Algebra I

- 9) MATH 240: Mathematics Computer Applications I
- 10) MATH 250: Probability and Statistics
- 11) MATH 260: Numerical Analysis I
- 12) MATH 340: Real Analysis I
- 13) MATH 355: Statistical Inference
- 14) MATH 365: Fourier Series and Partial Differential Equations
- 15) MATH 385: Set Theory
- 16) MATH 415: Abstract Algebra I
- 17) MATH 435: Topology
- 18) MATH 470: Complex Analysis
- 19) MATH 485: Project in Mathematics
- 20) MATH 490: Mathematics Seminar
- 21) PHYS 170: Fundamentals of Physics I
- 22) PHYS 170L: Introductory Physics Laboratory
- 23) PHYS 210: Fundamental of Physics II
- 24) PHYS 210L: Physics Laboratory II

## II) Major Electives:

This component includes 5 courses encompassing 15 credit hours chosen from the following list:

- 1) MATH 280: Mathematics Computer Applications II
- 2) MATH 305: Advanced Calculus
- 3) MATH 345: Topics in Geometry
- 4) MATH 360: Linear Algebra II
- 5) MATH 375: Topics in Statistics
- 6) MATH 380: Numerical Analysis II
- 7) MATH 390: Differential Equations II
- 8) MATH 410: Number Theory
- 9) MATH 455: Abstract Algebra II
- 10) PHYS 265: Modern Physics

## 5.9. Plan of Study: Bachelor of Science in Mathematics

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
CMPS 100B	Introduction to Technical Computing for the Sciences	3
ENGL 101	Basic Academic English	3
MATH 199	Calculus I	3
SOCS 102	Omani Society	3

<b>Semester 2 (Spring)</b>		<b>17 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
CHEM 130	Chemical Principles I	3
CHEM 130L	Introductory Chemistry Laboratory	1
ENGL 102E	English for Engineering and Sciences I	3
MATH 200	Calculus II	3
PHYS 170	Fundamentals of Physics I	3
PHYS 170L	Introductory Physics Laboratory	1
MATH 120	Goemetry and Trigonometry	3
<b>Year II</b>		
<b>Semester 3 (Fall)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
ENGL 203E	English for Engineering and Sciences II	3
MATH 205	Calculus III	3
MATH 210	Differential Equations	3
MATH 220	Linear Algebra I	3
MATH 240	Mathematics Computer Applications I	3
<b>Semester 4 (Spring)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
ENGL 204	Advanced English for Academic Purposes and Research	3
ENTR 200	Entrpreneurship: Innovation & Creativity	3
MATH 250	Probability and Statistics	3
MATH 260	Numerical Analysis I	3
Code	General Elective *	3
<b>Year III</b>		
<b>Semester 5 (Fall)</b>		<b>16 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
MATH 365	Fourier Series and Partial Differential Equations	3
ENGL 305	Advanced English Language and Communication Skills	3
PHYS 210	Fundamental of Physics II	3
PHYS 210L	Physics Laboratory II	1
MATH 385	Set Theory	3
Code	Major Elective	3
<b>Semester 6 (Spring)</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
CHEM 170	Chemical Principals II	3
MATH 340	Real Analysis	3
MATH 355	Statistical Inference	3
Code	Major Elective	3
Code	Major Elective	3

Year IV		
Semester 7 (Fall)		15 Credits
Code	Course Title	Credit Hours
MATH 415	Abstract Algebra I	3
MATH 485	Project in Mathematics	3
Code	Major Elective	3
Code	Physical and Natural Sciences Elective	3
Code	General Elective	3
Semester 8 (Spring)		13 Credits
Code	Course Title	Credit Hours
MATH 470	Complex Analysis	3
MATH 490	Mathematics Seminar	1
MATH 435	Topology	3
Code	Major Elective	3
Code	Humanities and Social Science Elective	3

\* A course in programming, Computer Science CMPS 110 is highly recommended for Mathematics majors.

## 5.10. Course Descriptions

### Mathematics Courses

#### **MATH 103 Mathematics for Social Sciences I (3crs.)**

Factorization of polynomials, second degree equations, equations for straight lines, inequalities, systems of linear equations, Gaussian elimination, curve plotting, derivatives, maxima and minima, limits, algebra of exponents, the exponential and logarithmic functions. The emphasis is on applications. *Note: This course may not be used as an elective for Diploma or BS in Mathematics.*

#### **MATH 103B Mathematics for Business (3crs.)**

Factorization of polynomials, second degree equations, equations for straight lines, inequalities, systems of linear equations, Gaussian elimination, curve plotting, derivatives, maxima and minima, limits, algebra of exponents, the exponential and *logarithmic* functions. The emphasis is on applications. *Note: This course may not be used as an elective for Diploma or BS in Mathematics.*

#### **MATH 120 Geometry and Trigonometry (3crs.)**

Coordinate systems, distances, Pythagorean Theorem, vectors and vector operations, transformations (symmetry, reflections, etc.) analytic geometry (circles, ellipses, parabolas, etc.), areas and volumes. Exponential and logarithm function: Properties, graphs, and equations. Trigonometry: Radian measure, trigonometric functions and inverse functions, graphs, identities, equations, applications (law of sines and law of cosines), trigonometric form for complex numbers (De Moivre's Theorem), hyperbolic *functions*.

#### **MATH 199 Calculus I (3crs.)**

Calculus of one variable: Limit of a function, limit laws, one-sided limit, limits involving infinity, continuity, the derivative as a function, the differentiation rules,



derivatives of Trigonometric functions, chain rule, implicit differentiation, extreme values of functions, monotonic functions, first derivative test, concavity and curve sketching, derivative of inverse functions, Logarithmic functions, exponential functions, Inverse Trigonometric *functions* and hyperbolic functions.

**MATH 200      Calculus II      (3crs.)**

Techniques of integration: integration by substitution; integration by parts, integrating powers of trigonometric functions, trigonometric substitutions, integrating rational functions, partial fractions; improper integrals; application of definite integral: volumes, length of a plane curve, area of a surface of revolution; infinite series: sequences, infinite series, convergence tests, absolute convergence, conditional convergence; alternating series; *power* series: Taylor and Maclurine series. *Prerequisite: MATH 199.*

**MATH 204      Mathematics for Social Sciences II      (3crs.)**

Continuation of MATH 103 where the emphasis is on applications. Determinants, matrix inversion, combinations, introduction to probability, methods of integration, approximations of definite integrals, differential equations, multivariable functions, partial derivatives, chain rule, optimization of bivariate functions. *Prerequisite: MATH 199 or MATH 103.*

**MATH 205      Calculus III      (3crs.)**

Multivariable Calculus: Partial derivatives, directional derivatives, chain rule, tangent planes, maxima and minima, Lagrange multipliers, cylindrical and spherical coordinates, multiple integrals, substitutions in multiple integrals. *Prerequisite: MATH 200.*

**MATH 210      Differential Equations      (3crs.)**

Abstract concepts and applications for first-order and linear higher-order differential equations, homogeneous and nonhomogeneous equations, Laplace transforms, and initial value problems. *Prerequisite: MATH 200.*

**MATH 215      Elementary Statistics for the Social Science      (3crs.)**

Organizing Data; Standard deviation, variance, mean deviation and coefficient of variation. Correlation and Regression Analysis. Multiple and partial correlation. Regression Lines, Test of Significance: Hypotheses, level of significance, tests for significance. Credits can be awarded for only one course of either MAT H 215 or MATH 250.

**MATH 220      Linear Algebra I      (3crs.)**

Systems of linear equations, Gaussian elimination, matrices, determinants, inverse of matrices, introduction to vector spaces, subspaces and dimension, rank and nullity, eigenvalues and eigenvectors, linear transformations and matrices, similar matrices, inner products, orthogonal projection, least squares approximation, and orthogonal diagonalization.

**MATH 240      Mathematics Computer Applications I      (3crs.)**

Introducing MatLab package including components, syntax, features, functions, preparation of input, implementation of commands, interpretation of output,

programming some algorithms to solve some pure and applied mathematical and statistical problems. *Prerequisite: MATH 103 or MATH 199.*

**MATH 250      Probability and Statistics      (3crs.)**

Statistical measures: Measures of central tendencies, partition values; measure of dispersion; moments. Theory of Probability: Addition theorem. Multiplication rule, Bayes' theorem. Random variables and mathematical Expectation: Discrete and continuous random variables. Central limit theorem and law of large numbers. *Prerequisite: MATH 200.*

**MATH 260      Numerical Analysis I      (3crs.)**

Programming for numerical calculations, round off errors, solutions of equations by iteration, interpolation methods, numerical differentiation and integration, and numerical methods for ordinary differential equations: first order methods, multi-step methods, and boundary value problem. Solutions of ordinary differential equations, implementations and analysis of algorithms, and projects using MatLab or a similar tool. *Prerequisites: MATH 210, and (CMPS 110, or MATH 240), Co-requisite: MATH 240, or CMPS 110.*

**MATH 280      Mathematics Computer Applications II      (3crs.)**

A mathematical software is used in a computer Lab to illustrate selected mathematical concepts, explore some mathematical facts, build algorithms for problem solving cases, do numerical and analytical computations, do simulation studies and plot graphs. The selected topics can cover a wide range of mathematical topics such as geometry, calculus, linear algebra, differential equations, probability, statistics, number theory, Fourier and Laplace transforms. The course starts with training on using the software and ends with writing programs to solve some specific mathematical problems. *Prerequisite: MATH 240 or CMPS 110 or co-requisite: EECE 130.*

**MATH 305      Advanced Calculus      (3crs.)**

Vector differential calculus: gradient, divergence, curl, curvilinear coordinates; vector integral calculus: line integral, surface integral volume integral, Green's theorem, Stoke's theorem, divergence theorem; implicit and inverse function theorems; Leibnitz theorem; calculus of variations (functionals of one variable). *Prerequisite: MATH 205.*

**MATH 340      Real Analysis I      (3crs.)**

Real numbers: order, absolute value, bounded subsets, completeness property, Archimedean property; supremum and infimum; sequences: limit, Cauchy sequence, recurrence sequence, increasing, decreasing sequence,  $\limsup$ ,  $\liminf$  of a sequence; functions: limit, right, left limit, continuity at a point, continuity on an interval; uniform continuity (on an interval) relations between continuity and uniform continuity, differentiability: definition, right, left derivative, relation between differentiability and continuity, Rolle's theorem, mean value theorem, applications on mean value theorem. *Prerequisite: MATH 200.*

**MATH 345      Topics in Geometry      (3crs.)**

Topics include: Isometries of Euclidean plane, two-dimensional crystallography, inversive geometry, affine geometry, projective geometry, Desargues theorem,

hyperbolic geometry, differential geometry of curves and surfaces: Frenet formulas, differential forms, Gaussian and mean curvatures, normal curvature, isometries, geodesics, and Gauss-Bonnet theorem. *Prerequisites: (MATH 205 and MATH 320), or MATH 335.*

**MATH 355      Statistical Inference      (3crs.)**

Sampling and sampling distributions: Chi-square distribution, t-distribution. Point and interval estimation; Unbiasedness, consistency, efficiency and maximum likelihood estimation, method of moments, minimum variance unbiased estimator. Testing of Hypothesis: Neyman-Pearson lemma. Test of significance: Paired t-test, Chi-Square tests and F-test. *Co-requisite: MATH 250.*

**MATH 360      Linear Algebra II      (3crs.)**

A deeper study of vector spaces, linear transformations, rank-nullity theorem, determinants, eigenvalue theory. Minimal polynomial, primary decomposition, diagonalization, triangulation, rational and Jordan canonical forms. Inner product spaces, self-adjoint and unitary operators, normal operators, the spectral theorem, positive symmetric matrices, and bilinear forms. *Prerequisite: MATH 320 or MATH 335.*

**MATH 365      Fourier Series and Partial Differential Equations      (3crs.)**

Fourier series of a function, convergence theorems, half-range expansions, Fourier integrals, Fourier transform, complete orthonormal systems, Parseval's identity, Partial differential equations: methods of variable separation, hyperbolic, parabolic and elliptic equations, wave equation, heat equation, and Laplace equation, Integral transform method: Fourier and Laplace transforms. *Prerequisites: MATH 210, MATH 305, and MATH 320.*

**MATH 375      Topics in Statistics      (3crs.)**

Time Series Analysis: Index numbers: Weighted index numbers, Cost of living index number. Correlation Analysis: Regression lines, regression coefficients, determination of future values, Curve fitting. Analysis of variance: Rates and ratios of mortality and fertility. Life table and its uses. *Prerequisite: MATH 250.*

**MATH 380      Numerical Analysis II      (3crs.)**

Iterative solution of systems of nonlinear equations. Numerical methods in linear algebra: linear systems, matrix inversion, LU factorization, eigenvalues and eigenvectors. Numerical methods for differential equations, applications to simple partial differential equations. *Prerequisite: MATH 260.*

**MATH 385      Set Theory      (3crs.)**

Uncountable sets, ordered and well-ordered sets, equivalent forms of the axiom of choice such as well-ordering and Zorn's Lemma, transfinite induction, arithmetic with cardinal numbers, generalized continuum hypothesis, ordinal numbers.

**MATH 390      Differential Equations II      (3crs.)**

The topics to be covered in this course include series solutions to second order linear equations – Bessel, Legendre equations; hypergeometric functions/equations; Gamma and Beta functions; Sturm-Liouville problems; Matrix methods for systems of differential equations. *Prerequisite: MATH 210.*

**MATH 410      Number Theory      (3crs.)**

Divisibility, congruence equations, quadratic reciprocity, numerical functions, some Diophantine analysis, binary quadratic forms, continued fractions, Pell's equation. Prerequisite: *MATH 320 or MATH 335.*

**MATH 415      Abstract Algebra I      (3crs.)**

Groups, subgroups, homomorphisms, normal subgroups and quotient groups, permutation groups, orbits and stabilizers, Cauchy's theorem. Rings and fields, ideals, homomorphisms and quotient rings, maximal and prime ideals, ring of polynomials, non-commutative examples. Prerequisite: *MATH 220 or MATH 335.*

**MATH 435      Topology      (3crs.)**

Topological Spaces, subspaces, continuous mappings, separation axioms, compactness, connectedness, metric spaces, and finite product spaces. Prerequisite: *MATH 305.*

**MATH 455      Abstract Algebra II      (3crs.)**

Topics on groups, rings and fields not covered in MATH 415, including the Sylow theorems and their applications to group theory, abelian groups, Euclidean domains, algebraic field extensions, and constructions by compass and ruler, splitting fields, classification of finite fields, solvability of equations by radicals, Galois Theory. Prerequisite: *MATH 415.*

**MATH 470      Complex Analysis      (3crs.)**

Analytic functions of a complex variable, Cauchy-Riemann equations, harmonic functions, complex integration, Cauchy's integral theorem, Taylor series, trigonometric functions, Laurent series, singularities and zeroes, the residue theorem and contour integration with applications to real integrals. Prerequisite: *MATH 305.*

**MATH 485      Project in Mathematics      (3crs.)**

This course is based on a contracted study arrangement between the student and an approved supervisor. Students improve their skills to choose and define problems, obtain information from libraries or experiments, organize facts and ideas, and report ideas and conclusions in written form.

**MATH 490      Mathematics Seminar      (1cr.)**

A written report and oral presentation in the form of a seminar about a current topic in Mathematics. Prerequisite: *MATH 485.*

**Physics Courses**

**PHYS 100      Physics for the Arts      (3crs.)**

An introductory formulation of physical concepts. Covers mechanics, electricity and magnetism, light, atomic and nuclear physics for non-science majors. This course emphasizes the significance of fundamental physical principles and methodologies in real world problems. PHYS 100 cannot be taken for credits in lieu of PHYS 170, PHYS 170L or PHYS 210, PHYS 210L when these courses are required for the major.

**PHYS 170      Fundamentals of Physics I      (3crs.)**

Measurements, vectors, motion in one two and three dimensions, Newton's laws, Particle dynamics, work and energy, circular motion and rotation, collisions, linear momentum and angular momentum, oscillations, Fluid statics and dynamics, wave motion and sound waves. Prerequisite or co-requisite: *MATH 199 or MATH 103.*

**PHYS 170L      Introductory Physics Laboratory      (1cr.)**

Experiments related to the material taught in PHYS 170 (classical physics) with emphasis on error analysis and computer-assisted experimentation. *Prerequisite or co-requisites: PHYS 170.*

**PHYS 210      Fundamentals of Physics II      (3crs.)**

Electric field and potential, capacitance and dielectrics, current and resistance, DC circuits, magnetic fields, Faraday's law, inductance, AC circuits, Maxwell's equations. Lab experiments related to the material taught in PHYS 210 with emphasis error analysis and computer-assisted experimentation. *Prerequisite: PHYS 170 or co-requisite: MATH 200.*

**PHYS 210L      Physics Laboratory II      (1cr.)**

Lab experiments related to the material taught in PHYS 210 with emphasis on error analysis and computer-assisted experimentation. *Prerequisite or co-requisite: PHYS 210.*

**PHYS 265      Modern Physics      (3crs.)**

Geometrical optics and modern physics interference of light waves, diffraction, and polarization. Special theory of relativity, light particle duality, introductory quantum mechanics, uncertainty principle, Schrodinger equation, atomic physics, nuclear physics and introduction to elementary particles. Lab. Experiments related to the materials taught in class with emphasis error analysis and computer assisted experimentation. *Prerequisite: MATH 205.*

**Chemistry Courses**

**CHEM 100      Chemistry for the Arts      (3 crs.)**

A survey of chemistry including atomic structure, chemical bonding, acid-base equilibrium, and introductory thermodynamics and kinetics designed for non-science majors. This course emphasizes the significance of fundamental chemical principles and methodologies in real world problems. Students cannot receive credits for both CHEM 170 and CHEM 100. CHEM 100 cannot be taken for credit in lieu of CHEM 130, CHEM 130L or CHEM 170 when these courses are required for the major.

**CHEM 130      Chemical Principles I      (3 crs.)**

An introduction to chemical principles covering atomic structure, quantum theory, chemical bonding, stoichiometry, thermodynamics, net ionic equations, aqueous reaction and gas laws with emphasis on examples and problems to illustrate the applications of chemistry to engineering disciplines.

**CHEM 130L      Introductory Chemistry Lab      (1cr.) 0.3\***

Weekly introductory lab sessions for Chemical Principles I which includes an introduction to chemical principles covering atomic structure, chemical bonding, stoichiometry, gas laws, chemical equilibrium including acid-base and solubility equilibrium, electrochemistry, introductory kinetics and thermodynamics. *Prerequisite or co-requisite: CHEM 130.*

**CHEM 170      Chemical Principles II      (3 crs.)**

An introductory theoretical formulation of physical and analytical chemistry including the periodic table, properties of solutions, chemical equilibrium, acid-base equilibrium, electrochemistry, and an introduction to organic chemistry. *Prerequisites: CHEM 130.*

**CHEM 210      Organic Chemistry I      (3 crs.)**

Introduction to organic chemistry functional groups, structures and reactions of alkanes, alkenes, alkynes, alkyl halides, and aromatic molecules; nomenclature of organic compounds; stereochemistry; reaction mechanisms and dynamics, and an introduction to biochemistry. *Prerequisite: CHEM 170.*

**CHEM 250      Organic Chemistry II      (3 crs.)**

This course covers structures and reactions of alcohols, ethers, carboxylic acids, aldehydes, ketones, and amines. It also provides an introduction to chemistry of heterocycles, carbohydrates, amino acids, and synthesis and reaction techniques. Emphasis is on the classification of biochemical and petroleum products including synthetic polymers, lipids, detergents, and crude oil. *Prerequisite: CHEM*

**CHEM 250L      Organic Chemistry Laboratory      (1 crs.)**

210. Experimental organic chemistry focusing on the synthesis, separation, purification, and characterization of organic compounds. Characterization techniques include IR and UV visible absorbance, NMR, mass spectrometry, and chemical tests. Unknown compounds and mixtures of unknown compounds will be separated and identified by chemical and spectroscopic techniques. *Prerequisite: CHEM 210.*

**CHEM 260      Analytical Chemistry      (3 crs.)**

The fundamentals and techniques of analytical chemistry including solution equilibria, titrations, spectroscopic fundamentals and techniques, electrochemical fundamentals and techniques, chromatography, and statistical analysis.

**CHEM 280      Environmental Chemistry      (3 crs.)**

A survey of environmental problems, the chemistry of atmospheric processes. Stratospheric chemistry, the ozone layer, air pollution, the greenhouse effect, photochemical and chemical reactions, and properties of aerosols. Effect of pollutants on acid rain, global warming, water, soil, and health; and destruction of pollutants. Effect of energy production on the state of the environment including nuclear energy, fossil fuels, and hydrogen fuel. *Prerequisite: CHEM 170 or CHEM 100. Can be taken by science and non-science majors.*

**CHEM 370      Physical Chemistry****(3 crs)**

Surface phenomena and chemistry: Surface tension. Capillarity. Adsorption. Electrical double layers. Colloids. Transport properties: Thermal conductivity. Viscosity and diffusion coefficients. Porous media. Chemical kinetics: Rate laws, mechanisms, catalysis, reaction rates. Heterogeneous reactions, photochemistry. Polymers: types: Thermodynamics of solutions. Applications: Principles of oil production performance. Water flooding and enhanced oil recovery techniques. Prerequisite: CHEM 170.

**Biology Courses****BIOL 100      Biology for the Arts****(3crs.)**

This is an introductory course which covers major biological principles and concepts. Topics include basic cells and its organelles, properties of water, organs and organ systems, genetics, DNA and RNA, and a look at emerging diseases in modern times for non-science majors. This course emphasizes the significance of fundamental biological principles and methodologies in the real world.

**BIOL 120      Introductory Biology****(3crs.)**

An introduction to biological principles at the ecosystem, population, organism and organ system level using an investigative and problem-based approach. Exploration of cellular processes including metabolism and inheritance from an evolutionary perspective in an investigative, problem-based format.

**BIOL 120L      Introductory Biology Lab****(1cr.)**

Weekly introductory lab sessions for Biology, which includes an introduction to biological principles covering the material taught in BIOL 120. *Prerequisite or co-requisite: BIOL 120.*

**BIOL 160      Contemporary Issues in Biology****(3 cr.)**

This course focuses on the scientific background to some of the current topics in biology. Students will get an in-depth treatment of issues such as genetic and molecular biology, as well as topics related to environment.

**NUTR 150      Food and Nutrition****(3 cr.)**

Food and Nutrition is a course which focuses on helping students understand the significance of eating appropriate foods, principles of nutrition, and the importance of carbohydrates, fats, proteins, vitamins and minerals in the diet. This course provides students with the opportunity to analyze diet according to nutritional needs and also to develop skills in the selection, storage, and preparation of food.

**ENVR 150      Introduction to Environmental Studies****(3 cr.)**

This course attempts to provide an overview of environmental science: the interactions between humans and the environment, with an emphasis on the natural science elements of environmental issues. More specifically, this course is an introduction to the various ways that humans depend on the earth's natural resources, and how human activities directly and indirectly affect the earth and its human and non-human inhabitants. In addition, the course will explore how policy, individual behavior, and technology can prevent, control, and reverse environmental harm.

## 6. Diploma in Mathematics

### 6.1. Program Overview

The Diploma in Mathematics is a two-year, 62 credit hours' study program designed to equip its holders with adequate knowledge, skills, and competencies in mathematics and statistical analysis. The program focuses on pairing theoretical explanations with practical work in the form of problem solving and projects. In addition, the program follows a modern liberal arts approach by exposing the students to a sound knowledge of general sciences, the arts, study of the Omani culture, mastery of general computing skills, and efficient usage of Arabic and English languages.

Although the Diploma holders may exit the university education with this degree, they will also have opportunities to continue their education to complete Bachelor of Science (BS) degree in Mathematics if they satisfy the requirements for admission to the BS in Mathematics programs, then all the credits that are successfully completed in the Diploma program are transferable to the BS programs.

### 6.2. Program Objectives

Refer to Bachelor of Science in Mathematics Program Sections 5.2.

### 6.3. Program Learning Outcomes

Refer to Bachelor of Science in Mathematics Program Sections 5.3.

### 6.4. Admission Requirements

Admission requirements for a Diploma in Mathematics Program are as specified in **College Section 6-a on Page 42**.

### 6.5. Graduation Requirements

To graduate with a Diploma in Mathematics, students must satisfactorily complete 62 credits taken over two academic years, with an overall minimum average of 65 percent. The university, college, and program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
27	3	32	0	62

### 6.6. University Requirements

The University requirements include the following nine (9) course encompassing 27 credit hours:

- 1) ARAB 101: Academic Writing in Arabic
- 2) CMPS 100B: Introduction to Technical Computer for the Sciences
- 3) ENGL 101: Basic Academic English
- 4) ENGL 102E: English for Engineering and Sciences I
- 5) ENGL 203E: English for Engineering and Sciences II
- 6) ENGL 204: Advanced English for Academic Purposes and Research



- 7) MATH 199: Calculus I
- 8) ENTR 200: Entrepreneurship: Innovation & Creativity
- 9) SOCS 102: Omani Society

## 6.7. College Requirements

The college requirement consists of a one (1), 3-credit hours course from any other major (highly recommended: CMPS110 course)

## 6.8. Program Requirements

The program requirement includes the following 12 core course encompassing 32 credit hours:

### I) Major Required Courses:

- 1) CHEM 130: Chemical Principles I
- 2) CHEM 130L: Introductory Chemistry Laboratory
- 3) MATH 120: Geometry and Trigonometry
- 4) MATH 200: Calculus II
- 5) MATH 205: Calculus III
- 6) MATH 210: Differential Equations
- 7) MATH 220: Linear Algebra I
- 8) MATH 240: Mathematics Computer Applications I
- 9) MATH 250: Probability and Statistics
- 10) MATH 260: Numerical Analysis I
- 11) PHYS 170: Fundamentals of Physics I
- 12) PHYS 170L: Introductory Physics Laboratory

### II) Major Elective Courses:

There are no major electives for this program.

## 6.9. Plan of Study: Diploma in Mathematics

Year I		
Semester 1 (Fall)		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
CMPS 100B	Introduction to Technical Computing for the Sciences	3
ENGL 101	Basic Academic English	3
MATH 199	Calculus I	3
SOCS 102	Omani Society	3
Semester 2 (Spring)		17 Credits
Code	Course Title	Credit Hours
CHEM 130	Chemical Principles I	3
CHEM 130L	Introductory Chemistry Laboratory	1
ENGL 102E	English for Engineering and Sciences I	3
MATH 200	Calculus II	3
PHYS 170	Fundamentals of Physics I	3
PHYS 170L	Introductory Physics Laboratory	1
MATH 120	Geometry and Trigonometry	3

Year II		
Semester 3 (Fall)		15 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Sciences II	3
MATH 205	Calculus III	3
MATH 210	Differential Equations	3
MATH 240	Mathematics Computer Applications I	3
MATH 220	Linear Algebra I	3
Semester 4 (Spring)		15 Credits
Code	Course Title	Credit Hours
ENGL 204	Advanced English for Academic Purposes and Research	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
MATH 250	Probability and Statistics	3
MATH 260	Numerical Analysis I	3
Code	General Elective	3
Completion of the Diploma In Mathematics - Total Credits 62		

## 6.10. Course Descriptions

Refer to Bachelor of Science in Mathematics Program Sections 5.10.

**COLLEGE OF COMMERCE  
AND BUSINESS  
ADMINISTRATION  
(CCBA)**

## TABLE OF CONTENTS

<b>College of Commerce and Business Administration</b>		
<b>No.</b>	<b>Particulars</b>	<b>Page No.</b>
1	Officers of the College .....	189
2	Organizational Structure .....	189
3	Vision .....	189
4	Mission .....	189
5	Academic Programs Offered .....	189
	• <i>Diploma Programs</i> .....	189
	• <i>Bachelor Programs</i> .....	190
	• <i>Master Programs</i> .....	190
6	Program Objectives .....	190
7	Program Learning Outcomes .....	190
	• <i>Diploma Programs</i> .....	190
	• <i>Bachelor Programs</i> .....	190
8	Admission Requirements .....	191
	• <i>Undergraduate Programs</i> .....	191
	• <i>Graduate (Master) Programs</i> .....	191
9	Graduation Requirements .....	191
10	University Requirements .....	192
	• <i>Diploma Programs</i> .....	192
	• <i>Bachelor Programs</i> .....	192
11	College Requirements .....	192
	• <i>Diploma Programs</i> .....	192
	• <i>Bachelor Programs</i> .....	192
12	Program (Major) Requirements .....	193
13	Final Year Project and Internship Training .....	194
14	Course Description .....	194
<b>Department of Accounting</b>		
1	Personnel .....	200
2	Mission .....	200
3	Programs Offered .....	200
	• <i>Diploma Programs</i> .....	200
	• <i>Bachelor Programs</i> .....	200
<b>Accounting Major (Bachelor and Diploma)</b>		
1	Program Overview .....	200
2	Program Objectives .....	200
3	Program Learning Outcomes .....	200
4	Admission Requirements .....	200
5	Graduation Requirements .....	201

6	University Requirements .....	201
7	College Requirements .....	201
8	Program Requirements .....	201
9	Plan of Study .....	202
10	Course Descriptions .....	204
<b>Department of Finance and Economics</b>		
1	Personnel .....	207
2	Mission .....	207
3	Programs Offered .....	207
	• <i>Diploma Programs</i> .....	207
	• <i>Bachelor Programs</i> .....	207
<b>Finance Major (Bachelor and Diploma)</b>		
1	Program Overview .....	207
2	Program Objectives .....	207
3	Program Learning Outcomes .....	207
4	Admission Requirements .....	208
5	Graduation Requirements .....	208
6	University Requirements .....	208
7	College Requirements .....	208
8	Program Requirements .....	208
9	Plan of Study .....	209
10	Course Descriptions .....	211
<b>Department of Management</b>		
1	Personnel .....	214
2	Mission .....	214
3	Programs Offered .....	214
	• <i>Diploma Programs</i> .....	214
	• <i>Bachelor Programs</i> .....	214
	• <i>Master Programs</i> .....	214
<b>Management Major (Bachelor and Diploma)</b>		
1	Program Overview .....	214
2	Program Objectives .....	215
3	Program Learning Outcomes .....	215
4	Admission Requirements .....	215
5	Graduation Requirements .....	215
6	University Requirements .....	215
7	College Requirements .....	215
8	Program Requirements .....	215
9	Plan of Study .....	216
10	Course Descriptions .....	218
<b>Department of Marketing and Entrepreneurship</b>		
1	Personnel .....	221
2	Mission .....	221

3	Programs Offered .....	221
	• <i>Diploma Programs</i> .....	221
	• <i>Bachelor Programs</i> .....	221
<b>Marketing Major (Bachelor and Diploma)</b>		
1	Program Overview .....	221
2	Program Objectives .....	221
3	Program Learning Outcomes .....	222
4	Admission Requirements .....	222
5	Graduation Requirements .....	222
6	University Requirements .....	222
7	College Requirements .....	222
8	Program Requirements .....	222
9	Plan of Study .....	223
10	Course Descriptions .....	225
<b>B.Sc. in Logistics and Supply Chain Management</b>		
1	Program Overview .....	227
2	Program Objectives .....	227
3	Program Learning Outcomes .....	227
4	Admission Requirements .....	227
5	Graduation Requirements .....	227
6	University Requirements .....	227
7	College Requirements .....	227
8	Program Requirements .....	227
9	Plan of Study .....	228
10	Course Descriptions .....	230
<b>Department of Management Information System (MIS)</b>		
1	Personnel .....	232
2	Mission .....	232
3	Programs Offered .....	232
	• <i>Diploma Programs</i> .....	232
	• <i>Bachelor Programs</i> .....	232
<b>MIS Major (Bachelor and Diploma)</b>		
1	Program Overview .....	232
2	Program Objectives .....	232
3	Program Learning Outcomes .....	233
4	Admission Requirements .....	233
5	Graduation Requirements .....	233
6	University Requirements .....	233
7	College Requirements .....	233
8	Program Requirements .....	233
9	Plan of Study .....	234
10	Course Descriptions .....	236

# **COLLEGE OF COMMERCE AND BUSINESS ADMINISTRATION**

## **1. Officers of the College**

<b>Dean</b>	Syed Ahsan Jamil
<b>Assistant Dean</b>	Mawih Kareem Al Ani
<b>Academic Coordinator</b>	Eedeh Ahmed AlZoubi
<b>Secretary</b>	Laila bait Said, Nawal Hafedh Al Kathiri

## **2. Organizational Structure**

The College of Commerce and Business Administration (CCBA) is headed by a Dean overseeing the following **Five Departments**:

- 1) Department of Accounting
- 2) Department of Finance and Economics
- 3) Department of Management
- 4) Department of Marketing and Entrepreneurship
- 5) Department of Management Information Systems

## **3. Vision**

The College of Commerce and Business Administration at Dhofar University aspires to acquire a distinguished place among national, regional and international business educational institutions.

## **4. Mission**

To provide quality business education with a global perspective in an open learning environment, fostering research and community outreach and nurturing leaders who are capable of contributing to Omani society and beyond.

## **5. Academic Programs Offered**

The College offers five (5) Diploma, six (6) Bachelor and two (3) Graduate (Master) Programs. Diploma and Bachelor students may join for the morning (regular) or the evening program (but not both). The medium of instruction in all programs is English except for Masters of Art in Management program wherein it is Arabic. These programs are:

### **a) Diploma Programs**

- 1) Business Administration - Accounting
- 2) Business Administration – Finance
- 3) Business Administration – Management
- 4) Business Administration – Marketing
- 5) Business Administration - Management Information Systems (MIS)

## **b) Bachelor Programs**

- 1) Business Administration - Accounting
- 2) Business Administration – Finance
- 3) Business Administration - Management
- 4) Business Administration - Marketing
- 5) Business Administration - Management Information Systems (MIS)
- 6) BSc in Logistics and Supply Chain Management

## **c) Master Programs**

- 1) Master in Business Administration(MBA)
- 2) Master of Arts in Management (MA in Management)
- 3) Master of Science in Accounting

**(Details of Master Programs are given in Graduate Studies Catalogue)**

## **6. Program Objectives**

The objectives of the programs at the College are:

- 1) To provide students with up-to-date academic programs of high quality and relevance through excellent instruction, scholarly contribution, and service to students and other constituencies.
- 2) To prepare students for a variety of managerial and professional careers in business through innovative programs that integrates theory with practical experience.
- 3) To produce morally responsible individuals who are highly competent in their fields of specialization and well prepared to succeed in a global knowledge economy.
- 4) To produce life-long self-learners committed to serve their society

## **7. Program Learning Outcomes**

### **a) Diploma Programs**

The Diploma programs graduate will:

- 1) Have the knowledge and skills specifically in their area of specialization necessary to understand and succeed in business, government, and/or graduate school.
- 2) Have the team work spirit.
- 3) Have interpersonal communication skills.
- 4) Be able to use technologies that relate to their future work domains.
- 5) Be global-oriented enabling them to recognize the influence of globalization on country's economy.

### **b) Bachelor Programs**

The Bachelor programs graduate will:

- 1) Have the knowledge and skills specifically in their area of specialization necessary to understand and succeed in business, government, and/or graduate school.
- 2) Have the team work spirit.
- 3) Have interpersonal communication skills.



- 4) Be able to use technologies that relate to their future work domains.
- 5) Be global-oriented enabling them to recognize the influence of globalization on country's economy.
- 6) Be able to think creatively and critically and contribute to Omani society and beyond.
- 7) Have the research-oriented spirit enabling them to challenge the status quo to move to better ones

## 8. Admission Requirements

### a) Undergraduate Programs

#### I) General Requirements

For admission to any of the undergraduate programs offered by CCBA, a student must have:

- A General Education Certificate or its equivalent and
- Passed FP from DU or any other HEI recognized by MoHE

**OR**

Be exempted from FP English, Maths and IT courses based on placement tests conducted by DU FP

#### II) Program Specific Requirements

Program Specific admission requirements, if any, are given in the concerned section in this catalogue.

### b) Graduate (Master) Programs

(For admission requirements of Master Programs, refer to Graduate Studies Catalogue.)

## 9. Graduation Requirements

To receive a Diploma in Business Administration, students must satisfactorily complete 60 credit hours with a cumulative average of 65 percent.

To receive a Bachelor Degree in Business Administration and BSc in Logistics and Supply Chain Management, students must satisfactorily complete a total of 120 credit hours (including the 60 credits earned in the diploma) with a cumulative average of 65 percent, and a cumulative average of 70 percent in the courses of his/her major specialization area.

The following table summarizes the number of credits normally required for each Diploma and Bachelor granting program in the CCBA.

Program	University Requirements	College Requirements	Major Compulsory Requirements	General Electives Courses		Total Credit Hours
				General Elective	Skills of Life	
Diploma	15	27	18	---	---	60
Bachelor	27	48	36	6	3	120

## **10. University Requirements**

### **a) Diploma Programs**

The University requirements for Diploma programs consist of the following Five (5) courses comprising of 15 credit hours:

- 1) ENGL101: Basic Academic English
- 2) ENGL102B: English for business I
- 3) ENGL203B: English for business II
- 4) ENTR200: Entrepreneurship: Innovation and Creativity
- 5) MATH103B: Mathematics for Business

### **b) Bachelor Programs**

The University requirements for Bachelor programs consist of the following additional four (4) courses comprising of 12 credit hours, apart from the courses mentioned above for the diploma program.

- 1) ARAB101: Academic writing in Arabic
- 2) ENGL204: Advanced English for academic purposes and research
- 3) ENGL305: Advanced English language and communication skills
- 4) SOCS102: Omani Society

## **11. College Requirements**

### **a) Diploma Programs**

The college requirements for Diploma programs consist of the following nine (9) courses comprising of 27 credit hours (in addition to BUSS 200: Internship in Business, which is zero credit hours as given in Section 13-b):

- 1) BUSS 101: Principles of Management
- 2) BUSS 102: Principles of Financial Accounting
- 3) BUSS 103: Principles of Marketing
- 4) BUSS 104: Principles of Management Accounting
- 5) BUSS 105: Principles of Financial Management
- 6) BUSS 106: Business and Information Technology
- 7) BUSS 200: Internship in Business
- 8) BUSS 201: Principles of Microeconomics
- 9) BUSS 203: Principles of Macroeconomics
- 10) BUSS 204: Business Law and Ethics

### **b) Bachelor Programs**

The college requirements for Bachelor programs consist of the following additional seven (7) courses comprising of 21 credit hours, apart from the courses mentioned above for the diploma program:

- 1) BUSS 304: Quantitative Methods in Business
- 2) BUSS 306: Strategic Management
- 3) BUSS 307: Statistics for Business
- 4) BUSS 312: e- Business

- 5) BUSS 401: Research Methods
- 6) BUSS 403: Business Environment
- 7) BUSS 404: Final Year Project

## 12. Program (Major) Requirements

The program requirements consist of two parts namely Major courses and general electives as given below.

### a) Major Compulsory Courses

These are given in the respective Majors/specialization areas in this catalogue

### b) General Electives

Every student in the Bachelor program only has to select a total of three (3) general electives comprising of 9 credit hours from two clusters given below:

#### I) Cluster one - Skills for Life Elective (SLE):

The student has to choose any one (1) course comprising 3 credit hours from the list of skills for life courses given in the following table.

Cluster 1: Skills for life Elective		Crs
PHIL160	Critical and Creative Thinking	3
PHIL 230	Principles of Professional Ethics	3
ENVR150	Introduction to Environmental Studies	3
PSYC250	Personal Development	3
NUTR150	Food and Nutrition	3

#### II) Cluster two - College General Electives (CGE):

The student has to choose any two (2) course comprising 6 credit hours from the list of college general electives as given in the following table. However, the Dean of the college could substitute a course as per the rules of course substitution.

Cluster 2: College General Electives		Crs	Pre-req.
ACCT 221	Intermediate Accounting I	3	BUSS 102
ACCT 222	Managerial Cost Accounting	3	BUSS 104
ACCT 223	Financial Statement Analysis	3	BUSS 104
FINA 221	Money and Capital Markets	3	BUSS 102
FINA 222	Commercial Bank Management	3	BUSS 105
FINA 223	Financial Services	3	BUSS 105
LSCM 221	Fundamentals of Logistics and Supply Chain Management	3	BUSS101
LSCM 222	Purchasing and Supply Management	3	LSCM221
LSCM 223	Freight and Transport Management	3	LSCM221

MISS 221	Introduction to Information Systems	3	BUSS 106
MISS 222	Systems Analysis and Design	3	BUSS 106
MISS 223	Business Programming	3	BUSS 106
MNGT 221	Human Resource Management	3	BUSS 101
MNGT 222	Organizational Behavior	3	BUSS 101
MNGT 223	Business Ethics	3	BUSS 101
MKTG 221	Consumer Behavior	3	BUSS 103
MKTG 222	Marketing Communication	3	BUSS 103
MKTG 223	Service Marketing	3	BUSS 103

### **13. Final Year Project and Internship Training**

#### **a) Final Year Project**

As part of their fourth year (90 credits completed), students are required to carry out a project and submit a report. This project is a substantial piece of work that will require creative activity and original thinking. Students individually, are supervised while working on a project in relevant specialization for three-credits, extending over a full semester. The project aims to provide students with skills to solve critical workplace problems and issues.

#### **b) Internship Training**

All students of CCBA (Diploma and Bachelor), who have completed 45 credits are required to undergo Internship Training for a period of eight weeks. This ensures that each student gains practical training experience during the summer prior to graduation from diploma level, with some business organizations.

### **14. Course Description**

#### **a) University Requirement course offered by CCBA**

##### **ENTR 200 Entrepreneurship: Innovation & Creativity (3 crs)**

This introductory course provides a fully-enabled curriculum for the students to explore entrepreneurship as a study topic as well as practice. Entrepreneurship has become one of the most powerful and influential force of change in the world. This course aims to provide a basic understanding of the most important and relevant concepts and processes in the field of entrepreneurship in addition to practical training. Topics covered in this course will include significance of entrepreneurship, feasibility study, business model, business plan, understanding the concept of opportunity, different types of business ownership existing in Sultanate of Oman, as well as practical applications and field visits.

Prerequisite: ENGL 203A; ENGL 203B; ENGL 203E

#### **b) Other University Requirements**

Course description of other university requirements is given in corresponding sections of CAAS.

### **c) College Requirements**

#### **BUSS 101 Principles of Management (3 crs)**

This course is an introductory course in management that reviews the main concepts and ideas associated to management of organizations including the functions and activities of the manager. This course studies the significant management theories, and practice at national and international level. This course covers the following topics: nature of management, planning, controlling, decision making, and types of organizations, delegation of authority & decentralization and leadership. The course is designed to deliver the basic understanding of the concepts and tools in management to the students.

*Prerequisite: FPE 103C*

#### **BUSS 102 Principles of Financial Accounting (3 crs)**

This course provides an overview of basic concepts and principles underlying financial accounting system. This course aims to develop the understanding of the students in identifying, recording, classifying and summarizing the financial transactions of any entity and provides an understanding of the preparation and presentation of the basic financial statements, the income statement, and the balance sheet and their interpretation as well. The understanding of these essential concepts provides essence for the students as future managers of accounting. *Prerequisite: FPE 103C.*

#### **BUSS 103 Principles of Marketing (3 crs)**

The course introduces the basic concepts and the practices which comprise the principles of marketing, and develops an understanding of the marketing concepts and problem solving approach from a managerial point of view in the students. The course is a foundation to the advanced courses in marketing/related areas and emphasizes on the topics like marketing-mix, marketing environment, consumer buying behavior, segmentation-targeting-positioning strategies, product planning & management, pricing, distribution and the promotional strategies in marketing. The course will be offered by lecture mode with discussions in the class as well adopting the case studies and assignments for critical thinking development in the students. *Pre-requisite: FPE 103C.*

#### **BUSS 104 Principles of Management Accounting (3 crs)**

This course introduces students to the principle concepts, techniques and tools in management accounting. It aims to provide students with an understanding of management accounting information used in planning and controlling in business organizations. Topics in this course include preparing manufacturing final accounts, cash flow statements, cost behavior and analyses, budgeting and budgetary control and relevant cost information for decision making and performance evaluation. *Prerequisite: BUSS 102.*

#### **BUSS 105 Principles of Financial Management (3 crs)**

The essential emphasis of this course is on the changing role of financial management and how to maximize the firm value. The course aims to cover the basics required to understand concepts and advance courses in finance. The essence of this course is on the principles of contemporary corporate finance and

its management. It accentuates the imperative concepts and techniques required for financial decision-making. *Prerequisite: BUSS 102*

**BUSS 106 Business and Information Technology (3 crs)**

This course introduces the application of Information and communication technology to support business activities. It establishes role of information technology and communication technology (ICT) as an Important Component in Modern Business World. Technically, it focuses Understanding different hardware, Software, Tool, Techniques and Process required that facilitates the office and industry tasks. It includes creating and store of business documents using word processing, Use of spreadsheets to collect, compile and analyze business data, creation of effective Presentation. It also creates awareness about emerging and current Trends in Information Technology. *Prerequisite: BUSS 101&FPT102B*

**BUSS 200 Internship in Business (0 crs)**

Students in the second year (completed 45 credits) have to undergo practical training in any reputed organization of their choice. The training course is named as Internship for Business. Period of training is 240 Hours or Eight weeks. The course is offered on a pass/fail basis only. The purpose of training is to expose the students to real-life work environment in a business or government organization. Students get a chance to link their theoretical knowledge with practical experiences. Training will also help the students to realize the demands to workplace and identify organizations for their future employment. For the college training helps to establish linkages with the industry and get feedback for our students and College.

**BUSS 201 Principles of Microeconomics (3 crs)**

The microeconomics focuses on how firms and households make decisions and interact in the market. This course is proving the undergraduates with a thorough information and comprehension of the foundations of modern economic analysis. This course presents the elementary values of the theory of microeconomics and their implementation: demand and supply, markets' operation, producer and consumer actions, market conditions and wealth allocation. *Prerequisite: BUSS 105*

**BUSS 203 Principles of Macroeconomics (3 crs)**

Principles of macroeconomics to provide an understanding and overview basic concepts of macroeconomics and explain the macroeconomic indicators, which effect the society. The purpose of this course to provide the knowledge to the student about basic tools of macroeconomics. The course covers national income accounting, overview of classical concept, Keynesian concept of income employment, consumption, saving function, inflation & unemployment, money supply and other related macroeconomic indicators. A student who grasps macroeconomic relationship will understand impact of macroeconomic indicators on international trade. *Prerequisite: BUSS 201*

**BUSS 204 Business Law and Ethics (3 crs)**

This course is an introduction to the ethical and legal standards prevailing in business environment. It includes the legal frameworks necessary for the

protection of customers and organizations along with the study of legal and ethical business environment in which businesses operate. The course focuses on Omani law but also considers international ethical perspectives in business. *Prerequisite: BUSS 201*

**BUSS 304 Quantitative Methods in Business (3 crs)**

This course is designed to provide an understanding and working knowledge of quantitative methods and concepts applied in business areas. The course aims to cover topics of business mathematics & and statistical description and analysis appropriate for business students. The topics include are Applications of AP and GP, exponential techniques, applications derivative, descriptive statistics – measures of central tendencies and measures of dispersion, introduction of probability, expected value of random variable and its application in business, probability distributions - binomial, Poisson, and normal use of MS Excel and SPSS. *Prerequisite: MATH 103B and BUSS 203*

**BUSS 306 Strategic Management (3 crs)**

The course of Strategic Management is built on the concepts already acquired earlier. The course includes fundamentals concepts regarding the basic Model of strategic Management process, Micro and Macro Environmental scanning, Industry Analysis. The course stresses the role of Strategic Leadership in formulating strategies and their main tasks in making strategic decisions and actions, especially in a volatile environment. The emphasis is on the application of Analytical tools used in the modern companies in the world. Different and contemporary strategies applied by local and global companies, and the importance of getting competitive advantage through resource/competence based view will be addressed. *Prerequisite: BUSS 203 and BUSS 204*

**BUSS 307 Statistics for Business (3 crs)**

This course is designed to provide an understanding and practical knowledge of statistical methods and concepts applied in business areas. The course aims to cover topics of statistical description and analysis needed for business students. The focus of the course is on the practical use of data in business decision making. The topics include are introduction of hypotheses testing of large and small sample sizes, analysis of categorical data, ANOVA, correlation, and simple and multivariate linear regression analysis. Use of MS Excel / SPSS will be used. *Prerequisite: BUSS 304*

**BUSS 312 e-Business (3 crs)**

This course introduces the fundamentals of e-business processes, methods and technologies It describes e-business infrastructure, business models, advantages, limitations barriers and scope. The course will give a general idea about e-commerce, e-marketing, e-learning, e-procurement, e-services, e-government e-society etc. The students will be able to understand how the information and communication technology has changed the scenario of business The student will be exposed to different ICT best tools and techniques for various aspects of business including information management, analytics and decision making, electronic payments and delivery etc, in global and local(GCC) context. *Prerequisite: BUSS 306*

**BUSS 401      Research Methods****(3 crs)**

The main purpose of this course is to develop student's research orientation and to accustom them with basics of research methods. This course introduces fundamental concepts and approaches used in research. It includes discussions on problem definition, research process, research design, sampling techniques, data collection, questionnaire designing and its analysis by using MS Excel/SPSS software, ethical concern in research and report writing (DU Catalogue, 2015-16).

*Pre-requisite: BUSS 307*

**BUSS 403      Business Environment****(3 crs)**

This course is firmly based upon the analysis of a broad range on environmental factors influencing business organizations. It allows students to figure out environmental changes while considering globalization. Moreover, it delivers a comprehensive introduction to major topics and concepts of the 21st century business environment. Therefore, students will be able to make appropriate decisions based on an adequate business environment analysis. *Pre-requisite:*

*More than 90 cr. hrs*

**BUSS 404      Final Year Project****(3 crs)**

Every student has to choose a relevant business situation/problem and using the knowledge gained on how to tackle the problem come out with a viable solution. The entire project has to be completed under the supervision of a faculty mentor and the students have to defend the report submitted in front of a jury. *Pre-*

*requisite: BUSS 401*

**d) Electives: Cluster 1- Skills for Life Electives****PHIL 160      Critical and Creative Thinking****(3 crs)**

This course explores the field of critical thinking from a historical perspective, explaining how various philosophical schools define and deal with the concepts of critical thinking, problem solving, logical reasoning, creative thinking, logical and textual analyses, fallacies and certainty in knowledge. Students will develop understanding of the critical and creative thinking processes. They will be guided to think more clearly, insightfully and effectively, enhancing their own natural tendencies for critical and creative thinking.

**PHIL 230      Principles of Professional ethics****(3 crs)**

Deals with the meaning and authenticity of ethical life and raises issues related to working in a professional environment such as: what does it mean to be a professional? What moral qualities should professionals have? What are the rights and responsibilities of professionals? Can one's personal morality conflict with one's professional moral commitments? How to balance one's professional responsibilities with the interests of the clients and the community? What is corporate responsibility? What are the limits of privacy and confidentiality? What are the ethical implications of plagiarism, cheating, deception, dishonesty and infringement of copyrights? These discussions will be set within an ethical theoretical framework, which will provide students with an ethical perspective necessary for making them better decision-making professionals.



**ENVR 150 Introduction to Environmental Studies****(3 crs)**

This course attempts to provide an overview of environmental science: the interactions between humans and the environment, with an emphasis on the natural science elements of environmental issues. More specifically, this course is an introduction to the various ways that humans depend on the earth's natural resources, and how human activities directly and indirectly affect the earth and its human and non-human inhabitants. In addition, the course will explore how policy, individual behavior, and technology can prevent, control, and reverse environmental harm.

**PSYC 250 Personal Development****(3 crs)**

This course aims at introducing students to the world of work, potential career paths and planning. The primary goal of this course is to enable students to acquire the knowledge and skills for employment and think entrepreneurially. The course also enables the student to know oneself in terms of personality type and vocational aptitudes that are considered useful in making occupational decisions. Various hands-on activities are offered both inside and outside the classroom to give students a taste of the world of work in the 21st century. Professionals are invited in class to introduce students to various career opportunities available after graduation.

**NUTR 150 Food and Nutrition****(3 crs)**

Food and Nutrition is a course which focuses on helping students understand the significance of eating appropriate foods, principles of nutrition, and the importance of carbohydrates, fats, proteins, vitamins and minerals in the diet. This course provides students with the opportunity to analyze diet according to nutritional needs and also to develop skills in the selection, storage, and preparation of food.

**e) Electives: Cluster 2- College General Electives**

Course description for the college general elective courses can be found under various majors of CCBA sections.

## Department of Accounting

### 1. Personnel

Chairperson	Zaroug Osman Mohamed Bilal
Associate Professors	Mawih Kareem Shaker Al Ani, Zaroug Osman Mohammed Bilal, Omar Ikbal Tawfik.
Assistant Professors	Shariq Mohammed, Mohamed Noor Alam, Ilker Yilmaz
Lecturers	Shireen Rosario

### 2. Mission

The Department of Accounting in CCBA promotes global and professional accounting knowledge, analytical and critical thinking skills whilst encouraging scientific accounting research in an open learning environment to future leaders in Oman society and beyond.

### 3. Programs Offered

The department offers following Diploma and Bachelor programs:

#### a) Diploma Programs

- 1) Diploma in Business Administration – Accounting

#### b) Bachelor Programs

- 1) Bachelor of Arts in Business Administration – Accounting

## 4. Accounting Major (Bachelor and Diploma)

### 4.1. Program Overview

Bachelor of Arts (B.A.) in Business Administration with Accounting major is a four-year program encompassing 120 credit hours. As part of their fourth year, students are required to carry out a Final year Project and submit a report.

Diploma in Business Administration in Accounting major consists of the first two years of Bachelor program encompassing 60 credit hours.

In addition, in both programs, after completing the second year (45 credits), students are required to undergo Internship Training for a period of eight weeks.

### 4.2. Program Objectives

As given in College Section 6.

### 4.3. Program Learning Outcomes

As given in College Section 7.

### 4.4. Admission Requirements

As given in College Section 8.a

#### **4.5. Graduation Requirements**

As given in College Section 9.

#### **4.6. University Requirements**

As given in College Section 10.

#### **4.7. College Requirements**

As given in College Section 11.

#### **4.8. Program Requirements**

The Program requirements for Accounting Major are as follows:

##### **a) Major Compulsory Courses**

###### **I) Diploma Level**

- 1) ACCT 221: Intermediate Accounting I
- 2) ACCT 222: Managerial Cost Accounting
- 3) ACCT 223: Financial Statement Analysis
- 4) ACCT 224: Internal Auditing
- 5) ACCT 225: Intermediate Accounting II
- 6) ACCT 226: Banking Accounting

###### **II) Bachelor Level**

The major compulsory courses for Bachelor level consist of the following additional six courses, apart from the courses mentioned above for the diploma program.

- 1) ACCT 411: Corporate Accounting
- 2) ACCT 412: Advanced Auditing
- 3) ACCT 413: Advanced Accounting
- 4) ACCT 414: Government and Fund Accounting
- 5) ACCT 415: International Accounting
- 6) ACCT 416: Accounting Information Systems

##### **b) College General Electives(CGE)**

As given in College Section 12.b.

#### 4.9. Plan of Study: Accounting Major

Year I				
Term	Course	Title	Crs	Pre-req.
(1) Fall	BUSS 101	Principles of Management	3	FPE 103C
	BUSS 102	Principles of Financial Accounting	3	FPE 103C
	MATH 103B	Mathematics for Business	3	FPM 102B
	ENGL 101	Basic Academic English	3	FPE 103C
	BUSS 103	Principles of Marketing	3	FPE 103C
Total Credits			15	
(2) Spring	BUSS104	Principles of Management Accounting	3	BUSS102
	BUSS 105	Principles of Financial Management	3	BUSS 102
	BUSS 106	Business Information Technology	3	BUSS 101 and FPT 102B
	ENGL 102B	English for Business I	3	ENGL 101
	ACCT 221	Intermediate Accounting I	3	BUSS 102
Total Credits			15	
Year II				
(3) Fall	ENGL 203B	English for Business II	3	ENGL 102B
	BUSS 201	Principles of Microeconomics	3	BUSS 105
	ACCT 222	Managerial Cost Accounting	3	BUSS 104
	ACCT 223	Financial Statement Analysis	3	ACCT 221
	ACCT 224	Principles of Auditing	3	ACCT 221
Total Credits			15	
(4) Spring	BUSS 203	Principles of Macroeconomics	3	BUSS 201
	BUSS 204	Business Law and Ethics	3	BUSS 201
	ENTR 200	Entrepreneurship- Innovation & Creativity	3	ENGL 203B or ENGL203
	ACCT 225	Intermediate Accounting II	3	ACCT 221 and ACCT222
	ACCT 226	Banking Accounting	3	ACCT 223 and ACCT224
Total Credits			15	
Summer	BUSS 200	Internship in Business (Two Months)	0	8 Weeks
Diploma in Business Administration – Accounting Major (60 Credits)				

Year III				
(5) Fall	BUSS 304	Quantitative Methods in Business	3	MATH 103B and BUSS 203
	BUSS 306	Strategic Management	3	BUSS 203 OR BUSS204
	ACCT 411	Corporate Accounting	3	ACCT 225
	ACCT 412	Advanced Auditing	3	ACCT224
	ARAB 101	Academic Writing in Arabic	3	More than 60 cr. hrs.
Total Credits			15	
(6) Spring	BUSS 307	Statistics for Business	3	BUSS 304
	ENGL 204.	Advanced English for Academic Purposes and Research	3	ENGL 203B
	ACCT 413	Advanced Accounting	3	ACCT411 and ACCT412
	ACCT 414	Governmental and Fund Accounting	3	ACCT411
		Skills for Life (Elective)	3	More than 60 cr. hrs.
Total Credits			15	
Year IV				
(7) Fall	BUSS 401	Research Methods	3	BUSS 307
	BUSS 312	e-Business	3	BUSS 306
	SOCS 102	Omani Society	3	More than 60 cr. hrs.
	ENGL 305	Advanced English Language and Communication Skills	3	ENGL 204.
	ACCT415	International Accounting	3	ACCT413
Total Credits			15	
(8) Spring	BUSS 403	Business Environment	3	More than 90 cr. hrs.
	BUSS 404	Final year Project	3	BUSS 401
	ACCT 416	Accounting Information System	3	ACCT 413
		College Elective 1	3	More than 90 cr. hrs.
		College Elective 2	3	More than 90 cr. hrs.
Total Credits			15	
Bachelor in Business Administration – Accounting Major (120 Credits)				

## 4.10. Course Description: Accounting Major

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### **ACCT 221      Intermediate Accounting I      (3 crs)**

This course deals with the concepts of financial statements focusing on balance sheet which include assets valuations, as well as the concept of revenue recognition, in addition to Income statement. Various component of assets in the balance sheet such as current assets, tangible assets and intangible assets are taught to the students. We also include various concepts of liability recognition which include long term liabilities and current liabilities and contingencies. *Prerequisite: BUSS 102.*

### **ACCT 222      Managerial Cost Accounting      (3 crs)**

This course deals with the concept of management Accounting, as well as cost and cost behavior. Different types of cost are taught in this subject. Here we also include the impact of cost and volume on profit. Various types of budgets are discussed which include functional budgets, fixed and variable and master budget. Standard costing is an important tool of cost and Management accounting which is included in this subject. Jobs costing and process costing is another important part of this syllabus. Some emerging trends such as just in time and activity based costing concept are included in the subject. *Prerequisite: BUSS 104.*

### **ACCT 223      Financial Statement Analysis      (3 crs)**

The main purpose of the course is to enable the students to comprehend the fundamental elements of financial statements and to make interpretations about the financial position and financial performance of the companies. The course teaches the tools to analyze many aspects of the companies, including liquidity, profitability, riskiness and growth opportunities. The analyses covered in the course give insights about the historical trends and also enable to make future projections. The course provides the analysis of cash flow statements to enable to comment on the inflows and outflows of cash according to the different categories. *Prerequisite: ACCT 221.*

### **ACCT 224      Principles of Auditing      (3 crs)**

The course aims to provide a general framework of principles of auditing, including the need for it in all types of organizations, the qualifications of the internal auditor, principles and standards that must be applied in conducting the audits. The course also provides the necessary information about the national and international regulations regarding the audit profession. The step-by-step analysis of an internal audit, the evidence collection and evaluation, the judgements made by the auditor and the types of different reports prepared at the end of an internal audit are covered in the course. The course also focuses on the abilities to apply accounting and financial analysis information *Prerequisite: ACCT 221.*

### **ACCT 225      Intermediate Accounting II      (3 crs)**

This course provides students with an understanding of generally accepted accounting principles (GAAPs) and an exposure to financial reporting and accounting disclosures in all types of business organization. Topics in this course

include accounting transactions in buying and selling of investments, current liabilities and contingencies, operating and capital leases, intangible assets, computation of shareholders' equity and treatments of accounting errors and changes. *Prerequisite: ACCT 221&ACCT 222.*

**ACCT 226 Banking Accounting (3 crs)**

This course presents students with an overview of accounting tools and systems use by both conventional and Islamic banks. It covers topics to establish a sound foundation about activities in the accounting cycles for banking systems, such as recording bank transactions; accounting for facilities offered by banks – including credit facilities and foreign currency transactions; analysis of bank's financial reports and financial statements. *Prerequisite: ACCT 223 & 224.*

**ACCT 411 Corporate Accounting (3 crs)**

This course covers all aspects of accounting for partnership. Topics include in this course are formation and establishment of partnership, operation and distributions of profits in the partnership; changes in capital; change of ownership in the partnership and liquidation of partnership. *Prerequisite: ACCT 225.*

**ACCT 412 Advanced Auditing (3 crs)**

The aim of this course is provide the students with knowledge and skills in external auditing which is based on International Auditing standards with reference to auditing law in Oman. This course is covered some auditing topics such as: audit planning, audit evidence, audit sampling, audit program, audit reports and opinions and risk, materiality and audit committee. *Prerequisite: ACCT 224.*

**ACCT 413 Advanced Accounting (3 crs)**

The course deals with accounting application for business mergers, acquisitions, purchase of Investments using Cost method, Equity method. It also covers Issue and redemption of debentures, financial reporting of companies and not for profit organizations. *Prerequisite: ACCT 411 & ACCT 412.*

**ACCT 414 Government and Fund Accounting (3 crs)**

The course covers the unique reporting requirement to be followed by Government and Not for Profit Organizations. Course includes Fund accounting, Governmental Budgeting, Modified Accrual Basis of Accounting, Accounting for Fixed and Capital Projects, Long term Debt and Business type activities. *Prerequisite: ACCT 411.*

**ACCT 415 International Accounting (3 crs)**

The objective of this course is to learn the students how to deal with international accounting and financial reporting problems. This course is covered three main areas: Foreign transactions, foreign activities and comparison between accounting systems. In these three areas, there are many are covered such as importing-exporting transactions, types of exchange rates, translation of financial statements, analysis of foreign financial statements, transfer pricing and comparison between GAAP and IFRS in some specific issues such as treatment of goodwill, treatment of depreciation and R&D costs. *Prerequisite: ACCT 413.*

**ACCT 416      Accounting Information Systems (AIS)****(3 crs)**

The course is designed to provide the students with an understanding and overview of the accounting information systems functions. Accounting Information systems is now becoming vital to every Organization. The course will explore the essential concepts and applications, methods of collection, organization, sorting, processing and communicating of the accounting data and information with the help of computer, Importance of information technology and use of the Computer Networks to Accountants and for communicating information, data management and exposed them to computer-based transactions processing. The understanding of these concepts provides a platform to students who want to pursue career as an accounting information system manager. *Prerequisite: ACCT413.*



## Department of Finance and Economics

### 1. Personnel

Chairperson	Faris Nasif AL-Shubairi
Associate Professors	Syed Ahsan Jamil, Faris Nasif AL-Shubairi, Kavita Chavali.
Assistant Professors	Ahmaruddin Mohammed; Mohammed Abdul Imran Khan; Hazem Mohammed Al Samman; Shabbir Alam; Naushad Alam; Nadia Sha, Goksel Acar, Muawya Ahmed Hussein
Secretary	Reem Fael

### 2. Mission

To equip students with finance area knowledge, analytical and thinking skills, and encourage scientific research in an open learning environment to serve the community.

### 3. Programs Offered

The department offers following Diploma and Bachelor programs:

#### a) Diploma Programs

- 1) Diploma in Business Administration – Finance

#### b) Bachelor Programs

- 1) Bachelor of Arts in Business Administration - Finance

## 4. Finance Major (Bachelor and Diploma)

### 4.1. Program Overview

Bachelor of Arts (B.A.) in Business Administration with Finance major is a four-year program encompassing 120 credit hours. As part of their fourth year, students are required to carry out a Final year Project and submit a report.

Diploma in Business Administration in Finance major consists of the first two years of Bachelor program encompassing 60 credit hours.

In addition, in both programs, after completing the second year (45 credits), students are required to undergo Internship Training for a period of eight weeks.

### 4.2. Program Objectives

As given in College Section 6.

### 4.3. Program Learning Outcomes

As given in College Section 7.

#### **4.4. Admission Requirements**

As given in College Section 8.a

#### **4.5. Graduation Requirements**

As given in College Section 9.

#### **4.6. University Requirements**

As given in College Section 10.

#### **4.7. College Requirements**

As given in College Section 11.

#### **4.8. Program Requirements**

The Program requirements for Finance major are as follows:

##### **a) Major Compulsory Courses**

###### **I) Diploma Level**

- 1) FINA 221: Money and Capital Markets
- 2) FINA 222: Commercial Bank Management
- 3) FINA 223: Financial Services
- 4) FINA 224: Islamic Finance
- 5) FINA 225: Risk Management
- 6) FINA 226: Financial Analysis and Security Evaluation

###### **II) Bachelor level**

The major compulsory courses for Bachelor level consist of the following additional six courses, apart from the courses already mentioned above for the diploma program.

- 1) FINA 411: Fundamentals of Corporate Finance
- 2) FINA 412: Insurance
- 3) FINA 413: Investment Management
- 4) FINA 414: Behavioral Finance
- 5) FINA 415: Personal Financial Planning
- 6) FINA 416: International Financial Management

##### **b) College General Electives**

As given in College Section 12.b.

#### 4.9. Plan of Study: Finance Major

Year I				
Term	Course	Title	Crs	Pre-req.
(1) Fall	BUSS 101	Principles of Management	3	FPE 103C
	BUSS 102	Principles of Financial Accounting	3	FPE 103C
	BUSS 103	Principles of Marketing	3	FPE 103C
	ENGL 101	Basic Academic English	3	FPE 103C
	MATH 103 B	Principles of Marketing	3	FPM 102 B
Total Credits			15	
(2) Spring	BUSS 104	Principles of Management Accounting	3	BUSS 102
	BUSS 105	Principles of Financial Management	3	BUSS 102
	BUSS 106	Business and Information Technology	3	BUSS 101 and FPT 102 B
	ENGL 102B	English for business I	3	ENGL 101
	FINA 221	Money and Capital Markets	3	BUSS 102
Total Credits			15	
Year II				
(3) Fall	ENGL 203B	English for business II	3	ENGL 102B
	BUSS 201	Principles of Microeconomics	3	BUSS 105
	FINA 222	Commercial Bank Management	3	FINA 221
	FINA 223	Financial services	3	FINA 221
	FINA 224	Islamic Finance	3	FINA 221
Total Credits			15	
(4) Spring	BUSS 203	Principles of Macroeconomics	3	BUSS 201
	BUSS 204	Business Law and Ethics	3	BUSS 201
	ENTR 200	Entrepreneurship - Innovation and creativity	3	ENGL 203B or ENGL 203
	FINA 225	Risk Management	3	FINA 221 and FINA 222
	FINA 226	Financial Analysis and Security Valuation	3	FINA 223 and FINA 224
	BUSS 200	Internship in Business ( Two Months)	0	8 weeks
Total Credits			15	
Diploma in Business Administration – Finance Major (60 Credits)				

Year III				
(5) Fall	BUSS 304	Quantitative Methods for Business	3	MATH 103B BUSS 203
	BUSS 306	Strategic Management	3	BUSS 203 or BUSS 204
	FINA 411	Fundamentals of Corporate Finance	3	FINA 225 and FINA 226
	FINA 412	Insurance	3	FINA 225 and FINA 226
	ARAB 101	Academic Writing in Arabic	3	More than 60 cr. hrs
Total Credits			15	
(6) Spring	BUSS 307	Statistics for Business	3	BUSS 304
	ENGL 204.	Advanced English for Academic Purposes and Research	3	ENGL 203B
	FINA 413	Investment Management	3	FINA 226 and BUSS 304
	FINA 414	Behavior Finance	3	FINA 411
		Skills for Life ( Elective)	3	More than 60 cr. hrs
Total Credits			15	
Year IV				
(7) Fall	BUSS 401	Research Methods	3	BUSS 307
	BUSS 312	e- Business	3	BUSS 306
	SOCS 102	Omani Society	3	More than 60 cr. hrs
	ENGL 305	Advanced English for Communication Skills	3	ENGL 204.
	FINA 415	Personal Financial Planning	3	FINA 413
Total Credits			15	
(8) Spring	BUSS 403	Business Environment	3	More than 60 cr. hrs
	BUSS 404	Final Year Project	3	BUSS 401
	FINA 416	International Financial Management	3	FINA 413
		College General Elective 1	3	More than 60 cr. hrs
		College General Elective 2	3	More than 60 cr. hrs
Total Credits			15	
Bachelor in Business Administration – Finance Major (120 Credits)				

#### 4.10. Course Description: Finance Major

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**FINA 221      Money and Capital Markets      (3 crs)**

The course covers the concept of the utility and importance of money and capital market for a country's financial system and the role they play in financial management and development of the financial system of the country. Topics covered are financial markets and their utility, the financial system and its constituents, Financial development in Oman, the role and impact of inflation on project decisions, the role of central bank in controlling the market, Features and functions of the money market, functions and features of the capital markets and their constituents and instrument used in both the markets. *Prerequisite: BUSS 102*

**FINA 222      Commercial Bank Management      (3 crs)**

This course aims to increase students' knowledge and skills concerning functions and operations of financial institutions as well as an outline of financial intermediaries with a focus of commercial banks and their management. The course concentrates on types of commercial banks and decision-making processes in such institutions. It also deals with regulatory and business environments surrounding such organizations, assessment and management of risks concerned with them, asset and liability management in banks, evaluation and management of portfolios and other financial instruments in banks, and understanding and analyzing capital adequacy ratio as a major indicator of banks' health. In a broad sense the course will cover following topics; financial statement analysis of banks, liquidity management, asset and liability management, measuring and analyzing profits, capital adequacy ratio and regulatory environment of banks, interest rates and their effects on banks' operations, and overall risk management of banks including external and internal factors. *Prerequisite: FINA 221*

**FINA 223      Financial Services      (3 crs)**

The course covers the available and important financial service in the world with special focus on the financial services and investment banking options available in Oman. The course is intended to give an understanding on the utilities of these services and the impact they make on the financial system. The course will help the students to have good understanding about insurance, mortgages market and the market for short-term loans, hire purchase and leasing, mutual funds, credit cards, bills of exchange, venture capital, depository and custodial services and micro financing services in Oman. *Prerequisite: FINA 221*

**FINA 224      Islamic Finance      (3 crs)**

This course has an objective of delivering fundamentals and principles of Islamic economics and finance. Besides, the course provides skills to understand and combine the concepts of classical Islamic financial instruments and modern Islamic banking and financial applications. Furthermore, it analyses and connects the Islamic Finance theory with recent improvements in contemporary economic and financial environment. Major issues to be discussed in the course are policy of financing, profit sharing, Islamic economic and financial institutions,

investment policies in Islamic economic system, models of Islamic banking, and fund management in Islamic Financial System *Prerequisite: FINA 221*

**FINA 225      Risk Management      (3 crs)**

The course emphasizes on facets of risk and its categories and enable students with the understanding of risk management process, various strategies in minimizing risk, notion of probability, risk, return and its measurement with a single stock and portfolio; credit risk, process of credit analysis and the credit rating agencies involved in credit rating of instruments *Prerequisite: FINA 221 & FINA 222*

**FINA 226      Financial Analysis and Security Valuation      (3 crs)**

This course explains how to analyze the financial securities based on tools of financial analysis. This course will cover various aspects such as financial market indicators and the efficiency of this market in achieving high rate of return in addition to analysis models of return and risk and analysis of financial statements based on recent indicators, valuation of stocks and bonds in both in micro and macro level, industry and company analysis and, technical analysis of stock valuation *Prerequisite: FINA 223 & FINA 224*

**FINA 411      Fundamental of Corporate Finance      (3 crs)**

This course explains the fundamentals of finance and covers advanced aspects in finance science such as the relationship between return and risk, interest rates models, capital cost and methods of capital budgeting including net present value and developed methods to discount cash flow (DCF), profitability index (PI) and internal rate of return (IRR). It also gives a detailed explanation of dividend theory and capital structure components. *Prerequisite: FINA 225 & FINA 226*

**FINA 412      Insurance      (3 crs)**

The objective of course is to make students familiar with different insurance contracts type, which includes insurance for life, insurance generally like insurance for fire, insurance for marine, insurance for vehicle, insurance for property and insurance for financial liabilities. This will lead to understand how they can manage the risks coming in their daily lives in an efficient way. The course familiarizes the reinsurance concepts also along with the usage of insurance schemes available in the market in a better and innovative manner. The particular course introduces the basics of insurance with the principles followed, interpretation of the policies, decisions taken on life insurance schemes, insurance for property, insurance for financial liabilities, insurance for health, tools to control risks, plans for retirement, schemes under annuities, calculation of insurance premiums and the legalities in insurance contracts. *Prerequisite: FINA 225 & FINA 226*

**FINA 413      Investment Management      (3 crs)**

The course of investment management prepares finance students in many aspects, including analysis of all information related to investment, estimating the return and risk of investment, as well as understanding the basic principles in building the investment portfolio. The core of this course deals with important topics in finance such as financial securities, the concept of tradeoff between return and risk, the capital asset pricing model, mechanisms of stock price behaviors under the assumptions of efficiency of financial markets. The practical

side of this course will deal with stocks, bonds and investment funds in the financial markets, in addition to financial derivatives such as futures contracts and option contracts. This course will give special importance to understanding the mechanism of work in the financial markets, investment policies, methods of valuation of financial securities, in addition to some important techniques in the methods of choosing the investment in financial securities. *Prerequisite: FINA 226 & BUSS 304*

**FINA 414      Behavior Finance      (3 crs)**

This course covers the micro-foundations of investor behavior keeping into the consideration of behavioral biases, as well as the resulting macro implications for financial markets. These ideas are applicable in the realms of financial products and services design, asset management, and corporate finance. At the end of the course the students will be able to identify the behavioral biases among the financial market players. *Prerequisite: FINA 411*

**FINA 415      Personal Financial Planning      (3 crs)**

The course gives the students majoring in Finance essential knowledge of personal finance. This will help to attain financial literacy related to personal Income statement, personal balance sheets, the use of loan and purchasing decisions. This will result in becoming financially independent and individuals can acquire assets and generate income even after their retirement. Students will also critically examine problems and solutions to personal finances. *Prerequisite: FINA 413*

**FINA 416      International Financial Management      (3 crs)**

The course intends to equip students with understanding of the global corporate finances. Globalization and integration requires managers to be well versed with the various aspects cross border financial transactions such as currency exchange and risk management strategies. Economic theories of parity and exchange rate determination are discussed. Numerical related to exchange rate, triangular arbitrage and forex risk management are also discussed *Prerequisite: FINA 413*

# Department of Management

## 1. Personnel

Chairperson:	Rabia Imran
Associate Professors:	Rabia Imran, Omar Durrah
Assistant Professors:	Tariq Mohamed Saleh Atya, Ahmed Taha Kahwaji, Moaz Nagib Gharib, Mohamed Ahmed Hamdoun, Mohammed Wamique Hisam, Mariam Anil, Muhammad Salman Shabbir, Shikha Sahai
Lecturers	Khayar Al Ansi; Mohammed Osman Eltigani

## 2. Mission

To provide management knowledge and skills in an open learning environment that has benefit for the community at large. Faculty members strive to excel in teaching in a student-centered environment, supported by research and service contributing to the professional and academic communities at the national level and beyond.

## 3. Programs Offered

The department offers following Diploma and Bachelor programs and also two Master programs:

### a) Diploma Programs

- 1) Diploma in Business Administration - Management

### b) Bachelor Programs

- 1) Bachelor of Arts in Business Administration - Management

### c) Master Programs

- 1) Master in Business Administration (MBA)
- 2) Master of Arts in Management (MA in Management)

(Details of Master Programs are given in Graduate Studies Catalogue)

## 4. Management Major (Bachelor and Diploma)

### 4.1. Program Overview

Bachelor of Arts (B.A.) in Business Administration with Management major is a four-year program encompassing 120 credit hours. As part of their fourth year, students are required to carry out a Final year Project and submit a report.

Diploma in Business Administration in Management major consists of the first two years of Bachelor program encompassing 60 credit hours.

In addition, in both programs, after completing the second year (45 credits), students are required to undergo Internship Training for a period of eight weeks.



## **4.2. Program Objectives**

As given in College Section 6.

## **4.3. Program Learning Outcomes**

As given in College Section 7.

## **4.4. Admission Requirements**

As given in College Section 8.a

## **4.5. Graduation Requirements**

As given in College Section 9.

## **4.6. University Requirements**

As given in College Section 10.

## **4.7. College Requirements**

As given in College Section 11.

## **4.8. Program Requirements**

The Program requirements for Management major are as follows:

### **a) Major Compulsory Courses**

#### **I) Diploma level**

- 1) MNGT 221: Organizational Behavior
- 2) MNGT 222: Human Resource Management
- 3) MNGT 223: Operations Management
- 4) MNGT 224: International Management
- 5) MNGT 225: Leadership for Results
- 6) MNGT 226: Total Quality Management

#### **II) Bachelor level**

The major compulsory courses for Bachelor level consist of the following additional six courses, apart from the courses already mentioned above for the diploma program.

- 1) MNGT 411: Corporate Social Responsibility
- 2) MNGT 412: Training and Development
- 3) MNGT 413: Organizational Change & Development
- 4) MNGT 414: Operational Research
- 5) MNGT 415: Project Management
- 6) MNGT 416: Special Topics in Management

### **b) College General Electives**

As given in College Section 12.b.

#### 4.9. Plan of Study: Management Major

Year I				
Term	Course	Title	Crs	Pre-req.
(1) Fall	BUSS 101	Principles of Management	3	FPE 103C
	BUSS 102	Principles of Financial Accounting	3	FPE 103C
	BUSS 103	Principles of Marketing	3	FPE 103C
	ENGL 101	Basic Academic English	3	FPE 103C
	MATH 103B	Mathematics for Business	3	FPM 102B
Total Credits			15	
(2) Spring	BUSS 104	Principles of Management Accounting	3	BUSS 102
	BUSS 105	Principles of Financial Management	3	BUSS 102
	BUSS 106	Business Information Technology	3	BUSS 101 and FPT 102B
	ENGL 102B	English for Business I	3	ENGL 101
	MNGT 221	Organizational Behavior	3	BUSS 101
Total Credits			15	
Year II				
(3) Fall	BUSS 201	Principles of Microeconomics	3	BUSS 105
	ENGL 203B	English for Business II	3	ENGL 102B
	MNGT 222	Human Resources Management	3	MNGT 221
	MNGT 223	Operations Management	3	MNGT 221
	MNGT 224	International Management	3	MNGT 221
Total Credits			15	
(4) Spring	BUSS 203	Principles of Macroeconomics	3	BUSS 201
	BUSS 204	Business Law and Ethics	3	BUSS 201
	ENTR 200	Entrepreneurship - Innovation & Creativity	3	ENGL 203B or ENGL203
	MNGT 225	Leadership for Results	3	MNGT221 and MNGT 222
	MNGT 226	Total Quality Management	3	MNGT 223 and MNGT224
Total Credits			15	
Summer	BUSS 200	Internship in Business (Two Months)	0	8 Weeks
Diploma in Business Administration – Management Major (120 Credits)				

Year III				
(5) Fall	BUSS 304	Quantitative Methods in Business	3	MATH 103B and BUSS 203
	BUSS 306	Strategic Management	3	BUSS 203 or BUSS204
	MNGT 411	Corporate Social Responsibility	3	BUSS 204 and MNGT 226
	MNGT 412	Training and Development	3	MNGT 225 and MNGT226
	ARAB 101	Academic Writing in Arabic	3	More than 60 cr. hrs.
Total Credits			15	
(6) Spring	BUSS 307	Statistics for Business	3	BUSS 304
	ENGL 204.	Advanced English for Academic Purposes and Research	3	ENGL 203B
	MNGT 413	Organizational Change and Development	3	MNGT 225 and MNGT226
	MNGT 414	Operation Research	3	BUSS 304
		Skills for Life (Elective)	3	More than 60 cr. hrs.
Total Credits			15	
Year IV				
(7) Fall	BUSS 401	Research Methods	3	BUSS 307
	BUSS 312	e-Business	3	BUSS 306
	SOCS 102	Omani Society	3	More than 60 cr. hrs.
	ENGL 305	Advanced English Language and Communication Skills	3	ENGL 204.
	MNGT 415	Project Management	3	BUSS 307 and MNGT414
Total Credits			15	
(8) Spring	BUSS 403	Business Environment	3	More than 90 cr. hrs.
	BUSS 404	Final year Project	3	BUSS 401
	MNGT 416	Special Topics in Business	3	MNGT 413
		College General Elective 1	3	More than 90 cr. hrs.
		College General Elective 2	3	More than 90 cr. hrs.
Total Credits			15	
Bachelor in Business Administration – Management Major (120 Credits)				

## 4.10. Course Description: Management Major

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### **MNGT 221     Organizational Behavior     (3 crs)**

The aim of this course is to provide the students with the essential ideas of behavioral dynamics in organizations at individual and group levels and their effects on organizational performance. It covers basic principles of organizational behavior (OB) and their applications in various situations within business organizations. Some of the topics include core concepts of organizational behavior concerning the foundations of individual behavior and group behavior in organizations. *Prerequisite: BUSS 101*

### **MNGT 222     Human Resource Management     (3 crs)**

The aim of this course is to develop an understanding of the basic ideas and practices in the area of human resource management. It gives an introduction to the practice used to manage personnel needs within any organization. The course covers introduction to the process of job analysis and personnel planning along with the techniques related to recruitment, selection, training, performance management and career planning. *Prerequisite: MNGT 221*

### **MNGT 223     Operations Management     (3 crs)**

This course is tailored to give the students an insight into the basics of operations management function in manufacturing and service organizations. The course seeks to develop an operational orientation in order to highlight the competitive edge which operations function gives to an organization. The course coverage includes topics such as production/process management and control, facility location and layout planning, aggregate planning, Inventory management, quality control, Just in Time (JIT) systems, Material Requirement Planning (MRP), etc. *Pre-requisite: MNGT 221*

### **MNGT 224     International Management     (3 crs)**

This course aims at understanding management function with an international perspective. It seeks to understand management challenges of the firms involved in international business operations. The course comprises understanding the global political, legal, economic and technological environment, communicating across cultures, global strategy, international human resource management, negotiations, decision making at an international level and the contemporary issues. *Pre-requisite: MNGT 221*

### **MNGT 225     Leadership for Results     (3 crs)**

Leadership for results is equipping students with knowledge and skills essential for leading or facilitating tasks among individuals, groups, and/or organizations. The students are familiarized with the concepts of leadership, its difference with management and established theories. The basic knowledge about developing and sustaining influence, power and skills required for managing the complex environment within an organization is also delivered. This course aims at providing a guideline for students to develop their personality as a leader along with the capability of stimulating human resources and building teams. *Pre-requisite: MNGT 221 and MNGT 222*

**MNGT 226      Total Quality Management      (3 crs)**

This course will develop student's understanding of the concept of quality, its principles, benefits, ideas of major quality scholars and theorists, the use of quality tools, challenges of quality program implementation in actual business situations. This course will enrich the students understanding of the TQM philosophies, quality models, and to know how to implement the key principles and concepts of the Total Quality Management (TQM). This course will help the students to be able to assess and measures the success of these strategies. Specific topics include TQM perspective, TQM Principles and Strategies, the ISO standards, TQM tools and Quality Systems. *Pre-requisite: MNGT 223 and MNGT 224*

**MNGT 411      Corporate Social Responsibility      (3 crs)**

This course provides an overview of the trends in corporate social responsibility including social, economic and environmental factors. This course will include consideration of corporate stakeholders, corporate citizenship, and sustainable development and community-employee relationships. *Pre-requisite: BUSS 204 and MNGT 226*

**MNGT 412      Training and Development      (3 crs)**

This course aims at familiarizing students with the process of training and development within organizations. A variety of approaches used for instruction and learning along with their practical applications are focused in the course. The course will develop an understanding of conducting need analysis, design training program, deliver and evaluate it. Moreover, the course will cover training technique, transfer of training, recent trends in training and the skills required to deliver a training program. *Pre-requisite: MNGT 225 and MNGT 226*

**MNGT 413      Organizational Change and Development      (3 crs)**

In today's competitive environment business organizations should constantly develop themselves, be creative and innovate to be responsive to change. This course will focus on theories and methods of introducing, bringing and implementing change in organizations. Moreover, the concepts of leading change and technological advancements, human resources and developmental aspects needed to bring about change would also be part of this course. *Pre-requisite: MNGT 225 and MNGT 226*

**MNGT 414      Operations Research      (3 crs)**

The aim of this course is to introduce the decision making process. It provides an introduction to the basic techniques of Operations Research and their applications. During the course of study the students will go through the range of problems and applications that can be dealt with using Operations Research techniques. Topics include in this course are linear, transportation and assignment problems, game theory, inventory models, queuing models using MS Excel Solver. *Pre-requisite: BUSS 304*

**MNGT 415      Project Management      (3 crs)**

This course concentrates on the skills required for managing general projects. It covers the entire project management process including initiation, planning, implementation and termination of the project. The course will cover the topics

including project selection, life cycle, and different types of project organizations, critical path method, work breakdown structure, PERT analysis, risk management and feasibility study of the project. *Pre-requisite: BUSS 307 and MNGT 414*

**MNGT 416      Special Topics in Business      (3 crs)**

This course focuses on emerging and interesting topics in the field of management. The goal of the course is to examine current topics related to the field of management that are not the part of text books but are yet important in the current scenario. The course will take hand on hand approach in learning about management concepts and thinking about the issues associated with it. The topics/readings/projects covered in the course will vary with the subject or interest area of the student. *Pre-requisite: MNGT 413*

# Department of Marketing and Entrepreneurship

## 1. Personnel

Chairperson:	Shouvik Sanyal
Associate Professor	Suhail Mohammad Ghouse
Assistant Professors:	Shouvik Sanyal; Mohammed Bait Ali Sulaiman, Kamaal Allil
Lecturers	Ali Ba Awain
Secretary	Kamila Said Ali Al Shahri

## 2. Mission

To provide our students with a sound understanding of various functional areas of marketing and entrepreneurship through innovative programs that integrate theory with practical experience. Our research oriented faculty members through their professional and community engagements add value to students' knowledge and skills and enable them to contribute to society at the national level and beyond.

## 3. Programs Offered

The department offers following Diploma program in one major and Bachelor programs in two majors:

### a) Diploma Programs

- 1) Diploma in Business Administration – Marketing

### b) Bachelor Programs

- 1) Bachelor of Arts in Business Administration – Marketing
- 2) Bachelor of Science in Logistics and Supply Chain Management

## 4. Marketing Major (Bachelor and Diploma)

### 4.1. Program Overview

Bachelor of Arts (B.A.) in Business Administration with Marketing major is a four-year program encompassing 120 credit hours. As part of their fourth year, students are required to carry out a Final year Project and submit a report.

Diploma in Business Administration in Marketing major consists of the first two years of Bachelor program encompassing 60 credit hours.

In addition, in both programs, after completing the second year (45 credits), students are required to undergo Internship Training for a period of eight weeks.

### 4.2. Program Objectives

As given in College Section 6.

### **4.3. Program Learning Outcomes**

As given in College Section 7.

### **4.4. Admission Requirements**

As given in College Section 8.a

### **4.5. Graduation Requirements**

As given in College Section 9.

### **4.6. University Requirements**

As given in College Section 10.

### **4.7. College Requirements**

As given in College Section 11.

### **4.8. Program Requirements**

The Program requirements for Marketing major are as follows:

#### **c) Major Compulsory Courses**

##### **I) Diploma level**

- 1) MKTG 221: Consumer Behavior
- 2) MKTG 222: Fundamentals of Logistics and Supply Chain Management
- 3) MKTG 223: Service Marketing
- 4) MKTG 224: Customer Relationship Management
- 5) MKTG 225: Sales Management
- 6) MKTG 226: Retail Management

##### **II) Bachelor level**

The major compulsory courses for Bachelor level consist of the following additional Six courses, apart from the courses already mentioned above for the diploma program.

- 1) MKTG 411: Marketing Communication
- 2) MKTG 412: Brand Management
- 3) MKTG 413: e- Marketing
- 4) MKTG 414: International Marketing
- 5) MKTG 415: Marketing Research
- 6) MKTG 416: Special Topics in Marketing

#### **d) College General Electives**

As given in College Section 12.b.



#### 4.9. Plan of Study: Marketing Major

Year I				
Term	Course	Title	Crs	Pre-req.
(1) Fall	BUSS 101	Principles of Management	3	FPE 103C
	BUSS 102	Principles of Financial Accounting	3	FPE 103C
	BUSS 103	Principles of Marketing	3	FPE 103 C
	ENGL 101	Basic Academic English	3	FPE 103 C
	MATH 103B	Mathematics for Business	3	FPM 102B
Total Credits			15	
(2) Spring	BUSS 104	Principles of Management Accounting	3	BUSS 102
	BUSS 105	Principles of Financial Management	3	BUSS 102
	BUSS 106	Business and Information Technology	3	BUSS 101 and FPT 102B
	ENGL 102B	English for Business I	3	ENGL 101
	MKTG 221	Consumer Behaviour	3	BUSS 103
Total Credits			15	
Year II				
(3) Fall	ENGL 203B	English for business II	3	ENGL 102 B
	BUSS 201	Principles of Microeconomics	3	BUSS 105
	MKTG 222	Fundamentals of Logistics and SCM	3	MKTG 221
	MKTG 223	Service Marketing	3	MKTG 221
	MKTG 224	Customer Relationship Management	3	MKTG 221
Total Credits			15	
(4) Spring	BUSS 203	Principles of Macroeconomics	3	BUSS 201
	BUSS 204	Business Law and Ethics	3	BUSS 201
	ENTR 200	Entrepreneurship - Innovation and creativity	3	ENGL 203Bor ENGL 203
	MKTG 225	Sales Management	3	MKTG 221 and MKTG 222
	MKTG 226	Retail Management	3	MKTG 221 and MKTG 222
Summer	BUSS 200	Internship in Business ( Two Months)	0	8 weeks
Total Credits			15	
Diploma in Business Administration – Marketing Major (60 Credits)				

Year III				
(5) Fall	BUSS 304	Quantitative Methods for Business	3	MATH 103B and BUSS 203
	BUSS 306	Strategic Management	3	BUSS 203 or BUSS 204
	MKTG 411	Marketing Communication	3	MKTG221 and MKTG 223
	MKTG 412	Brand Management	3	MKTG 226
	ARAB 101	Academic Writing in Arabic	3	More than 60 cr.hrs
Total Credits			15	
(6) Spring	BUSS 307	Statistics for Business	3	BUSS 304
	ENGL 204	Advanced English for Academic Purposes and Research	3	ENGL 203B
	MKTG 413	e- Marketing	3	MKTG 411
	MKTG 414	International Marketing	3	MKTG 411
		Skills for Life ( Elective)	3	More than 60 cr.hrs
Total Credits			15	
Year IV				
(7) Fall	BUSS 401	Research Methods	3	BUSS 307
	BUSS 312	e-Business	3	BUSS 306
	SOCS 102	Omani Society	3	More than 60 cr.hrs
	ENGL 305	Advanced English language and communication skills	3	ENGL 204
	MKTG 415	Marketing Research	3	BUSS 401
Total Credits			15	
(8) Spring	BUSS 403	Business Environment	3	More than 90 cr.hrs
	BUSS 404	Final Year Project	3	BUSS 401
	MKTG 416	Special Topics in Marketing	3	MKTG 413
		College General Elective I	3	More than 90 cr.hrs
		College General Elective 2	3	More than 90 cr.hrs
Total Credits			15	
Bachelor in Business Administration – Marketing Major (120 Credits)				

## 4.10. Course Description: Marketing Major

### **MKTG 221      Consumer Behavior      (3 crs)**

This course seeks to study marketing in the light of psychology, sociology and other relevant social sciences in order to understand consumer motivations for products and services purchases. The course demonstrates the utility of behavioral sciences to develop new products/services and communication programs. This course aims at explaining the consumers buying process, and internal and cultural factors that affect consumer buying decisions. *Pre-requisite: BUSS 103.*

### **MKTG 222      Fundamentals of Logistics and SCM      (3 crs)**

This course is an introductory course aim to equip students with the basic knowledge of logistic and supply chain management activities. The course will cover various topics such as distribution, material handling, inventory management, order fulfilment, purchasing, quality and capacity management. *Prerequisite: MKTG 221*

### **MKTG 223      Service Marketing      (3 crs)**

This course aims to provide the students the ability to distinguish the difference between services and goods. This course illustrates the consumer behavior in service, how to developing service concepts, the employees' roles in service delivery and how to recover service. *Prerequisite: MKTG 221*

### **MKTG 224      Customer Relationship Management      (3 crs)**

This course is designed to provide the students with an understanding of the foundations of the concept of Customer Relationship Management. The course lays a greater emphasis on CRM in the area of services marketing. The course coverage includes marketing and globalization, importance of sales customer interface, managing customer experience, managing customer relationships, managing service delivery environment and importance of information technology in CRM, developing and distributing services and products using physical and electronic channels, pricing and promotion of services with a special reference to CRM. *Pre-requisite: MKTG 221*

### **MKTG 225      Sales Management      (3 crs)**

This course introduces the concepts and techniques of professional selling and sales force management. The course illustrates the steps in effective selling process and seeks to prepare the students for planning effective sales programs, organizing the sales function and managing the sales force in terms of recruitment, training and motivating the sales force. *Pre-requisite: MKTG 221 & MKTG 212.*

### **MKTG 226      Retail Management      (3 crs)**

This course develops an understanding of the key issues and challenges that retailer must resolve while establishing, managing, or expanding a retail store. It covers topics related to classification of retail stores, franchising, retail location, retail store design, visual merchandising and merchandise planning.

*Pre-requisite: MKTG 223 & MKTG 224.*

### **MKTG 411      Marketing Communication      (3 crs)**

The course provides an overview of the process of planning, executing and evaluating the objectives of the integrated marketing communications. The course is developed in accordance with the different elements of the promotion mix and cultivates an understanding in the students about the concepts and use of the elements of the promotion mix to develop effective promotional strategies and programs. The course will be offered through the lectures and case studies based on successful promotional programs will be discussed to develop critical thinking in the students. *Pre-requisite: MKTG 221 & MKTG 223.*

**MKTG 412      Brand Management      (3 crs)**

This course introduces the concept and practices of brand management. Particular emphasis is placed on how to build strong brands and maximize the value of existing brands. The course illustrates also brand elements, brand equity, brand creation, and brand extensions. *Pre-requisite: MKTG 226*

**MKTG 413      e-Marketing      (3 crs)**

The course covers concepts and techniques followed by prominent companies while developing e-marketing strategies. This course examines how electronic devices such as the Internet, mobile phones, and other electronic devices are used for marketing purposes. The course also discusses topics related to e-customers, e-marketplaces, and e-tailing. *Pre-requisite: MKTG 411*

**MKTG 414      International Marketing      (3 crs)**

The course develops an understanding about the marketing issues involved in a global marketing environment incorporating the role of different factors like political, legal, cultural, demographic, technological as well as the role of multilateral institutions in the process of international marketing planning and decision making. The role of international marketing managers in developing, managing and executing the international marketing mix is discussed. The course is taught through the lecture mode and case studies in various contexts of international marketing are discussed to develop analytical thinking about the course. *Pre-requisite: MKTG 411*

**MKTG 415      Marketing Research      (3 crs)**

The course is aimed at appreciating the significance of marketing research in providing meaningful insights into the areas related to marketing management. The course seeks to create an understanding of the types of research and research designs, the research process and research report writing. The course aims at building a practical understanding of methods of data collection and appropriate techniques for data analysis. It seeks to appreciate the relevance of research for effective decisions in marketing. *Pre-requisite: BUSS 401*

**MKTG 416      Special Topics in Marketing      (3 crs)**

The course is designed to build a broad understanding of the latest developments taking place in the field of marketing. The course aims to develop a theoretical base as well as a practical orientation towards marketing management. The course also seeks to appreciate and understand the relevant marketing environment and trends for effective decision making. *Pre-requisite: BUSS 413*

## **4 B.Sc. in Logistics and Supply Chain Management**

### **4.1. Program Overview**

Bachelor of Science in Logistics and Supply Chain Management is a four-year program encompassing 120 credit hours. As part of the second year, students are required to undergo Internship Training for a period of eight weeks. In addition, in the fourth year students are required to carry out a Final year Project and submit a report.

### **4.2. Program Objectives**

As given in College Section 6.

### **4.3. Program Learning Outcomes**

As given in College Section 7.

### **4.4. Admission Requirements**

As given in College Section 8.a

### **4.5. Graduation Requirements**

As given in College Section 9.

### **4.6. University Requirements**

As given in College Section 10.

### **4.7. College Requirements**

As given in College Section 11.

### **4.8. Program Requirements**

The Program requirements for BSc in Logistics and SCM are as follows:

#### **A) Major Compulsory Courses**

- 1) LSCM 221: Fundamentals of Logistics and Supply Chain Management
- 2) LSCM 222: Purchasing and Supply Management
- 3) LSCM 223: Freight and Transport Management
- 4) LSCM 224: Export – Import Procedures and Documentation
- 5) LSCM 225: Warehousing and Inventory Management
- 6) LSCM 226: Operations Management in Supply Chains
- 7) LSCM 411: Supply Chain Strategies and Processes
- 8) LSCM 412: Global Logistics and Supply Chain Management
- 9) LSCM 413: Retail and Service Logistics
- 10) LSCM 414: Air Cargo Management
- 11) LSCM 415: Shipping Logistics Management
- 12) LSCM 416: Special Topics in Supply Chain Management

#### **B) College General Electives**

As given in College Section 12.b.

#### 4.9. Plan of Study: B.Sc. in Logistics and Supply Chain Management

Year I				
Term	Course	Title	Crs	Pre-req.
(1) Fall	BUSS 101	Principles of Management	3	FPE 103C
	BUSS 102	Principles of Financial Accounting	3	FPE 103C
	BUSS 103	Principles of Marketing	3	FPE 103 C
	ENGL 101	Basic Academic English	3	FPE 103 C
	MATH 103B	Mathematics for Business	3	FPM 102B
Total Credits			15	
(2) Spring	BUSS 104	Principles of Management Accounting	3	BUSS 102
	BUSS 105	Principles of Financial Management	3	BUSS 102
	BUSS 106	Business and Information Technology	3	BUSS 101 and FPT 102B
	ENGL 102B	English for Business I	3	ENGL 101
	LSCM 221	Fundamentals of Logistics and Supply Chain Management	3	BUSS 101
Total Credits			15	
Year II				
(3) Fall	ENGL 203B	English for business II	3	ENGL 102 B
	BUSS 201	Principles of Microeconomics	3	BUSS 105
	LSCM 222	Purchasing and Supply Management	3	LSCM 221
	LSCM 223	Freight and Transport Management	3	LSCM 221
	LSCM 224	Export- Import procedures and Documentation	3	LSCM 221
Total Credits			15	
(4) Spring	BUSS 203	Principles of Macroeconomics	3	BUSS 201
	BUSS 204	Business Law and Ethics	3	BUSS 201
	ENTR 200	Entrepreneurship - Innovation and creativity	3	ENGL 203Bor ENGL 203
	LSCM 225	Warehousing and Inventory Management	3	LSCM 221 & LSCM 222
	LSCM 226	Operations Management in Supply Chains	3	LSCM 221 & LSCM 222
Total Credits			15	
Summer	BUSS200	Internship in Business ( Two Months)	0	8 weeks

Year III				
(5) Fall	BUSS 304	Quantitative Methods for Business	3	MATH 103B and BUSS 203
	BUSS 306	Strategic Management	3	BUSS 203 or BUSS 204
	LSCM 411	Supply Chain Strategies and Processes	3	LSCM 225 & LSCM 226
	LSCM 412	Global Logistics and Supply Chain Management	3	LSCM 225 & LSCM 226
	ARAB 101	Academic Writing in Arabic	3	More than 60 cr.hrs
Total Credits			15	
(6) Spring	BUSS 307	Statistics for Business	3	BUSS 304
	ENGL 204	Advanced English for Academic Purposes and Research	3	ENGL 203B
	LSCM 413	Retail and Service Logistics	3	LSCM 411
	LSCM 414	Air Cargo Management	3	LSCM 411
		Skills for Life ( Elective)	3	More than 60 cr.hrs
Total Credits			15	
Year IV				
(7) Fall	BUSS 401	Research Methods	3	BUSS 307
	BUSS 312	e-Business	3	BUSS 306
	SOCS 102	Omani Society	3	More than 60 cr.hrs
	ENGL 305	Advanced English language and communication skills	3	ENGL 204
	LSCM 415	Shipping Logistics Management	3	LSCM 413
Total Credits			15	
(8) Spring	BUSS 403	Business Environment	3	More than 90 cr.hrs
	BUSS 404	Final Year Project	3	BUSS 401
	LSCM 416	Special Topics in Supply Chain Management	3	LSCM 413
		College General Elective I	3	More than 90 cr.hrs
		College General Elective 2	3	More than 90 cr.hrs
Total Credits			15	
Bachelor in Logistics and Supply Chain Management ( 120 Credits)				

#### **4.10. Course Description: B.SC in Logistics and Supply Chain Management**

##### **LSCM 221 Fundamentals of Logistics and Supply Chain Management (3 crs)**

This course is an introductory course aim to equip students with the basic knowledge of logistic and supply chain management activities. The course will cover various topics such as distribution, material handling, inventory management, order fulfilment, purchasing, quality and capacity management.

*Prerequisite: BUSS 101*

##### **LSCM 222 Purchasing and Supply Management (3 crs)**

This course addresses the role of procurement within an organization's overall supply chain. It highlights the concepts and models in Purchasing Management, with special emphases on purchasing strategy, strategic sourcing, negotiations, contract development, supplier identification and evaluation, and materials management. *Prerequisite: LSCM 221*

##### **LSCM 223 Freight and Transport Management (3 crs)**

This course addresses how to plan and control freight and transport operations and practices in supply chain with special emphasis on road, sea and air freight transport. This course will also cover topics such as shipping documentation and procedures, and multi modal transport systems. *Prerequisite: LSCM 221*

##### **LSCM 224 Export – Import Procedures and Documentation (3 crs)**

The course provides information related to the procedures and the documentation involved in export and import process and develops a knowledge based approach in students to handle the documentary procedures in international business. The topics to be discussed in the course includes EXIM related documentary Information-Letter of Credit (L/C), Incoterms, Packing-List, Shipping Documents, Performa Invoice, Customs Clearance Documents, Bank Documents, Duty Drawback, etc. required in processing an EXIM order.

*Prerequisite: LSCM 221*

##### **LSCM 225 Warehousing and Inventory Management (3 crs)**

This course discusses the basic principles of warehousing and inventory management and their importance in the supply chain. Topics to be discussed include types of warehouse space, warehouse storage modes, policies and procedures of warehouse operations, selecting and setting up a warehouse and determining storage requirements and warehouse preparation planning. Students will also learn about inventory management methods like EOQ and ABC, stock control, technology for tracking inventory like RFID and inventory control techniques. *Prerequisite: LSCM 221 and LSCM 222*

##### **LSCM 226 Operations Management in Supply Chains (3 crs)**

This course lays emphasis on the simple concepts, issues and practices for effective and efficient operations related to supply chain management. Subject matter includes a wide range of topics like capacity planning, Inventory control, TQM, productivity and economies of scale, push vs Pull strategy, supply chain management, etc. *Prerequisites: LSCM 221 and LSCM 222*



**LSCM 411      Supply Chain Strategies and Processes      (3 crs)**

This course will discuss the fundamentals and implementation of SCM, and investigate it in various sectors and perspectives, from B2C to B2B services. This subject also focuses on analyzing operations strategy & supply chain problems and develops skills for balanced technical arguments relating to problem solving, by understanding the current condition of organizational and inter-organizational context of professional SCM. Given the strategic focus, students shall concentrate on strategic decision making including investments in profitable sectors, process configurations, product designs, and partnership development with valuable suppliers and channels. *Prerequisites: LSCM 221 and LSCM 222*

**LSCM 412      Global Logistics and Supply Chain Management      (3 crs)**

The course is designed to equip the students with essential knowledge, information and the required skill set which enables them to critically analyze the concepts of global logistics & supply chain and implement them in the form of business models and approaches to deal with the various issues related to global logistics and supply chain management. The elements of the course integrate the scope and application of global logistics and supply chain management in the international public, private and voluntary sector business organizations. *Prerequisite: LSCM 225 and LSCM 226*

**LSCM 413      Retail and Service Logistics      (3 crs)**

This course seeks to integrate and apply the concepts of retail based supply chains for an effective and efficient logistics management. The emphasis of this course is on value added logistics in retail and service organizations. The students shall try to develop a problem solving approach in this subject area. *Prerequisite: LSCM 411*

**LSCM 414      Air Cargo Management      (3 crs)**

This study includes aiming to provide fundamental knowledge of air transport procedures and prepare students with a comprehensive concept with the latest developments in the air transportation industry. This course covers organizational topics International principles and policies / air transport operating regulations: international conventions, Anti-trust laws, Air Service Agreements, Strategic Alliances, and the roles / responsibilities of operators, shipping companies and connecting groups. The course also focuses on handling equipment and aircraft characteristics for air operations. *Prerequisite: LSCM 411*

**LSCM 415      Shipping Logistics Management      (3 crs)**

This course deals with the various issues in shipping logistics and operations such as types and designs of ships, maritime geography and current developments in the shipping industry. Specific topics that are covered include basic ship design, construction and layout, vessel operations, cargo types and cargo operations, voyage planning, types of shipping, maritime conventions, customs and quarantine. *Prerequisite: LSCM 413*

**MKTG 416      Special Topics in Supply Chain Management      (3 crs)**

This subject offers various advanced topics in integrated logistics and management of supply chain. This course includes topics such as strategic procurement and sourcing, dynamic pricing and tactics of management revenue, supply chain risk mitigation through supply contracts, outsourcing of functions and supply chain operations, management and operations of third-party logistics providers and security of management of supply chain. *Prerequisite: LSCM 413*

## Department of Management Information Systems

### 1. Personnel

Chairperson	Mansour Naser ALraja
Associate Professor	Mansour Naser ALraja
Assistant Professors	Tareq Al Housary; Mohammed Yousoof Ismail; Mohammed Aref Abdul Rasheed; Samir Hammami; Mohammed Ahmar Khan; Murtaza Farooque
Secretary	Musallam Mohammed AL Amri

### 2. Mission

To provide quality knowledge and skills on information systems and technology in an open learning environment, fostering research in the field of management information systems and nurturing leaders who are capable of using technology in business and contributing to Omani society and beyond.

### 3. Programs Offered

The department offers following Diploma and Bachelor programs in MIS major:

#### a) Diploma Program

- 1) Diploma in Business Administration - Management Information System

#### b) Bachelor Program

- 1) Bachelor of Arts in Business Administration - Management Information System

## 4. MIS Major (Bachelor and Diploma)

### 4.1. Program Overview

Bachelor of Arts (B.A.) in Business Administration with Management Information System (MIS) major is a four-year program encompassing 120 credit hours. As part of their fourth year, students are required to carry out a Final year Project and submit a report.

Diploma in Business Administration in Management Information System (MIS) major consists of the first two years of Bachelor program encompassing 60 credit hours.

In addition, in both programs, after completing the second year (45 credits), students are required to undergo Internship Training for a period of eight weeks.

### 4.2. Program Objectives

As given in College Section 6.

### **4.3. Program Learning Outcomes**

As given in College Section 7.

### **4.4. Admission Requirements**

As given in College Section 8.a.

### **4.5. Graduation Requirements**

As given in College Section 9.

### **4.6. University Requirements**

As given in College Section 10.

### **4.7. College Requirements**

As given in College Section 11.

### **4.8. Program Requirements**

The Program requirements for MIS major are as follows:

#### **a) Major Compulsory Courses**

##### **I) Diploma level**

- 1) MISS 221: Introduction to Information Systems
- 2) MISS 222: Business Programming
- 3) MISS 233: Systems Analysis and Design
- 4) MISS 224: Introduction to Data & Information Management
- 5) MISS 225: Web Application Development
- 6) MISS 226: Enterprise Systems

##### **II) Bachelor level**

The major compulsory requirements for Bachelor level consist of the following additional six courses, apart from the courses already mentioned above for the diploma program.

- 1) MISS 411: e-Government
- 2) MISS 412: Database Analysis & Design
- 3) MISS 413: Business Data Communication and Network
- 4) MISS 414: Business Intelligence
- 5) MISS 415: Information System Auditing
- 6) MISS 416: IS Project Management

#### **b) College General Electives**

As given in College Section 12.b

#### 4.9. Plan of Study: MIS Major

Year I				
Term	Course	Title	Crs	Pre-req.
(1) Fall	BUSS 101	Principles of Management	3	FPE 103C
	BUSS 102	Principles of Financial Accounting	3	FPE 103C
	BUSS 103	Principles of Marketing	3	FPE 103C
	ENGL 101	Basic Academic English	3	FPE 103C
	MATH 103B	Mathematics for Business	3	FPM 102B
Total Credits			15	
(2) Spring	BUSS 104	Principles of Management Accounting	3	BUSS 102
	BUSS 105	Principles of Financial Management	3	BUSS 102
	BUSS 106	Business Information Technology	3	BUSS101 and FPT 102B
	ENGL 102B	English for Business I	3	ENGL 101
	MISS 221	Introduction to Information Systems	3	FPT 102B and BUSS 101
Total Credits			15	
Year II				
(3) Fall	ENGL 203B	English for Business II	3	ENGL 102B
	BUSS 201	Principles of Microeconomics	3	BUSS 105
	MISS 222	Business Programming	3	BUSS 106
	MISS 223	Systems Analysis and Design	3	MISS221
	MISS 224	Introduction to Data & Information Management	3	MISS 221and BUSS106
Total Credits			15	
(4) Spring	BUSS 203	Principles of Macroeconomics	3	BUSS 201
	BUSS 204	Business Law and Ethics	3	BUSS 201
	ENTR 200	Entrepreneurship - Innovation & Creativity	3	ENGL 203B or ENGL203
	MISS 225	Web Application Development	3	MISS 221 and MISS 222
	MISS 226	Enterprise Systems	3	MISS 223 and MISS 224
Total Credits			15	
Summer	BUSS 200	Internship in Business (Two Months)	0	8 Weeks
Diploma in Business Administration – MIS Major (60 Credits)				

Year III				
(5) Fall	BUSS 304	Quantitative Methods in Business	3	MATH 103B and BUSS 203
	BUSS 306	Strategic Management	3	BUSS 203 or BUSS 204
	MISS 411	e-Government	3	MISS 226
	MISS 412	Database Analysis & Design	3	MISS 225
	ARAB 101	Academic Writing in Arabic	3	More than 60 cr. hrs.
Total Credits			15	
(6) Spring	BUSS 307	Statistics for Business	3	BUSS 304
	ENGL 204.	Advanced English for Academic Purposes and Research	3	ENGL 203B
	MISS 413	Business Data Communication and Network	3	MISS 412
	MISS 414	Business Intelligence	3	MISS 411
		Skills for Life (Elective)	3	More than 60 cr. hrs.
Total Credits			15	
Year IV				
(7) Fall	BUSS 401	Research Methods	3	BUSS 307
	BUSS 312	e-Business	3	BUSS 306
	SOCS 102	Omani Society	3	More than 60 cr. hrs.
	ENGL 305	Advanced English Language and Communication Skills	3	ENGL 204.
	MISS 415	Information System Auditing	3	MISS 412 and MISS 413
Total Credits			15	
(8) Spring	BUSS 403	Business Environment	3	More than 90 cr. hrs.
	BUSS 404	Final year Project	3	BUSS 401
	MISS 416	IS Project Management	3	MISS 412 and MISS 413
		College General Elective 1	3	More than 90 cr. hrs.
		College General Elective 2	3	More than 90 cr. hrs.
Total Credits			15	
Bachelor in Business Administration – MIS Major (120 Credits)				

#### 4.10. Course Descriptions: MIS Major

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##### **MISS 221 Introduction to Information Systems (3 crs)**

This course aims at introducing the field of management information systems (MIS) as a growing academic and professional one. This is given the fact that Information technologies affect every aspect of our economy and society and are transforming work within and across business organizations. This course introduces information management and information systems that are critical to modern business organizations, technology and adoption trends and explores the evolving role of information technologies in business. The course covers components of information technology such as software, hardware, networking communications and other relevant topics to business including decision making, e-Business and e-commerce, CRM and ERP. The need for data security solutions to secure the information assets is also presented. *Prerequisite: FPT 102B and BUSS 101*

##### **MISS 222 Business Programming (3 crs)**

The course introduces to the learners the fundamentals of programming logic. It also exposes the learners the idea of how an information system is built. The programming logic is developed using the tools of Algorithms and flowcharts. Algorithms and flowcharts cover various aspects of programming which includes input, output, process, conditional statements and looping statements. It also provides the learners the hands-on experience to implement the programming logic using Microsoft visual studio 2010. The idea of designing the user interface, changing the properties of controls, writing the source code and debugging are introduced in this course. The programs are categorized in the following topics namely simple arithmetic programs, conditional statement programs, looping statement programs, business application programs and using different controls in the user interface. The course also includes implementation of programs using object-oriented concepts and database connectivity of Visual basic. *Prerequisite: BUSS 106*

##### **MISS 223 Systems Analysis and design (3 crs)**

This course is on system analysis and design of an information systems specifically for information system development project. Various techniques, methods, tools, and approaches will be used to assist student visually capture a given system. The course contents include system development life cycle phases, system analyst and its required skills, information requirement collections, performing system analysis in order to prepare for systems requirements, designing system in terms of input, output, and database design, and prepare for systems implementation and operation. *Prerequisite: MISS 221*

##### **MISS 224 Introduction to Information and Data Management (3 crs)**

Information systems (IS) play a vital role in the organizations' competitive competencies. Information technologies are essential in excelling the IS deployment by organizations that in turn affect every aspect of our economy and society and are transforming work within and across business organizations. This course aims to provide students with comprehensive understanding of database technology. The student will be able to recognize the various database models (hierarchical, networked, object-oriented and relational models) and learn how

to program and build a relational-database. Emphasis is given database programming language SQL to train students how to practically build and work with databases. *Prerequisite: MISS 221 and BUSS106*

**MISS 225 Web Application Development (3 crs)**

The course imparts the knowledge in designing, development and hosting any web site for business applications. It includes the topics on web page designing through HTML and JavaScript. Creating and developing web site elements like text, images, table, maps, frames, forms, control statements and Cascading style sheets to develop a dynamic web page. Design and layout of any web site is as important as the efficiency and flow of HTML and JavaScript codes. *Prerequisite: MISS 221 and MISS 222.*

**MISS 226 Enterprise Systems (3 crs)**

This course will serve as an understanding of the theoretical and practical aspects of the application of strategic initiative of Enterprise Systems in an organization. The subject will focus on the implementation and working of an integrated Enterprise Systems with organizational processes and information among various functional areas as a database and report sharing system. An efficient and effective enterprise system is an essential tool for top management to acquire and develop new plans and policies as well as to monitor its implementation. The students will have hands on session to gauge the scope and implementation process of enterprise information systems. *Prerequisite: MISS 223 and MISS 224.*

**MISS 411 e-Government (3 crs)**

This is a basic and fundamental course on electronic governance. This course deals with the Information and Communication Technology and its use by various Government Departments as a tool to provide Efficient Governance to the people. It focuses but not limited to the reasons to adopt E-governance, Planning and Challenges to E-Government, Interoperations, Supervision, better services to Society and Management of E-Government projects. The E-government Academic Program is dealing with the way in which Internet Technologies (IT) are affecting how people interact with government and how government, in turn, are using and managing technology to better provide information and services to the public. *Prerequisites: MISS 226.*

**MISS 412 Database Analysis and Design (3 crs)**

The course aims to introduce the principles of designing a good database. The broad areas of coverage in this course includes the logical design of the database which is introduced by using E-R Diagram. Various notations of E-R Diagram are introduced and followed by activities to reinforce the concept. The other area of focus in the course to design tables which are free of anomalies and this is done through the process of database normalization. Various levels of normalization are introduced which includes first, second, third and BCNF. The course also deals with the Database administration part which includes controlling user privileges on accessing data, data backup, recovery, concurrency control etc. The last part of the course deals with DDL, DML and DCL and using different types of queries using SQL. The whole course is summarized at the end with a sample case study

which is given as a project, where the students are made to apply all the steps of database design and development. *Prerequisites: MISS 225*

**MISS 413 Business Data Communication and Network (3 crs)**

This is a basic (fundamental) course on electronic governance. This course deals with the Information and Communication Technology and its use by various Government Departments as a tool to provide **Efficient Governance** to the people. It focuses but not limited to the reasons to adopt E-governance, Planning and Challenges to E-Government, Interoperations, Supervision, better services to Society and Management of E-Government projects. The E-government Academic Program is dealing with the way in which Internet Technologies (IT) are affecting how people interact with government and how government, in turn, are using and managing technology to better provide information and services to the public. *Prerequisites: MISS 412*

**MISS 414 Business Intelligence (3 crs)**

The course focuses on the use of information systems in the business organization to assist human in decision-making process. The course addresses the use and incorporation of decision support systems into an organizational setting dealing with individual and group decision-making. In addition, the development, implementation, and deployment of decision support and expert systems will be covered. It will also include decision support and decision making, technologies; concept, applications; organizational issues, models; user interfaces; implementation strategies; data warehousing, data mining and knowledge management. *Prerequisites MISS 411.*

**MISS 415 Information Systems auditing (3 crs)**

This course provides the overview of information system auditing process and it encompasses the aspects of security and control. It equips the learners with the skills in system auditing in various functional domains of the organization, particularly where information technology plays a dominant role. The course will introduce the learners on the usage of system audit software to provide the practical implementation of concept introduced in the course. *Prerequisites: MISS 412 & MISS 413*

**MISS 416 IS Project Management (3 crs)**

This course focuses on information systems (IS) project management. Various methods, techniques and tools related to IS project management will be demonstrated in the course. The topics of discussion includes project planning and scheduling, project scopes and evaluation, project costing and controlling and others as needed. A project management software or application will be introduced to illustrate how a project is managed electronically based on selected case studies. *Prerequisites: MISS 412 & MISS 413*



# **COLLEGE OF ENGINEERING (CE)**

## TABLE OF CONTENTS

<b>College of Engineering</b>		
<b>No.</b>	<b>Particulars</b>	<b>Page No.</b>
1	Officers of the College .....	241
2	Organizational Structure .....	241
3	Vision .....	241
4	Mission .....	241
5	Academic Programs Offered .....	241
	• <i>Diploma Programs</i> .....	241
	• <i>Bachelor Programs</i> .....	242
	• <i>Master Programs</i> .....	242
6	Admission Requirements .....	242
	• <i>Undergraduate Programs</i> .....	242
7	Graduation Requirements .....	242
8	University Requirements .....	244
9	College Requirements .....	244
10	Program Requirements .....	244
11	Practical Training and Final Year Project .....	244
12	Course Description - General Engineering Courses .....	245
<b>Department of Architectural Engineering</b>		
1	Personnel .....	246
2	Vision .....	246
3	Mission .....	246
4	Programs Offered .....	246
<b>Bachelor of Science in Architectural Engineering</b>		
1	Program Overview .....	246
2	Program Objectives .....	246
3	Program Learning Outcomes .....	247
4	Admission Requirements .....	247
5	Graduation Requirements .....	247
6	University Requirements .....	248
7	College Requirements .....	248
8	Program Requirements .....	248
9	Plan of Study .....	249
10	Course Descriptions .....	251
<b>Bachelor of Science in Interior Architecture Engineering</b>		
1	Program Overview .....	258
2	Program Objectives .....	258
3	Program Learning Outcomes .....	259
4	Admission Requirements .....	259
5	Graduation Requirements .....	259
6	University Requirements .....	259
7	College Requirements .....	259

8	Program Requirements .....	260
9	Plan of Study .....	260
10	Course Descriptions .....	262
<b>Diploma in Interior Architecture Engineering</b>		
1	Program Overview .....	268
2	Program Objectives .....	268
3	Program Learning Outcomes .....	268
4	Admission Requirements .....	268
5	Graduation Requirements .....	268
6	University Requirements .....	268
7	College Requirements .....	269
8	Program Requirements .....	269
9	Plan of Study .....	269
10	Course Descriptions .....	270
<b>Department of Chemical Engineering</b>		
1	Personnel .....	271
2	Vision .....	271
3	Mission .....	271
4	Programs Offered .....	271
<b>Bachelor of Science in Chemical Engineering</b>		
1	Program Overview .....	271
2	Program Objectives .....	272
3	Program Learning Outcomes .....	272
4	Admission Requirements .....	272
5	Graduation Requirements .....	272
6	University Requirements .....	273
7	College Requirements .....	273
8	Program Requirements .....	273
9	Plan of Study .....	274
10	Course Descriptions .....	276
<b>Diploma in Chemical Engineering</b>		
1	Program Overview .....	280
2	Program Objectives .....	280
3	Program Learning Outcomes .....	280
4	Admission Requirements .....	280
5	Graduation Requirements .....	280
6	University Requirements .....	281
7	College Requirements .....	281
8	Program Requirements .....	281
9	Plan of Study .....	281
10	Course Descriptions .....	282
<b>Department of Civil and Environmental Engineering</b>		
1	Personnel .....	283
2	Vision .....	283
3	Mission .....	283

4	Programs Offered .....	283
<b>Bachelor of Science in Civil Engineering</b>		
1	Program Overview .....	283
2	Program Objectives .....	284
3	Program Learning Outcomes .....	284
4	Admission Requirements .....	285
5	Graduation Requirements .....	285
6	University Requirements .....	285
7	College Requirements .....	285
8	Program Requirements .....	286
9	Plan of Study .....	287
10	Course Descriptions .....	288
<b>Diploma in Civil Engineering</b>		
1	Program Overview .....	294
2	Program Objectives .....	294
3	Program Learning Outcomes .....	294
4	Admission Requirements .....	294
5	Graduation Requirements .....	294
6	University Requirements .....	295
7	College Requirements .....	295
8	Program Requirements .....	295
9	Plan of Study .....	295
10	Course Descriptions .....	296
<b>Department of Electrical and Computer Engineering</b>		
1	Personnel .....	297
2	Vision .....	297
3	Mission .....	297
4	Programs Offered .....	297
<b>Bachelor of Science in Computer and Communications Engineering</b>		
1	Program Overview .....	298
2	Program Objectives .....	298
3	Program Learning Outcomes .....	298
4	Admission Requirements .....	299
5	Graduation Requirements .....	299
6	University Requirements .....	299
7	College Requirements .....	299
8	Program Requirements .....	299
9	Plan of Study .....	301
10	Course Descriptions .....	303
<b>Bachelor of Science in Electrical and Electronics Engineering</b>		
1	Program Overview .....	313
2	Program Objectives .....	313
3	Program Learning Outcomes .....	313
4	Admission Requirements .....	314
5	Graduation Requirements .....	314
6	University Requirements .....	314

7	College Requirements .....	314
8	Program Requirements .....	314
9	Plan of Study .....	316
10	Course Descriptions .....	318
<b>Diploma in Electrical and Computer Engineering</b>		
1	Program Overview .....	318
2	Program Objectives .....	318
3	Program Learning Outcomes .....	318
4	Admission Requirements .....	319
5	Graduation Requirements .....	319
6	University Requirements .....	319
7	College Requirements .....	319
8	Program Requirements .....	319
9	Plan of Study .....	320
10	Course Descriptions .....	321
<b>Bachelor of Science in Software Engineering</b>		
1	Program Overview .....	321
2	Program Objectives .....	321
3	Program Learning Outcomes .....	321
4	Admission Requirements .....	322
5	Graduation Requirements .....	322
6	University Requirements .....	322
7	College Requirements .....	322
8	Program Requirements .....	322
9	Plan of Study .....	324
10	Course Descriptions .....	326
<b>Department of Mechanical and Mechatronics Engineering</b>		
1	Personnel .....	327
2	Vision .....	327
3	Mission .....	327
4	Programs Offered .....	327
<b>Bachelor of Science in Mechanical Engineering</b>		
1	Program Overview .....	327
2	Program Objectives .....	328
3	Program Learning Outcomes .....	328
4	Admission Requirements .....	328
5	Graduation Requirements .....	328
6	University Requirements .....	329
7	College Requirements .....	329
8	Program Requirements .....	329
9	Plan of Study .....	330
10	Course Descriptions .....	332
<b>Diploma in Mechanical Engineering</b>		
1	Program Overview .....	338
2	Program Objectives .....	338
3	Program Learning Outcomes .....	338
4	Admission Requirements .....	338

5	Graduation Requirements .....	338
6	University Requirements .....	338
7	College Requirements .....	338
8	Program Requirements .....	339
9	Plan of Study .....	339
10	Course Descriptions .....	340
<b>Bachelor of Science in Mechatronics Engineering</b>		
1	Program Overview .....	340
2	Program Objectives .....	340
3	Program Learning Outcomes .....	340
4	Admission Requirements .....	341
5	Graduation Requirements .....	341
6	University Requirements .....	341
7	College Requirements .....	341
8	Program Requirements .....	342
9	Plan of Study .....	342
10	Course Descriptions .....	344
<b>Diploma in Mechatronics Engineering</b>		
1	Program Overview .....	353
2	Program Objectives .....	353
3	Program Learning Outcomes .....	354
4	Admission Requirements .....	354
5	Graduation Requirements .....	354
6	University Requirements .....	354
7	College Requirements .....	355
8	Program Requirements .....	355
9	Plan of Study .....	355
10	Course Descriptions .....	356

# COLLEGE OF ENGINEERING

## 1. Officers of the College

Dean	Dr. Israr Ul Hassan
Asst. Dean	Dr. Manaf Zghaibeh
Secretaries	Ms. Salma Naseeb Safrar
	Ms. Atsloom Ali Zaid Al-Amri
	Ms. Asma Said Hassan Bait Said

## 2. Organizational Structure

The CE is headed by a Dean overseeing the following **Five Departments**:

- 1) Department of Architectural Engineering (AE)
- 2) Department of Chemical Engineering (CHE)
- 3) Department of Civil & Environmental Engineering (CVE)
- 4) Department of Electrical and Computer Engineering (ECE)
- 5) Department of Mechanical and Mechatronics Engineering (MME)

## 3. Vision

The CE at DU foresees a future in which its graduates are branded for their breadth and depth of knowledge, exemplary technical and personal skills, awareness of the world around them, commitment to excellence, passion to achieve, and for their abilities to work in and manage diverse teams.

## 4. Mission

The CE shall create the conditions that promote academic excellence, nurture responsibility, breed professionalism, drive personal growth so that students define their purpose and develop the skills and character that enable them to transform 21<sup>st</sup> century challenges into possibilities, advance their lives, affect their community, and impact the world.

## 5. Academic Programs Offered

The College offers six (6) Diploma and nine (9) Bachelor Programs. The medium of instruction in all these programs is English.

These programs are:

### a) Diploma Programs

- 1) Diploma in Interior Architecture Engineering
- 2) Diploma in Chemical Engineering
- 3) Diploma in Civil and Environmental Engineering
- 4) Diploma in Electrical and Computer Engineering
- 5) Diploma in Mechanical Engineering
- 6) Diploma in Mechatronics Engineering

## **b) Bachelor Programs**

- 1) Bachelor of Science in Architectural Engineering
- 2) Bachelor of Science in Interior Architecture Engineering
- 3) Bachelor of Science in Chemical Engineering
- 4) Bachelor of Science in Civil Engineering
- 5) Bachelor of Science in Computer and Communications Engineering
- 6) Bachelor of Science in Electrical and Electronics Engineering
- 7) Bachelor of Science in Mechanical Engineering
- 8) Bachelor of Science in Mechatronics Engineering
- 9) Bachelor of Science in Software Engineering

## **6. Admission Requirements**

### **a) Undergraduate Programs**

#### **I) General Requirements**

For admission to any of the undergraduate programs offered by the CE, a student must have:

- A General Education Certificate or its equivalent and
- Passed FP from DU or any other HEI recognised by MoHE
- For Bachelor of Science in Interior Architectural Engineering, 70 percent is required in English, Math and IT

**OR**

Be exempted from FP English, Maths and IT courses based on placement tests conducted by DU FP

#### **II) Program Specific Requirements**

Program Specific admission requirements, if any, are given in the concerned section in this catalogue.

## **7. Graduation Requirements**

To receive a Diploma in any of the majors in the CE students must satisfactorily complete the required credit hours for his/her major, with a cumulative average of 65 percent.

To receive a Bachelor Degree in any of the majors in the CE, the student must satisfactorily complete the required credit hours for his/her major with an overall minimum average of 65 percent, (Except for Bachelor of Science in Architectural Engineering where it is 70 percent) and a cumulative average of 70 percent in the major courses.

The total number of required credits varies by major. The following table summarizes the number of credits normally required for each undergraduate program in CE.



Program	Requirements				Total Credit Hours
	University	College	Program (Major)		
			Core	Elective	
Diploma in Interior Architecture Engineering	18	3	53	-	74
Diploma in Chemical Engineering	18	21	36	-	75
Diploma in Civil Engineering	18	18	39	-	75
Diploma in Electrical and Computer Engineering	18	24	33	-	75
Diploma in Mechanical Engineering	18	21	36	-	75
Diploma in Mechatronics Engineering	18	21	36	-	75
Bachelor of Science in Architectural Engineering	30	15	96	9	150
Bachelor of Science in Interior Architecture Engineering	27	3	98	9	137
Bachelor of Science in Chemical Engineering	27	39	60	12	138
Bachelor of Science in Civil Engineering	27	33	69	9	138
Bachelor of Science in Computer and Communications Engineering	27	33	62	16	138
Bachelor of Science in Electrical and Electronics Engineering	27	33	61	17	138
Bachelor of Science in Mechanical Engineering	27	36	61	14	138
Bachelor of Science in Mechatronics Engineering	27	31	66	14	138
Bachelor of Science in Software Engineering	27	33	64	14	138

## **8. University Requirements**

The University requirements for Diploma program consist of six (6) courses comprising 18 credit hours. The University requirements for Bachelor programs consist of nine (9) courses comprising of 27 credit hours. These courses are:

- 1) ARAB 101: Academic writing in Arabic
- 2) ENGL 101: Basic Academic English
- 3) ENGL 102E: English for Engineering and Sciences I
- 4) ENGL 203E: English for Engineering and Sciences II
- 5) ENGL 204: Advanced English for Academic Purposes and Research
- 6) ENGL 305: Advanced English Language and Communication Skills
- 7) ENTR 200: Entrepreneurship: Innovation and Creativity
- 8) MATH 199: Calculus I
- 9) SOCS 102: Omani Society

The University requirements for Bachelor program in Architectural Engineering has one additional course of three credits:

- 1) CMPS 100B: Introduction to Technical Computing for the Sciences

## **9. College Requirements**

The College requirements for Diploma programs vary from 3 to 21 credit hours. For course details, please refer to the concerned program page within the catalogue.

The college requirements for Bachelor programs vary from 3 to 39 credit hours depending on the program. For more information regarding the courses listed in college requirements for Bachelor degrees please refer to the concerned program page in the catalogue.

## **10. Program (Major) Requirements**

Program requirements vary from 33 to 107 credit hours from within and outside the department, depending on the chosen major in which the student is enrolled. These are listed in the respective section in this catalogue.

## **11. Practical Training and Final Year Project**

### **a) Practical Training (Internship)**

Fourth year Bachelor students of engineering are required to acquire practical training experience through an internship period of eight weeks. This graduation requirement ensures that each student gains practical training experience during the summer prior to graduation, with either a company or another academic institution. Diploma students also are required to undergo the internship by the end of the second year. Practical training could be registered during Fall or Spring semesters only along with the last 6 credits.

### **b) Final Year Project**

As part of their fourth year, students are required to carry out a project and submit a technical report. This project is a substantial piece of work that will require creative activity and original thinking. Students (individually or in groups, normally three per group), are supervised while working on a project accounting

for three credits (five credits for Interior Architecture Engineering) extending over a full academic year. The project aims to provide students with a transitional experience from the academic world to the professional world. It is designed to serve as a platform in which students in teams engage in a meaningful design experience requiring the solution of engineering design projects.

## **12. Course Description - General Engineering Courses**

To meet the College requirements, a set of general courses are offered in programs at the CE. The following are the outlines of these courses.

### **ENGR 100 Introduction to Engineering (3 crs)**

This course introduces engineering students to engineering communication and ethics, report writing, dimensions and units - length, time, mass, force, temperature, electric current - and their related parameters - energy and power.

### **ENGR 105 Engineering Graphics (2 crs)**

This course covers geometrical construction, orthographic projection, first angle and third angle projections, drawing convention or standards, sections, dimensions, oblique and isometric, tolerances, limits and fits. Students will also learn how to prepare engineering drawings using Computer Aided Drawing (CAD) software such as AutoCAD and solid work.

### **ENGR 110 Engineering Workshop (1 crs)**

This course covers - safety training and practices; lathe machine components and different operations; principle of milling, grinding, drilling and welding machines; The course includes hands-on practical experience on various machines.

### **ENGR 300 Engineering Economy (3 crs)**

This course introduces economic decision processes in the design and implementation of real engineering projects; investment, financing, depreciation, economic selection, and replacement. Prerequisites: ENGR 100, MATH 199

## Department of Architectural Engineering

### 1. Personnel

Chairperson:	Dr. Manaf Zghaibeh (Acting Chair)
Assistant Professor:	Dr. Heba Hussein
Lecturer:	Ms. Asma Bait Faraj (Part Time) Mr. Mohammed Omar Iqbal (Part Time)
Laboratory Technician:	Mr. Marwan Ahmed Bait Farhan

### 2. Vision

To provide high quality education in Architectural Engineering and to serve the architectural engineering construction industry through design, research, innovation using the latest cutting edge technologies.

### 3. Mission

Architectural Engineering attempts to create an academic team dedicated to teaching using modern delivery methods oriented to educate students to be engaged in self-development, lifelong learning and professional practice and development after graduation.

### 4. Programs Offered

The department offers the following Diploma and Bachelor programs:

#### a) Diploma Program

- 1) Diploma in Interior Architecture Engineering

#### b) Bachelors Program

- 1) Bachelor of Science in Architectural Engineering
- 2) Bachelor of Science in Interior Architecture Engineering

## 5. Bachelor of Science in Architectural Engineering

### 5.1. Program Overview

The Architectural Engineering program is a 150-credit-hour program distributed over four and half academic years. The program promotes the implementation of the latest advances in construction, information and visualization technologies which respond to the needs of the industry. The curriculum is focused on buildings' construction and its application in buildings' structure design and with a comprehensive knowledge in mechanical and electrical building's systems.

### 5.2. Program Objectives

The objectives of the Architectural Engineering program are to:

- 1) Educate students in the fundamental principles of architectural engineering buildings and architectural support systems' design,

construction, supervision and maintenance by integrating design principles, technical knowledge, using modern engineering tools.

- 2) Help students develop the ability to use architectural engineering principles in analyzing and solving problems of practical importance to the built environment and society at large.
- 3) Educate students to be engaged in self-development, lifelong learning and professional practice and development after graduation.
- 4) Train students to communicate effectively, be able to work in teams and become leaders in the architectural engineering society, and develop the requisite professional and ethical demeanor for a successful architectural engineering career.

### **5.3. Program Learning Outcomes**

A student graduating from the Architectural Engineering program will be able to:

- 1) Apply knowledge of the fundamentals of mathematics, physics, science and engineering including advanced subjects that further the learning of specific architectural engineering areas.
- 2) Design and conduct experiments, to gather and analyze data as well as apply the results to address architectural engineering problems.
- 3) Design building systems, components or processes that meet desired needs within realistic constraints such as sustainability, economics, functionality, health and safety, and constructability.
- 4) Function in and collaborate within multi-disciplinary teams.
- 5) Identify, convey as well as to solve engineering problems.
- 6) Practice architectural engineering, including its technical and professional responsibilities and its ethical components.
- 7) Demonstrate excellent communication skills - writing coherent and accurate technical reports, and making effective oral presentations.
- 8) Evaluate the impact of architectural engineering solutions in a global, political, environmental and social context.
- 9) Appreciate the need for and have an ability to be engage in lifelong learning.
- 10) Demonstrate knowledge in multidisciplinary aspects of architectural engineering design and of contemporary problems.
- 11) Use the techniques and architectural engineering tools necessary for engineering practice.

### **5.4. Admission Requirements**

Admission requirements for a Bachelor of Science in Architectural Engineering Program are as specified in **College Section 6.a on page 220**.

### **5.5. Graduation Requirements**

To graduate with a Bachelor of Science Degree in Architectural Engineering, students must satisfactorily complete 150 credits with an overall minimum average of 70 percent, and a cumulative average of 70 percent in the major

courses. The University, College, and program (major) requirements are as given in the following table:

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
30	15	96	9	150

## 5.6. University Requirements

The University requirements consist of nine (9) courses comprising of 27 credit hours as specified in **College Section 8**.

## 5.7. College Requirements

The College requirement consist of five (5) courses comprising of 15 credit hours as given below:

Code	College Courses	Credit Hours
PHYS 170	Fundamentals of Physics I	3
MATH 200	Calculus II	3
MATH 205	Calculus III	3
MATH 210	Differential Equations	3
EECE 210	Electrical Circuits I	3

## 5.8. Program Requirements

### I) Core Requirements

The program core requirements consist of 35 courses encompassing 96 credit hours.

### II) Elective Requirements

This includes following 10 courses. A student has to take a total of 6 credit hours from this. In addition, a student has to take one science elective of 3 credit hours.

Code	Elective Requirements Courses	Credit Hours
ARCH 321	Advanced BIM for Architecture	3
ARCH 322	Modelling and Rendering	3
ARCH 323	Ecological Building Materials	3
ARCH 324	Local Vernacular Architecture, Construction Materials, Methods and Craftworks	3
ARCH 421	Special Topics in Interior Architecture	3
ARCH 422	Green Buildings (Codes, Standards and Rating Systems)	3
ARCH 423	Bio-climatic Integration into Architecture Context	2
ARCH 424	Identification and Evaluation of the Historic Built Environment	3
ARCH 425	Environmental Design Research	2
ARCH 426	Human Factors	2

## 5.9. Plan of Study: Bachelor of Architectural Engineering

Year I		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
ARCH 101	Architectural Drawing I	3
ENGL 101	Basic Academic English I	3
ARAB 101	Academic Writing in Arabic	3
MATH 199	Calculus I	3
PHYS 170	Fundamentals of Physics I	3
Spring Semester		15 Credits
Code	Course Title	Credit Hours
ARCH 111	Architectural Drawing II	3
ARCH 102	Introduction to Architectural Building Science and Engineering Ethics	3
CIVE 210A	Mechanical Statics for Architectural Engineers	3
ENGL 102E	English for Engineering and Sciences	3
CMPS 100B	Introduction to Technical Computing for the Sciences	3
Summer Semester		9 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Science II	3
MATH 200	Calculus II	3
SOCS 102	Omani Society	3
Year II		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
ARCH 201	Architectural Design I	3
ARCH 202	Introduction to Computer Aided Drawing	3
MECH 270A	Properties of Materials for Architectural Engineers	3
CIVE 213A	Strength of Materials for Architectural Engineers	3
CIVE 265A	Surveying & GPS for Architectural Engineers	3
CIVE 265L	Surveying & GPS Laboratory	1
Spring Semester		16 Credits
Code	Course Title	Credit Hours
ARCH 211	Architectural Design II	3
ARCH 212	Introduction to Building Information Modeling for Architects	3
EECE 210	Electrical Circuits I	3
CIVE 221A	Construction Materials for Architectural Engineers	3
CIVE 221L	Construction Materials Laboratory	1
MATH 205	Calculus III	3
Summer Semester		9 Credits
Code	Course Title	Credit Hours
MATH 221	Differential Equations	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
ENGL 204	Advanced English for Academic Purposes and Research	3

Year III		
Fall Semester		14 Credits
Code	Course Title	Credit Hours
ARCH 301	Architectural Design III	3
ARCH 302	Advanced Architectural Design Theories	3
ARCH 303	Building Construction I - Concrete Design	3
ARCH 304	Building Construction Methods	3
ARCH 306	History of Architecture I	2
Spring Semester		15 Credits
Code	Course Title	Credit Hours
ARCH 311	Architectural Design IV	4
ARCH 313	Building Constructions II - Wood and Masonry Constructions Design	3
ARCH 305	Ecology and Building Environmental Control Systems I	3
ARCH 316	History of Architecture II	2
ENGR 300	Engineering Economy	3
Summer Semester		3 Credits
Code	Course Title	Credit Hours
ENGL 305	Advanced English Language and Communication Skills	3
Year IV		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
ARCH 404	Architectural Design V	4
ARCH 405	Ecology and Building Environmental Control Systems II	3
ARCH 403	Building Constructions III - Steel and Glass Design	3
ARCH 407	Sustainable Architectural Design	2
CIVE 480	Construction Management	3
Spring Semester		12 Credits
Code	Course Title	Credit Hours
ARCH 401	Final Project I	3
ARCH 408	Working Drawings	3
ARCH 415	Building Lighting and Acoustical Design	3
XXX	Science Elective	3
Summer Semester		0
Code	Course Title	Credit Hours
ARCH 400	Approved Professional Experience	0
Year V		
Fall Semester		11 Credits
Code	Course Title	Credit Hours
ARCH 402	Final Project II	3
ARCH 506	Construction Projects Specification and Quantities	2
ARCH XXX	Major Elective	3
ARCH XXX	Major Elective	3



## 5.10. Course Description

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### **ARCH 101      Architectural Drawing I      (3 crs)**

Aiming to provide students with architectural hand drawing and presentation skills the course includes line, scale and dimensions, free hand drawing, shapes and forms, tones and textures, shading technique, lettering and orthographic projections. Three dimensional isometric projections are introduced as well. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments for architectural drawing.

### **ARCH 102      Introduction to the Architectural Building Science & Engineering Ethics      (3 crs)**

Attitude to the building Science and Architectural Engineering as profession and the concepts of Engineering Ethics are introduced. Buildings systems and human being needs for comfort are studied. Architectural design as a process is introduced where the subjects such as building site, area, volume, necessity of fresh air, light, temperature, sunlight, and view are considered. The class is composed of theoretical modules and includes home works, presentations, quizzes, and exams.

### **ARCH 111      Architectural Drawing II      (3 crs)**

Aiming to provide students with architectural hand drawing skills the course includes line, scale and dimensions, lettering, orthographic and three-dimensional drawings as well as floor plans, sections and graphic diagrams. Symbols and standards are introduced for facilitating the students to read architectural and engineering drawings. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments for architectural drawing. Prerequisite: ARCH 101.

### **ARCH 201      Architectural Design I      (3 crs)**

Introduction to architectural design process through simple projects than provide understanding of place, order, context, form, aesthetic, and function. Project phases such as programming and concept development are presented. Meaning of project site, contextual constraints, building materials and structural aspects are introduced for developing a complete drawing set for architectural design projects. Introduction to the building design philosophy is provided. The class is studio based and includes class/home projects for architectural design development. Prerequisite: ARCH 102; ARCH 111

### **ARCH 202      Introduction to Computer Aided Drawing      (3 crs)**

The course introduces computer as tool in architectural projects production with emphasis in AutoCAD program. Study procedures of computer drawing and graphics for producing 2D buildings plans, section and elevations; three-dimensional building model. Skills such as computer drafting in 2D and 3D, image processing, rendering and plotting are obtained through series of assignments. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments for computer aided drawing. Prerequisite: ARCH 111; CMPS 100B.

**ARCH 211 Architectural Design II (3 crs)**

Research, theory and field studies generate solving architectural design problems associated with client's needs. The concept of project brief is presented. The course develops ability of function, environment, climate, culture, and construction materials and systems integration within the project. Horizontal and vertical communication within the building is introduced. Simple but complex projects contribute to the progress of project visualization. The class is studio based and includes class/home projects for architectural design development. Prerequisite: ARCH 201.

**ARCH 212 Introduction to BIM Architecture (3 crs)**

The course provides students with computer drafting skills enhancement and understanding of methods for BIM generating. Students obtain necessary abilities for construction drawings production. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments for building modelling. Prerequisites: ARCH 202.

**ARCH 301 Architectural Design III (3 crs)**

The complex nature of architectural projects is understood. The course provides knowledge in urban context analysis for developing design criteria of intervention strategies, evaluation of alternatives and selecting final design solution. Projects' contextual constraints and construction documentation phase are introduced. The class is studio based and includes class/home projects for architectural design development. Prerequisite: ARCH 211; ARCH 212.

**ARCH 302 Advanced Architectural Design Theories (3 crs)**

Course examines design theory as a means to develop cognitive and problem solving skills. Difference between theory and design theory of architecture is explored. Also explored are issues of order and organization, phenomena of perception, elements and organizing principles of form and space, ordering principles, design typology, designers and design thinking, and design process. The course provides comprehensive knowledge in buildings of different scale and function architectural design requirements. The class is composed of theoretical modules and includes lectures, home works, presentations, quizzes, and exams. Prerequisite: ARCH 211.

**ARCH 303 Building Construction I – Concrete Design (3 crs)**

Structural principles and requirements in concrete design are studied. Primary and secondary loads, loads combination, static of structural elements, design of foundations, columns, beams, slabs and stairs, and deflections and cracks are emphasized. Structural calculations, construction methods in concrete work are highlighted. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments, and projects. Prerequisite: ARCH 212; CIVE 221A.

**ARCH 304 Building Construction Methods (3 crs)**

This course concentrates in building construction methods including ecological. Types of buildings' structures and their construction methods and techniques are studied. Foundation, floor, wall and roof systems, moisture and thermal protection, building details, building joints and movements and pre-fabricating

techniques are emphasized. Construction techniques of special form: dome, vault, shell, space frame and metal structure. The role of architectural engineer in construction supervision, its duties and responsibilities are studied. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments, and projects. Prerequisites: ARCH 211; CIVE 221A.

**ARCH 305 Ecology and Building Environmental Control Systems I (3 crs)**

This course provides students with basic principles and application of Environmental Control Systems involved in buildings impacting its physical, structural, and functional dimensions as well as performance. Systems integration into building envelope, their impact on building performance, selection criteria based on sustainable design principles is understood. Plumbing and sanitary (water supply and distribution, sanitary including drainage, plumbing design and drawing), electrical (electrical safety, electrical distribution and circuit design, wiring, and electrical drawing) and safety system (fire safety design and drawing) are studied detailed. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments, and projects. Prerequisite: ARCH 212; ARCH 302.

**ARCH 306 History of Architecture I (2 crs)**

Architecture chronological evolution from the prehistoric period, through ancient to early Christian, Gothic, Renaissance, Baroque, and Industrial Revolution to the Modern movements is briefly studied. Vernacular architecture, buildings types and construction methods of the region are comprehended. The class is composed of theoretical modules and includes lectures, home works, presentations, quizzes, and exams. Prerequisite: ARCH 211.

**ARCH 311 Architectural Design IV (4 crs)**

Production of construction drawings used in building industry is introduced. Knowledge in construction drawings content including structure, floor plans, elevation and sections, roof and site plans, walls, floors, roof sections and details, interior finishes elevation and details, schedules of building elements (windows, doors and other) and finishes and other are studied. Students drawing skills are developed for full set of construction drawings production. The class is studio based and includes class/home projects for architectural design development. Prerequisites: ARCH 301.

**ARCH 313 Building Constructions II - Wood and Masonry Constructions Design (3 crs)**

Structural principles and requirements in wooden constructions are studied. Building assemblies, members and joints are considered. Masonry work, types and applications in buildings are comprehended. Materials employed in masonry constructions are highlighted. Both wood and masonry structural calculations, construction methods are emphasized. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments, and projects. Pre-requisite: ARCH 303.

**ARCH 316      History of Architecture II      (2 crs)**

Islamic architecture chronological development from Umayyad in Syria and Iraq through classical periods in Spain, North Africa, Middle East, Fatimad, Ayyubid, Mamluk to the Ottoman period is studied. Distinctive Islamic features and Islamic architecture influence on other architectural styles are comprehended. Emphasis on contemporary region architecture is made. The class is composed of theoretical modules and includes lectures, home works, presentations, quizzes, and exams. Prerequisite: ARCH 306.

**ARCH 400      Approved Professional Experience      (0 cr)**

Bachelor students are required to undergo eight-week of on-the-job experience with an approved professional firm. Prerequisite: ARCH 404.

**ARCH 401      Final Project I      (3 crs)**

The first part of the final project which is research oriented is aimed to develop a comprehensive architectural solution that serves the society. Starts with project topic selection, programming studies, site selection, and ends with a research report completion. This part will consider general requirements for structural, environmental, and building services. Focus in assessment is on the architectural solution. Each student prepares an individual program for this course, concluding with a formal and bound document. The students work individually on research under the supervision of the instructor. Prerequisite: ARCH 404.

**ARCH 402      Final Project II      (3 crs)**

Involves individual projects design resolution based upon the solutions and findings initiated in ARCH 404. It focuses on integrating the structural and building system designs with the previously accomplished architectural design in part one. The first phase of the course is devoted to design structural and services systems and preparation of related working drawing. The project encompasses all phases including working drawings and specifications preparation. The final project is developed under the guidance and advice of a faculty supervisor and is presented and defended in a formal public jury. Prerequisite: ARCH 401.

**ARCH 403      Building Constructions III - Steel and Glass Design      (3 crs)**

The course concentrates on steel constructions structural principles and constrains. Types of steel structural members, assemblies and joints are studied. The applications of glass in building construction including curtain walls are highlighted. Both steel and glass structural calculations, construction methods are emphasized. The class will include hands-on applications, exercises, home works, quizzes, and exams. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments, and projects. Prerequisite: ARCH 313.

**ARCH 404      Architectural Design V      (4 crs)**

Last project phase – project implementation is introduced and the entire process of architectural design is understood. Studio explores design at the scale of the urban context. Scope covers design of architectural elements and their situation in the urban context. Attention is paid to contextual issues, such as site, location, and climate. Social, cultural and behavioral issues are also addressed. Commercial

factors influencing projects are introduced. The class is studio based and includes class/home projects for architectural design development. Prerequisite: ARCH 311.

**ARCH 405 Ecology and Building Environmental Control Systems II (3 crs)**

The course provides knowledge in Heating, Ventilating, and Air-conditioning systems' types. Systems selection criteria based on sustainable and ecological design is studied. Comprehension of systems performance and total building management system is offered. HVAC systems technology, equipment and calculations, design thermal load calculations, air distribution and duct design and sizing, and central refrigeration systems are studied. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments, and projects. Prerequisites: ARCH 305.

**ARCH 407 Sustainable Architectural Design (2 crs)**

Sustainability in building design is introduced and environmental factors impact on design process is studied. This course accents on indoor thermal comfort provision by considering comfort zones, site location, climate, solar geometry, shading and radiation, wind speed and direction. Alternative sources of energy for buildings operation and green buildings are also comprehended. The class is a combination of lecture (1) and practical modules (1) and includes theory, exercises, tools and class/home assignments, projects for architectural drawing. Prerequisite: ARCH 302.

**ARCH 408 Working Drawings (3 crs)**

Production of construction drawings used in building industry is introduced. Knowledge in construction drawings content including structure, floor plans, elevation and sections, roof and site plans, walls, floors, roof sections and details, interior finishes elevation and details, schedules of building elements (windows, doors and other) and finishes and other are studied. Students drawing skills are developed for full set of construction drawings production. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments, and projects. Prerequisites: ARCH 404.

**ARCH 415 Building Lighting and Acoustical Design (3 crs)**

Electrical and natural light sources are studied. Lighting design process steps are enlightened. Quality and quantity of illumination, calculation, selection and positioning of light sources is emphasized. Acoustical considerations in architectural design are highlighted. Acoustical properties of materials and room shapes, sound absorption and transmission, noise control and materials selection are understood. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments, and projects. Prerequisite: ARCH 405.

**ARCH 506 Construction Projects Specification and Quantities (2 crs)**

Contract documents, divisions of specifications, types of specifications, technical divisions options and alternatives, contracts, time and money, changes bonds liens, government contracts, general conditions, special conditions, proposal form, instruction to bidders, invitations to bid, checking, interpretation of specifications, and computerized specifications. Local standard public works

contract. The class is a combination of lecture (1) and practical modules (1) and includes theory, exercises, tools and class/home assignments, and projects. Prerequisite: ARCH 408.

**CIVE 210A    Mechanical Statics for Architectural Engineers    (3 crs)**

This course covers the following topics: force vector, 2-D system of vectors, moment, couple, resultants, static equilibrium of 2-D forces and moments, centroid, truss, friction. Prerequisite: PHYS 170.

**CIVE 213A    Strength of Materials for Architectural Engineers    (3 crs)**

This course covers five sections. 1) Lathe - machine components and different operations; 2) Basic principles of arc (AC and DC) and gas welding; 3) machine-shop, basic principle of milling, grinding, and drilling machines; 4) soldering of electronic components, and 5) electric wiring. The class is composed of theoretical modules and includes lectures, home works, presentations, quizzes, and exams. Prerequisite: CIVE 210A.

**CIVE 221A    Construction Materials for Architectural Engineers    (3 crs)**

This course covers the composition and properties of engineering construction materials through hands-on laboratory experiments. The course introduces students to developments in construction equipment and technologies and Includes field demonstrations. The class is composed of theoretical modules and includes lectures, home works, presentations, quizzes, and exams. Prerequisite: CIVE 213A.

**CIVE 221L    Construction Materials Laboratory    (1 cr)**

The Construction Materials Laboratory is established to train students to carry out tests on common construction materials such as concrete, steel, wood, and masonry. The tests are conducted to determine the engineering properties in terms of strength, strain, fatigue, creep, elasticity, stiffness durability, and workability.

**CIVE 265A    Surveying and GPS for Architectural Engineers    (3 crs)**

This course deals with the theory of measurements and errors; linear measurements; surveying instruments; leveling; angles, bearings, and azimuths; stadia measurements; traversing—field aspects; traverse computations and adjustment; topographic surveying; triangulation. Prerequisite: MATH 200; ARCH 102.

**CIVE 265L    Surveying and GPS Laboratory    (1 cr)**

In the Surveying Laboratory, students learn how to conduct distance measurements, transits and theodolites, vertical control, directions, angular measurement, topographic surveys, area and volume of earthworks, curve setting out, planimetric adjustment, GPS observable; basic principles of GPS operations; GPS error analysis; field procedures; data collection, processing; applications. Prerequisites: MATH 200, ARCH 102.

**MECH 270A    Properties of Materials for Architectural Engineers    (3 crs)**

This course covers the different types of materials: metals, ceramics, polymers; type of bonds: ionic, covalent and metallic bonds; unit cells and crystal structures, points, directions and planes within a unit cell; mechanical properties of materials: strength, toughness, ductility, resilience; failure: fatigue, creep. Thermal properties of materials: heat capacity, thermal expansion, thermal conductivity. Prerequisite: ARCH 102.

**CIVE 480                      Construction Management                      (3 crs)**

A course on organizing construction projects; pre-construction activities; bidding and contracts; fundamentals of construction planning, monitoring, and control; application of construction control tools: CPM, materials management, operations analysis, and quality control.

**ARCH 321                      Advanced BIM for Architecture                      (3 crs)**

The course provides students with computer advanced skills enhancement and methods for BIM generating. Students obtain necessary abilities buildings structural and environmental systems and materials integration into construction drawings production. Pre-requisite: ARCH 212.

**ARCH 322                      Modelling and Rendering                      (3 crs)**

Rationalized, geometrical approach to the perception and description of form. Selected examples of architectural form are first rigorously analyzed to re-derive their constructional logic and then are "built" as detailed electronic models. Students explore the potential of digital design technologies as instruments to achieve vivid, authentic, holistic simulations of architectural reality, appropriate to the testing of architectural ideas. Taught in a modified studio format. Pre-requisite: ARCH 202.

**ARCH 323                      Ecological Building Materials                      (3 crs)**

The course introduces to the students the large range of ecological materials used in building industry. The appreciation of materials impact on environment and indoor air quality is comprehended. The understanding of materials and finishes selection criteria and usage of them based on analyses of human factors will be introduced. The importance of using local materials as well as considering local market availability will be studied. Pre-requisite: CIVE 221.

**ARCH 324                      Local Vernacular Architecture, Construction                      (3 crs)**  
**Materials, Methods and Craftworks**

The course provides knowledge on local vernacular architecture, construction materials and methods. The recognition of vernacular architecture effect on modern design methods and buildings features is comprehended. Pre-requisite: ARCH 306.

**ARCH 421                      Special Topics in Interior Architecture                      (3 crs)**

This independent course will cover a particular topic suggested by a faculty member in the program and conducted by a student having the required pre-requisites. Pre-requisite: Permission of the Instructor, and approval of the Department.

**ARCH 422                      Green Buildings (Codes, Standards and Rating Systems)                      (3 crs)**

The course provides knowledge in International Green Construction Code, ASHRAE 189.1 Standard for the Design of High-Performance Green Buildings, Green Building Assessment Protocol (ANSI/GBI01-2010) and LEED. It will examine site development and land use, material resource conservation, energy efficiency, water resource conservation, indoor environmental quality, building commissioning, operations, and maintenance. Pre-requisite: ARCH 311.

**ARCH 423                      Bio-climatic Integration into Architecture Context                      (2 crs)**

The course provides theoretical and practical skills in bio-climatic design and is

composed of two modules: Outdoor/indoor comfort and natural ventilation assessment. The outdoor and indoor comfort module determines the areas of possible wind discomfort to make spaces more pleasant and safer for its users. The natural ventilation module estimates and optimizes natural ventilation of buildings and evaluates the indoor comfort and air quality. Pre-requisite: ARCH 315.

**ARCH 424 Identification and Evaluation of the Historic Built Environment (3 crs)**

Methods, techniques and theories of researching, analyzing, documenting and evaluating the historic built environment. Includes architectural survey field methods, documentation techniques, archival research and approaches to evaluating historic significance. Pre-requisite: ARCH 306.

**ARCH 425 Environmental Design Research (2 crs)**

Advanced skills for identifying research questions and methods for accomplishing research in the environmental field. Design research project is planned. Emphasis on research process including problem identification, literature review, data collection and analysis. Pre-requisite: ARCH 311.

**ARCH 426 Human Factors (2 crs)**

The psychology of the client or user is a crucial factor influencing the design of the environment and the practice of interior architecture. Facts will be gathered about the interaction of the environment and user's culture, gender, stage of life cycle and physical characteristics. Pre-requisite: ARCH 405.

## **6. Bachelor of Science in Interior Architecture Engineering**

### **6.1. Program Overview**

The IAE program is designed to meet the Foundation for Interior Design Education Research (FIDER) standards. Interior Architecture Engineering combines art and science to create a distinct, functional, and eco-friendly living and working space by focusing on peoples' lifestyle, culture, comfort, health and safety.

### **6.2. Program Objectives**

The objectives of the program are to:

- 1) Provide students with solid, up-to-date information, professional experience and practice in the discipline.
- 2) Develop creative designers/interior architects who are able to formulate, propose, and carry out design solutions relevant to the needs of people and the environment.
- 3) Encourage research and creative thinking to identify and solve problems in response to user needs.
- 4) Prepare students to play an active role in the community.
- 5) Qualify graduates to work with competence and esthetical professionalism in the field.
- 6) Equip students with the academic tools necessary to pursue a graduate degree in international academic institutions.



### 6.3. Program Learning Outcomes

A student graduating from the Interior Architecture Engineering program will be able to:

- 1) Identify design issues, to conduct research, and to provide solutions.
- 2) Deal with a large scope of design projects, and to understand the different materials and technologies.
- 3) Demonstrate creative and technical abilities for problem solving, and the capacity for critical thinking.
- 4) Apply skills and knowledge in a studio area of concentration with an original creative concept brought into visual form with effective presentation.
- 5) Define and integrate an understanding of the roles graphic designers/ interior architects have in today's world.
- 6) Practice interior architecture in various contexts and cultures.
- 7) Operate in a multidisciplinary environment.
- 8) Serve the community in organizations in or within both the public and private sectors.

### 6.4. Admission Requirements

Admission requirements for a Bachelor of Interior Architectural Engineering Program are as specified in **College Section 6.a on page 220**.

### 6.5. Graduation Requirements

To graduate with a Bachelor Degree in Interior Architecture Engineering, students must satisfactorily complete 137 credits taken over eleven semesters within four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The University, College, and Program requirements are as given in the following table:

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
27	3	98	9	137

### 6.6. University Requirements

The University requirements consist of nine courses comprising of 27 credit hours as specified in **College Section 8**.

### 6.7. College Requirements

The College requirement consist of one (1) course of 3 credit hours as given below:

Code	College Courses	Credit Hours
EECE 130	Computers and Programming I	3

## 6.8. Program Requirements

### I) Core Requirements

The program core requirements consist of 35 courses encompassing 98 credit hours.

### II) Elective Requirements

This includes the following 7 courses. A student has to take a total of 9 credit hours from this list

Code	Elective Requirements Courses	Credit Hours
INTA 321	Advanced BIM for Architecture	3
INTA 422	Green Buildings (Codes, Standards and Rating Systems)	3
INTA 423	Bio-climatic Integration into Architecture Context	2
INTA 497	Special Topics in Interior Architecture	3

## 6.9. Plan of Study: Bachelor of Interior Architecture Engineering

Year I		
Fall Semester		18 Credits
Code	Course Title	Credit Hours
INTA 130	Architectural Drawing I	3
ENGL 101	Basic Academic English I	3
INTA 120	Basic Drawing for Interior Architects	3
ARAB 101	Academic Writing in Arabic	3
INTA 121	Color Fundamentals for Interior Architects	3
EECE 130	Computers and Programming I	3
Spring Semester		17 Credits
Code	Course Title	Credit Hours
INTA 150	History of Architecture & Interior Design I	3
INTA 220	Introduction to Computer Aided Drawing	3
ENGL 102E	English for Engineering and Sciences I	3
INTA 131	Architectural Drawing II	3
INTA 201	Interior Architecture Foundation Studio I	5
Summer Semester		6 Credits
Code	Course Title	Credit Hours
SOCS 102	Omani Society	3
ENGL 203E	English for Engineering and Sciences II	3
Year II		
Fall Semester		18 Credits
Code	Course Title	Credit Hours
INTA 151	History of Architecture & Interior Design II	3
INTA 202	Interior Architecture Studio II	5
INTA 202A	Design Theories I	1
ENGL 204	Advanced English for Academic Purposes and Research	3
INTA 221	Introduction to Building Information Modeling	3
MATH 199	Calculus I	3

Spring Semester		18 Credits
Code	Course Title	Credit Hours
INTA 203	Interior Architecture Studio III	5
INTA 203A	Design Theories II	1
ENTR 200	Entrepreneurship: Innovation and Creativity	3
INTA 234	Modeling & Rendering	3
INTA 240	Interior Construction	3
ENGL 305	Advanced English Language and Communication Skills	3
Year III		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
INTA 304	Interior Architecture Studio IV	5
INTA 304A	Design Theories III	1
INTA 334	Lighting Design	2
INTA 241	Materials in Interior Design	2
INTA 232	Visual Presentation Technique	2
INTA 250	Environmental Control System in Interiors	3
Spring Semester		15 Credits
Code	Course Title	Credit Hours
INTA 305	Interior Architecture Advanced Studio V	5
INTA 305A	Design Theories IV	1
INTA 242	Professional Practice for Interior Architecture	3
INTA 344	Advanced Detailing	3
INTA 335	Modern Practices in Interior Design	3
Summer Semester		0 Credits
Code	Course Title	Credit Hours
INTA 400	Practical Training	0
Year IV		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
INTA 406	Interior Architecture Advanced Studio VI	5
INTA 406A	Design Theories V	1
INTA 491	Final Year Project I	3
INTA 390	Exhibition Design	3
XXX	Major Elective Course	3
Spring Semester		15 Credits
Code	Course Title	Credit Hours
INTA 342	Furniture Design	2
INTA 492	Final Year Project II	5
INTA 445	Design Management	2
XXX	Major Elective Course	3
XXX	Major Elective Course	3

## 6.10. Course Description

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### **INTA 130 Architectural Drawing I (3 crs)**

The course will supply the students with basic skills in the graphic communication of visual expressions. Practice will be provided for the control of the line thickness in plans, elevations and sections drawing as well as for generating clarity in spacing and crossing of lines in defining planar elements. These skills will emphasize space geometry expression in two-dimensional drawings. Skills to be addressed include: orthographic and parallel lines drawing techniques as well as lettering.

### **INTA 120 Basic Drawing for Interior Architects (3 crs)**

Freehand drawing with emphasis on the development of skills in perceiving line, shape, form, proportions, shading and rendering techniques in various types of pencils, charcoal and ink. Material and methodology: still life, landscape and life drawing, along with basics in perspective drawing.

### **INTA 131 Architectural Drawing II (3 crs)**

This course deals with more complex exercises on parallel line and orthographic drawings as well as with interiors perspective drawings. The knowledge of understanding and use of international conventions of architectural drawing symbols will be given. Architectural drawing phases as well as their content will be highlighted. Skills to be addressed include: orthographic and perspective drawing, interior architecture drawing symbols. Prerequisite: INTA 130.

### **INTA 121 Color Fundamentals for Interior Architects (3 crs)**

Fundamentals of colour theory and its application for the graphic designer, class lectures and demonstrations followed with exercises in colour perception, colour mixing, and the use of colour symbolism from different cultural perspectives. Application of traditional and digital media.

### **INTA 150 History of Architecture and Interior Design I (3 crs)**

This course provides an overview of architecture and interior design's history development as a collective expression of art, architecture, science and culture times and as a resource to stimulate new ideas of eras spanning from prehistoric times up to the end of the Gothic period. Awareness of design typology, specific elements of interior decoration and ornamentation, furniture design evolution, metal works, ceramic and textile.

### **INTA 151 History of Architecture and Interior Design II (3 crs)**

This course is an overview of architecture and interior design's history development from early Renaissance until the beginning of Industrial Revolution (18th Century). The course provides the students with comprehensive knowledge of Islamic Architecture and Interior Design's history as well as with awareness of design typology, specific elements of interior decoration and ornamentation, furniture design evolution, metal works, ceramic and textile. Prerequisite: INTA 150.

### **INTA 201 Interior Architecture Studio I (5 crs)**

The course is designed to provide students with communication skills and visual studies through 2D and 3D drawings. A set of projects given during the course will

provide students with basics knowledge of design elements such as concept, space, scale, proportion, movement, texture, color and light. Skills to be addressed: small scale residential buildings interiors design (spaces types and relationships, sizes and functions) projects; projects presentation; modeling. Prerequisites: INTA 120, INTA 130.

**INTA 202 Interior Architecture Studio II (5 crs)**

The course continues the content and purpose of INTA 201 and concentrates on students' design skills improvement. Skills to be addressed: medium scale residential buildings (two-three-four storied dwellings) interiors design projects, and projects visualization (including modeling). Prerequisite: INTA 201.

**INTA 202A Design Theories I (1 cr)**

The course is theoretical support to the course Interior Design Studio II and provides students with comprehensive knowledge required for studio projects implementations. Co-requisite: INTA 202.

**INTA 220 Introduction to Computer Aided Drawing (3 crs)**

Provides training for basic CAD applications using the Windows operating system. Develops basic familiarities and proficiency with applications commonly encountered during professional training. Prerequisite: EECE 130.

**INTA 240 Interior Construction (3 crs)**

Basic interior detailing, millwork and cabinetry elements. These elements must be developed and coordinated to construct interior space. Detailing, technical drawings, specifications and scheduling are therefore integral to design development. Prerequisites: INTA 201, INTA 131.

**INTA 203 Interior Architecture Studio III (5 crs)**

Advanced concepts are used in the development and application of planning techniques and spatial concepts. Emphasis is on research and analysis of existing structures, contextual development of interior solutions, building constraints, accessibility standards and specialized product and materials specifications. The attention will be attracted to the space/form shaping and compositions within the limits of the built environment. Students will obtain skills in designing large-scale residential projects. Projects topics may include: large scale residences, blocks of flats, etc. Prerequisite: INTA 202.

**INTA 203A Design Theories II (1 cr)**

The course is theoretical support to the course Interior Design Studio III and provides students with comprehensive knowledge required for studio projects implementations. Co-requisite: INTA 203.

**INTA 221 Introduction to Building Information Modeling (3 crs)**

The course provides students with computer drafting skills enhancement and understanding of methods for BIM generating. Students obtain necessary abilities for construction drawings production. The class is a combination of lecture (2) and practical modules (1) and includes theory, exercises, tools and class/home assignments for building modelling. Prerequisites: INTA 220.



**INTA 250 Environmental Control Systems in Interiors (3 crs)**

Provides an integrated presentation of environmental control systems (lighting, heating, ventilating, air conditioning, sanitary and acoustics) with special attention to the needs of interior designers. Systems are presented as they influence one another and as they constrain interior space planning and design. Prerequisite: INTA 240.

**INTA 304 Interior Architecture Studio IV (5 crs)**

The course continues the content and purpose of INTA 203 with a special emphasis on planning techniques and volumetric concepts for the design of large-scale buildings' interiors. Course components include research applied to selected client identities, design criteria for special population groups, building constraints and accessibility standards, modular design, project specifications and creative presentation methods. Projects topics may include: educational facilities, office buildings, shopping centers, etc. Prerequisite: INTA 203.

**INTA 304A Design Theories III (1 cr)**

The course is theoretical support to the course Interior Design Studio IV and provides students with comprehensive knowledge required for implementation of studio projects. Co-requisite: INTA 304.

**INTA 342 Furniture Design (2 crs)**

Exploration of the basic function and design of furniture as it relates to human factors, such as anthropometrics and ergonomics. The course provides a link between historical, theoretical and practical experience. It defines the elements of form, function and aesthetic by exploring experimental concepts and adopting alternative ways of thinking about the objects that surround us. Furniture models built to scale, or other presentation techniques, will be applied as needed to effectively support the evolution of new concepts. Prerequisite: INTA 240.

**INTA 305 Interior Architecture Advanced Studio V (5 crs)**

A comprehensive design project management, integrating all aspects of design, theoretical, technological and representational, that allows students to perform various scales of investigation within one design problem. Students will obtain skills on working drawing's production. Projects topics may include: governmental facilities, small structural changes and additions to buildings, headquarters, T.V. studios, etc. Prerequisite: INTA 304.

**INTA 305A Design Theories IV (1 cr)**

The course is theoretical support to the course Interior Design Studio IV and provides students with comprehensive knowledge required for implementation of studio projects. Co-requisite: INTA 305.

**INTA 335 Modern Practices in Interior Design (3 crs)**

Focus on 19th and 20th century interior design theories and practices, exposing students to the various international schools of thought. Lectures and discussions focus on practitioners who have influenced contemporary practices worldwide. Prerequisite: INTA 151.

Development of a greater focus on holistic and sustainable approaches to design. Issues such as demand and supply of energy and water, and the generation of waste are covered. Principles of reduce, reuse and recycle are reiterated. Predominant emphasis is on practical strategies directly applicable in design. Material is presented as lectures and seminars, supplemented with readings. Students should present a detailed project at the end of the course. Prerequisite: INTA 240.

Essential research, planning and design tools to prepare and produce persuasive exhibition and environments such as product shows, museums and gallery interiors. The course explores topics of planning, lighting, stagecraft, narrative composition and human perception. Prerequisites: INTA 344, INTA 305, INTA 334.

Bachelor students are required to undergo eight-week of on-the-job experience with an approved professional firm. Prerequisite: INTA 305.

This is a research directed design studio. Students pursue directed research in support of a design investigation. It focuses on topics related the aspects of architectural design such as history/theory, technology, representation, and heritage resource management etc. Solutions for the problems in interior architecture related to the high levels of complexity, with emphasis on reuse and adaptabilities are covered. Project topics may include: leisure facilities buildings and public spaces design. Prerequisite: INTA 305.

The course is theoretical support to the course Interior Design Studio VI and provides students with comprehensive knowledge required for studio projects implementations. Co-requisite: INTA 406.

Students are required to choose a design topic with the guidance of a supervisor and approval of faculty. Each student prepares an individual program for INTA 492, concluding with a formal and bound document. Prerequisite: INTA 305.

Involves individual design resolution based upon the research findings initiated in INTA 491. The final project is developed under the guidance and advice of a faculty supervisor and is presented and defended in a formal public jury. Prerequisite: INTA 491.

Principles and practices of the economic and commercial aspects of architectural and design practice in a global economy. Microeconomics theory as it applies to private enterprise: basic business economics, planning and management. Attention is also given to the processes and skills required in establishing an independent architectural office. Prerequisites: GRDS 340, INTA 406.



The course provides students with computer advanced skills enhancement and methods for BIM generating. Students obtain necessary abilities buildings structural and environmental systems and materials integration into construction drawings production. Pre-requisite: INTA 221.

The course provides knowledge in International Green Construction Code, ASHRAE 189.1 Standard for the Design of High Performance Green Buildings, Green Building Assessment Protocol (ANSI/GBI01-2010) and LEED. It will examine site development and land use, material resource conservation, energy efficiency, water resource conservation, indoor environmental quality, building commissioning, operations, and maintenance. Pre-requisite: INTA 250.

The course provides theoretical and practical skills in bio-climatic design and is composed of two modules: Outdoor/indoor comfort and natural ventilation assessment. The outdoor and indoor comfort module determines the areas of possible wind discomfort to make spaces more pleasant and safer for its users. The natural ventilation module estimates and optimizes natural ventilation of buildings and evaluates the indoor comfort and air quality. Pre-requisite: INTA 250.

This independent course will cover a particular topic suggested by a faculty member in the program and conducted by a student having the required prerequisites. Prerequisite: Permission of the Instructor, and approval of the Department.

Methods, techniques and theories of researching, analyzing, documenting and evaluating the historic built environment. Includes architectural survey field methods, documentation techniques, archival research and approaches to evaluating historic significance. Prerequisite: INTA 151.

Advanced skills for identifying research questions and methods for accomplishing research in the environmental field. Design research project is planned. Emphasis on research process including problem identification, literature review, data collection and analysis. Prerequisite: INTA 250.

The psychology of the client or user is a crucial factor influencing the design of the environment and the practice of interior architecture. Facts will be gathered about the interaction of the environment and user's culture, gender, stage of life cycle and physical characteristics. Prerequisite: INTA 241.

## 7. Diploma in Interior Architecture Engineering

### 7.1. Program Overview

The IAE Program is designed to meet the Foundation for Interior Design Education Research (FIDER) standards. Interior Architecture Engineering combines art and science to create a distinct, functional, and eco-friendly living and working space by focusing on people lifestyle, culture, comfort, health and safety.

Refer to Bachelor in Interior Architecture Engineering **Section 6.1.**

### 7.2. Program Objectives

Refer to Bachelor in Interior Architecture Engineering **Section 6.2.**

### 7.3. Program Learning Outcomes

Refer to Bachelor in Architecture Engineering **Section 6.3.**

### 7.4. Admission Requirements

Admission requirements for a Diploma in Architectural Engineering Program are as specified in **College Section 6.a on page 220.**

### 7.5. Graduation Requirements

To graduate with Diploma in Interior Architecture Engineering, students must satisfactorily complete 74 credits with an overall minimum average of 65 percent. The University, College, and Program requirements are as given in the following table:

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
18	3	53	-	74

### 7.6. University Requirements

The University requirements for Diploma in Interior Architecture Engineering program consist of six (6) courses comprising of 18 credit hours as shown below.

Code	University Courses	Credit Hours
ENGL 101	Basic Academic English	3
ENGL 102E	English for Engineering and Sciences I	3
ENGL 203E	English for Engineering and Sciences II	3
ENTR 200	Entrepreneurship – Innovation and Creativity	3
MATH 199	Calculus I	3
SOCS 102	Omani Society	3

## 7.7. College requirements

The College requirement consist of one (1) course of 3 credit hours as given below:

Code	College Courses	Credit Hours
EECE 130	Computers and Programming I	3

## 7.8. Program Requirements

### I) Core Requirements

The program core requirements consist of 18 courses encompassing 53 credit hours.

### II) Elective Requirements

There are no elective requirements for this program.

## 7.9. Plan of Study: Diploma in Interior Architecture Engineering

Year I		
Fall Semester		18 Credits
Code	Course Title	Credit Hours
INTA 130	Architectural Drawing I	3
ENGL 101	Basic Academic English I	3
INTA 120	Basic Drawing for Interior Architects	3
INTA 121	Color Fundamentals for Interior Architects	3
SOCs 102	Omani Society	3
EECE 130	Computers and Programming I	3
Spring Semester		17 Credits
Code	Course Title	Credit Hours
INTA 150	History of Architecture & Interior Design I	3
ENGL 102E	English for Engineering and Sciences I	3
INTA 131	Architectural Drawing II	3
INTA 201	Interior Architecture Foundation Studio I	5
INTA 220	Introduction to Computer Aided Drawing	3
Summer Semester		6 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Sciences II	3
MATH 199	Calculus I	3
Year II		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
ENTR 200	Entrepreneurship: Innovation and Creativity	3
INTA 202	Interior Architecture Studio II	5
INTA 202A	Design Theories I	1
INTA 221	Introduction to Building Information Modeling	3
INTA 151	History of Architecture & Interior Design II	3
INTA 240	Interior Construction	3

<b>Spring Semester</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
INTA 203	Interior Architecture Studio III	5
INTA 203A	Design Theories II	1
INTA 242	Professional Practice for Interior Architecture	3
INTA 234	Modeling & Rendering	3
INTA 250	Environmental Control System in Interiors	3
<b>Summer Semester</b>		<b>0 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
INTA 299	Practical Training	0

### **7.10. Course Description**

Refer to Bachelor Science in Interior Architecture Engineering **Section 6.10.**

## Department of Chemical Engineering

### 1. Personnel

Department Chairperson:	Dr. Md. Wasi Ahmad
Associate Professor:	Dr. Ahmmmed Ibrehem Dr. Mazhar Ul-Islam Dr. Md. Wasi Ahmad
Assistant Professor:	Dr. Mohd Shariq Khan
Laboratory Technician:	Ms. Noor Mohammed Qahoor

### 2. Vision

To be the regional leader in providing quality education in Chemical Engineering and to serve the industry through research, innovation and state-of-the-art technology.

### 3. Mission

The mission of the Department of Chemical Engineering is to provide high school graduate students with a strong foundation in the technical aspects of chemical engineering as well as communication, teamwork, and problem-solving skills required for professional success. This is achieved by offering student's high-quality education supported by practical skills, scientific and technological breakthroughs of knowledge and professional training in the field.

### 4. Programs Offered

The department offers the following Diploma and Bachelor programs:

#### a) Diploma Program

- 1) Diploma in Chemical Engineering

#### b) Bachelor Program

- 1) Bachelor of Science in Chemical Engineering

## 5. Bachelor of Science in Chemical Engineering

### 5.1. Program Overview

The Bachelor of Science in Chemical Engineering is designed to engage students for at least 30 credit hours of basic sciences and mathematics, at least 66 credit hours of engineering sciences, engineering design, communications skills, and at least 15 credit hours of humanities and social sciences, excluding language and technical writing courses. Laboratory hands-on experience and emphasis on design are important elements that are integrated throughout the curriculum.

The curriculum is designed to grant students the Bachelor of Sciences degree upon the successful completion of the four-year program. The first common year with other engineering majors allows students to switch between the engineering

majors at the start of the second year of their study. The program can also be concluded in Diploma Degree upon the successful completion of a two-year program.

The University, College, and Program requirements for this program are listed in the College introductory pages.

## **5.2. Program Objectives**

The objectives of the program are to:

- 1) Enable students with sound technical skills required for successful careers in various chemical engineering disciplines.
- 2) Promote excellence in research, since program graduates will be expected to conduct innovative and independent research activities.
- 3) Provide services to the community at large with special consideration to the needs and circumstances of the Sultanate of Oman, and the region.
- 4) Prepare students for leadership roles in a highly competitive and challenging environment in major fields of chemical engineering such as industry, government and academia.
- 5) Prepare students for life-long learning, critical and independent thinking, sound judgment, professional ethics, and innovation.

## **5.3. Program Learning Outcomes**

Each student graduating from the Chemical Engineering program will possess:

- A deep knowledge of the chemical engineering major, familiarity with professional opportunities, and knowledge of contemporary issues.
- Practical experience with chemical process equipment, handling of chemicals, chemical analysis, and process instrumentation.
- An ability to use the modern engineering tools necessary for engineering practice.
- An ability to define and solve engineering problems, including the utilization of creative and innovative skills.
- An ability to communicate ideas effectively in both oral and written forms.
- Proficiency in core Chemical Engineering working knowledge, including safety and environmental aspects.

## **5.4. Admission Requirements**

Admission requirements for a Bachelor of Science in Chemical Engineering Program are as specified in **College Section 6.a on page 228**.

## **5.5. Graduation Requirements**

To graduate with a Bachelor of Science Degree in Chemical Engineering, students must satisfactorily complete 138 credits taken over four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The University, College, and Program requirements are as given in the following table:

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
27	39	60	12	138

## 5.6. University Requirements

The University requirements consist of nine courses comprising of 27 credit hours as specified in **College Section 8**.

## 5.7. College Requirements

The college requirements consist of 15 courses comprising of 39 credit hours as given below:

Code	College Courses	Credit Hours
EECE 130	Computers and Programming I	3
ENGR 100	Introduction to Engineering	3
ENGR 105	Engineering Graphics	2
ENGR 110	Engineering Workshop	1
ENGR 300	Engineering Economy	3
MATH 200	Calculus II	3
MATH 205	Calculus III	3
MATH 210	Differential Equations	3
MATH 250E	Probability and Statistics	3
MATH 335	Mathematics for Science and Engineering	3
PHYS 170	Fundamentals of Physics I	3
CHEE 401	Final Year Project I	0
CHEE 402	Final Year Project II	3
XXX	Science Elective	3
XXX	General Elective	3

## 5.8. Program Requirements

### I) Core Requirements

The program core requirements consist of 22 courses (19 courses and 3 laboratories) encompassing 60 credit hours.

### II) Elective Core Requirements

A student has to take a total of 6 courses (3 courses and 3 laboratories) comprising of 12 credit hours from the following list:

Code	Elective Requirement Courses	Credit Hours
CHEE 450	Materials Engineering	3
CHEE 455	Introduction to Nanotechnology	3
CHEE 460	Computational Engineering	3
CHEE 465	Fundamentals of Natural Gas Process	3
CHEE 475	Chemical Reactor Design	3
CHEE 480	Biochemical Engineering	3
CHEE 485	Fuel Cell Technology	3

CHEE 487	Polymer Engineering	3
CHEE 488	Instrumentation and Process Control	3
CHEE 489	Pharmaceutical Biotechnology	3
CHEE 490	Renewable Energy	3
CHEE 495	Wastewater Treatment	3
CHEE 311L	Reactive Process Engineering Laboratory	1
CHEE 341L	Biotechnology Laboratory	1
CHEE 411L	Separation Process Engineering Laboratory	1
	Chemical Engineering Process Design	
CHEE 421L	Laboratory	1
CHEE 476L	Chemical Reactor Design Laboratory	1
CHEE 486L	Fuel Cell Laboratory	1
CHEE 487L	Polymer Engineering Laboratory	1

### 5.9. Plan of Study: Bachelor of Science in Chemical Engineering

Year I		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
ENGL 101	Basic Academic English I	3
SOCS 102	Omani Society	3
ENGR 105	Engineering Graphics	2
CHEM 140	Chemistry I	3
CHEM 140L	Introductory Chemistry Laboratory	1
MATH 199	Calculus I	3
Spring Semester		16 Credits
Code	Course Title	Credit Hours
ENGR 100	Introduction to Engineering	3
ENGL 102E	English for Engineering and Sciences I	3
ENGR 110	Engineering Workshop	1
EECE 130	Computers and Programming I	3
CHEM 180	Chemistry II	3
MATH 200	Calculus II	3
Summer Semester		6 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Sciences II	3
MATH 205E	Probability and Statistics	3
Year II		
Fall Semester		18 Credits
Code	Course Title	Credit Hours
PHYS 170	Fundamentals of Physics I	3
CHEM 260	Analytical Chemistry	3
CHEE 270	Fluid Mechanics for Chemical Engineers	3
CHEE 275	Thermodynamics for Chemical Engineers	3
CHEE 201	Principles of Chemical Engineering	3
CHEM 210	Organic Chemistry I	3



Spring Semester		17 Credits
Code	Course Title	Credit Hours
ENTR 200	Introduction to Entrepreneurship	3
CHEE 208	Instrumentation	3
CHEM 250	Organic Chemistry II	3
CHEM 250L	Organic Chemistry Laboratory	1
CHEE 270L	Fluid Mechanics Laboratory	1
CHEE 280	Mass Transfer	3
CHEM 370	Physical Chemistry	3
Summer Semester		6 Credits
Code	Course Title	Credit Hours
MATH 205	Calculus III	3
MATH 210	Differential Equations	3
Year III		
Fall Semester		18 Credits
Code	Course Title	Credit Hours
ENGL 204	Advanced English for Academic Purposes and Research	3
CHEE 300	Computational Methods in Chemical Engineering	3
CHEE 330	Materials Science	3
MATH 335	Mathematics for Science and Engineering	3
CHEE 340	Introduction to Biotechnology	3
CHEE 380	Heat Transfer	3
Spring Semester		17 Credits
Code	Course Title	Credit Hours
ENGR 300	Engineering Economy	3
ENGL 305	Advanced English Language and Communication Skills	3
CHEE 310	Reactive Process Engineering	3
CHEE 470	Chemical Process Dynamics and Control	3
CHEE XXX	Major Elective	3
CHEE XXX	Major Elective Laboratory	1
CHEE XXX	Major Elective Laboratory	1
Summer Semester		0 Credits
Code	Course Title	Credit Hours
CHEE 400	Practical Training	0
Year IV		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
ARAB 101	Academic Writing in Arabic	3
CHEE 401	Final Year Project I	0
CHEE 410	Separation Processes	3
CHEE 420	Chemical Engineering Process Design	3
CHEE XXX	Major Elective	3
XXX	Science Elective	3

Spring Semester		10 Credits
Code	Course Title	Credit Hours
CHEE 402	Final Year Project II	3
CHEE XXX	Major Elective	3
XXX	General Elective	3
CHEE XXX	Major Elective Laboratory	1

## 5.10. Course Description

### **CHEE 201 Principles of Chemical Engineering (3 crs)**

This course covers: Converting the earth's Resources into Useful Products; Process Flows: Variables, Diagrams; Mathematical Analysis of Material Balance Equations and Process Flow Sheets; Synthesis of Reactor Flow Sheets and Selection of Reactor Process Conditions. Prerequisite: CHEM 180, MATH 205.

### **CHEE 208 Instrumentation (3 crs)**

The course covers the instrumentation of different chemical analysis techniques including: Chromatography (HPLC, GC, and TLC), UV-Visible spectroscopy, IR- and FTIR spectroscopy, X-ray spectrometry, and Atomic Absorption Fluorescence spectroscopy. Prerequisite: CHEM 260.

### **CHEE 270 Fluid Mechanics for Chemical Engineers (3 crs)**

The course covers the concepts of density, volume, mass, weight, viscosity, gravitational force, fluid statics, buoyancy, balance equation, first law of thermodynamics, Bernoulli's equation, fluid friction and momentum balance. Prerequisites: MATH 205, CHEM 180.

### **CHEE 275 Thermodynamics for Chemical Engineers (3 crs)**

The course covers the basic concepts of thermodynamics, the three laws of thermodynamics, system and control volume analysis of thermodynamic processes, irreversibility, relations for ideal gas mixtures, Carnot Cycle, and the thermodynamic properties of chemical reactions ( $\Delta U$ ,  $\Delta H$ ,  $\Delta S$ ,  $\Delta G$ ,  $\Delta A$ ). Prerequisites: ENGR 100, MATH 205, CHEM 370.

### **CHEE 280 Mass Transfer (3 crs)**

The course covers an introduction to mass transfer phenomena as relevant to the chemical and process industry, theories of mass transfer, the flux laws for mass transfer, diffusion of the gases, diffusion in liquid and solid, mass transfer coefficient, convective mass transfer, multi direction diffusion, and design principles for mass transfer equipment. Prerequisites: CHEE 201, MATH 205.

### **CHEE 300 Computational Methods in Chemical Engineering (3 crs)**

The course covers the numerical solutions including: root finding, numerical differentiation and integration, series expansions and approximation, finite difference methods, solution of first-order ordinary differential equations, nonlinear systems. Use of MATLAB software for interpolation, extrapolation, newton method, Euler, Trapezoidal rule, Runge-Kutta methods, Mid points and curve fitting. Prerequisites: EECE 130, CHEE 201, Corequisite: MATH 335.

**CHEE 310      Reactive Process Engineering      (3 crs)**

This course covers principles of kinetics, analysis of both homogeneous and heterogeneous systems, reactor design, mass and energy balances for homogeneous ideal reactors, batch, semi-batch, continuous stirred tank reactor, and plug flow reactor, minimization of by-product and pollution production, thermal effects on reactions. Prerequisites: CHEE 370, CHEE 280, CHEE 275, Co-requisites: CHEE 300

**CHEE 330      Materials Science      (3 crs)**

The course covers and describes the relationship between the structures and properties of materials. This includes the atomic structure and interatomic bonding, The structure of crystalline solids, Crystallographic points, directions, and planes. Imperfections in solids. Prerequisite: MATH 335, CHEM 370.

**CHEE 340      Introduction to Biotechnology      (3 crs)**

This course aims to cover the basic introductory concepts of biotechnology. Topics include: Introduction to microbiology and biochemistry, Enzymes kinetics; immobilization techniques, Fermentation, and Sterilization Techniques. Prerequisite: CHEM 250.

**CHEE 380      Heat Transfer      (3 crs)**

Modes of heat transfer: conduction, convection and radiation. Thermal conductivity. Steady and unsteady state heat conduction. Convective heat transfer coefficients, external flow, internal flow, free convection, heat transfer with laminar and turbulent flows, design of heat exchange equipment: double-pipe, shell- and-tube heat exchangers, condensers and re-boilers. Radiation heat transfer. Prerequisites: CHEE 280, Co-requisite: CHEE 300.

**CHEE 400      Practical Training (BS Students)      (0 cr)**

This course requires eight weeks of practical training in chemical engineering with an established firm.

**CHEE 401      Final Year Project I      (0 cr)**

A supervised project, normally in groups of three students, aimed at providing practical experience in some aspects of chemical engineering. Students are expected to complete a literature survey, project specification, critical analysis, and to acquire the necessary material needed for their intended end product.

**CHEE 402      Final Year Project II      (3 crs)**

The course teaches students the skill to integrate the knowledge gained in different courses, by asking them to deliver a product that has passed through the design, analysis, testing and evaluation stages. It includes production of a professional report, design process and outcome, implementation and testing, verification and validation, and critical appraisal of the project. Prerequisite: CHEE 401.

**CHEE 410      Separation Processes      (3 crs)**

This course covers basic concepts of separation processes, distillation, absorption, drying, evaporation, liquid-liquid extraction, filtration, cyclone system, crystallization, leaching, membrane based separations. Prerequisites: CHEE 208, CHEM 370, and co-requisite: CHEE 380.

**CHEE 420      Chemical Engineering Process Design      (3 crs)**

The course covers design of equipment, processes and systems of interest in chemical engineering through application of scientific, technological, economic principles. Emphasis is placed on problem formulation and the conceptual, analytical, and decision aspects of open-ended design situations. The work integrates knowledge and skills gained in previous and concurrent courses. Prerequisite: CHEE 310, CHEE 410.

**CHEE 450      Materials Engineering      (3 crs)**

The course covers processes and performances of materials depending on materials science. This includes: applications and processing of Metal Alloys, structures, properties, applications and processing of Ceramics, Polymers: classifications, properties, and applications, composites, corrosion and degradation of materials. Prerequisite: CHEE 330.

**CHEE 455      Introduction to Nanotechnology      (3 crs)**

This course will cover the overview of history, manufacturing, and applications of nanomaterials. Topics will include: Introduction and classification of nanomaterials, synthetic and consolidation techniques. Properties of nanomaterials, Socio – economic impact of nanotechnology, short and long term implications of nanotechnology, Environmental aspects of nanotechnology. Prerequisite: CHEE 330.

**CHEE 465      Fundamentals of Natural Gas Processing      (3 crs)**

The course provides fundamental understanding of the NG industry starting from the gas being brought at the wellhead to the gas entering the marketplace. The course covers overview of gas processing plant, Inlet receiving and field operations, Gas gathering, Pipeline fieldwork, Gas metering, Hydrate Inhibition, Solid separation, Gas dehydration, Acid gas removal, Hydrocarbon recovery by Mechanical Refrigeration, Absorption, NG liquefaction peak shaving and baseload facilities, NG liquefaction cycles Joule-Thompson, Expander, Cascade, LNG storage, LNG transportation, LNG regasification, Capital cost of gas processing plant. Prerequisite: CHEE 420.

**CHEE 470      Chemical Process Dynamics and Control      (3 crs)**

The course covers introduction to modeling, control of dynamic chemical processes, the development of first-principles models, linearization and state space form, input-output (transfer function) form, design and tuning of PID controllers, model-based control, frequency response for robustness analysis, case studies in multivariable control, numerical analysis and simulation. Prerequisites: MATH 335, CHEE 300, CHEE 310.

**CHEE 480      Biochemical Engineering      (3 crs)**

This course aims to cover the topic in application of chemical engineering principles to biochemical processes. Major topics include: major metabolic pathways, cell growth kinetics and cell measuring techniques, bioreactors design and types of reactors, stoichiometry of microbial growth and product formation, Product recovery and purification techniques, mixed cultures, genetic engineering. Prerequisite: CHEE 340.

**CHEE 485      Fuel Cell Technology      (3 crs)**

The course covers the basics of fuel cell, various types of fuel cells; cell equilibrium, standard potentials, Nernst equation, transport and adsorption in proton-exchange membranes and supported liquid electrolytes, kinetics and catalysis, the Butler-Volmer equation, reaction routes, mechanisms; applications of fuel cells. Prerequisite: CHEE 275, CHEE 330.

**CHEE 487      Polymer Engineering      (3 crs)**

The course covers basic concept of synthesis and characterization of polymer, composition, molecular weight and molecular structure of the polymer, degree of polymerization, tacticity, isomerism, copolymers, crystallinity in polymers, mechanical properties of polymers, elastomers, thermoplastics, thermosets, application, polymer rheology, degradation and recycle of polymer. Prerequisite: CHEM 250.

**CHEE 488      Instrumentation and Process Control      (3 crs)**

The course covers principles of control theory and their application to chemical processes, single-loop feedback and feed forward control; laboratory sessions cover measurement fundamentals, signal transmission, dynamic testing, control system synthesis, implementation and adjustment. Prerequisite: CHEE 470.

**CHEE 489      Pharmaceutical Biotechnology      (3 crs)**

The course covers introduction to biotechnology, pharmaceuticals, therapeutic products derived from living organisms (e.g., proteins, peptides, DNA, RNA) and from the production plant, the challenges of keeping these products "active" as they are stored, shipped, and administered to patients. Prerequisite: CHEE 340.

**CHEE 490      Renewable Energy      (3 crs)**

The course covers energy conversion, utilization and storage for renewable technologies such as wind, solar, biomass, fuel cells and hybrid systems, energy supply from renewable resources as a result of solar power (such as direct solar radiation, and indirect forms such as bioenergy, water and wind power), geothermal energy, and modern technologies used in renewable energy. Prerequisite: CHEE 275, CHEE 330.

**CHEE 495      Wastewater Treatment      (3 crs)**

This course covers the fundamentals of treatment of wastewater. Topics include the study types of wastewater, effects of wastewater on the environment, pretreatment of wastewater, primary treatment, secondary treatment, and analyze station of wastewater treatment. Prerequisite: CHEE 410.

**CHEE 270L      Fluid Mechanics Laboratory      (1 cr)**

The laboratory covers experiments that include the basic principles of fluid mechanics. The course helps students to combine elements of theory and practice. During the course of this laboratory several experiments will be conducted that covers the course CHEE 270. Co-requisite: CHEE 270.

**CHEE 311L      Reactive Process Engineering Laboratory      (1 cr)**

The laboratory covers exercises in the design, operation and implementation of various types of simple chemical reactors. Co-requisite: CHEE 310.

The laboratory covers exercises in techniques and instrumentation in biotechnology. Co-requisite: CHEE 340.

The laboratory covers exercises in techniques and instrumentation in separation processes. Co-requisite: CHEE 410.

The laboratory covers exercises in chemical engineering process design.  
Co-requisite: CHEE 420.

The laboratory covers exercises in advanced chemical reactor design.  
Co-requisite: CHEE 475.

The laboratory covers modern techniques for the design and assessment of fuel cells, and the deployment in hybrid electric systems. Co-requisite: CHEE 485.

The laboratory covers experimental techniques to measure rheological and physical properties of various polymers. Co-requisite: CHEE 487.

To graduate with a Diploma in Chemical Engineering, students must satisfactorily complete 75 credits taken over two academic years, with an overall minimum average of 65 percent. The University, College, and Program requirements are as given in the following table:

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
18	21	36	-	75

## 6.6. University Requirements

The University requirements for Diploma in Chemical Engineering program consist of 6 courses comprising of 18 credit hours as shown below.

Code	College Courses	Credit Hours
ENGL 101	Basic Academic English	3
ENGL 102E	English for Engineering and Sciences I	3
ENGL 203E	English for Engineering and Sciences II	3
ENGR 200	Entrepreneurship: Innovation and Creativity	3
Math 199	Calculus I	3
SOCS 102	Omani Society	3

## 6.7. College Requirements

The College requirements consist of 8 courses comprising of 21 credit hours as given below:

Code	College Courses	Credit Hours
CHEM 260	Analytical Chemistry	3
EECE 130	Computers and Programming I	3
ENGR 100	Introduction to Engineering	3
ENGR 105	Engineering Graphics	2
ENGR 110	Engineering Workshop	1
MATH 200	Calculus II	3
MATH 205	Calculus III	3
PHYS 170	Fundamentals of Physics I	3

## 6.8. Program Requirements

### I) Core Requirements

The program core requirements consist of 15 courses (12 courses and 3 laboratories) encompassing 36 credit hours.

### II) Elective Requirements

There are no elective requirements for this program.

## 6.9. Plan of Study: Diploma in Chemical Engineering

Year I		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
ENGL 101	Basic Academic English I	3
SOCS 102	Omani Society	3
ENGR 105	Engineering Graphics	2
CHEM 140	Chemistry I	3
CHEM 140L	Introductory to Chemistry Laboratory	1
MATH 199	Calculus I	3

Spring Semester		16 Credits
Code	Course Title	Credit Hours
ENGR 100	Introduction to Engineering	3
ENGL 102E	English for Engineering and Sciences I	3
ENGR 110	Engineering Workshop	1
EECE 130	Computers and Programming I	3
CHEM 180	Chemistry II	3
MATH 200	Calculus II	3
Summer Semester		9 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Sciences II	3
MATH 205	Calculus III	3
MATH 250E	Probability and Statistics	3
Year II		
Fall Semester		18 Credits
Code	Course Title	Credit Hours
PHYS 170	Fundamentals of Physics I	3
CHEE 201	Principles of Chemical Engineering	3
CHEM 210	Organic Chemistry I	3
CHEM 260	Analytical Chemistry	3
CHEE 270	Fluid Mechanics for Chemical Engineers	3
CHEE 275	Thermodynamics for Chemical Engineers	3
Spring Semester		17 Credits
Code	Course Title	Credit Hours
ENTR 200	Introduction to Entrepreneurship	3
CHEE 208	Instrumentation	3
CHEM 250	Organic Chemistry II	3
CHEM 250L	Organic Chemistry Laboratory	1
CHEE 270L	Fluid Mechanics Laboratory	1
CHEE 280	Mass Transfer	3
CHEM 370	Physical Chemistry	3
Summer Semester		0 Credits
Code	Course Title	Credit Hours
CHEE 299	Practical Training	0

## 6.10. Course Description

Refer to Bachelor in Chemical Engineering **Section 5.10.**



# Department of Civil and Environmental Engineering

## 1. Personnel

Chairperson:	Dr. Mahad Shamas
Assistant Professors:	Dr. Hesham Tuwair Dr. Wesam Beitelmal Dr. Khalid Al Kaaf Dr. Ali Rafeet (Part Time) Eng. Mohammed Tabook (Part Time)
Laboratory Technicians:	Mr. Said Al Awaid Ms. Anjum Fida (Part Time)
Assistant Laboratory Technician:	Mr. Mohamed Kashooob
Department Assistant:	Ms. Laila Al Fatih Albahar

## 2. Vision

To be the regional leader in providing quality education in Civil and Environmental Engineering and to serve the industry through research, innovation and state-of-the-art technology.

## 3. Mission

The mission of the undergraduate program in Civil Engineering is to present a high standard of education, which prepares graduating students to provide quality professional services, contribute to the state of the knowledge and practice in civil engineering, and exposes them to a global perspective and an awareness of their leadership role in regional development.

## 4. Programs Offered

The department offers the following Diploma and Bachelor programs:

### a) Diploma Program

- 1) Diploma in Civil Engineering

### b) Bachelors Program

- 1) Bachelor of Science in Civil Engineering

## 5. Bachelor of Science in Civil Engineering

### 5.1. Program Overview

The Bachelor of Science in Civil Engineering curriculum is designed to comply with local education framework and benchmarked with international institutions. It includes 32 credits in basic sciences and mathematics, 103 credits engineering sciences and engineering design and communications skills, and 3 credits of humanities and social sciences excluding language and technical writing courses. Lab hands-on experience and emphasis on practical aspects are important elements that are integrated throughout the curriculum. It is designed to grant

students the Bachelor of Sciences degree upon the successful completion of the four-year program.

The program is also offered in Diploma Degree upon the successful completion of a two-year program. The first common year with other college majors allows students to switch between the majors at the same college at the start of the second year of their study.

## **5.2. Program Objectives**

The objectives of the program are to:

- 1) Provide students with a broad purposeful education targeting fundamental principles and concepts of civil engineering.
- 2) Endow students with the technical skills required to forge successful careers in the various civil engineering disciplines.
- 3) Develop and distribute, across the curriculum, open-ended activities that stimulate students' creativity.
- 4) Commit to continually improve the curriculum to induce the latest and best practices in civil engineering education while conforming to the established standards of the national and international bodies.
- 5) Affix high priority to continually improve the learning conditions for students to attain the mathematical, scientific, computational, technical, and experimental skills required to formulate and solve multidisciplinary, complex, contemporary, and socially relevant civil engineering problems.
- 6) Inspire students to embrace the principles of life-long learning and endow them with the credentials that enable them to pursue higher education in reputable institutions.
- 7) Engage students in activities that harness their social skills so that they can comfortably work in multidisciplinary teams, effectively communicate their ideas and positions, and successfully assume leadership roles in the arena of their professional life.
- 8) Strengthen students' understanding of social, economic, professional, ethical, and environmental issues in an interconnected world.

## **5.3. Program Learning Outcomes**

Each student graduating from the Civil Engineering program will have:

- 1) An ability to apply knowledge of mathematics, science, and engineering.
- 2) An ability to identify, formulate and solve engineering problems.
- 3) An ability to design and conduct experiments, as well as to analyze and interpret data.
- 4) 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.
- 5) An ability to use the techniques, skills, and modern tools necessary for engineering practice.

- 6) The broad education necessary to understand the impact of engineering solutions in a local and global, economic, environmental, and societal context.
- 7) An ability to function in multidisciplinary teams.
- 8) An ability to communicate effectively.
- 9) An understanding of professional and ethical responsibility.
- 10) Knowledge of contemporary issues.
- 11) Recognition of the need for, and an ability to engage in life-long learning.

The teaching and learning strategies adopted by individual instructors and students will have to target the satisfaction of the above listed program outcomes, which are in line with the program objectives.

#### 5.4. Admission Requirements

Admission requirements for a Bachelor of Science in Civil Engineering Program are as specified in **College Section 6.a on page 220**.

#### 5.5. Graduation Requirements

To graduate with a Bachelor of Science Degree in Civil Engineering, students must satisfactorily complete 138 credits taken over four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The university, college, and program requirements are as given in the following table:

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
27	33	69	9	138

#### 5.6. University Requirements

The University requirements consist of nine (9) courses comprising of 27 credit hours as given below:

Code	University Courses	Credit Hours
ARAB 101	Academic Writing in Arabic	3
ENGL 101	Basic Academic English	3
ENGL 102E	English for Engineering and Sciences I	3
ENGL 203E	English for Engineering and Sciences II	3
ENGL 204	Advanced English for Academic Purposes and Research	3
ENGL 305	Advanced English Language and Communication Skills	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
MATH 199	Calculus I	3
SOCS 102	Omani Society	3

#### 5.7. College Requirements

The College requirements consist of 13 courses comprising of 33 credit hours as given below:

Code	College Courses	Credit Hours
CIVE 400	Practical Training	0
EECE 130	Computers and Programming I	3
ENGR 100	Introduction to Engineering	3
ENGR 105	Engineering Graphics	2
ENGR 110	Engineering Workshop	1
ENGR 300	Engineering Economy	3
MATH 200	Calculus II	3
MATH 205	Calculus III	3
MATH 210	Differential Equations	3
MATH 250E	Probability and Statistics	3
MATH 335	Mathematics for Science and Engineering	3
PHYS 170	Fundamentals of Physics I	3
XXX	Science Elective	3

## 5.8. Program Requirements

### I) Core Requirements

The program core requirements consist of 30 courses and laboratories encompassing 69 credit hours.

### II) Elective Requirements

A student has to take a total of 3 courses encompassing 9 credit hours from the following list:

Code	Elective Requirement Courses	Credit Hours
CIVE 410	Structural Analysis II	3
CIVE 430	Foundation Engineering	3
CIVE 440	Hydraulics + Laboratory	3
CIVE 485	Specifications and Cost Estimation	3
CIVE 510	Bridges	3
CIVE 511	Advanced Structural Analysis	3
CIVE 520	Plain Concrete	3
CIVE 522	Pre-stressed Concrete	3
CIVE 530	Applied Foundation Engineering	3
CIVE 532	Soil and Site Improvement	3
CIVE 540	Hydraulic Structures	3
CIVE 541	Surface Water Hydrology	3
CIVE 542	Groundwater Hydrology	3
CIVE 550	Methods of Environmental Sampling and Analysis	3
CIVE 553	Water and Sewage Works Design	3
CIVE 554	Solid Waste Management I	3
CIVE 560	Pavement Design	3
CIVE 561	Urban Transportation Planning I	3
CIVE 562	Traffic Engineering	3
CIVE 570	Introduction to Geographic Information Systems	3
CIVE 590	Structural Dynamics	3

## 5.9. Plan of Study: Bachelor of Science in Civil Engineering

Year I		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
ENGL 101	Basic Academic English	3
MATH 199	Calculus I	3
PHYS 170	Fundamentals of Physics I	3
PHYS 170L	Introductory Physics Laboratory	1
ENGR 100	Introduction to Engineering	3
ENGR 110	Engineering Workshop	1
ENGR 105	Engineering Graphics	2
Spring Semester		16 Credits
Code	Course Title	Credit Hours
ENGL 102E	English for Engineering and Sciences I	3
MATH 200	Calculus II	3
CHEM 140	Chemistry I	3
CHEM 140L	Introductory Chemistry Laboratory	1
CIVE 210	Statics	3
SOCS 102	Omani Society	3
Summer Semester		6 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Sciences II	3
MATH 250E	Probability and Statistics	3
Year II		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
CIVE 215	Engineering Geology	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
PHYS 210	Fundamentals of Physics II	3
CIVE 265	Surveying & GPS	3
CIVE 265L	Surveying & GPS Laboratory	1
CIVE 213	Strength of Materials	3
Spring Semester		15 Credits
Code	Course Title	Credit Hours
CIVE 230	Geotechnical Engineering	3
CIVE 230L	Geotechnical Engineering Laboratory	1
CIVE 221	Construction Materials	3
CIVE 221L	Construction Materials Laboratory	1
CIVE 250	Structural Analysis I	3
CIVE 250L	Structural Analysis I Laboratory	1
CIVE 241	Fluid Mechanics	3
Summer Semester		6 Credits
Code	Course Title	Credit Hours
MATH 205	Calculus III	3
MATH 210	Differential Equations	3

Year III		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
MATH 335	Mathematics for Science and Engineering	3
CIVE 325	Concrete I	3
ECEE 130	Computers and Programming	3
CIVE 340	Engineering Hydrology	3
CIVE 241L	Fluid Mechanics Laboratory	1
ENGR 300	Engineering Economy	3
Spring Semester		16 Credits
Code	Course Title	Credit Hours
ENGL 204	Advanced English for Academic Purposes and Research	3
CIVE 361	Transportation Engineering	3
CIVE 451	Water and Wastewater Treatment	3
CIVE 451L	Water and Wastewater Treatment Laboratory	1
CIVE 420	Concrete II	3
ARAB 101	Academic Writing in Arabic	3
Summer Semester		0 Credits
Code	Course Title	Credit Hours
CIVE 400	Practical Training	0
Year IV		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
CIVE 401	Final Year Project I	0
CIVE 331	Steel Design	3
CIVE 350	Environmental Engineering	3
CIVE 480	Construction Management	3
ENGL 305	Advanced English Language and Communication Skills	3
CIVE XXX	Major Elective	3
Spring Semester		16 Credits
Code	Course Title	Credit Hours
CIVE 402	Final Year Project II	3
CIVE 470	Highway Design	3
CIVE 470L	Highway Engineering Laboratory	1
CIVE XXX	Major Elective	3
CIVE XXX	Major Elective	3
XXX	Science Elective	3

## 5.10. Course Description

### **CIVE 210 Statics (3 crs)**

This course covers the following topics: force vector, 2-D system of vectors, moment, couple, resultants, static equilibrium of 2-D forces and moments, centroid, truss, friction. Prerequisite: ENGR 100, PHYS 170, Prerequisite MATH 199.

This course covers the different types of stress and strain induced by different types of loading: axial loading, torsion, pure bending: shear force and bending moment diagrams; stress concentration; analysis and design of beams in bending; shearing stresses in beams and thin-walled members; deflection of beams. Prerequisite: CIVE 210.

This course covers the fundamentals of geology related to Civil Engineering. Topics include rock and mineral types, soil properties, geological structures, plate tectonic and earthquake hazards, site investigations. Prerequisite: ENGR 100, PHYS 170

This course covers the composition and properties of engineering construction materials through hands-on laboratory experiments. The course introduces students to developments in construction equipment and technologies and Includes field demonstrations. Prerequisite: CIVE 213.

A course on engineering geology, soil classification and index properties; soil structure and moisture; compaction; seepage; effective stress concept; compressibility and consolidation; stress and settlement analysis; shear strength. Laboratory tests are conducted to familiarize students with soil characterization and the engineering behavior of soils. Prerequisite: CIVE 213 and CIVE 215.

This course covers the basic concepts of fluid mechanics: properties of fluids, pressure and fluid statics, hydrostatic forces, fluid kinematics, conservation of mass, conservation of energy, fluids in rigid body translational and rotational motions, Bernoulli's equation, momentum analysis of flow systems. Prerequisite: CIVE 210 and MATH 200.

This is an introductory course covering influence lines; deflection of beams and frames by double integration method, moment-area theorems, and conjugate beam; introduction to indeterminate structures; approximate analysis of building frames. Prerequisite: CIVE 210.

This course deals with the theory of measurements and errors; linear measurements; surveying instruments; leveling; angles, bearings, and azimuths; stadia measurements; traversing—field aspects; traverse computations and adjustment; topographic surveying; triangulation. Prerequisite: MATH 200.

An 8-weeks professional training course in Civil Engineering.

This course covers the mechanical properties of concrete materials; ultimate strength theory of flexure and shear; flexural and shear design of beams; service

load behavior; bond properties of reinforcing bars; design of solid and ribbed one-way slabs. Prerequisite: CIVE 250 and CIVE 221.

**CIVE 331 Steel Design (3 crs)**

This is an introductory course to design steel structures using the LRFD method. Topics covered include tension members; compression members; beam design; serviceability requirements; beam-column design; bolted and welded connections. Prerequisite: CIVE 250 and CIVE 213.

**CIVE 340 Engineering Hydrology (3 crs)**

This course focuses on hydrologic principles, rainfall-runoff analysis, flood routing, frequency analysis, and ground water hydrology. Prerequisite: CIVE 241.

**CIVE 350 Environmental Engineering (3 crs)**

This course introduces the fundamentals of environmental engineering. A screening course of major topics in environmental engineering including water and wastewater, environmental hydrology, environmental hydraulics and pneumatics, air, solid waste, noise, environmental modeling, and hazardous waste. Prerequisite: CIVE 340.

**CIVE 361 Transportation Engineering (3 crs)**

This course introduces the field of transportation engineering through a presentation of the basics of traffic engineering, traffic flow theory, and pavement design. Prerequisite: CIVE 265.

**CIVE 400 Practical Training (BS Students) (0 cr)**

This is an 8-week practical training course in Civil Engineering.

**CIVE 401 Final Year Project I (0 cr)**

A chosen design topic and preparation of a detailed execution program for CIVE 402, through comprehensive research with the guidance and approval of the faculty. Fourth Year Level.

**CIVE 402 Final Year Project II (3 crs)**

A supervised project in groups of normally three students aimed at providing practical design experience in a civil and environmental engineering application. Prerequisite: CIVE 401.

**CIVE 420 Concrete II (3 crs)**

A course that builds upon Concrete I and covers continuous beams; short columns, slender columns, and biaxially bent columns; wall footings, concentrically and eccentrically loaded single column footings, and combined footings; staircases; bearing walls; shear walls; two-way slabs. Prerequisite: CIVE 325.

**CIVE 451 Water and Wastewater Treatment (3 crs)**

This course examines the quality and treatment methods of water and wastewater; testing for physical, chemical, and biological parameters. Prerequisite: CHEM 140 and CIVE 241.

**CIVE 470 Highway Design (3 crs)**

A course that examines road vehicle performance; principles of geometric design and highways; horizontal and vertical alignment; earthwork; intersections and



interchanges; parking facilities; basic traffic models; queuing theory and traffic analysis; travel demand forecasting. Prerequisite: CIVE 361.

**CIVE 480 Construction Management (3 crs)**

A course on organizing construction projects; pre-construction activities; bidding and contracts; fundamentals of construction planning, monitoring, and control; application of construction control tools: CPM, materials management, operations analysis, and quality control. Prerequisite: CIVE 221 and CIVE 325.

**CIVE 485 Specifications and Cost Estimation (3 crs)**

This course deals with the structure of construction documents and their interrelationships; bidding requirements; general and particular contract conditions; administrative and procedural requirements for construction; technical specifications; construction cost estimations process; unit rates determination. Prerequisite: CIVE 221 and CIVE 325.

**CIVE 570 Introduction to Geographic Information Systems (3 crs)**

This is an introductory course on Geographic Information Systems (GIS) and their applications in the planning and engineering fields, alternatives in computer-based graphics, data concepts and tools, network data management and planning applications, and implementation issues. Prerequisite: CIVE 265.

**CIVE 410 Structural Analysis II (3 crs)**

This course covers stability and determinacy of structures; energy theorems and applications to trusses, beams, and frames; solution of statically indeterminate structures by flexibility (force) and stiffness methods; introduction to the direct stiffness method; influence lines for indeterminate structures. Prerequisite: CIVE 250.

**CIVE 510 Bridges (3 crs)**

This course discusses the types of bridges; influence lines; loads and their distribution on bridges; serviceability of bridges; methods of design of bridge deck, superstructure, and substructure. Prerequisites: CIVE 410, CIVE 420, and CIVE 331.

**CIVE 511 Advanced Structural Analysis (3 crs)**

This course offers a review of matrix algebra; basic principles of structural analysis: stiffness, flexibility, and energy methods; direct stiffness method for plane and space trusses and frames; linear and nonlinear problems; special problems; computer programming. Prerequisite: CIVE 410.

**CIVE 520 Plain Concrete (3 crs)**

This course examines Portland cements; aggregates; fly ash and silica fume; admixtures for concrete; proportioning normal concrete mixtures; pumping concrete; consolidating, finishing, and curing concrete; durability; testing hardened concrete; high-strength concrete; light and heavy weight concretes; hot and cold weather concreting. Prerequisites: CIVE 221.

**CIVE 522 Pre-stressed Concrete (3 crs)**

This course covers material characteristics; pre-stress losses; working strength design procedures; composite construction; ultimate flexural strength and

behavior; shear design; continuous pre-stressed concrete members. Prerequisite: CIVE 420.

**CIVE 430 Foundation Engineering (3 crs)**

A course that covers site investigations; evaluation of data from field and laboratory tests; estimation of stresses in soil masses; applications of principles of soil mechanics to determination of bearing capacity and settlement of spread footings, mats, single piles, and pile groups. Prerequisite: CIVE 230.

**CIVE 530 Applied Foundation Engineering (3 crs)**

A course on braced excavations, retaining structures, deep foundations, slope stability, and computer applications. Prerequisite: CIVE 430.

**CIVE 532 Soil and Site Improvement (3 crs)**

This course covers compaction, admixture stabilization, foundation soil treatment, reinforced soil and composite materials, and material sites reclamation. Prerequisite: advanced standing level. CIVE 230.

**CIVE 560 Pavement Design (3 crs)**

A course examining highway and airport pavement design; flexible and rigid pavement types and wheel loads; stresses in flexible and rigid pavements; pavement behavior under moving loads; soil stabilization. Prerequisite: CIVE 361.

**CIVE 561 Urban Transportation Planning I (3 crs)**

This introductory course covers methods and models used in transportation planning with emphasis on the urban context. Prerequisite: CIVE 361.

**CIVE 562 Traffic Engineering (3 crs)**

This course outlines traffic engineering studies; traffic control of signalized and un-signalized intersections; signal control hardware and maintenance; arterial performance and operations; network optimization. Prerequisite: CIVE 361.

**CIVE 440 Hydraulics + Laboratory (3 crs)**

This lab deals with flow in conduits, flow in open channels, flow measurements, and laboratory experiments. Prerequisite: CIVE 241 and CIVE 241L.

**CIVE 540 Hydraulic Structures (3 crs)**

This course covers closed conduit flow, water distribution systems, transient analysis, open channel flow, flood control, culvert hydraulics, design of various hydraulic structures. Prerequisite: CIVE 440.

**CIVE 541 Surface Water Hydrology (3 crs)**

This course covers design storm, rainfall-runoff modeling, overland flow, flood routing, reservoir routing, simulation models, hydrologic design, urban hydrology, and stochastic hydrology. Prerequisite: CIVE 340.

**CIVE 542 Ground water Hydrology (3 crs)**

A course that deals with properties of groundwater, groundwater movement, general flow equations, steady – state well hydraulics, seepage forces, unsteady well hydraulics, infiltration, and groundwater modeling. Prerequisite: CIVE 340.

A course on sampling techniques and instrumental methods in environmental sciences; determination of pollutants in water, air and soil; analytical techniques and adaptation of procedures to specific matrices; case studies. Prerequisite: CIVE 350 and CIVE 451

A course that examines the design of water and water schemes, including design reports and a literature search on the development of conventional treatment processes. Prerequisite: CIVE 350 and CIVE 451

A course on nature and effects of solid wastes including hazardous wastes; engineering management principles, practices, and techniques for management of solid wastes administration; solid waste generation, storage, collection and transport, processing, resource recovery, and disposal; trip to a local facility. Prerequisite: CIVE 350.

A course covering characteristics of a dynamic problem, equation of motion, methods of discretization, damping properties, single and multiple degrees of freedom models, models response to free vibration, harmonic loading, periodic loading and impulse loading. Prerequisite: CIVE 250.

The Construction Materials Laboratory is established to train students to carry out tests on common construction materials such as concrete, steel, wood, and masonry. The tests are conducted to determine the engineering properties in terms of strength, strain, fatigue, creep, elasticity, stiffness durability, and workability. Pre/Co-requisite: CIVE 221.

The lab is meant to consolidate the course CIVE 230. Experiments will include: water content, organic content, specific gravity, grain size analysis, hydraulic conductivity (permeability), consolidation, direct shear, unconfined compression, triaxial shear. Pre/Co-requisite: CIVE 230.

This laboratory covers different experiments that may include: measurement of flow rate, Bernoulli's theorem, center of pressure, floatation characteristics, centrifugal pumps, cavitations in centrifugal pumps, characteristics of two pumps in series, pipe friction losses, friction in bends and fittings, momentum of flow, Pelton turbine, hydraulic Ram Pump, free and forced vortices. Pre/Co-requisite: CIVE 241.

This computer laboratory is designed to enhance student understanding of theoretical structural analysis concepts by the use of computer simulations and commercially available software packages. This laboratory covers modeling structures with geometric and material properties, application of the loads,

interpretation of analysis results, internal forces and deformations, load combinations and design forces. Pre/Co-requisite: CIVE 250.

**CIVE 265L    Surveying & GPS Laboratory                      (1 cr)**

In the Surveying Laboratory, students learn how to conduct distance measurements, transits and theodolites, vertical control, directions, angular measurement, topographic surveys, area and volume of earthworks, curve setting out, planimetric adjustment, GPS observable; basic principles of GPS operations; GPS error analysis; field procedures; data collection, processing; applications. Pre/Co-requisite: CIVE 265.

**CIVE 451L Water and Wastewater Treatment Laboratory (1 cr)**

This laboratory will cover experiments related to the following topics: water supply and wastewater collection systems. Water transmission mains, water distribution systems, pumping, storm sewers, and sanitary sewer systems, wastewater collection and wastewater treatment. Pre/Co-requisite: CIVE 451.

**CIVE 470L Highway Engineering Laboratory (1 cr)**

This laboratory is designed to provide students with knowledge of standard tests and procedures required to test highway materials. Experiments include traffic counting and analysis, aggregate testing, asphalt testing, asphalt content of hot-mix asphalt by ignition method, Marshall Test, traffic impact studies, etc. Pre/Co-requisite: CIVE 470.

## 6. Diploma in Civil Engineering

## 6.1. Program Overview

Refer to Bachelor in Civil Engineering **Section 5.1.**

## 6.2. Program Objectives

Refer to Bachelor in Civil Engineering **Section 5.2.**

### 6.3. Program Learning Outcomes

Refer to Bachelor in Civil Engineering **Section 5.3.**

## 6.4. Admission Requirements

Admission requirements for a Diploma in Civil Engineering Program are as specified in **College Section 6.a on page 220.**

## 6.5. Graduation Requirements

To graduate with a Diploma in Civil Engineering, students must satisfactorily complete 75 credits taken over two academic years, with an overall minimum average of 65 percent. The University, College, and Program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
18	18	39	-	75

## 6.6. University Requirements

The University requirements for Diploma in Civil Engineering program consist of six (6) courses comprising of 18 credit hours as shown below:

Code	University Courses	Credit Hours
ENGL 101	Basic Academic English	3
ENGL 102E	English for Engineering and Sciences I	3
ENGL 203E	English for Engineering and Sciences II	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
MATH 199	Calculus I	3
SOCS 102	Omani Society	3

## 6.7. College Requirements

The College requirements consist of eight (8) courses comprising of 18 credit hours as given below:

Code	College Courses	Credit Hours
CIVE 299	Practical Training	0
ENGR 100	Introduction to Engineering	3
ENGR 105	Engineering Graphics	2
ENGR 110	Engineering Workshop	1
MATH 200	Calculus II	3
MATH 205	Calculus III	3
MATH 250E	Probability and Statistics	3
PHYS 170	Fundamentals of Physics I	3

## 6.8. Program Requirements

### I) Core Requirements

The program core requirements consist of 17 courses and labs encompassing 39 credit hours.

### II) Elective Requirements

There are no elective requirements for this program.

## 6.9. Plan of Study: Diploma in Civil Engineering

Year I		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
ENGL 101	Basic Academic English I	3
MATH 199	Calculus I	3
PHYS 170	Fundamentals of Physics I	3
PHYS 170L	Introductory Physics Laboratory	1
ENGR 100	Introduction to Engineering	3
ENGR 110	Engineering Workshop	1
ENGR 105	Engineering Graphics	2

Spring Semester		16 Credits
Code	Course Title	Credit Hours
ENGL 102E	English for Engineering and Sciences I	3
MATH 200	Calculus II	3
SOCS 102	Omani Society	3
CHEM 140	Chemistry I	3
CHEM 140L	Introductory Chemistry Laboratory	1
CIVE 210	Statics	3
Summer Semester		9 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Sciences II	3
MATH 205	Calculus III	3
MATH 250E	Probability and Statistics	3
Year II		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
ENTR 200	Entrepreneurship: Innovation and Creativity	3
PHYS 210	Fundamentals of Physics II	3
CIVE 215	Engineering Geology	3
CIVE 265	Surveying & GPS	3
CIVE 265L	Surveying & GPS Laboratory	1
CIVE 213	Strength of Materials	3
Spring Semester		18 Credits
Code	Course Title	Credit Hours
CIVE 230	Geotechnical Engineering	3
CIVE 230L	Geotechnical Engineering Laboratory	1
CIVE 221	Construction Materials	3
CIVE 221L	Construction Materials Laboratory	1
CIVE 250	Structural Analysis I	3
CIVE 250L	Structural Analysis I Lab	
CIVE 241	Fluid Mechanics	3
CIVE 361	Transportation Engineering	3
Summer Semester		0 Credits
Code	Course Title	Credit Hours
CIVE 299	Practical Training for Diploma Students	0

## 6.10. Course Description

Refer to Bachelor in Civil Engineering **Section 5.10.**

# Department of Electrical and Computer Engineering

## 1. Personnel

Chairperson:	Dr. Imran Baig
Associate Professor:	Dr. Manaf Zghaibeh Dr. Najam Ul Hasan Dr. Imran Baig Dr. Umer Farooq
Assistant Professor:	Dr. Prajoona Valsalan Dr. El Manaa Salah Barhoumi
Lecturer:	Dr. Mohammad Maroof Siddiqui
Laboratory Technician:	Engr. Omer Faraz Khan Engr. Yousuf Al-Maashani

## 2. Vision

We aspire at the ECE at DU to provide excellent education for our students. We seek to develop within our students the fundamental knowledge in the broad venues of Electrical and Computer Engineering along with robust professional skills that will allow them to progressively support the national economy of Oman.

## 3. Mission

The ECE is aiming at developing students coming from high schools with scientific background, to attain the fundamental skills, knowledge, and practice in the disciplines of electrical, electronics and computer engineering. Graduates from this department will be prepared to undertake careers in service, design, operation, and control of electrical engineering systems. The department strives to create the academic environment necessary for training innovators and leaders for the future, as well as to conduct scholarly research.

## 4. Programs Offered

The department offers the following Diploma and Bachelor programs:

### a) Diploma Program

- 1) Diploma in Electrical and Computer Engineering

### b) Bachelors Program

- 1) Bachelor of Science in Computer and Communications Engineering
- 2) Bachelor of Science in Electrical and Electronics Engineering
- 3) Bachelor of Science in Software Engineering

## **5. Bachelor of Science in Computer and Communications Engineering**

### **5.1. Program Overview**

The Bachelor of Sciences in Computer and Communications Engineering curriculum is designed to comply with local education framework and benchmarked with international institutions. It includes at least 30 credits in basic sciences and mathematics, at least 62 credits engineering sciences and engineering design and communications skills, and at least 9 credits of humanities and social sciences excluding language and technical writing courses. Lab hands-on experience and emphasis on practical aspects are important elements that are integrated throughout the curriculum. It is designed to grant students the Bachelor of Sciences degree upon the successful completion of the four-year program.

The program is also offered in Diploma Degree as Electrical and Computer Engineering upon the successful completion of a two-year program. The first common year with other college majors allows students to switch between the majors at the same college at the start of the second year of their study.

### **5.2. Program Objectives**

The objectives of the program are:

- 1) To prepare graduates for successful careers in engineering by gaining skills and knowledge that qualify them for professional practice in computer and communications engineering.
- 2) To provide graduates with fundamental knowledge, appropriate mathematical principles and computing tools for analysis and design in the fields of computer and communications engineering.
- 3) To sustain atmosphere in which graduates can conduct professional projects, including internships with industry, which help in securing employment in the industrial sector.
- 4) To provide graduates with an educational foundation that fosters creativity, team work, leadership, and communication skills, and prepares them for life-long learning.

### **5.3. Program Learning Outcomes**

Each student graduating from the Computer and Communication Engineering program will have an ability to:

- 1) Apply essential mathematical and engineering techniques for modeling and analysis of practical and hypothetical computer and communications engineering systems.
- 2) Relate basic principles of information technology to computer and communications engineering applications in a global and society context and through life-long learning.
- 3) Develop solutions to practical engineering problems through analysis of data and ideas.
- 4) Identify the essential design principles appropriate to computer and communications systems' equipment and components.



- 5) Develop systems or components by integrating ideas from various resources.
- 6) Recognize the professional and ethical responsibilities of engineers.
- 7) Generate high quality technical reports.

#### 5.4. Admission Requirements

Admission requirements for a Bachelor of Science in Computer and Communication Engineering Program are as specified in **College Section 6.a on page 220**.

#### 5.5. Graduation Requirements

To graduate with a Bachelor of Science Degree in Computer and Communications Engineering, students must satisfactorily complete 138 credits taken over four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The University, College, and Program requirements are as given in the following table:

University Requirements	College Requirements	Major Requirements			Total Credit Hours
		Core	Elective	General	
27	33	62	13	3	138

#### 5.6. University Requirements

The University requirements consist of nine (9) courses comprising of 27 credit hours as specified in **College Section 8**.

#### 5.7. College Requirements

The College requirements consist of twelve (12) courses comprising of 33 credit hours as given below:

Code	College Courses	Credit Hours
EECE 130	Computers and Programming I	3
ENGR 100	Introduction of Engineering	3
ENGR 105	Engineering Graphics	2
ENGR 110	Engineering Workshop	1
ENGR 300	Engineering Economy	3
MATH 200	Calculus II	3
MATH 205	Calculus III	3
MATH 210	Differential Equations	3
MATH 250E	Probability and Statistics	3
MATH 335	Mathematics for Science and Engineering	3
PHYS 170	Fundamentals of Physics I	3
XXX	Science Elective	3

#### 5.8. Program Requirements

##### I) Core Requirements

The program core requirements consist of 28 courses and laboratories encompassing 62 credit hours.

Code	Courses	Credit Hours
EECE130L	Computers and Programming Laboratory	1
EECE 210	Electric Circuits I	3
EECE 210L	Electric Circuits Laboratory I	1
EECE 211	Electric Circuits II	3
EECE 211L	Electric Circuits Laboratory II	1
EECE 212	Basic Electronics	3
EECE 212L	Basic Electronics Laboratory	1
EECE 220	Digital Systems Design	3
EECE 220L	Digital Systems Laboratory	1
EECE 221	Microprocessor Systems	3
EECE 221L	Microprocessor Laboratory	1
EECE 222	Discrete Mathematics for Engineers	3
EECE 230	Computers and Programming II	3
EECE 311	Data Structures and Algorithms	3
EECE 320	Computer Organization and Architecture	3
EECE 330	Software Engineering	3
EECE 340	Signals and Systems	3
EECE 342	Communication Systems	3
EECE 342L	Communication System Laboratory	1
EECE 343	Electromagnetic Field Theory	3
EECE 400	Practical Training	0
EECE 401	Final Year Project I	0
EECE 402	Final Year Project II	3
EECE 470	Computer Networks	3
EECE 490	Digital Signal Processing	3
MATH 277	Linear Algebra I	3
PHYS 170L	Introductory Physics Laboratory	1
PHYS 210	Fundamentals of Physics II	3

## II) Elective Requirements

A student has to take a total of 5 courses encompassing 15 credit hours and 1 laboratory course encompassing 1 credit hours from the following list:

Code	Elective Requirement Courses	Credit Hours
EECE 350	Fundamentals of Electric Power Engineering	3
EECE 360	Control Systems	3
EECE 361	Power Systems I	3
EECE 362	Fundamentals Of Electrical Machines	3
EECE 410	Advanced Computer Architecture	3
EECE 411	Computer Systems Analysis	3
EECE 412	Computer Graphics	3
EECE 413	Embedded System Design	3
EECE 414	Fault Tolerant Computing	3
EECE 424	Data Communication Networks	3

EECE 430	Design and Applications of Information Systems	3
EECE 432	Distributed Object-Oriented Systems	3
EECE 433	Database Management Systems	3
EECE 437	Optimizing Compilers	3
EECE 439	Object-Oriented Systems	3
EECE 440	Fiber Optics	3
EECE 443	Microwave Communication Systems	3
EECE 444	Environmental Impacts of Energy Systems	3
EECE 450	Artificial Intelligence	3
EECE 452	Neural Networks	3
EECE 460	Digital Control	3
EECE 461	Instrumentation	3
EECE 462	Power Electronics	3
EECE 463	Power Systems II	3
EECE 330L	Object Oriented Technologies Laboratory	1
EECE 361L	Power Systems Simulation Laboratory	1
EECE 370L	Web Programming Laboratory	1
EECE 413L	Embedded System Design Laboratory	1
EECE 421L	Computer Interfacing Laboratory	1
EECE 422L	Information Theory and Coding Laboratory	1
XXX	General Elective	3

## 5.9. Plan of Study: Bachelor of Science in Computer and Communications Engineering

Year I		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
SOCS 102	Omani Society	3
ENGL 101	Basic Academic English I	3
MATH 199	Calculus I	3
PHYS 170	Fundamentals of Physics I	3
PHYS 170L	Introductory Physics Laboratory I	1
ENGR 105	Engineering Graphics	2
Spring Semester		17 Credits
Code	Course Title	Credit Hours
EECE 130	Computers and Programming I	3
EECE 130L	Computers and Programming Laboratory	1
EECE 210	Electric Circuits I	3
ENGL 102E	English for Engineering and Sciences I	3
ENGR 100	Introduction to Engineering	3
MATH 200	Calculus II	3
ENGR 110	Engineering Workshop	1
Summer Semester		6 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Sciences II	3
MATH 205	Calculus III	3

Year II		
Fall Semester		17 Credits
Code	Course Title	Credit Hours
EECE 211	Electric Circuits II	3
EECE 210L	Electric Circuits Laboratory I	1
EECE 220	Digital Systems Design	3
EECE 230	Computers and Programming II	3
EECE 222	Discrete Mathematics for Engineers	3
PHYS 210	Fundamentals of Physics II	3
EECE 211L	Electric Circuits Laboratory II	1
Spring Semester		17 Credits
Code	Course Title	Credit Hours
EECE 212	Basic Electronics	3
EECE 212L	Basic Electronics Laboratory	1
EECE 220L	Digital Systems Laboratory	1
EECE 221	Microprocessor Systems	3
MATH 210	Differential Equations	3
MATH 250E	Probability and Statistics	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
Summer Semester		3 Credits
Code	Course Title	Credit Hours
MATH 277	Linear Algebra I	3
Year III		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
EECE 221L	Microprocessor Laboratory	1
EECE 311	Data Structure and Algorithms	3
EECE 343	Electromagnetic Field Theory	3
ENGL 204	Advanced English for Academic Purposes and Research	3
MATH 335	Mathematics for Science and Engineering	3
ENGR 300	Engineering Economy	3
Spring Semester		16 Credits
Code	Course Title	Credit Hours
EECE 320	Computer Organization and Architecture	3
EECE 330	Software Engineering	3
EECE 340	Signals and Systems	3
EECE XXX	Major Elective	3
EECE XXX	Major Elective	3
EECE XXXL	Major Elective Laboratory	1
Summer Semester		0 Credits
Code	Course Title	Credit Hours
EECE 400	Practical Training	0

Year IV		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
EECE 401	Final Year Project I	0
EECE 470	Computer Networks	3
EECE 342	Communication Systems	3
EECE 342L	Communication Systems Laboratory	1
ARAB 101	Academic Writing in Arabic	3
ENGL 305	Advanced English Language and Communication Skills	3
XXX	Science Elective	3
Spring Semester		15 Credits
Code	Course Title	Credit Hours
EECE 402	Final Year Project II	3
EECE 490	Digital Signal Processing	3
EECE XXX	Major Elective	3
EECE XXX	Major Elective	3
XXX	General Elective	3

## 5.10. Courses Description

### **EECE 130 Computers and Programming I (3 crs)**

This course covers the fundamental concepts of programming using C++ as a high level language, basic programming tools, input and output functions, variable declaration, mathematical and logical operations, programming control structures, program composition of functions, scope of identifiers, principles and basic operations of arrays.

### **EECE 130L Computers and Programming Laboratory (1 cr)**

This course covers the basic programming concepts with particular application to the solution of engineering problems using a high level programming language namely C++: fundamental concepts of C++, solving mathematical functions, control structures, functions, and arrays. Pre/Co-requisite: EECE 130.

### **EECE 210 Electric Circuits I (3 crs)**

This course covers the fundamentals of DC electric circuit: quantities such as current, voltage and power; active and passive elements; laws of DC circuit analysis; analyzing simple resistive circuits using DC circuit analysis standard techniques; and introduction to AC circuits. Prerequisite: PHYS 170.

### **EECE 210L Electric Circuits Laboratory I (1 cr)**

This course deals with the experiments on DC circuits using modern experiment modules, measurement and display devices. The experiments include the practical realization, simulation, testing, and analysis of electric circuits: verification of basic circuit laws, series and parallel circuits, network analysis, analysis of DC circuits using MULTISIM. Pre/Co-requisite: EECE 210.

### **EECE 211 Electric Circuits II (3 crs)**

This course deals with the experiments on DC circuits using modern experiment modules, measurement and display devices. The experiments include the practical realization, simulation, testing, and analysis of electric circuits:

verification of basic circuit laws, series and parallel circuits, network analysis, analysis of DC circuits using MULTISIM. Pre-requisite: EECE 210.

**EECE 211L Electric Circuits Laboratory II (1 cr)**

This course deals with wide range of experiments on DC circuits and AC circuits using modern experiment modules, measurement and display devices. The experiments include the practical realization, simulation, testing, and analysis of electric circuits: series and parallel circuits, network analysis, response of R, RL and RC circuits in frequency domain and circuit analysis using MULTISIM.

Pre/Co-requisite: EECE 211.

**EECE 212 Basic Electronics (3 crs)**

This course covers the fundamentals of basic electronics: Introduction to semiconductors, PN-junctions, Diode circuits, models and applications: rectifiers, comparators, voltage limiters, clippers, clampers and power dissipation. LEDs, Zener diode regulator, BJT and MOSFET characteristics and applications. Operational amplifiers. Prerequisite: EECE 210.

**EECE 212L Basic Electronics Laboratory (1 cr)**

This course covers the characteristics and application of electronic devices: study of the characteristics of diodes, and BJTs, some applications of diodes such as rectifiers, voltage regulators, and characteristics as well as applications of OP-AMPS. The experiments are performed using modern experiment modules, measurement and display devices. MULTISIM is used for simulation and analysis of electronic circuits. Pre/Co-requisite: EECE 212.

**EECE 220 Digital Systems Design (3 crs)**

This course covers principles of digital systems design: Number systems and codes, combinational circuit analysis, synthesis and practices; minimization methods, sequential logic design principles, latches and flip-flops, synchronous circuits, state machines, and an introduction to VHDL. Prerequisite: EECE 210.

**EECE 220L Digital Systems Laboratory (1 cr)**

This course covers the experiments on logic gates, flip-flops, ALU, and timers: verification of logic gates and flip-flops, design of encoders and decoders, adders, comparators, code converters, counters and shift registers. Experiments are to include hardware realization and implementation using modern experiment modules, simulation of circuits using MULTISIM software. Pre/Co-requisite: EECE 220.

**EECE 221 Microprocessor Systems (3 crs)**

This course covers an introduction to microprocessor systems; memory types, busses, and programming model; assembly language programming; addressing modes; assemblers. Translating high-level programs to assembly language; arithmetic operations, logic operations, selection statements, looping, pointers, subroutines, macros, etc. Interfacing techniques; interfacing ICs. Prerequisite: EECE 220.

**EECE 221L Microprocessor Laboratory (1 cr)**

This course covers realization of engineering application using assembly language programming on microprocessor/microcontroller kits: hands-on design

experience with micro-computer systems and applications including busses, interfaces, usage of ports and registers, realization of control of DC motor and stepper motor, traffic signal control and washing machine controller. Prerequisite: EECE 221.

**EECE 222 Discrete Mathematics for Engineers (3 crs)**

This course covers realization of engineering application using assembly language programming on microprocessor/microcontroller kits: hands-on design experience with micro-computer systems and applications including busses, interfaces, usage of ports and registers, realization of control of DC motor and stepper motor, traffic signal control and washing machine controller. Co-requisite: EECE 221.

**EECE 230 Computers and Programming II (3 crs)**

This course covers advanced programming concepts with particular application to the solution of engineering problems using C++ programming language: strings, pointers, structures, object-oriented programming, classes, objects, constructors, destructors, inheritance and an introduction to data structures and algorithms. Prerequisite: EECE 130.

**EECE 311 Data Structures and Algorithms (3 crs)**

This course covers algorithm design and programming techniques in large programs: recursion, sorting and searching algorithms, different data structures (stacks, queues, lists, trees, binary search trees) are described as abstract data types with their methods by training extensive examples and applications. Prerequisite: EECE 230.

**EECE 299 Diploma Practical Training (0 cr)**

This is a supervised project/internship course aimed at providing practical experience for Electrical and Computer Engineering diploma students. Prerequisite: Permission of the advisor.

**EECE 320 Computer Organization and Architecture (3 crs)**

This course covers an introduction to computer systems, CISC and RISC, performance of computer systems, the MIPS microprocessor architecture, ISA design principles, instruction mapping into registers, hardware floating point arithmetic, data path design, control unit design, pipelining, memory, I/O. Prerequisite: EECE 221.

**EECE 230L Object Oriented Technologies Laboratory II (1 cr)**

This course covers Object oriented technologies using Java programming language: requirements analysis and system design using UML; documentation; debugging; testing; use of software development tools; graphical user interface; concurrent programming; database connectivity; web and networking applications and web services.

**EECE 330 Software Engineering (3 crs)**

This course covers the fundamentals of software engineering to create practical and cost-effective solutions to software systems including: understanding system requirements, effective methods of design, coding, testing, evaluation and maintenance. Prerequisite: EECE 311.

**EECE 330L Object Oriented Technologies Laboratory (1 cr)**

This course covers Object oriented technologies using Java programming language: requirements analysis and system design using UML; documentation; debugging; testing; use of software development tools; graphical user interface; concurrent programming; database connectivity; web and networking applications and web services. Prerequisite: EECE 230.

**EECE 340 Signals and Systems (3 crs)**

This course covers the main concepts of signals and systems: definition, classification and examples of signals and systems, signals properties and operations, systems properties and interconnection; convolution theorem; Laplace transform and inverse Laplace transform of system examples; and Fourier series representation of signals. Prerequisites: EECE 210 and MATH 335.

**EECE 342 Communication Systems (3 crs)**

This course covers baseband and pass band transmission techniques includes: continuous-wave modulation; pulse modulation (PAM, PWM, PPM), PCM, differential PCM, delta modulation, baseband data transmission and digital modulation techniques, ISI, Nyquist theorem, eye pattern, signal-space analysis, ASK, FSK, PSK, DPSK and M-ary modulation. Prerequisite: EECE 340.

**EECE 342L Communication Systems Laboratory (1 cr)**

This course covers various experiments related to analog and digital communication techniques: modulation and demodulation techniques such as AM and FM, PAM, PCM, and PWM; multiplexing and de-multiplexing, ASK, PSK, and FSK, and Signal broadcasting, some MATLAB based programming and modeling are introduced. Pre/Co-requisite: EECE 342.

**EECE 343 Electromagnetic Field Theory (3 crs)**

This course covers the concepts of electrostatics and magnetostatics fields theory: vector analysis. static electric fields, Coulomb's law, Gauss's law and applications, capacitance, electrostatic forces, Poisson's equation, static magnetic fields, Biot-Savart law, Ampere's law, Faraday's law, vector magnetic potential, inductance, and magnetic energy, plane wave propagation, transmission lines. Prerequisites: MATH 335 and PHYS 210.

**EECE 350 Fundamentals of Electric Power Engineering (3 crs)**

This course comprises the fundamentals of electric power engineering: an overview of electric power network; magnetic materials, basic laws and properties such as hysteresis loop and saturation; single-phase transformer, circuit analysis, modeling, efficiency and parameters calculation using open and short-circuit tests; induction motor; and synchronous generators. Prerequisite: EECE 211.

**EECE 360 Control Systems (3 crs)**

This course includes the fundamentals of control systems engineering: definition, configuration and design of open loop and closed loop systems; mathematical modeling of dynamic control systems such as electric circuits; block diagrams, transfer functions; stability analysis; transient response and steady state error calculations of first and second order systems; and root locus. Prerequisite: EECE 340.



**EECE 361 Power Systems I (3 crs)**

This course introduces the main features of electrical power systems: configuration; modeling of transmission lines; design procedure and parameters calculation of power feeders; per-unit system calculations; introduction to symmetrical components; Prerequisite: EECE 211.

**EECE 361L Power Systems Simulation Laboratory (1 cr)**

This course presents the MATLAB programming environment: introduction to linear algebra and operations on matrices; MATLAB commands; m-files; and MATLAB applications such as series expansions of trigonometric functions, solving simultaneous equations, plotting graphs, and simulation of electric circuits using SIMULINK toolbox. Prerequisite: EECE 211.

**EECE 362 Fundamentals Of Electrical Machines (3 Crs)**

Basic construction of electrical machines, DC machines: construction, EMF equation, efficiency, generator and motor field connections. Synchronous machine construction, theory of operation, efficiency. Three phase induction motor construction, theory of operation, and efficiency.

**EECE 370L Web Programming Laboratory (1 cr)**

This course covers fundamental technologies and techniques for creating applications on the world wide web (www) from client and server sides: introduction to the internet and web, HTML, XHTML, CSS, JavaScript and PHP programming languages Prerequisite: EECE 130.

**EECE 400 Practical Training (0 cr)**

This is a supervised project/internship course aimed at providing practical experience for Electrical and Computer Engineering BS students. Prerequisite: Permission of the advisor.

**EECE 401 Final Year Project I (0 cr)**

A supervised project, normally in groups of three students, aimed at providing practical experience in some aspects of computer, communications, and electrical engineering. Students are expected to complete a literature survey, project specification, critical analysis, and to acquire the necessary material needed for their intended end product.

**EECE 402 Final Year Project II (3 crs)**

A course that seeks to impart in students the skill to integrate the knowledge gained in different courses by asking them to deliver a product that has passed through the design, analysis, testing, and evaluation stages. This course includes production of a professional report, design process and outcome, implementation and testing, verification and validation, and critical appraisal of the project. Prerequisite: EECE 401.

**EECE 410 Advanced Computer Architecture (3 crs)**

This course covers evolution of advanced computer architectures; classification of parallel processing systems; a study of scalable and parallel computer architectures for achieving a proportional increase in performance with increasing system resources; cutting-edge technologies in scalable parallel computing are presented with emphasis on design aspects. Prerequisite: EECE 320.

**EECE 411 Computer Systems Analysis (3 crs)**

This course covers the development of analytical models of computer systems and application of such models to performance evaluation. Topics covered include scheduling policies, paging algorithms, multi-programmed resource management, and queuing theory. Prerequisite: EECE 320. Alternate years.

**EECE 412 Computer Graphics (3 crs)**

This course covers fundamentals of computer graphics: interactive graphics, vector generation and point-plotting displays, graphical input devices, windowing, clipping, viewports, zooming, geometrical transformations (2D and 3D), advanced display architecture, Raster algorithms, Raster display architecture, representation of 3D shapes and applications: CAD, menu-driven packages, and simulation. Prerequisite: EECE 320. Alternate years.

**EECE 413 Embedded System Design (3 crs)**

This course covers the design of embedded systems: embedded hardware design, system design process, embedded computing platforms, software design tools and technologies, CAD tools, compilers, and assemblers; hardware design tools and technologies, hardware-description languages, high-level synthesis tools, ASIC and FPGA design flows; memory; interfacing. Prerequisite: EECE 221.

**EECE 413L Embedded System Design Laboratory (1 cr)**

This course covers embedded hardware design. Main topics includes: embedded computing platforms, software design tools and technologies: CAD tools, compilers, and assemblers; hardware design tools and technologies: (VHDL and/or Verilog), high-level synthesis tools (Handel-C), ASIC and FPGA design flows; memory; interfacing; Pre- or co-requisite: EECE 413 or Permission of the Instructor.

**EECE 414 Fault Tolerant Computing (3 crs)**

This course covers the concepts and terminologies of fault-tolerant system design; reliability of series/parallel systems; redundancy management, voting, information redundancy, MTTF, M-of-N systems, reliability block diagrams, systems diagnosis; software fault tolerance, fault tolerant networks, common network topologies, fault tolerant routing. Prerequisite: EECE 220.

**EECE 421L Computer Interfacing Laboratory (1 cr)**

This course covers realization of engineering application by interfacing hardware with C++ programming language: debug environment, using parallel ports, I/O operation, realization of control of LEDs, seven segment displays and simple motor control through parallel ports. Introduction to VHDL. Co-requisites: EECE 130, EECE 220.

**EECE 422 Information Theory and Coding (3 crs)**

This course covers and introduction to information theory, entropy and mutual information; discrete memory-less sources, discrete memory-less channels and their capacity-cost functions; concepts of source coding, lossy and lossless compression techniques; concepts of channel coding and error control, linear codes, convolutional codes, and Turbo codes. Prerequisite: MATH 335.

**EECE 422L Information Theory and Coding Laboratory (1 cr)**

This course covers encoding and decoding of linear block codes; convolution

codes: generator polynomial, state diagram, Trellis diagram, Viterbi decoding algorithm, turbo codes: effect of change of frame size, iterations, code rate, MAP and SOVA decoding algorithms. Co-requisite: EECE 422.

**EECE 424 Data Communication Networks (3 crs)**

This course covers data communication networks: network topology; data transmission fundamentals; error control; multi-layer network architecture and protocols; network management; network security and privacy; network performance measurements. Prerequisite: EECE 470. Alternate years.

**EECE 430 Design and Applications of Information Systems (3 crs)**

This course covers fundamentals of design and applications of information systems: investigating hardware and software selection criteria; case studies; application software maintenance; resource allocation; scheduling; staffing requirements; processing organizations; applications. Prerequisite: EECE 330.

**EECE 432 Distributed Object-Oriented Systems (3 crs)**

This course covers the subject of distributed object-oriented systems: middleware for distributed objects; dynamic object requests; distributed objects life cycle, persistence, transactions, and security. Prerequisite: EECE 330. Alternate years.

**EECE 433 Database Management Systems (3 crs)**

This course covers the fundamentals of data base technology: introduction to data base management systems, relational DB, relational model, relational algebra, SQL query languages, DB design and the E-R model and application design and development. Prerequisite: EECE 230. Alternate years.

**EECE 437 Optimizing Compilers (3 crs)**

This course covers the area of optimizing compilers: characteristics of building modern optimizing compilers including intermediate representations, basic blocks and flow graphs, data flow analysis, partial evaluation and redundancy elimination, loop optimizations, register allocation, instruction scheduling, and inter-procedural analysis. Prerequisites: EECE 311 and EECE 320. Alternate years.

**EECE 439 Object-Oriented Systems (3 crs)**

This course covers the object oriented technology used for building software systems: languages, databases, analysis and designs, and systems: software lifecycles, layered architectures, object reusability, and multi-developer support. Prerequisite: EECE 330. Alternate years.

**EECE 440 Fiber Optics (3 crs)**

This course covers fiber optics: generation and propagation of light, interaction of light and matter, geometric optics, ray tracing and aberration theory, superposition of waves, coherence and interference, and Fresnel and Fraunhofer diffraction; special topics: lasers and holography. Prerequisite: EECE 343.

**EECE 443 Microwave Communication Systems (3 crs)**

This course covers microwave communication systems: transmission principles and media including lines, radio links, optical fibers; antennas: L.F., H.F., earth stations, and satellites; design and performance of microwave links; satellite communications; cellular networks. Prerequisite: EECE 342.

**EECE 444 Environmental Impacts of Energy Systems (3 crs)**

This course covers the environmental impacts of energy systems: world energy resources and classifications; sources and effects of air pollution; air quality modeling, Gaussian dispersion models; motor vehicles emissions and noise pollution, mitigation strategies; environmental impacts of electricity generation, pollution control systems, electromagnetic radiations. Prerequisite: ENGR100.

**EECE 450 Artificial Intelligence (3 crs)**

This course covers the fundamentals of artificial intelligence: search techniques, knowledge representation, logic and theorem proving; expert systems; natural language understanding, vision; learning from experience and prolog. Prerequisite: EECE 311. Alternate years.

**EECE 452 Neural Networks (3 crs)**

This course covers back propagation, and adaptive neural networks; transformation by layered networks, statistical neurodynamics, associative memory and neural learning; applications to functional approximations, signal filtering, and pattern classification. Prerequisite: EECE 311. Alternate years.

**EECE 460 Digital Control (3 crs)**

This course covers the analysis and design of digital control systems: z-transform techniques; state-space representation; single-input-single-output linear time invariant discrete and continuous systems; controllability, observability; and controllers. Prerequisite: EECE 360.

**EECE 460L Control Systems Laboratory (1 cr)**

This laboratory comprises the analysis of linear continuous control systems: first and second order systems; transient and steady-state system responses; and the effect of system poles and zeros location on the overall system performance and stability. Co-requisite: EECE 360.

**EECE 461 Instrumentation (3 crs)**

This course covers instrumentation systems, including measurements, sensors, data acquisition, and component integration. Application areas and course projects include industrial control, lab measurements, and automation systems. Prerequisite: EECE 221.

**EECE 462 Power Electronics (3 crs)**

Power Diode, Power Bipolar Junction Transistor (BJT), Thyristor, Power MOSFET and IGBT, Single phase Rectifiers, Three-phase Rectifiers, Inverters, DC-to-DC Switching Converters (Choppers), Voltage Regulators, Application of Power Electronic Device in Power Networks such as Flexible AC Transmission Systems (FACTS) and High Voltage Direct Current (HVDC) Technologies. Prerequisite: EECE 212,

**EECE 463 Power Systems II (3 crs)**

This course is considered as an advanced course in electrical power systems which comprises the short-circuit analysis of electric power networks; three phase symmetrical and asymmetrical fault calculations; formation of Y-Bus and Z-Bus; load flow; and power flow calculations using numerical iterative techniques. Pre requisite: EECE 361.

**EECE 470 Computer Networks (3 crs)**

This course covers networking concepts and technologies, networking architectures and protocols, internetworking and applications, data communications; wide area networks; circuit and packet switching; routing; congestion control; local area networks. Prerequisite: MATH 335. Co-requisite: EECE 342.

**EECE 490 Digital Signal Processing (3 crs)**

The course aims to develop necessary mathematical and analytical skills to analyze digital signals and systems in the time as well as in the frequency domain. The course includes an introduction to the discrete time signals and systems, frequency domain representation and analysis, z-transform and its application in discrete time LTI systems, discrete time Fourier transform, Fast Fourier transform, introduction to filters (including FIR and IIR filters) and their design. Prerequisite: EECE 340.

**SENG 250 System Analysis & Design (3 crs)**

This course deals with the design, development and analysis of the information system. Topics covered includes, methods for data requirements collection, methods to model data at conceptual as well as physical levels, merits and limitations of the studied techniques, object oriented system design and modeling and addressing of the functional dependencies to normalize an information system.

**SENG 260 Software Architecture (3 crs)**

This course deals with the basics concepts and principles of Software Architecture design. Topics covered in the course includes: relationship between requirements of a software and its software design, different design patterns and their issues, overview of the major software architecture structures and styles for (for example, centralized, distributed, and hybrid etc.) and understanding of various tools for describing the Software Architecture.

**SENG 300 Software Management (3 crs)**

Lectures will cover definition and calculation of software projects; software project planning and management; software project estimation; software marketing; management of software requirements, design, and programming; management of software testing; project coaching and maintenance; documentation of a software product; enterprise start-up and leadership.

**SENG 340 Human-computer interaction (3 crs)**

Human-computer interaction is a concerned with the development of interactive computing systems. This course includes: an introduction to Human Computer Interaction (HCI); human and computer input-output channels and devices; interaction models and basic design principles; HCI in software process, and HCI evaluation techniques; HCI documentation; and recent technologies in HCI development.

**SENG 350 Software verification and validation (3 crs)**

Applying verification and validation procedures throughout the software development process helps in achieving software quality and assuring that the

right software product is properly developed. The course presents theory and practice of software verification and validation techniques and covers related topics. Fundamentals and general principles of testing in software development life cycle; types and levels of testing; software inspection and code reviews, technical reviews, pair programming; specification-based testing; structural testing, graph coverage, logic coverage, syntax-based testing; system, acceptance, and regression testing; The relationship of verification and validation activities with other software development quality assurance activities.

**SENG 370                      Software Quality Assurance                      (3 crs)**

This course covers basic concepts of software quality assurance, importance of software quality assurance, different standards used to ensure software quality, metrics of software quality, techniques to develop a quality software, software verification and validation techniques, software testing techniques, different software quality models, software defect categorization and software result evaluation techniques.

**SENG 400                      Practical Training                      (0 cr)**

This is a supervised project/internship course aimed at providing practical experience for Software Engineering BS students. Prerequisite: Permission of the advisor.

**SENG 401                      Final Year Project Design I                      (0 cr)**

A supervised project, normally in groups of three students, aimed at providing practical experience in some aspects of software engineering. Students are expected to complete a literature survey, project specification, critical analysis, and to acquire the necessary material needed for their intended end product.

**SENG 402                      Final Year Project Design II                      (3 crs)**

A course that seeks to impart in students the skill to integrate the knowledge gained in different courses by asking them to deliver a product that has passed through the design, analysis, testing, and evaluation stages. This course includes production of a professional report, design process and outcome, implementation and testing, verification and validation, and critical appraisal of the project.

**SENG 470                      Software Documentation and Standards I                      (3 crs)**

Principles of software documentation are covered. Students will be introduced into software standards. Architecture/Design documentation; Technical documentation; End-user manuals; Marketing documentation.

## **6. Bachelor of Science in Electrical and Electronics Engineering**

### **6.1. Program Overview**

The Bachelor of Sciences in Electrical and Electronics Engineering curriculum is designed to comply with local education framework and benchmarked with international institutions. It includes at least 30 credits in basic sciences and mathematics, at least 62 credits engineering sciences and engineering design and communications skills, and at least 9 credits of humanities and social sciences excluding language and technical writing courses. Lab hands-on experience and emphasis on practical aspects are important elements that are integrated throughout the curriculum. It is designed to grant students the Bachelor of Sciences degree upon the successful completion of the four-year program.

The program is also offered in Diploma Degree as Electrical and Computer Engineering upon the successful completion of a two-year program. The first common year with other college majors allows students to switch between the majors at the same college at the start of the second year of their study.

### **6.2. Program Objectives**

The objectives of the program are:

- 1) To prepare graduates for successful careers in engineering by gaining skills and knowledge that qualify them for professional practice in electrical and electronics engineering.
- 2) To provide graduates with fundamental knowledge, appropriate mathematical principles and computing tools for analysis and design in the fields of electrical and electronics engineering.
- 3) To sustain atmosphere in which graduates can conduct professional projects, including internships with industry, which help in securing employment in the industrial sector.
- 4) To provide graduates with an educational foundation that fosters creativity, team work, leadership, and communication skills, and prepares them for life-long learning.

### **6.3. Program Learning Outcomes**

Each student graduating from the Electrical and Electronics Engineering program will have an ability to:

- 1) Apply essential mathematical and engineering techniques for modeling and analysis of practical and hypothetical electrical and electronic engineering systems.
- 2) Relate basic principles of information technology to electrical and electronic engineering applications.
- 3) Develop solutions to practical engineering problems through analysis of data and ideas.
- 4) Identify the essential design principles appropriate to electrical power systems' equipment and components.
- 5) Develop systems or components by integrating ideas from various resources.

- 6) Recognize the professional and ethical responsibilities of engineers.
- 7) Generate high quality technical reports.

#### 6.4. Admission Requirements

Admission requirements for a Bachelor of Science in Electrical and Electronics Engineering Program are as specified in **College Section 6.a on page 220**.

#### 6.5. Graduation Requirements

To graduate with a Bachelor of Science Degree in Electrical and Electronics Engineering, students must satisfactorily complete 138 credits taken over four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The University, College, and Program requirements are as given in the following table:

University Requirements	College Requirements	Major Requirements			Total Credit Hours
		Core	Elective	General	
27	33	61	14	3	138

#### 6.6. University Requirements

The University requirements consist of nine courses comprising of 27 credit hours as specified in **College Section 8**.

#### 6.7. College Requirements

Refer to Bachelor of Science in Computer and Communication Engineering **Section 5.7**.

#### 6.8. Program Requirements

##### I) Core Requirements

The program core requirements consist of 27 courses and laboratories encompassing 61 credit hours.

Code	Courses	Credit Hours
EECE 130L	Computers and Programming Laboratory	1
EECE 210	Electric Circuits I	3
EECE 210L	Electric Circuits Laboratory I	1
EECE 211	Electric Circuits II	3
EECE 211L	Electric Circuits Laboratory II	1
EECE 212	Basic Electronics	3
EECE 212L	Basic Electronics Laboratory	1
EECE 220	Digital Systems Design	3
EECE 220L	Digital Systems Laboratory	1
EECE 221	Microprocessor Systems	3
EECE 221L	Microprocessor Laboratory	1
EECE 222	Discrete Mathematics for Engineers	3
EECE 230	Computers and Programming II	3



EECE 311	Data Structures and Algorithms	3
EECE 320	Computer Organization and Architecture	3
EECE 330	Software Engineering	3
EECE 340	Signals and Systems	3
EECE 342	Communication Systems	3
EECE 342L	Communication System Laboratory	1
EECE 343	Electromagnetic Field Theory	3
EECE 400	Practical Training	0
EECE 401	Final Year Project I	0
EECE 402	Final Year Project II	3
EECE 470	Computer Networks	3
EECE 490	Digital Signal Processing	3
MATH 277	Linear Algebra I	3
PHYS 170L	Introductory Physics Laboratory	1
PHYS 210	Fundamentals of Physics II	3

## II) Elective Requirements

A student has to take a total of 5 courses encompassing 15 credit hours and 2 laboratory courses encompassing 2 credit hours from the following list:

Code	Elective Requirement Courses	Credit Hours
EECE 330	Software Engineering	3
EECE 330L	Object Oriented Technologies Laboratory	1
EECE 342L	Communication Systems Laboratory	1
EECE 361L	Power Systems Simulation Laboratory	1
EECE 370L	Web Programming Laboratory	1
EECE 410	Advanced Computer Architecture	3
EECE 411	Computer Systems Analysis	3
EECE 412	Computer Graphics	3
EECE 413	Embedded System Design	3
EECE 413L	Embedded System Design Laboratory	1
EECE 414	Fault Tolerant Computing	3
EECE 421L	Computer Interfacing Laboratory	1
EECE 422	Information Theory and Coding	3
EECE 422L	Information Theory and Coding Laboratory	1
EECE 424	Data Communication Networks	3
EECE 430	Design and Applications of Information Systems	3
EECE 432	Distributed Object-Oriented Systems	3
EECE 433	Database Management Systems	3
EECE 437	Optimizing Compilers	3
EECE 439	Object-Oriented Systems	3
EECE 440	Fiber Optics	3
EECE 443	Microwave Communication Systems	3
EECE 444	Environmental Impacts of Energy Systems	3

EECE 450	Artificial Intelligence	3
EECE 452	Neural Networks	3
EECE 460	Digital Control	3
EECE 460L	Control Systems Laboratory	1
EECE 461	Instrumentation	3
EECE 462	Power Electronics	3
EECE 463	Power Systems II	3
EECE 470	Computer Networks	3
XXX	General Elective	3

## 6.9. Plan of Study: Bachelor of Science in Electrical and Electronics Engineering

Year I		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
SOCS 102	Omani Society	3
ENGL 101	Basic Academic English I	3
MATH 199	Calculus I	3
PHYS 170	Fundamentals of Physics I	3
PHYS 170L	Introductory Physics Laboratory	1
ENGR 105	Engineering Graphics	2
Spring Semester		17 Credits
Code	Course Title	Credit Hours
EECE 130	Computers and Programming I	3
EECE 130L	Computers and Programming Laboratory	1
EECE 210	Electric Circuits I	3
ENGL 102E	English for Engineering and Sciences I	3
ENGR 100	Introduction to Engineering	3
MATH 200	Calculus II	3
ENGR 110	Engineering Workshop	1
Summer Semester		6 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Sciences II	3
MATH 205	Calculus III	3
Year II		
Fall Semester		17 Credits
Code	Course Title	Credit Hours
EECE 211	Electric Circuits II	3
EECE 210L	Electric Circuits Laboratory I	1
EECE 220	Digital Systems Design	3
EECE 230	Computers and Programming II	3
EECE 222	Discrete Mathematics for Engineers	3
PHYS 210	Fundamentals of Physics II	3
EECE 211L	Electric Circuits Laboratory II	1

Spring Semester		17 Credits
Code	Course Title	Credit Hours
EECE 212	Basic Electronics	3
EECE 212L	Basic Electronics Laboratory	1
EECE 220L	Digital Systems Laboratory	1
EECE 221	Microprocessor Systems	3
MATH 250E	Probability and Statistics	3
MATH 210	Differential Equations	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
Summer Semester		3 Credits
Code	Course Title	Credit Hours
MATH 277	Linear Algebra I	3
Year III		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
EECE 221L	Microprocessor Laboratory	1
EECE 343	Electromagnetic Field Theory	3
EECE 350	Fundamentals of Electric Power Engineering	3
ENGL 204	Advanced English for Academic Purposes and Research	3
ENGR 300	Engineering Economy	3
MATH 335	Mathematics for Science and Engineering	3
Spring Semester		16 Credits
Code	Course Title	Credit Hours
ENGL 305	Advanced English Language and Communication Skills	3
EECE 340	Signals and Systems	3
EECE 361	Power Systems I	3
EECE 362	Introduction to Electric machines	3
EECE XXXL	Major Elective Laboratory	1
Code	Science Elective	3
Summer Semester		0 Credits
Code	Course Title	Credit Hours
EECE 400	Practical Training	0
Year IV		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
EECE 401	Final Year Project I	0
EECE 342	Communication Systems	3
ARAB 101	Academic Writing in Arabic	3
EECE XXX	Major Elective	3
EECE XXX	Major Elective	3
EECE 360	Control Systems	3
EECE XXXL	Major Elective Laboratory	1

Spring Semester		15 Credits
Code	Course Title	Credit Hours
EECE 402	Final Year Project II	3
EECE 461	Instrumentation	3
EECE XXX	Major Elective	3
EECE XXX	Major Elective	3
XXX	General Elective	3

## 6.10. Course Description

Refer to Bachelor of Science in Computer and Communication Engineering Section 5.10.

## 7. Diploma in Electrical and Computer Engineering

### 7.1. Program Overview

Refer to Sections 5.1 and 6.1.

### 7.2. Program Objectives

The objectives of the program are:

- 1) To prepare graduates for successful careers in engineering by gaining skills and knowledge that qualify them for professional practice in electrical and computer engineering.
- 2) To provide graduates with fundamental knowledge, appropriate mathematical principles and computing tools for analysis and design in the fields of electrical and computer engineering.
- 3) To sustain atmosphere in which graduates can conduct professional projects, including internships with industry, which help in securing employment in the industrial sector.
- 4) To provide graduates with an educational foundation that fosters creativity, team work, leadership, and communication skills, and prepares them for life-long learning.

### 7.3. Program Learning Outcomes

Each student graduating with a diploma in Electrical and Computer Engineering will have an ability to:

- 1) Apply essential mathematical and engineering techniques for analysis of practical and hypothetical electrical and computer engineering systems.
- 2) Relate basic principles of information technology to electrical and computer engineering applications.
- 3) Develop solutions to practical engineering problems through analysis of data and ideas.
- 4) Identify the essential design principles appropriate to electrical and computer systems' equipment and components.
- 5) Develop systems or components by integrating ideas from various resources.
- 6) Recognize the professional and ethical responsibilities of engineers.
- 7) Generate high quality technical reports.

## 7.4. Admission Requirements

Admission requirements for a Diploma in Electrical and Computer Engineering Program are as specified in **College Section 6.a on page 220**.

## 7.5. Graduation Requirements

To graduate with a Diploma in Electrical and Computer Engineering, students must satisfactorily complete 75 credits taken over two academic years, with an overall minimum average of 65 percent. The University, College, and Program requirements are as given in the following table:

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
18	24	33	-	75

## 7.6. University Requirements

The University requirements for Diploma in Electrical and Computer Engineering program consist of six (6) courses comprising of 18 credit hours as shown below:

Code	University Requirement Courses	Credit Hours
ENGL 101	Basic Academic English	3
ENGL 102E	English for Engineering and Sciences I	3
ENGL 203E	English for Engineering and Sciences II	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
MATH 199	Calculus I	3
SOCS 102	Omani Society	3

## 7.7. College Requirements

The College requirements consist of nine (9) courses comprising of 24 credit hours as given below:

Code	College Requirement Courses	Credit Hours
EECE 130	Computers and Programming I	3
ENGR 100	Introduction of Engineering	3
ENGR 105	Engineering Graphics	2
ENGR 110	Engineering Workshop	1
MATH 200	Calculus II	3
MATH 205	Calculus III	3
MATH 250E	Probability and Statistics	3
MATH 210	Differential Equations	3
PHYS 170	Fundamentals of Physics I	3

## 7.8. Program Requirements

### I) Core Requirements

The program core requirements consist of 16 courses and laboratories encompassing 33 credit hours.

### II) Elective Requirements

There are no elective requirements for this program.

## 7.9. Plan of Study: Diploma in Electrical and Computer Engineering

Year I		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
SOCS 102	Omani Society	3
ENGL 101	Basic Academic English I	3
MATH 199	Calculus I	3
PHYS 170	Fundamentals of Physics I	3
PHYS 170L	Introductory Physics Laboratory I	1
ENGR 105	Engineering Graphics	2
Spring Semester		17 Credits
Code	Course Title	Credit Hours
EECE 130	Computers and Programming I	3
EECE 130L	Computers and Programming Laboratory	1
EECE 210	Electric Circuits I	3
ENGL 102E	English for Engineering and Sciences I	3
ENGR 100	Introduction to Engineering	3
MATH 200	Calculus II	3
ENGR 110	Engineering Workshop	1
Summer Semester		6 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Sciences II	3
MATH 205	Calculus III	3
Year II		
Fall Semester		17 Credits
Code	Course Title	Credit Hours
EECE 211	Electric Circuits II	3
EECE 210L	Electric Circuits Laboratory I	1
EECE 220	Digital Systems Design	3
EECE 230	Computers and Programming II	3
EECE 222	Discrete Mathematics for Engineers	3
PHYS 210	Fundamentals of Physics II	3
EECE 211L	Electric Circuits Laboratory II	1
Spring Semester		17 Credits
Code	Course Title	Credit Hours
EECE 212	Basic Electronics	3
EECE 212L	Basic Electronics Laboratory	1
EECE 220L	Digital Systems Laboratory	1
EECE 221	Microprocessor Systems	3
MATH 210	Differential Equations	3
MATH 250E	Probability and Statistics	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
Summer Semester		3 Credits
Code	Course Title	Credit Hours
EECE 299	Practical training for Diploma Students	0
MATH 277	Linear Algebra I	3

## **7.10. Course Description**

Refer to Bachelor of Science in Computer and Communication Engineering  
**Section 5.10.**

# **8. Bachelor of Science in Software Engineering**

## **8.1 Program Overview**

The Bachelor of Sciences in Software Engineering curriculum is designed to comply with local education framework and benchmarked with international institutions. It includes at least 30 credits in basic sciences and mathematics, at least 62 credits engineering sciences and engineering design and communications skills, and at least 9 credits of humanities and social sciences excluding language and technical writing courses. Lab hands-on experience and emphasis on practical aspects are important elements that are integrated throughout the curriculum. It is designed to grant students the Bachelor of Sciences degree upon the successful completion of the four-year program.

The program is also offered in Diploma Degree as Electrical and Computer Engineering upon the successful completion of a two-year program. The first common year with other college majors allows students to switch between the majors at the same college at the start of the second year of their study.

## **8.2. Program Objectives**

The objectives of the program are:

- 1) To prepare graduates for successful careers in engineering by gaining skills and knowledge that qualify them for professional practice in electrical and electronics engineering.
- 2) To provide graduates with fundamental knowledge, appropriate mathematical principles and computing tools for analysis and design in the fields of electrical and electronics engineering.
- 3) To sustain atmosphere in which graduates can conduct professional projects, including internships with industry, which help in securing employment in the industrial sector.
- 4) To provide graduates with an educational foundation that fosters creativity, team work, leadership, and communication skills, and prepares them for life-long learning.

## **8.3. Program Learning Outcomes**

Each student graduating from the Electrical and Electronics Engineering program will have an ability to:

- 1) Apply essential mathematical and engineering techniques for modeling and analysis of practical and hypothetical electrical and electronic engineering systems.
- 2) Relate basic principles of information technology to electrical and electronic engineering applications.
- 3) Develop solutions to practical engineering problems through analysis of data and ideas.

- 4) Identify the essential design principles appropriate to electrical power systems' equipment and components.
- 5) Develop systems or components by integrating ideas from various resources.
- 6) Recognize the professional and ethical responsibilities of engineers.
- 7) Generate high quality technical reports.

## 8.4. Admission Requirements

Admission requirements for a Bachelor of Science in Electrical and Electronics Engineering Program are as specified in College Section 6.a on page 220.

## 8.5. Graduation Requirements

To graduate with a Bachelor of Science Degree in Electrical and Electronics Engineering, students must satisfactorily complete 138 credits taken over four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The University, College, and Program requirements are as given in the following table:

University Requirements	College Requirements	Major Requirements			Total Credit Hours
		Core	Elective	General	
27	33	64	11	3	138

## 8.6. University Requirements

The University requirements consist of nine courses comprising of 27 credit hours as specified in College Section 8.

## 8.7. College Requirements

Refer to Bachelor of Science in Computer and Communication Engineering Section 5.7.

## 8.8. Program Requirements

### I) Core Requirements

The program core requirements consist of 28 courses and laboratories encompassing 64 credit hours.

Code	Courses	Credit Hours
EECE 130 L	Computers and Programming Laboratory	1
EECE 210	Electric Circuits I	3
EECE 210L	Electric Circuits Laboratory I	1
EECE 212	Basic Electronics	3
EECE 212L	Basic Electronics Laboratory	1
EECE 220	Digital Systems Design	3
EECE 220L	Digital Systems Laboratory	1
EECE 221	Microprocessor Systems	3
EECE 221L	Microprocessor Laboratory	1
EECE 222	Discrete Mathematics for Engineers	3



EECE 230	Computers and Programming II	3
EECE 230L	Object Oriented Technologies Laboratory II	1
MATH 277	Linear Algebra I	3
EECE 311	Data Structures and Algorithms	3
EECE 330	Software Engineering	3
EECE 433	Database Management System	3
SENG 250	System Analysis & Design	3
SENG 260	Software Architecture	3
SENG 300	Software Management	3
SENG 340	Human-computer interaction	3
SENG 350	Software verification and validation	3
SENG 370	Software Quality Assurance	3
EECE 370L	Web Programming Laboratory	1
SENG 400	Practical Training	0
SENG 401	Final Year Project Design I	0
EECE 450	Artificial Intelligence	3
SENG 470	Software Documentation and Standards I	3
SENG 402	Final Year Project Design II	3

## II) Elective Requirements

A student has to take a total of 4 courses encompassing 12 credit hours and 2 laboratory courses encompassing 2 credit hours from the following list:

Code	Elective Requirement Courses	Credit Hours
EECE 350	Fundamentals of Electric Power Engineering	3
EECE 360	Control Systems	3
EECE 361	Power Systems I	3
EECE 462	Power Electronics	3
EECE 362	Fundamentals Of Electrical Machines	3
EECE 463	Power Systems II	3
EECE 410	Advanced Computer Architecture	3
EECE 411	Computer Systems Analysis	3
EECE 412	Computer Graphics	3
EECE 413	Embedded System Design	3
EECE 414	Fault Tolerant Computing	3
EECE 422	Information Theory and Coding	3
EECE 424	Data Communication Networks	3
EECE 430	Design and Applications of Information Systems	3
EECE 432	Distributed Object-Oriented Systems	3
EECE 437	Optimizing Compilers	3
EECE 439	Object-Oriented Systems	3
EECE 440	Fiber Optics	3

EECE 443	Microwave Communication Systems	3
EECE 444	Environmental Impacts of Energy Systems	3
EECE 452	Neural Networks	3
EECE 460	Digital Control	3
EECE 461	Instrumentation	3
EECE 361L	Power Systems Simulation Laboratory	1
EECE 413L	Embedded System Design Laboratory	1
EECE 421L	Computer Interfacing Laboratory	1
EECE 422L	Information Theory and Coding Laboratory	1
EECE 460L	Control Systems Laboratory	1
XXX	General Elective	3

## 8.9. Plan of Study: BS in Software Engineering

Year I		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
ENGL 101	Basic Academic English I	3
MATH 199	Calculus I	3
PHYS 170	Fundamentals of Physics I	3
PHYS 170L	Introductory Physics Laboratory I	1
SOCS 102	Omani Society	3
ENGR 105	Engineering Graphics	2
ENGR 110	Engineering Workshop	1
Spring Semester		16 Credits
Code	Course Title	Credit Hours
EECE 130L	Computers and Programming Laboratory	1
EECE 130	Computers and Programming I	3
EECE 210	Electric Circuits I	3
ENGL 102E	Basic Academic English II	3
ENGR 100	Introduction to Engineering	3
MATH 200	Calculus II	3
Summer Semester		9 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Sciences II	3
MATH 205	Calculus III	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
Year II		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
EECE 210L	Electric Circuits Laboratory	1
EECE 220	Digital Systems Design	3
EECE 230	Computers and Programming II	3
EECE 212	Basic Electronics	3
EECE 222	Discrete Mathematics for Engineers	3
MATH 250	Probability and Statistics	3

Spring Semester		18 Credits
Code	Course Title	Credit Hours
EECE 212L	Basic Electronics Laboratory	1
EECE 220L	Digital Systems Laboratory	1
EECE 230L	Object Oriented Technologies Laboratory	1
EECE 221	Microprocessor Systems	3
MATH 210	Differential Equations	3
ARAB 101	Academic Writing in Arabic	3
MATH 277	Linear Algebra I	3
ENGL 204	Advanced English for Academic Purposes and Research	3
Summer Semester		0 Credits
Code	Course Title	Credit Hours
EECE 299	Practical Training	0
Year III		
Fall Semester		18 Credits
Code	Course Title	Credit Hours
EECE 330	Software Engineering	3
EECE 433	Database Management Systems	3
ENGL 305	Advanced English Language and Communication Skills	3
EECE 311	Data Structure and Algorithms	3
ENGR 300	Engineering Economy	3
MATH 335	Mathematics for Science and Engineering	3
Spring Semester		17 Credits
Code	Course Title	Credit Hours
EECE 221L	Microprocessor Laboratory	1
SENG 250	System Analysis & Design	3
SENG 260	Software Architecture	3
Code	Major Elective	3
EECE 370L	Web Programming Lab	1
SENG 300	Software Management	3
EECE 450	Artificial Intelligence	3
Summer Semester		0 Credits
Code	Course Title	Credit Hours
SENG 400	Practical Training	0
Year IV		
Fall Semester		13 Credits
Code	Course Title	Credit Hours
SENG 401	Final Year Project Design I	0
SENG 370	Software Quality Assurance	3
SENG 350	Software Verification & Validation	3
SENG 340	Human Computer Interaction	3
Code	Lab Elective I	1
Code	Science Elective	3

Spring Semester		15 Credits
Code	Course Title	Credit Hours
SENG 402	Final Year Project Design II	3
SENG 470	Software Documentation and Standards	3
Code	SENG Elective Major	3
Code	SENG Elective Major	3
Code	General Elective	3

### 8.10. Course Description

Refer to Bachelor of Science in Computer and Communication Engineering Section 5.10.

# Department of Mechanical and Mechatronics Engineering

## 1. Personnel

Chairperson:	Dr. Furqan Ahmad
Assistant Professor:	Dr. Furqan Ahmad Dr. Md Saiful Islam Dr. Paul Chukwuleke Okonkwo
Laboratory Technician:	Mr. Tofayel Ahmed Mr. Fadhil AL Housni

## 2. Vision

To be the regional leader in providing high quality education in Mechanical Engineering and to serve the industry through research, innovation and state-of-the-art technology

## 3. Mission

The mission of the MME is to educate students from the science stream background in the fundamental skills, knowledge, and practice in mechanical and Mechatronics engineering that would enable them to provide quality engineering services in manufacturing industries, contribute to the state-of-the-art knowledge and practice in their field and to assume leadership roles in the development of their community.

## 4. Programs Offered

The department offers following Diploma and Bachelor programs:

### a) Diploma Program

- 1) Diploma in Mechanical Engineering
- 2) Diploma in Mechatronics Engineering

### b) Bachelors Program

- 1) Bachelor of Science in Mechanical Engineering
- 2) Bachelor of Science in Mechatronics Engineering

## 5. Bachelor of Science in Mechanical Engineering

### 5.1. Program Overview

The curriculum for the program in Mechanical Engineering is designed to comply with local education framework and benchmarked with international institutions. It consists of 138 credit-hours of course work. Lab hands-on experience and emphasis on practical aspects are important elements that are integrated throughout the curriculum. The first year is common with other engineering majors to allow students to change to other engineering majors during the second year of their study if they wish to do so.

## 5.2. Program Objectives

The objectives of the program are to:

- 1) To impart a sound understanding of the fundamental principles and concepts of mechanical and Mechatronics engineering.
- 2) To develop the mathematical, scientific and computational skills in formulating and solving mechanical and Mechatronics engineering problems.
- 3) To cultivate the skills pertinent to the engineering design process, conduct of experiments and analyze and interpret data.
- 4) To engage students in solving real-world problems that requires multi-disciplinary approaches while addressing relevant social, environmental, economical and aesthetic concerns.
- 5) To develop effective teamwork and communication skills.
- 6) To prepare students for leading roles in the profession and the community

## 5.3. Program Learning Outcomes

Each student graduating from the Mechanical Engineering program will have:

- 1) An ability to apply knowledge of mathematics, science, and engineering.
- 2) An ability to identify, formulate and solve engineering problems.
- 3) An ability to conduct experiments, as well as to analyze and interpret data.
- 4) An ability to design a system, component, or process to meet desired needs.
- 5) An ability to use the techniques, skills, and modern tools necessary for engineering practice.
- 6) An ability to appreciate the impact of engineering solutions in both local and global contexts.
- 7) An ability to perform in a team environment.
- 8) An ability to communicate effectively.
- 9) An understanding of professional and ethical responsibilities.
- 10) A demonstration of knowledge of contemporary issues in the field.
- 11) An ability to engage in life-long learning.
- 12) An ability to engage in undergraduate research.

## 5.4. Admission Requirements

Admission requirements for a Bachelor of Science in Mechanical Engineering Program are as specified in **College Section 6.a on page 220**.

## 5.5. Graduation Requirements

To graduate with a Bachelor of Science Degree in Mechanical Engineering, students must satisfactorily complete 138 credits taken over four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The University, College, and Program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
27	36	61	14	138

## 5.6. University Requirements

The University requirements consist of nine courses comprising of 27 credit hours as specified in College **Section 8**.

## 5.7. College Requirements

The College requirements consist of 13 courses and labs comprising of 36 credit hours as given below:

Code	College Courses	Credit Hours
EECE 130	Computers and Programming I	3
ENGR 100	Introduction to Engineering	3
ENGR 105	Engineering Graphics	2
ENGR 110	Engineering Workshop	1
ENGR 300	Engineering Economy	3
MATH 200	Calculus II	3
MATH 205	Calculus III	3
MATH 210	Differential Equations	3
MATH 335	Mathematics for Science and Engineering	3
MATH 250E	Probability and Statistics	3
PHYS 170	Fundamentals of Physics I	3
XXX	Science Elective	3
XXX	General Elective	3

## 5.8. Program Requirements

### I) Core Requirements

The program core requirements consist of 23 courses encompassing 61 credit hours.

### III) Elective Requirements

A student has to take a total of 4 courses encompassing 12 credit hours and 2 laboratory electives encompassing 2 credit hours from the following list:

Code	Elective Requirement Courses	Credit Hours
MECH 314	Fluid Power	3
MECH 410	PLC and Industrial Automation	3
MECH 412	Internal Combustion Engines	3
MECH 414	Gas Turbines	3
MECH 415	Steam Turbines	3
MECH 416	Fluids Engineering Application	3
MECH 417	Thermal Power Plant	3
MECH 430	Mechatronics and Intelligent Machines Engineering	3
MECH 444	Environmental Impacts of Energy Systems	3
MECH 450	Computer Applications in Mechanical Engineering	3
MECH 451	Finite Element Method	3
MECH 453	Robotics	3

MECH 454	Artificial Intelligence	3
MECH 455	Hydraulics	3
MECH 490	Renewable Energy	3
MECH 499	Special Topics in Mechanical Engineering	3
MECH 413L	HVAC and Refrigeration Laboratory	1
MECH 444L	Fuel Cell Laboratory	1
MECH 445L	Materials Analysis Laboratory	1

## 5.9. Plan of Study: Bachelor of Science in Mechanical Engineering

Year I		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
SOCS 102	Omani Society	3
ENGL 101	Basic Academic English I	3
MATH 199	Calculus I	3
PHYS 170	Fundamentals of Physics I	3
ARAB 101	Academic Writing in Arabic	3
Spring Semester		15 Credits
Code	Course Title	Credit Hours
ENGR 105	Engineering Graphics	2
EECE 130	Computers and Programming I	3
ENGR 110	Engineering Workshop	1
ENGL 102E	English for Engineering and science I	3
ENGR 100	Introduction to Engineering	3
MATH 200	Calculus II	3
Summer Semester		6 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and science II	3
MATH 205	Calculus III	3
Year II		
Fall Semester		17 Credits
Code	Course Title	Credit Hours
EECE 210	Electric Circuits I	3
EECE 210L	Electric Circuits Laboratory I	1
MECH 270	Properties of Materials	3
MECH 272	Mechanical Statics	3
MECH 271	Industrial Maintenance	3
MECH 278	Manufacturing Processes	3
MECH 270L	Solid Mechanics Laboratory	1
Spring Semester		16 Credits
Code	Course Title	Credit Hours
MECH 274	Mechanical Dynamics	3
MECH 274L	Mechanical Dynamics Laboratory	1
MECH 275	Thermodynamics	3



MECH 276	Strength of Materials	3
MECH 277	Fluid Mechanics	3
MECH 277L	Fluid Mechanics Laboratory	1
MECH 279	CAD/CAM and CNC Machines	2
<b>Summer Semester</b>		<b>6 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
MATH 250E	Probability and Statistics	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
<b>Year III</b>		
<b>Fall Semester</b>		<b>14 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
ENGL 204	Advanced English for Academic Purposes and Research	3
MATH 210	Differential Equations	3
MECH 315L	Thermal Laboratory	1
MECH 371	Heat Transfer	3
MECH 380	Dynamics of Machines	3
MECH XXXL	Major Laboratory Elective	1
<b>Spring Semester</b>		<b>18 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
ENGR 300	Engineering Economy	3
MATH 335	Mathematics for Science and Engineering	3
MECH 385	Mechanical Design	3
MECH 374	Instrumentation and Measurements	3
ENGL 305	Advanced English Language and Communication Skills	3
MECH XXX	Major Elective Course	3
<b>Summer Semester</b>		<b>0 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
MECH 400	Practical Training	0
<b>Year IV</b>		
<b>Fall Semester</b>		<b>16 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
MECH 372	Control Systems and Laboratory	3
MECH 401	Final Year Project I	0
MECH 413	Air Conditioning	3
MECH 442	Capstone Design	3
MECH XXX	Major Elective	3
XXX	Science Elective	3
MECH XXXL	Major Elective Laboratory	1
<b>Spring Semester</b>		<b>15 Credits</b>
<b>Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
MECH 402	Final Year Project II	3
MECH 431	Mechanical Vibrations	3

MECH XXX	Major Elective	3
MECH XXX	Major Elective	3
XXX	General Elective	3

## 5.10. Course Description

### **MECH 270 Properties of Materials (3 crs)**

This course covers the different types of materials: metals, ceramics, polymers; type of bonds: ionic, covalent and metallic bonds; unit cells and crystal structures, points, directions and planes within a unit cell; mechanical properties of materials: strength, toughness, ductility, resilience; failure: fatigue, creep. Thermal properties of materials: heat capacity, thermal expansion, thermal conductivity. Prerequisite: ENGR 100. Annually.

### **MECH 271 Industrial Maintenance (3 crs)**

This course equips students with a variety of technical skill areas such as mechanical installation, power transmission, bearings, shaft alignment, lubrication, fluid power, piping systems, fasteners, and safety at the workplace. Prerequisites: ENGR 100, ENGR 110.

### **MECH 272 Mechanical Statics (3 crs)**

This course covers the following topics: force vector, 2-D system of vectors, moment, couple, resultants, static equilibrium of 2-D forces and moments, centroid, truss, friction. Prerequisites: ENGR 100, PHYS 170, Co-requisite MATH 199.

### **MECH 274 Mechanical Dynamics (3 crs)**

This course covers the following topics: position, velocity and acceleration of a particle, equations of motion for constant acceleration, Newton's Laws, mechanical work, energy and power, impulse, impact, coefficient of restitution, conservation of momentum, and spring stiffness. Prerequisites MECH 272, MATH 200. Annually.

### **MECH 275 Thermodynamics (3 crs)**

This course covers the following topics: basic considerations of the three laws of thermodynamics, open and close systems, two phase systems, steam tables and charts, elementary statistical principles for the prediction of properties of pure substances and mixtures, system and control volume analysis of thermodynamic processes, irreversibility, Entropy, relations for ideal gas mixtures. Prerequisites: ENGR 100, MATH 200.

### **MECH 276 Strength of Materials (3 crs)**

This course covers the different types of stress and strain induced by different types of loading: axial loading, torsion, pure bending: shear force and bending moment diagrams; stress concentration; analysis and design of beams in bending; shearing stresses in beams and thin-walled members; deflection of beams. Co-requisite: MECH 270 and Prerequisite: MECH 272.

### **MECH 277 Fluid Mechanics (3 crs)**

This course covers the basic concepts of fluid mechanics: properties of fluids, pressure and fluid statics, hydrostatic forces, fluid kinematics, conservation of

mass, conservation of energy, fluids in rigid body translational and rotational motions, Bernoulli's equation, and momentum analysis of flow systems. Prerequisites: MECH 272, MATH 200.

**MECH 278 Manufacturing Processes (3 crs)**

This course gives an insight to manufacturing of metallic materials, engineering and their processing; selections of engineering materials, dimensional and geometric tolerance; processes includes metal casting, bulk and sheet metal forming, metal joining, fundamentals of machining, metal cutting theories and practices; hands-on experience in metal cutting. Pre-requisite: ENGR 100, ENGR 110, ENGR 105.

**MECH 279 CAD/CAM and CNC Machines (2 crs)**

This covers the principles, techniques, and applications of computer numerically controlled (CNC) machine tools. G and M code programming of industrial machines, tooling systems, introduction to Computer Aided Drafting and Manufacturing (CAD/CAM) systems, introduction to the principle of Flexible Manufacturing Systems (FMS), and hands-on training on CNC machine. Prerequisite: MECH 278.

**MECH 280 Machine Drawing (3 crs)**

The course covers the study of machine design, drawing and drafting to familiarize about the detail and assembly of machine components; dimension, limits, fits and tolerance; sectional views; Introduction to CAD/CAE; construct and realize the detail and assembly of machine components by 2D and 3D modeling using CAD software i.e. Solid Works. Prerequisite: ENGR 110, ENGR 105.

**MECH 299 Practical Training (0 cr)**

Eight weeks of supervised project/internship aimed at providing practical experience for Mechanical Engineering diploma students. Prerequisite: Permission of the Instructor.

**MECH 371 Heat Transfer (3 crs)**

This course covers the mechanism and basic equations for conduction, convection and radiation, steady-state one dimensional conduction heat transfer, Cartesian and cylindrical coordinates, resistance concept for plane wall & radial systems, contact resistance, multi-layer plane walls and radial systems, extended surfaces, forced convection dimensional analysis, natural convection, internal flows in tubes, heat exchangers, LMTD and e-NTU methods of design. Prerequisites: MECH 275, MECH 277. Annually.

**MECH 372 Control Systems and laboratory (3 crs)**

This course covers the basic concepts of control theory: plant, controller, process, open-loop, feed-back control; Laplace transform; mathematical modeling of dynamic systems; state-space; Linearization; transient and steady-state responses; stability; frequency-response analysis: bode diagram, Nyquist plots; lab may include software application (e.g. MATLAB or LabVIEW) and/or hardware equipment (inverted pendulum, level, pressure, temperature, motor speed control, etc.). Prerequisite: MATH 210. Annually.

**MECH 374 Instrumentation & Measurements (3 crs)**

This course covers the whole spectrum of measurement and instrumentation concepts: sensor classification, calibration and characteristics; measurement chain

and interfacing concepts; data acquisition, manipulation, transmission, and recording; measurement of various physical variables; computer application (e.g. LabVIEW); and practical team project. Prerequisites: EECE 210 and MATH 205.

**MECH 380 Dynamics of Machines (3 crs)**

This course covers the following topics: kinematics fundamentals, Grashof condition, graphical linkage syntheses, position analysis, computer-aided mechanism design, velocity analysis using graphical and analytical methods, acceleration analysis using analytical and graphical methods, cam, gear, gear force analysis, balancing of rotating machines. Pre-requisite: MECH 274.

**MECH 385 Mechanical Design (3 crs)**

This course covers a review of stress, strain, and deflection; combined loading; Mohr's circles, principal stresses and maximum shear stress; static failure theories; fatigue failure theories; surface failure; design of different mechanical components: shafts, keys, couplings; columns; bearings and lubrication; introduction to finite element analysis (FEA). Prerequisite: MECH 276. Annually.

**MECH 400 Practical Training (0 cr)**

Supervised project/internship aimed at providing practical experience for Mechanical Engineering bachelor students. Prerequisite: Permission of the Instructor.

**MECH 401 Final Year Project I (0 cr)**

A supervised project, normally in groups of three students, aimed at providing a practical experience in some aspects of mechanical engineering. Students are expected to complete a literature survey, project specification, critical analysis, and to acquire the necessary material needed for their intended end product.

**MECH 402 Final Year Project II (3 crs)**

A course in which the students integrate their acquired knowledge and skills to deliver the product researched and planned in MECH 401. Prerequisite: MECH 401.

**MECH 413 Air Conditioning (3 crs)**

This course covers the following: review of basic concepts and fundamentals of thermodynamics, psychrometry, human comfort, heat transfer in residential building, heating load calculations, cooling load calculations, required air quantities for cooling or heating. Prerequisite: MECH 275. Annually.

**MECH 431 Mechanical Vibrations (3 crs)**

This course covers the response of discrete single, two- and multi-degree of freedom systems to vibration, free and forced vibration, response of damped and undamped systems to vibration, damping cases: underdamped, critically damped and overdamped systems, Lagrange's equation, base excitation, rotating imbalance, vibration isolation, and introduction to human responses to vibration. Prerequisite: MECH 274, Co-requisite MATH 210. Annually.

**MECH 314 Fluid Power (3 crs)**

This course covers the following topics: fundamental concept of fluid power transmission, properties of conventional fluid, control valves, positive and non-positive displacement pumps, compressors, motors, cylinders, electro-hydraulic and pneumatic valves, graphical symbols, circuit and systems, compressible fluid properties, and applications of fluid power. Prerequisite: MECH 277.

**MECH 410 PLC and Industrial Automation (3 crs)**

This course covers PLC operation, PLC memory, ladder logic; structured logic, flowchart-based, and state-based design, instruction list and structured text programming, Interface of sensors, actuators, and I/O devices, selecting PLC, projects. Prerequisite: MECH 374.

**MECH 412 Internal Combustion Engines (3 crs)**

This course covers the fundamental principles underlying the theory and analysis of reciprocating internal combustion engines, fuels, carburetion, combustion, exhaust emissions, detonation, fuel injection, and factors affecting performance. Prerequisite: MECH 275.

**MECH 414 Gas Turbines (3 crs)**

This course covers the thermodynamic and aerodynamic theory that forms the basis of gas turbine design: shaft power cycles; gas turbine cycles; turbofan and turbojet engines; design and analysis of centrifugal and axial flow compressors and turbines. Prerequisites: MECH 275 and MECH 277.

**MECH 415 Steam Turbines (3 crs)**

This course covers the following topics: impulse and reaction steam turbines, steam turbine cycles, flow of steam in nozzles, design aspects of turbines, stage losses and efficiency, velocity diagrams; impulse and reaction blading velocities; nucleation, condensation and two-phase phenomena in flowing steam. Prerequisites: MECH 275 and MECH 277.

**MECH 416 Fluids Engineering Application (3 crs)**

This course covers the following topics: potential flow and boundary layer analysis; lift and drag; flow separation; viscous internal channel flow and lubrication theory; compressible flow in nozzles and ducts; normal shock waves and channel flow with friction or heat transfer; fluid machinery including pumps and hydraulic turbines. Prerequisite: MECH 277.

**MECH 417 Thermal Power Plant (3 crs)**

This course covers the fundamental principles, theory, design and operation of thermal power plants. It also covers available technologies behind the existing thermal power plants and the up-to-date technologies available for future plants. Topics covered include: thermodynamic power cycles, energy conversion, boilers and furnaces, energy economy and analysis and sustainable power generation. Prerequisites: MECH 275 and MECH 277.

**MECH 430 Mechatronics and Intelligent Machines Engineering (3 crs)**

This course covers the following topics: electromechanical systems and mechatronics; data; numbering systems, microcontroller, assembly language programming, A/D and D/A conversion; parallel I/O, programmable timer operation, interfacing sensors and actuators, applications; design project and implementation of a mechatronics system. Prerequisite: MECH 374.

**MECH 442 Capstone Design (3 crs)**

In this course, students will work in teams and learn problem solving techniques of professional-level from team designing process. Main topic to identify the problem or define problem, create different idea and after analyzing the

environmental, economically and ethical aspects select the final plan, create engineering drawing, create CAD model and do CAE analysis using commercial software (SolidWorks), create prototype or manufacture the part, test and analyze, prepare report and presentation. Pre-requisite: MECH 385.

**MECH 444 Environmental Impacts of Energy Systems (3 crs)**

This course talks about world energy resources and classifications. It covers sources and effects of air pollution, air quality modeling, Gaussian dispersion models, motor vehicles emissions and noise pollution, mitigation strategies, environmental impacts of electricity generation, pollution control systems, electromagnetic radiations. Prerequisite: ENGR 100.

**MECH 450 Computer Applications in Mechanical Engineering (3 crs)**

This course teaches students how to use computer software to solve problems from various topics of mechanical engineering; topics may include but not restricted to stress analysis, vibration, heat transfer, and fluid flow. Computer applications may include but not restricted to the use of finite element method software, MATLAB and CFD. Prerequisite: EECE 130, MECH 277, MECH 371, MECH 431.

**MECH 451 Finite Element Method (3 crs)**

This course covers the following topics: Matrix notation, stiffness (displacement) method, boundary conditions, linear stress analysis, strain rate, deformation analysis, bar elements, 2D and 3D truss, beam, frame and structural elements, and modeling and simulation using commercial finite element software. Pre-requisite: MATH 210, MECH 279 and MECH 385.

**MECH 453 Robotics (3 crs)**

This course covers the following topics: introduction to robotics, coordinate systems, robot arms, end effectors, sensors, application of sensors in robots, programming of robots, safety considerations. Prerequisite: MECH 374.

**MECH 454 Artificial Intelligence (3 crs)**

This course covers the following topics: introduction to artificial intelligence (AI), knowledge perception, predicate logic, machine learning, decision tree learning, two and multiple layers artificial neural networks (ANN), logic programming, genetic algorithms, genetic programming.

**MECH 455 Hydraulics (3 crs)**

This course covers the fundamental and operating principles of hydraulics and pumps/turbines: applied principles and practical features of hydraulics and pumps/turbines, internal flow in conduits, turbo-machinery, classifications of pumps, Classifications of hydraulic turbines. Prerequisite MECH 277.

**MECH 490 Renewable Energy (3 crs)**

This course covers the whole spectrum of renewable energy: wind, solar, tidal, biomass, etc. The course also covers hybrid system as well as nuclear energy and its role in the 21st century (and beyond) and how it fits in with other forms of "renewable energy". Prerequisite: MECH 275.

**MECH 499 Special Topics in Mechanical Engineering (3 crs)**

This independent course will cover a particular topic, varying from semester to

semester, in which there is a particular student or staff interest. Prerequisite: Permission of the Instructor and approval of the Department.

**MECH 270L Solid Mechanics Laboratory (1 cr)**

This laboratory covers different experiments related to properties of materials; experiments include Hooke's law, tensile test, bending test, creep test, hardness test, impact test, torsion test, and fatigue test. Co-requisite: MECH 270.

**MECH 274L Mechanical Dynamics Laboratory (1 cr)**

This laboratory covers the following experiments: falling objects, projectile motion, acceleration and force, Newton's third law, tension, conservation of momentum, conservation of energy: free fall, pendulum, spring, roller coaster; oscillation; rotational inertia. Prerequisite: MECH 274.

**MECH 277L Fluid Mechanics Laboratory (1 cr)**

This laboratory covers different experiments that may include: measurement of flow rate, Bernoulli's theorem, center of pressure, floatation characteristics, centrifugal pumps, cavitation in centrifugal pumps, characteristics of two pumps in series, pipe friction losses, friction in bends and fittings, momentum of flow, Pelton turbine, hydraulic Ram Pump, free and forced vortices. Co-requisite: MECH 277.

**MECH 315L Thermal Laboratory (1 cr)**

This laboratory is meant to compliment the thermodynamics and heat transfer courses. Experiments include: linear heat conduction, radial heat conduction, combined convection and radiation, extended surface heat transfer, heat exchangers, saturation pressure, expansion processes of a perfect gas, steam power plant cycle. Co-requisite: MECH 371.

**MECH 413L HVAC and Refrigeration Laboratory (1 cr)**

This laboratory covers the following experiments: different air conditioning processes, sensible heating, sensible cooling, humidification, heating and humidification, cooling and dehumidification. It also covers experiments on the refrigeration cycle, cooling towers and small and ducted split systems. Prerequisite: MECH 413.

**MECH 444L Fuel Cell Laboratory (1 cr)**

This laboratory covers the following experiments: the basic functions of the fuel cell system, the characteristic curve of a fuel cell, parameters influencing the characteristic curve, determination of the hydrogen current curve, efficiency of the fuel cell stack, set-up of a fuel cell power supply, efficiency of a fuel cell power supply, characteristic curves of the solar panel, solar power-fuel cell hybrid, parallel and series switching of fuel cells, and examples of fuel cell applications. Prerequisite: ENGR 100.

**MECH 445L Material Analysis Laboratory (1 cr)**

This course gives insight to materials engineering, testing and analysis; gain experience on the relationship between processing, microstructure and performance of the materials; examination of surface and subsurface characterization of ferrous and non-ferrous metallic specimens; students will be made to understand the significance of the nondestructive testing methods, procedure and application. Pre-requisite: MECH 270, MECH 278.

## 6. Diploma in Mechanical Engineering

### 6.1. Program Overview

Refer to Bachelor in Mechanical Engineering **Section 5.1.**

### 6.2. Program Objectives

Refer to Bachelor in Mechanical Engineering **Section 5.2.**

### 6.3. Program Learning Outcomes

Refer to Bachelor in Mechanical Engineering **Section 5.3.**

### 6.4. Admission Requirements

Admission requirements for a Diploma in Mechanical Engineering Program are as specified in College **Section 6.a on page 220.**

### 6.5. Graduation Requirements

To graduate with a Diploma in Mechanical Engineering, students must satisfactorily complete 75 credits taken over two academic years, with an overall minimum average of 65 percent. The University, College, and Program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
18	21	36	-	75

### 6.6. University Requirements

The University requirements for Diploma in Mechanical Engineering program consist of six courses comprising of 18 credit hours as shown below.

Code	University Courses	Credit Hours
ENGL 101	Basic Academic English	3
ENGL 102E	English for Engineering and Sciences I	3
ENGL 203E	English for Engineering and Sciences II	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
MATH 199	Calculus I	3
SOCS 102	Omani Society	3

### 6.7. College Requirements

The College requirements consist of 8 courses comprising of 21 credit hours as given below:

Code	College Courses	Credit Hours
EECE 130	Computers and Programming I	3
ENGR 100	Introduction to Engineering	3
ENGR 105	Engineering Graphics	2
ENGR 110	Engineering Workshop	1



MATH 200	Calculus II	3
MATH 205	Calculus III	3
MATH 250E	Probability and Statistics	3
PHYS 170	Fundamentals of Physics I	3

## 6.8. Program Requirements

### I) Core Requirements

The program core requirements consist of 12 courses encompassing 36 credit hours.

### II) Elective Requirements

There are no elective requirements for this program.

## 6.9. Plan of Study: Diploma in Mechanical Engineering

Year I		
Fall Semester		17 Credits
Code	Course Title	Credit Hours
ENGR 100	Introduction to Engineering	3
ENGL 101	Basic Academic English I	3
MATH 199	Calculus I	3
PHYS 170	Fundamentals of Physics I	3
ENGR 105	Engineering Graphics	2
SOCS 102	Omani Society	3
Spring Semester		16 Credits
Code	Course Title	Credit Hours
MECH 270	Properties of Materials	3
EECE 130	Computers and Programming I	3
ENGR 110	Engineering Workshop	1
ENGL 102E	English for Engineering and science I	3
MATH 200	Calculus II	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
Summer Semester		6 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and science II	3
MATH 205	Calculus III	3
Year II		
Fall Semester		17 Credits
Code	Course Title	Credit Hours
EECE 210	Electric Circuits I	3
EECE 210L	Electric Circuits Laboratory I	1
MATH 250E	Probability and Statistics	3
MECH 272	Mechanical Statics	3
MECH 271	Industrial Maintenance	3
MECH 278	Manufacturing Processes	3
MECH 270L	Solid Mechanics Laboratory	1

Spring Semester		19 Credits
Code	Course Title	Credit Hours
MECH 274	Mechanical Dynamics	3
MECH 274L	Mechanical Dynamics Laboratory	1
MECH 275	Thermodynamics	3
MECH 276	Strength of Materials	3
MECH 277	Fluid Mechanics	3
MECH 277L	Fluid Mechanics Laboratory	1
MECH 279	CAD/CAM and CNC Machines	2
MECH 280	Machine Drawing	3
Summer Semester		0 Credits
Code	Course Title	0 Credit Hours
MECH 299	Practical Training	0

### 6.10. Course Description

Refer to Bachelor in Mechanical Engineering **Section 5.10.**

## 7. Bachelor of Science in Mechatronics Engineering

### 7.1. Program Overview

The curriculum for the program in Mechatronics Engineering is designed to comply with local education framework and benchmarked with international institutions. It consists of 138 credit-hours of course work. Lab hands-on experience and emphasis on practical aspects are important elements that are integrated throughout the curriculum. The first year is common with other engineering majors to allow students to change to other engineering majors during the second year of their study if they wish to do so.

### 7.2. Program Objectives

The objectives of the program are to:

- 1) To impart a sound understanding of the fundamental principles and concepts of Mechatronics and Mechatronics Engineering.
- 2) To develop the mathematical, scientific and computational skills in formulating and solving Mechanical and Mechatronics Engineering problems.
- 3) To cultivate the skills pertinent to the engineering design process, conduct of experiments and analyze and interpret data.
- 4) To engage students in solving real-world problems that requires multi-disciplinary approaches while addressing relevant social, environmental, economic and aesthetic concerns.
- 5) To develop effective teamwork and communication skills.
- 6) To prepare students for leading roles in the profession and the community

### 7.3. Program Learning Outcomes

Each student graduating from the Mechatronics Engineering program will have:

- 1) An ability to apply knowledge of mathematics, science, and engineering.

- 2) An ability to identify, formulate and solve engineering problems.
- 3) An ability to conduct experiments, as well as to analyze and interpret data.
- 4) An ability to design a system, component, or process to meet desired needs.
- 5) An ability to use the techniques, skills, and modern tools necessary for engineering practice.
- 6) An ability to appreciate the impact of engineering solutions in both local and global contexts.
- 7) An ability to perform in a team environment.
- 8) An ability to communicate effectively.
- 9) An understanding of professional and ethical responsibilities.
- 10) A demonstration of knowledge of contemporary issues in the field.
- 11) An ability to engage in life-long learning.
- 12) An ability to engage in undergraduate research.

#### 7.4. Admission Requirements

Admission requirements for a Bachelor of Science in Mechatronics Engineering Program are as specified in **College Section 6.a on page 220**.

#### 7.5. Graduation Requirements

To graduate with a Bachelor of Science Degree in Mechatronics Engineering, students must satisfactorily complete 138 credits taken over four academic years, with an overall minimum average of 65 percent, and a cumulative average of 70 percent in the major courses. The University, College, and Program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
27	31	66	14	138

#### 7.6. University Requirements

The University requirements consist of nine courses comprising of 27 credit hours as specified in College **Section 8**.

#### 7.7. College Requirements

The College requirements consist of 13 courses and labs comprising of 36 credit hours as given below:

Code	College Courses	Credit Hours
EECE 130	Computers and Programming I	3
TRON 130L	Programming Laboratory	1
ENGR 100	Introduction to Engineering	3
ENGR 105	Engineering Graphics	2
ENGR 110	Engineering Workshop	1
ENGR 300	Engineering Economy	3
MATH 200	Calculus II	3
MATH 205	Calculus III	3

MATH 210	Differential Equations	3
MATH 335	Mathematics for Science and Engineering	3
MATH 250E	Probability and Statistics	3
PHYS 170	Fundamentals of Physics I	3

## 7.8. Program Requirements

### II) Core Requirements

The program core requirements consist of 24 courses encompassing 66 credit hours.

### III) Elective Requirements

A student has to take a total of 4 courses encompassing 12 credit hours and 2 laboratory electives encompassing 2 credit hours from the following list:

Code	Elective Requirement Courses	Credit Hours
TRON 411	Technopreneurship	3
TRON 452	Microprocessor Systems	3
TRON 453	Robotics	3
TRON 454	Artificial Intelligence	3
TRON 455	Intelligent Systems	3
TRON 456	Computer Integrated Manufacturing	3
TRON 457	Power Electronics and Drives	3
TRON 458	Micro-electromechanical Systems	3
TRON 459	Applied Digital Signal Processing	3
TRON 499	Special Topics in Mechatronics Engineering	3

## 7.9. Plan of Study: Bachelor of Science in Mechatronics Engineering

Year I		
Fall Semester		15 Credits
Code	Course Title	Credit Hours
ENGL 101	Basic Academic English I	3
MATH 199	Calculus I	3
PHYS 170	Fundamentals of Physics I	3
ARAB 101	Academic Writing in Arabic	3
SOCS 102	Omani Society	3
Spring Semester		15 Credits
Code	Course Title	Credit Hours
EECE 130	Computers and Programming I	3
TRON 130L	Programming Laboratory	1
ENGL 102E	English for Engineering and Sciences I	3
ENGR 100	Introduction to Engineering	3
ENGR 105	Engineering Graphics	2
ENGR 110	Engineering Workshop	1
MATH 200	Calculus II	3

Summer Semester		6 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Sciences II	3
MATH 205	Calculus III	3
Year II		
Fall Semester		17 Credits
Code	Course Title	Credit Hours
EECE 210	Electric Circuits I	3
EECE 212	Basic Electronics	3
TRON 213	Digital Logic Fundamentals	3
TRON 214	Introduction to Mechatronics and Laboratory	3
MECH 271	Industrial Maintenance	3
MECH 272	Mechanical Statics	3
Spring Semester		16 Credits
Code	Course Title	Credit Hours
EECE 210L	Electric Circuits Laboratory I	1
TRON 274	Instrumentation and Measurements	3
TRON 274L	Instrumentation and Measurements Laboratory	1
MECH 274	Mechanical Dynamics	3
MECH 274L	Mechanical Dynamics Laboratory	1
MECH 276	Strength of Materials	3
MECH 278	Manufacturing Processes	3
MECH 279	CAD/CAM and CNC Machines	2
Summer Semester		6 Credits
Code	Course Title	Credit Hours
ENTR 200	Entrepreneurship: Innovation and Creativity	3
MATH 250 E	Probability and Statistics	3
Year III		
Fall Semester		14 Credits
Code	Course Title	Credit Hours
ENGL 204	Advanced English for Academic Purposes and Research	3
MATH 210	Differential Equations	3
TRON 310	Microcontroller Programming and Interface and Laboratory	3
TRON 312	Thermofluid Engineering	3
MECH 380	Dynamics of Machines	3
Spring Semester		18 Credits
Code	Course Title	Credit Hours
ENGR 300	Engineering Economy	3
MATH 335	Mathematics for Science and Engineering	3
MECH 385	Mechanical Design	3
TRON 311	Embedded System Design and Laboratory	3
ENGL 305	Advanced English Language and Communication Skills	3
EECE 340	Signals and Systems	3

Summer Semester		0 Credits
Code	Course Title	Credit Hours
TRON 400	Practical Training	0
Year IV		
Fall Semester		16 Credits
Code	Course Title	Credit Hours
TRON 472	Control Systems + Laboratory	3
TRON 401	Final Year Project I	0
MECH 431	Mechanical Vibrations	3
TRON 410	PLC and Industrial Automation + Laboratory	3
TRON 313	Fluid Power	3
CODE XXX	Science Elective	3
Spring Semester		15 Credits
Code	Course Title	Credit Hours
TRON 402	Final Year Project II	3
TRON XXX	Course Major Elective	3
CODE XXX	Course General Elective	3
TRON XXX	Course Major Elective	3

## 7.10. Course Description

### **ARAB 101      Academic Writing in Arabic      (3 crs)**

This course focuses on studying the essential elements of academic writing in Arabic including effective sentences, paragraphs, essays, academic papers, professional reports, and official letters. The students are required to demonstrate high-level abilities to produce academically sound documents in Arabic.

### **ENGL 101      Basic Academic English      (3 crs)**

Consistent with its aim of enabling first year students in the university departments to become efficient communicators in English Language, this course scaffolds with their knowledge, skills and competence developed in Level 3 of the Foundation Program and continues to build on their language and study skills. This integrated skills course is designed to develop the listening, speaking, reading and writing skills of the students so that they can understand English in a range of contexts and express thoughts, opinions, arguments and a range of language functions to speakers of English and other languages with sufficient clarity and accuracy of language and pronunciation. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential.

### **ENGL 102 E      English for Engineering and Sciences I      (3 crs)**

The main aim of this course is to improve student's professional communication skills for the content and tasks to which they will be exposed to in their courses related to their field of study. Scaffolding with the knowledge, skills and

competence developed in ENGL 101, this course is designed to improve specialist language knowledge and communication skills of the students studying and working in the fields of Engineering and Sciences and enable them to work more confidently and effectively. The course content covers topics common to the fields of Engineering and Sciences and the classroom tasks and activities range from describing technical problems and solutions to working with drawings and a set of case studies that provide problem-solving practice in authentic Engineering and Scientific scenarios. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential. Prerequisite: ENGL 101.

**ENGL 203E      English for Engineering and Sciences II      (3 crs)**

This course builds on the knowledge, skills and competence developed in ENGL 102 E and further continues to improve students' professional communication skills for the content and tasks to which they will be exposed to in their courses related to their field of study. The course is designed to improve specialist language knowledge and communication skills of the students studying and working in the fields of Engineering and Sciences and enable them to work more confidently and effectively. The course content covers topics common to the fields of Engineering and Sciences and the classroom tasks and activities range from describing technical problems and solutions to working with drawings and a set of case studies that provide problem-solving practice in authentic Engineering and Scientific scenarios. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential. Prerequisite: ENGL 102E.

**ENGL 204      Advanced English for Academic Purpose and Research      (3 crs)**

The main objective of this course is to activate, enrich and strengthen students English for academic purposes and prepare them for research. It aims at developing a take-off level proficiency in advanced academic reading and writing skills, study and research skills along with aural-oral skills. The course is also designed to promote self-study habits among students. In this course, the students continue to increase and develop their comprehension, analysis, and synthesis skills of a variety of extended academic texts about issues across curriculum. Students will also learn how to conduct and write independent research. The course content covers different stages of writing process and elements of writing and introduces and practices writing modes such as case studies, literature reviews, essays, reports and surveys. Particular attention will be given to issues around academic vocabulary, plagiarism and reference skills. Prerequisite: ENGL 203E.

**ENGL 305      Advanced English Language and Communication Skills      (3 crs)**

This course is designed with a dual purpose of helping students succeed on their current courses and to prepare them for their career. Geared towards students'

success in the standardized test IELTS (International English Language Testing System) with a target of minimum band 5, the course builds on the student's knowledge, skills and competence developed in ENGL 101 through ENGL 204. The course content covers comprehension of advanced reading texts from a wide range of disciplines and listening comprehension in social, educational and training contexts. Interactive speaking practice involves oral interviews on general/familiar topics and also prompted particular topics leading to a discussion of more abstract issues and concepts thematically linked to the prompted topics. Writing includes composing essays and reports, interpreting visual information and graphics, outlining and presenting a solution, justifying an opinion and evaluating ideas and evidence etc. Simultaneously, training in effective time management, critical thinking and study skills will also be provided in order to increase their academic, professional, and employment potential. Prerequisite: ENGL 204.

**SOCS 102                      Omani Society                      (3 crs)**

A brief survey of the history of the Sultanate of Oman, both ancient and contemporary; examines current features of Omani society, notably its social structure, social groups, culture, languages, customs, and the process of social change and community development. May be offered in Arabic.

**MATH 199                      Calculus I                      (3 crs)**

Calculus of one variable: limits, continuity, differentiation, chain rule, maxima and minima, curve plotting, Rolle's theorem, integration by substitution, definite integrals with applications to areas, volumes and arc length, fundamental theorem of integral calculus, exponential and logarithmic functions, trigonometric functions, parametric equations.

**ENTR 200                      Entrepreneurship: Innovation and Creativity                      (3 crs)**

This introductory course provides a fully-enabled curriculum for the students to explore entrepreneurship as a study topic as well as practice. Entrepreneurship has become one of the most powerful and influential force of change in the world. This course aims to provide a basic understanding of the most important and relevant concepts and processes in the field of entrepreneurship in addition to practical training. Topics covered in this course will include significance of entrepreneurship, feasibility study, business model, business plan, understanding the concept of opportunity, different types of business ownership existing in Sultanate of Oman, as well as practical applications and field visits. Prerequisite: ENGL 203E.

**EECE 130                      Computers and Programming I                      (3 crs)**

This course covers the fundamental concepts of programming using C++ as a high level language, basic programming tools, input and output functions, variable declaration, mathematical and logical operations, programming control structures, program composition of functions, scope of identifiers, principles and basic operations of arrays.



<b>TRON 130L</b>	<b>Programming Lab</b>	<b>(1 cr)</b>
This laboratory is meant to provide mechatronics students with hands-on experience in using important engineering software such as LabVIEW, MATLAB, SIMULINK, assembly language, and others. Prerequisite: EECE 130		
<b>ENGR 100</b>	<b>Introduction to Engineering</b>	<b>(3 crs)</b>
This course introduces engineering students to engineering communication and ethics, report writing, dimensions and units - length, time, mass, force, temperature, electric current – and their related parameters - energy and power.		
<b>ENGR 105</b>	<b>Engineering Graphics</b>	<b>(2 crs)</b>
This course covers geometrical construction, orthographic projection, first angle and third angle projections, drawing convention or standards, sections, dimensions, oblique and isometric, tolerances, limits and fits. Students will also learn how to prepare engineering drawings using Computer Aided Drawing (CAD) software such as AutoCAD and solid work.		
<b>ENGR 110</b>	<b>Engineering Workshop</b>	<b>(1 cr)</b>
This course covers five sections. 1) Lathe - machine components and different operations; 2) Basic principles of arc (AC and DC) and gas welding; 3) machine-shop, basic principle of milling, grinding, and drilling machines; 4) soldering of electronic components, and 5) electric wiring. The course includes hands-on practical experience on various machines.		
<b>ENGR 300</b>	<b>Engineering Economy</b>	<b>(3 crs)</b>
This course introduces economic decision processes in the design and implementation of real engineering projects; investment, financing, depreciation, economic selection, and replacement. Prerequisite: ENGR 100, MATH 199.		
<b>MATH 200</b>	<b>Calculus II</b>	<b>(3 crs)</b>
Methods of integration, inverse trigonometric functions, limits, sequences and series, tests for convergence, Taylor approximations, and Taylor series. Polar coordinates. Prerequisite: MATH 199.		
<b>MATH 205</b>	<b>Calculus III</b>	<b>(3 crs)</b>
Multivariable Calculus: Partial derivatives, directional derivatives, chain rule, tangent planes, maxima and minima, Lagrange multipliers, cylindrical and spherical coordinates, multiple integrals, substitutions, line and surface integrals. Theorems of Green, Gauss and Stokes. Prerequisite: MATH 200.		
<b>MATH 210</b>	<b>Differential Equations</b>	<b>(3 crs)</b>
First-order differential equations, linear differential equations of second and higher order, homogenous and non-homogenous with constant coefficients, power series solutions, Bessel functions and Legendre polynomials, Laplace transforms, and initial value problems. Prerequisite: MATH 205.		

**MATH 250E      Probability and Statistics      (3 crs)**

Preliminary data analysis, graphical representation, measures of central tendency, measures of dispersion, theory of probability, probability distribution, random variables and their tendencies, Joint probability, Conditional probability, Law of large numbers and central limit theorem, regression analysis, simple linear regression. Prerequisite: MATH 200.

**MATH 335      Mathematics for Science and Engineering      (3 crs)**

A course that covers linear algebra: Vector spaces, linear transformations and matrices, determinants, rank and inverse, systems of linear equations, eigenvalue and eigenvector analysis, and generalization of linear systems to include differential equations. Partial differential equations, classification, methods of variable separation, applications to the wave equations, heat equation, and Laplace and Poisson equations. Prerequisites: MATH 205, MATH 210.

**PHYS 170      Fundamentals of Physics I      (3 crs)**

Measurements, vectors, motion in one two and three dimensions, Newton's laws, Particle dynamics, work and energy, circular motion and rotation, collisions, linear momentum and angular momentum, oscillations, Fluid statics and dynamics, wave motion and sound waves. Prerequisite or co-requisite: MATH 199.

**Major Requirements**

**EECE 210      Electric Circuits I      (3 crs)**

This course covers the fundamentals of DC electric circuit: quantities such as current, voltage and power; active and passive elements; laws of DC circuit analysis; analyzing simple resistive circuits using DC circuit analysis standard techniques; and introduction to AC circuits. Prerequisite: PHYS 170.

**EECE 212      Basic Electronics      (3 crs)**

This course covers the fundamentals of basic electronics: Introduction to semiconductors, PN-junctions, Diode circuits, models and applications: rectifiers, comparators, voltage limiters, clippers, clampers and power dissipation. LEDs, Zener diode regulator, BJT and MOSFET characteristics and applications. Operational amplifiers. Co-requisite: EECE 210

**EECE 340      Signals and systems      (3 crs)**

This course covers the main concepts of signals and systems: definition, classification and examples of signals and systems, signals properties and operations, systems properties and interconnection; convolution theorem; Laplace transform and inverse Laplace transform of system examples; and Fourier series representation of signals. Prerequisites: EECE 210 and Co-requisites: MATH 335. Annually.

**MECH 271      Industrial Maintenance      (3 crs)**

This course equips students with a variety of technical skill areas such as mechanical installation, power transmission, bearings, shaft alignment,

lubrication, fluid power, piping systems, fasteners, and safety at the workplace. Prerequisites: ENGR 100, ENGR 110.

**MECH 272                      Mechanical Statics                      (3 crs)**

This course covers the following topics: force vector, 2-D system of vectors, moment, couple, resultants, static equilibrium of 2-D forces and moments, centroid, truss, friction. Prerequisites: ENGR 100/PHYS 170 and MATH 199.

**MECH 274                      Mechanical Dynamics                      (3 crs)**

This course covers the following topics: position, velocity and acceleration of a particle, equations of motion for constant acceleration, Newton's Laws, mechanical work, energy and power, impulse, impact, coefficient of restitution, conservation of momentum, and spring stiffness. Prerequisites MECH 272, MATH 200.

**MECH 276                      Strength of Materials                      (3 crs)**

This course covers the different types of stress and strain induced by different types of loading: axial loading, torsion, pure bending: shear force and bending moment diagrams; stress concentration; analysis and design of beams in bending; shearing stresses in beams and thin-walled members; deflection of beams. Prerequisite: MECH 272.

**MECH 278                      Manufacturing Processes                      (3 crs)**

This course gives an insight to manufacturing of metallic materials, engineering and their processing; selections of engineering materials, dimensional and geometric tolerance; processes includes metal casting, bulk and sheet metal forming, metal joining, fundamentals of machining, metal cutting theories and practices; hands-on experience in metal cutting. Prerequisite: ENGR 100, ENGR 105, ENGR 110.

**MECH 279                      CAD/CAM and CNC machines                      (3 crs)**

This covers the principles, techniques, and applications of computer numerically controlled (CNC) machine tools. G and M code programming of industrial machines, tooling systems, introduction to Computer Aided Drafting and Manufacturing (CAD/CAM) systems, introduction to the principle of Flexible Manufacturing Systems (FMS), and hands-on training on CNC machine. Co-requisite: MECH 278.

**MECH 380                      Dynamics of Machines                      (3 crs)**

This course covers the following topics: kinematics fundamentals, Grashof condition, graphical linkage syntheses, position analysis, computer-aided mechanism design, velocity analysis using graphical and analytical methods, acceleration analysis using analytical and graphical methods, dynamic force analysis, balancing of rotating machineries. Prerequisite: MECH 274.

**MECH 385                      Mechanical Design                      (3 crs)**

This course covers a review of stress, strain, and deflection; combined loading; Mohr's circles, principal stresses and maximum shear stress; static failure

theories; fatigue failure theories; surface failure; design of different mechanical components: shafts, keys, couplings; columns; bearings and lubrication; introduction to finite element analysis (FEA). Prerequisite: MECH 276.

**MECH 431      Mechanical Vibrations      (3 crs)**

This course covers the response of discrete single, two- and multi-degree of freedom systems to vibration, free and forced vibration, response of damped and undamped systems to vibration, damping cases: underdamped, critically damped and overdamped systems, Lagrange's equation, base excitation, rotating imbalance, vibration Isolation, and introduction to human responses to vibration. Prerequisite: MECH 274, Co-requisite MATH 210.

**TRON 213      Digital Logic Fundamentals      (3 crs)**

This course deals with number systems and codes, combinational circuit analysis, synthesis and practices, minimization methods, sequential logic design principles, latches and flip-flops, synchronous circuits, state machines, and an introduction to VHDL. Co-requisite: TRON 212. Annually.

**TRON 214 Introduction to Mechatronics and Laboratory (2 crs. Lec. 1 cr. Lab)**

This course covers the following topics: introduction to mechatronics, microcontrollers and event driven programming, nonlinear circuit elements, operational amplifiers, signal conditioning, and PID control, digital I/O, data acquisition systems, sensors, actuators, dc motors, stepper motors, motor sizing, power transmission, digital design and integrated circuits. Co-requisites: TRON 212 and TRON 213.

**TRON 274 Instrumentation and Measurements (3 crs)**

This course covers the whole spectrum of measurement and instrumentation concepts: sensor classification, calibration and characteristics; measurement chain and interfacing concepts; data acquisition, manipulation, transmission, and recording, measurement of various physical variables, and introduction to LabVIEW. Prerequisites: EECE 210 and MATH 205.

**TRON 310 Microcontroller Programming and Interface and Laboratory**  
(2 crs. Lec. 1 cr. Lab)

This course covers an overview of the HCS12 MCU, instruction set and addressing modes, programming using Assembly and C languages, parallel I/O, serial interface, timers, A/D and D/A, hardware/software development tools, wireless communications, projects. Prerequisites: TRON 130L and EECE 130.

**TRON 311 Embedded Systems Design and Laboratory (2 crs. Lec. 1 cr. Lab)**

Embedded technologies; software/hardware platforms and peripherals; processors FPGAs, ASICs; programming models; VHDL; design technologies; Interfacing; control systems; case studies (digital camera, etc.); project. Pre-requisite: TRON 213.

**TRON 312                      Thermofluid Engineering                      (3 crs)**

This course covers the fundamentals of thermodynamics, fluid mechanics and heat transfer: thermodynamics properties of substances, work and heat, closed and open systems, analysis of gas and vapor cycles; fluid at rest, dynamics of fluid flow, Bernoulli and energy equations. Prerequisite: MECH 272.

**TRON 313                      Fluid Power                      (3 crs)**

This course covers the following topics: fundamental concept of fluid power transmission, properties of conventional fluid, control valves, positive and non-positive displacement pumps, compressors, motors, cylinders, electro-hydraulic and pneumatic valves, graphical symbols, circuit and systems, compressible fluid properties, and applications of fluid power. Prerequisite: TRON 312

**TRON 472                      Control Systems and Laboratory                      (3 crs)**

This course covers the basic concepts of control theory: plant, controller, process, open-loop, feed-back control; Laplace transform; mathematical modeling of dynamic systems; state-space; Linearization; transient and steady-state responses; stability; frequency-response analysis: bode diagram, Nyquist plots; lab may include software application (e.g. MATLAB or Lab VIEW) and/or hardware equipment (inverted pendulum, level, pressure, temperature, motor speed control, etc.). Prerequisite: MATH 210.

**TRON 400                      Practical Training                      (0 cr)**

Supervised project/internship aimed at providing practical experience for Mechatronics Engineering bachelor students. Prerequisite: Permission of the Instructor.

**TRON 401                      Final Year Project I                      (0 cr)**

A supervised project, normally in groups of three students, aimed at providing a practical experience in some aspects of mechanical engineering. Students are expected to complete a literature survey, project specification, critical analysis, and to acquire the necessary material needed for their intended end product.

**TRON 402                      Final Year Project II                      (3 crs)**

A course in which the students integrate their acquired knowledge and skills to deliver the product researched and planned in MECH 401. Prerequisite: TRON 401

**TRON 410                      PLC and Industrial Automation                      (3 crs)**

This course covers PLC operation, PLC memory, ladder logic; structured logic, flowchart-based, and state-based design, instruction list and structured text programming, Interface of sensors, actuators, and I/O devices, selecting PLC, projects. Prerequisite: MECH 274 and MECH 274L.

**TRON 411                      Technopreneurship                      (3 crs)**

Technology Entrepreneurship and opportunity; technology ventures; business model; business plan; product design; product planning and development; marketing and risk analysis; practical project.

**TRON 452                      Microprocessor Systems                      (3 crs)**

Microprocessor design principle including operation of machines and instruction cycles, internal CPU architecture including internal register organization, interfacing techniques including main memory and I/O design. Prerequisite: TRON 213.

**TRON 453                      Robotics                      (3 crs)**

This course covers the following topics: introduction to robotics, coordinate systems, robot arms, end effectors, sensors, application of sensors in robots, programming of robots, safety considerations. Prerequisite: TRON 214.

**TRON 454                      Artificial Intelligence                      (3 crs)**

This course covers the following topics: introduction to artificial intelligence (AI), knowledge perception, predicate logic, machine learning, decision tree learning, two and multiple layers' artificial neural networks (ANN), logic programming, genetic algorithms, genetic programming. Prerequisites: EECE 130, MATH 335

**TRON 455                      Intelligent Systems                      (3 crs)**

This course covers the theory behind different intelligent systems. Comparison of conventional and fuzzy logic, fuzzy set theory, fuzzy logic control systems, fuzzy logic and approximate reasoning, artificial neural networks, feed forward networks and supervised learning, single layer feedback networks, unsupervised learning networks, applications of neural networks in control systems, sensor processing and communications, fuzzy neural integrated systems. Prerequisites: EECE 130 and MATH 335.

**TRON 456                      Computer Integrated Manufacturing                      (3 crs)**

This course covers automation principles and strategies, manufacturing operations, production concepts and mathematical models, material handling, transport, automated storage and retrieval systems, automatic data capture, flexible manufacturing system, automated assembly systems, process planning and concurrent engineering. Prerequisite: MECH 279.

**TRON 457                      Power Electronics and Drives                      (3 crs)**

This course covers the following topics: power semiconductor devices, communication, power converters and control, adjustable speed dc and ac motor drives, applications of microprocessor and digital signal processor in power electronics. Pre-requisite: TRON 212.

**TRON 458                      Micro-electromechanical Systems                      (3 crs)**

This course covers introduction to micro-electromechanical systems (MEMS), materials, lithographic and atomically precise processes, MEMS-based sensors, microactuators, sensor-circuit integration, MEMS design techniques and applications. Prerequisite: MECH 374.

**TRON 459                      Applied Digital Signal Processing                      (3 crs)**

This course covers time-domain and frequency-domain analysis of discrete-time

signal systems, FIR and IIR filter design, discrete Fourier transform and FFT algorithms, random signals, digital spectral analysis, system identification technique, DSP-based controller design and industrial analysis techniques. Prerequisite: MATH 335.

**TRON 499                      Special Topics in Mechanical Engineering                      (1-3 crs)**

This independent course will cover a particular topic, varying from semester to semester, in which there is a particular student or staff interest. Prerequisite: Permission of the Instructor and approval of the Department.

**EECE 210L                      Electric Circuits Laboratory                      (1 cr)**

This course deals with the experiments on DC circuits using modern experiment modules, measurement and display devices. The experiments include the practical realization, simulation, testing, and analysis of electric circuits: verification of basic circuit laws, series and parallel circuits, network analysis, analysis of DC circuits using MULTISIM. Pre-requisite: EECE 210.

**MECH 274L                      Mechanical Dynamics Laboratory                      (1 cr)**

This laboratory covers the following experiments: falling objects, projectile motion, acceleration and force, Newton's third law, tension, conservation of momentum, conservation of energy: free fall, pendulum, spring, roller coaster; oscillation; rotational inertia. Co-requisite: MECH 274.

**TRON 274L                      Instrumentation and Measurements Laboratory                      (1 cr)**

This laboratory is offered to compliment the Instrumentation and Measurement course. It gives the students practical experience related to engineering measurements, measuring instrumentations and data acquisitions from all sort of sensors. Co-requisite TRON 274.

## **8. Diploma in Mechatronics Engineering**

### **8.1. Program Overview**

The curriculum for the program in Mechatronics Engineering is designed to comply with local education framework and benchmarked with international institutions. It consists of 138 credit-hours of course work. Lab hands-on experience and emphasis on practical aspects are important elements that are integrated throughout the curriculum. The first year is common with other engineering majors to allow students to change to other engineering majors during the second year of their study if they wish to do so.

### **8.2. Program Objectives**

The objectives of the program are to:

1. To impart a sound understanding of the fundamental principles and concepts of Mechatronics and Mechatronics Engineering.
2. To develop the mathematical, scientific and computational skills in formulating and solving Mechanical and Mechatronics Engineering problems.

3. To cultivate the skills pertinent to the engineering design process, conduct of experiments and analyze and interpret data.
4. To engage students in solving real-world problems that requires multi-disciplinary approaches while addressing relevant social, environmental, economical and aesthetic concerns.
5. To develop effective teamwork and communication skills.
6. To prepare students for leading roles in the profession and the community

### 8.3. Program Learning Outcomes

Each student graduating from the Mechatronics Engineering program will have:

1. An ability to apply knowledge of mathematics, science, and engineering.
2. An ability to identify, formulate and solve engineering problems.
3. An ability to conduct experiments, as well as to analyze and interpret data.
4. An ability to design a system, component, or process to meet desired needs.
5. An ability to use the techniques, skills, and modern tools necessary for engineering practice.
6. An ability to appreciate the impact of engineering solutions in both local and global contexts.
7. An ability to perform in a team environment.
8. An ability to communicate effectively.
9. An understanding of professional and ethical responsibilities.
10. A demonstration of knowledge of contemporary issues in the field.
11. An ability to engage in life-long learning.
12. An ability to engage in undergraduate research.

### 8.4. Admission Requirements

Admission requirements for a Diploma in Mechatronics Engineering Program are as specified in College **Section 6.a on page 220**.

### 8.5. Graduation Requirements

To graduate with a Diploma in Mechatronics Engineering, students must satisfactorily complete 75 credits taken over two academic years, with an overall minimum average of 65 percent. The University, College, and Program requirements are as given in the following table.

University Requirements	College Requirements	Major Requirements		Total Credit Hours
		Core	Elective	
18	21	36	-	75

### 8.6. University Requirements

The University requirements for Diploma in Mechatronics Engineering program consist of six courses comprising of 18 credit hours as shown below.

Code	University Courses	Credit Hours
ENGL 101	Basic Academic English	3
ENGL 102E	English for Engineering and Sciences I	3



ENGL 203E	English for Engineering and Sciences II	3
ENTR 200	Entrepreneurship: Innovation and Creativity	3
MATH 199	Calculus I	3
SOCS 102	Omani Society	3

## 8.7. College Requirements

The College requirements consist of 8 courses comprising of 21 credit hours as given below:

Code	College Courses	Credit Hours
EECE 130	Computers and Programing I	3
ENGR 100	Introduction to Engineering	3
ENGR 105	Engineering Graphics	2
ENGR 110	Engineering Workshop	1
MATH 200	Calculus II	3
MATH 205	Calculus III	3
MATH 250E	Probability and Statistics	3
PHYS 170	Fundamentals of Physics I	3

## 8.8. Program Requirements

### I) Core Requirements

The program core requirements consist of 17 courses encompassing 36 credit hours.

### II) Elective Requirements

There are no elective requirements for this program.

## 8.9. Plan of Study: Diploma in Mechatronics Engineering

Year I		
Fall Semester		17 Credits
Code	Course Title	Credit Hours
ENGL 101	Basic Academic English I	3
MATH 199	Calculus I	3
PHYS 170	Fundamentals of Physics I	3
ENGR 105	Engineering Graphics	2
SOCS 102	Omani Society	3
ENGR 100	Introduction to Engineering	3
Spring Semester		16 Credits
Code	Course Title	Credit Hours
EECE 210	Electric Circuits I	3
EECE 210L	Electric Circuits Laboratory I	1
ENGR 110	Engineering Workshop	1
ENGL 102E	English for Engineering and Sciences I	3
MATH 200	Calculus II	3
EECE 130	Computers and Programming I	3
TRON 130L	Programming Laboratory	1
MECH 272	Mechanical Statics	3

Summer Semester		6 Credits
Code	Course Title	Credit Hours
ENGL 203E	English for Engineering and Sciences II	3
MATH 205	Calculus III	3
<b>Year II</b>		
Fall Semester		17 Credits
Code	Course Title	Credit Hours
ENTR 200	Entrepreneurship - Innovation and Creativity	3
TRON 212	Basic Electronics	3
TRON 213	Digital Logic Fundamentals	3
MECH 271	Industrial Maintenance	3
MATH 250E	Probability and Statistics	3
MECH 278	Manufacturing Processes	3
Spring Semester		19 Credits
Code	Course Title	Credit Hours
TRON 214	Introduction to Mechatronics and Laboratory	3
TRON 274	Instrumentation and Measurements	3
TRON 274L	Instrumentation and Measurements Laboratory	1
MECH 274	Mechanical Dynamics	3
MECH 274L	Mechanical Dynamics Laboratory	1
MECH 276	Strength of Materials	3
MECH 279	CAD/CAM and CNC Machines	2
Summer Semester		0 Credits
Code	Course Title	0 Credit Hours
TRON 299	Practical Training	0

### 8.10. Course Description

Refer to Bachelor in Mechatronics Engineering **Section 7.10.**

# **COLLEGE OF LAW (CL)**

## **كلية الحقوق**

## TABLE OF CONTENTS

<b>College of Law</b>		
<b>No.</b>	<b>Particulars</b>	<b>Page No.</b>
1	Officers of the College .....	359
2	Organizational Structure .....	359
3	Vision .....	359
4	Mission .....	359
5	Academic Programs Offered .....	359
	• <i>Bachelor of Law</i> .....	359
	• <i>Master of Law in Public Law</i> .....	
	• <i>Master of Law in Private Law</i> .....	
6	Admission Requirements .....	359
	• <i>Bachelor</i> .....	
	• <i>Masters</i> .....	
7	Graduation Requirements .....	360
<b>Bachelor of Law</b>		
1	Program Overview .....	360
2	Program Objectives .....	360
3	Program Learning Outcomes .....	360
4	Admission Requirements .....	361
5	Graduation Requirements .....	361
6	University Requirements .....	361
7	College Requirements .....	361
8	Program Requirements .....	361
9	Plan of Study .....	363
10	Course Descriptions .....	364

# كلية الحقوق

## 1. أعضاء الهيئة التدريسية والإدارية:

العميد (بالإنابة) : د. أحمد الزين  
منسق العميد : وليد الشحري  
رئيس قسم القانون العام : د. محمد عبد الله الشوايكة  
د. زكريا عبد الوهاب، د. مسلم العوائد، د. سالم الكثيري، د. جمال عبد الكريم، د. أحمد حسنية،  
د. محمد المعشني  
منسق: علي جعيوب  
رئيس قسم القانون الخاص : د. محمد المدني الشريف  
د. حازم حمدي، د. خالد طه، د. جابر الشحري، د. محمد بن سيف، د. سعد الزروالي  
منسق: وليد الشحري

## 2. هيكل الكلية:

يترأس كلية الحقوق عميد يشرف على القسمين التاليين :  
1- قسم القانون العام  
2- قسم القانون الخاص

## 3. الرؤية:

تسعى كلية الحقوق لتحقيق مكانة مرموقة بين مؤسسات التعليم العالي في مجال القانون.

## 4. الرسالة:

تتطلع كلية الحقوق إلى تأمين تعليم قانوني وفقا لمعايير الجودة التي تخضع لها كليات القانون المرموقة في العالم وتبادل الخبرات مع جميع الهيئات القانونية لتكوين جيل من الحقوقيين مؤهل لخدمة المصلحة العليا للمجتمع العماني.

## 5. البرامج التي تقدمها الكلية:

تطرح كلية الحقوق برنامجين يعتمدان اللغة العربية في التدريس:  
أ- برنامج البكالوريوس في الحقوق  
ب- برنامج الماجستير في الحقوق  
- تخصص القانون العام  
- تخصص القانون الخاص

## 6. شروط القبول

### أ. بالبكالوريوس

- النجاح في شهادة الدبلوم العام المعتمد في سلطنة عمان أو ما يعادلها
- النجاح في مقررات البرنامج التأسيسي للحقوق من جامعة ظفار أو مؤسسة أخرى معترف بها من وزارة التعليم العالي
- النجاح في الاختبار والمقابلة التي تجريها الكلية

### ب. بالماجستير

للاطلاع على متطلبات القبول الخاصة ببرامج الماجستير ، راجع دليل الدراسات العليا.

## 7. شروط التخرج

### أ- بالكلوريوس

للحصول على درجة البكالوريوس في القانون؛ على الطالب أن يدرس (ينهي) بنجاح (130) ساعة تدريسية معتمدة من المواد الموضحة في الخطة الدراسية للبرنامج (موضحة بالجدول المرفق)، وذلك بمعدل تراكمي عام لا يقل عن 65% ومعدل تخصصي لا يقل عن 70% في المواد التخصصية.

الساعات المعتمدة	المتطلبات	
	متطلبات الجامعة	متطلبات التخصص
	الاختيارية	الاجبارية
130	14	101

### ب- بالماجستير

على الطالب اجتياز جميع المقررات المطلوبة بواقع 33 ساعة معتمدة بالحد الأدنى لدرجة النجاح في كل مقرر والحد الأدنى للمعدل الأكاديمي المطلوب بالإضافة لمتطلبات الرسالة للتخرج وفق الخطة الدراسية لبرنامج الماجستير في الحقوق. للمزيد من المعلومات عن برامج الماجستير ، راجع دليل الدراسات العليا.

## 8. بكالوريوس الحقوق

### 8.1. رسالة البرنامج:

تأمين تعليم قانوني متميز وفقاً لمعايير الجودة التي تخضع لها كليات القانون المرموقة في العالم وتبادل الخبرات جميع الهيئات القانونية لتكوين جيل من الحقوقيين مؤهل لخدمة المصلحة العليا للمجتمع العماني.

### 8.2. أهداف البرنامج :

يهدف البرنامج إلى تحقيق الأهداف التالية:

- إعداد الطالب وتأهيله لنيل التخصص الأكاديمي في علوم القانون المختلفة
- إكساب الطالب مهارات إعداد البحوث والمذكرات القانونية
- تكوين الملكة القانونية لدى طالب التخصص
- تزويد الطالب بمهارات تمكنه من القدرة على التعليم المستمر
- تدريب الطالب على الجانب المهني والتطبيقي
- إلمام الطالب بتكنولوجيا المعلومات لتعزيز قدراته المهنية
- تدريب الطالب على المصطلحات القانونية باللغة الانكليزية لتساعده على إكتساب المعرفة ولمواكبة التطورات في الأنظمة القانونية
- غرس القيم المثلى وأخلاقيات المهنة التي ينبغي أن يتحلى بها رجل القانون
- تلبية إحتياجات سوق العمل في القطاعين العام والخاص للمتخصصين في القانون

### 8.3. المخرجات التعليمية للبرنامج:

من المتوقع بعد نهاية البرنامج بنجاح أن يكون الطالب قادراً على ما يلي:

1. يتعرف الطالب على أهم القواعد القانونية
2. يستطيع الطالب أن يكتب ويفسر النصوص القانونية بشكل سليم
3. يكتب البحوث والمذكرات القانونية مراعي القواعد العلمية الصحيحة

4. يقارن بين النصوص التشريعية والآراء الفقهية والاحكام القضائية كل حسب إختصاصه
5. كيف الوقائع والتصرفات القانونية وبما يتلاءم مع تشريعات المجتمع العماني.
6. يطور القواعد القانونية للتوافق مع التطورات الحديثة من خلال اجراء البحوث العلمية
7. يستخدم تقنية المعلومات في عمله للوصول الى كفاية في الفهم والتصور
8. يعمل بروح الفريق مع زملائه ورؤسائه بشكل مستمر
9. يتحلى بأخلاقيات المهنة وعادات وتقالييد المجتمع العماني

#### 8.4. شروط القبول:

شروط القبول في برنامج بكالوريوس الحقوق محددة في قسم الكلية 6 صفحة 323 .

#### 8.5. شروط التخرج:

شروط التخرج لبرنامج بكالوريوس الحقوق محددة في قسم الكلية 7 صفحة 324 .

#### 8.6. متطلبات الجامعة:

رمز المقرر	اسم المقرر
ARAB 101	الكتابة الأكاديمية باللغة العربية - 3 ساعات معتمدة
ENGL 101	اللغة الإنجليزية الأكاديمية الأساسية- المستوى الأول - 3 ساعات معتمدة
CMPS 100A	مدخل لتقنيات الحاسوب- للأداب- 3 ساعات معتمدة
SOCS 102	المجتمع العماني- 3 ساعات معتمدة
ENTR 200	ريادة الأعمال- 3 ساعات معتمدة

#### 8.7. متطلبات الكلية:

لا توجد متطلبات كلية لبرنامج بكالوريوس الحقوق.

#### 8.8. متطلبات البرنامج:

##### المقررات الإجبارية

1. ECON 100 مبادئ علم الاقتصاد -3 ساعات معتمدة
2. LAWS 100 المدخل للقانون -3 ساعات معتمدة
3. LAWS 101 نظرية الدولة ونظم الحكم -3 ساعات معتمدة
4. LAWS 103 مصادر الالتزام -3 ساعات معتمدة
5. LAWS 105 مبادئ القانون التجاري -3 ساعات معتمدة
6. LAWS 107 المنظمات الدولية والإقليمية -3 ساعات معتمدة
7. LAWS 202 أحكام الالتزام -3 ساعات معتمدة
8. LAWS 204 النظام الأساسي لسلطنة عمان -3 ساعات معتمدة
9. LAWS 206 قانون الجزاء (القسم العام) -3 ساعات معتمدة
10. LAWS 208 قانون الشركات التجارية - 3 ساعات معتمدة
11. LAWS 210 القانون الدولي العام - 3 ساعات معتمدة
12. LAWS 215 قانون الإثبات - 3 ساعات معتمدة
13. LAWS 225 القانون الإداري - 3 ساعات معتمدة
14. LAWS 235 قانون الإجراءات المدنية والتجارية - 3 ساعات معتمدة
15. LAWS 241 قانون الأحوال الشخصية (1) - 3 ساعات معتمدة
16. LAWS 302 قانون الجزاء (القسم الخاص) - 3 ساعات معتمدة
17. LAWS 308 القضاء الإداري - 3 ساعات معتمدة

18. LAWS 312 قانون العمل والتأمينات الاجتماعية - 3 ساعات معتمدة
19. LAWS 320 قانون الأحوال الشخصية (2) - 3 ساعات معتمدة
20. LAWS 328 القانون البحري - 2 ساعات معتمدة
21. LAWS 335 الأوراق التجارية والإفلاس - 3 ساعات معتمدة
22. LAWS 341 العقود المسماة (البيع والإيجار) - 3 ساعات معتمدة
23. LAWS 345 التنفيذ الجبري - 3 ساعات معتمدة
24. LAWS 375 المالية العامة والتشريعات الضريبية - 3 ساعات معتمدة
25. LAWS 410 الحقوق العينية - 3 ساعات معتمدة
26. LAWS 412 قانون الإجراءات الجزائية (1) - 3 ساعات معتمدة
27. LAWS 418 الأعمال المصرفية والعقود التجارية - 3 ساعات معتمدة
28. LAWS 430 القانون الدولي الخاص - 3 ساعات معتمدة
29. LAWS 434 القانون الدولي الخاص 2 - 3 ساعات معتمدة
30. LAWS 447 مناهج البحث القانوني - 3 ساعات معتمدة
31. LAWS 451 قانون الإجراءات الجزائية (2) - 3 ساعات معتمدة
32. LAWS 455 أصول الفقه - 3 ساعات معتمدة
33. LAWS 475 حقوق الملكية الفكرية - 3 ساعات معتمدة
34. LAWS 490 تطبيقات عملية - 3 ساعات معتمدة

### المقررات الاختيارية

1. LAWS 326 قانون التحكيم - 2 ساعات معتمدة
2. LAWS 330 القانون الجوي - 2 ساعات معتمدة
3. LAWS 334 الإدارة العامة - 2 ساعات معتمدة
4. LAWS 350 تاريخ القانون وفلسفته - 2 ساعات معتمدة
5. LAWS 352 مصطلحات قانونية باللغة الإنجليزية - 2 ساعات معتمدة
6. LAWS 354 قوانين الاستثمار - 2 ساعات معتمدة
7. LAWS 356 عقد المقاولة والوكالة - 2 ساعات معتمدة
8. LAWS 436 عقد الكفالة - 2 ساعات معتمدة
9. LAWS 438 عقد التأمين - 2 ساعات معتمدة
10. LAWS 440 علم الإجرام والعقاب - 2 ساعات معتمدة
11. LAWS 465 التشريع الجنائي الإسلامي - 2 ساعات معتمدة
12. LAWS 469 تاريخ التشريع الإسلامي - 2 ساعات معتمدة
13. LAWS 473 قوانين حماية البيئة - 2 ساعات معتمدة
14. LAWS 477 القانون الدولي للبحار - 2 ساعات معتمدة
15. LAWS 481 التجارة الإلكترونية - 2 ساعات معتمدة
16. LAWS 485 التجارة الدولية - 2 ساعات معتمدة



## 8.9. خطة الدراسة: بكالوريوس في الحقوق

Year I		
15 Credits	Semester 1(Fall)	
عدد الساعات	اسم المقرر	رمز المقرر
3	الكتابة الأكاديمية باللغة العربية	ARAB101
3	اللغة الإنجليزية الأكاديمية الأساسية- المستوى الأول	ENGL 101
3	مدخل لتقنيات الحاسوب- للأدب	CMPS 100 A
3	المجتمع العماني	SOCS 102
3	المدخل للقانون	LAWS 100
17 Credits	Semester 2(Spring)	
عدد الساعات	اسم المقرر	رمز المقرر
3	نظرية الدولة ونظم الحكم	LAWS 101
3	مصادر الالتزام	LAWS 103
3	النظام الأساسي لسلطنة عمان	LAWS 204
3	المنظمات الدولية والإقليمية	LAWS 107
3	ريادة الأعمال	ENTR 200
2	مقرر اختياري	Code
Year II		
17 Credits	Semester 3 (Fall)	
عدد الساعات	اسم المقرر	رمز المقرر
3	مبادئ القانون التجاري	LAWS 105
3	أحكام الالتزام	LAWS 202
3	قانون الجزاء (القسم العام)	LAWS 206
3	القضاء الإداري	LAWS 308
3	القانون الدولي العام	LAWS 210
2	مقرر اختياري	Code
17 Credits	Semester 4 (Spring)	
عدد الساعات	اسم المقرر	رمز المقرر
3	قانون الإثبات	LAWS 215
3	القانون الإداري	LAWS 225
3	قانون الأحوال الشخصية (1)	LAWS 241
3	قانون الشركات التجارية	LAWS 208
3	مبادئ علم الاقتصاد	ECON 100
2	مقرر اختياري	Code
Year III		
17 Credits	Semester 5 (Fall)	
عدد الساعات	اسم المقرر	رمز المقرر
3	قانون الجزاء (القسم الخاص)	LAWS 302
3	قانون العمل والتأمينات الاجتماعية	LAWS 312
3	قانون الأحوال الشخصية (2)	LAWS 320
3	قانون الإجراءات المدنية والتجارية	LAWS 235
3	الأوراق التجارية والإفلاس	LAWS 335
2	مقرر اختياري	Code

Semester 6 (Spring)		
رمز المقرر	اسم المقرر	عدد الساعات
LAWS 341	العقود المسماة (البيع والإيجار)	3
LAWS 345	التنفيذ الجبري	3
LAWS 328	القانون البحري	2
LAWS 375	المالية العامة والتشريعات الضريبية	3
Laws 430	القانون الدولي الخاص	3
Code	مقرر اختياري	2
16 Credits		

  

Year IV		
Semester 7 (Fall)		
رمز المقرر	اسم المقرر	عدد الساعات
Real Rights		3
LAWS 412	قانون الإجراءات الجزائية (1)	3
LAWS 418	الأعمال المصرفية والعقود التجارية	3
LAWS 434	القانون الدولي الخاص 2	3
LAWS 447	مناهج البحث القانوني	3
Code	مقرر اختياري	2
17 Credits		

  

Semester 8 (Spring)		
رمز المقرر	اسم المقرر	عدد الساعات
LAWS 455	أصول الفقه	3
LAWS 490	تطبيقات عملية	3
LAWS 451	قانون الإجراءات الجزائية (2)	3
LAWS 475	حقوق الملكية الفكرية	3
Code	مقرر اختياري	2
14 Credits		

  

Completion of Bachelor of Law: Total Credits: 130		
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## 8.10. توصيف المقررات:

### أولاً: المتطلبات الإلزامية:

**ARAB 101** الكتابة الأكاديمية بالعربية (3 ساعات معتمدة)  
يركز هذا المساق على دراسة العناصر الأساسية في الكتابة الأكاديمية العربية ويشمل الجمل التامة والفقرات والمقالات والأبحاث الأكاديمية والتقارير المهنية والرسائل الرسمية. يتوجب على الطلبة إظهار قدرات متقدمة في إنتاج نصوص أكاديمية صحيحة.

**ENGL 101** اللغة الإنجليزية الأكاديمية الأساسية- المستوى الأول (3 ساعات معتمدة)  
يقدم هذا المساق تطويراً لمهارات اللغة الأساسية. يدرّب الطلبة على فهم بنية الفقرة مع التركيز على السلاسة والدقة وتماسك النص. كما يتدربون على فهم النص المقروء والتعبير الشفهي ومهارات الدراسة.

**CMPS 100A** مدخل لتقنيات الحاسوب للآداب (3 ساعات معتمدة)  
مدخل إلى ثقافة الحاسوب التقني. يتوقع أن يرى الطالب من خلال هذا المساق كيف يؤثر الحاسوب على حياتنا وطريقة عملنا. ويجيد استخدام برامج الحاسوب التطبيقية كبرامج الجدولة وتطبيقات قواعد البيانات. تتضمن الموضوعات أيضاً استخدام لغات البرامج المساعدة المبسطة كلغة تهيئة صفحات الويب اتش تي إم إل، ولغة الجافا لشرح مفاهيم برمجة الويب البسيطة. يمكن لطلبة تخصصات الآداب التسجيل في هذا المساق.

## **SOCS 102 المجتمع العماني**

**(3 ساعات معتمدة)**

هذا المساق هو نظرة عامة على تاريخ سلطنة عمان، القديم والمعاصر؛ فضلاً عن مراجعة الخصائص الحالية للمجتمع العماني، لاسيما البنية الاجتماعية، والطبقات الاجتماعية، واللغات، والعادات، وعملية التغيير الاجتماعي والتطور المجتمعي. قد يدرس هذا المساق باللغة العربية

## **ENTR 200 ريادة الأعمال**

**(3 ساعات معتمدة)**

يمنح هذا المقرر التمهيدي للطلبة برنامج مفعّل بالكامل يمكّنهم من استكشاف ريادة الأعمال كموضوع دراسي وكميدان للعمل، حيث أصبحت واحدة من أكبر قوى التغيير المؤثرة في العالم. ويهدف هذا المقرر إلى منح الطالب الفهم الأساسي لميدان ريادة الأعمال هذا بالإضافة إلى منحه تدريباً عملياً. وتشمل المواضيع التي يغطيها هذا المقرر مفهوم ريادة الأعمال، ودراسة الجدوى، ونموذج العمل، وخطة العمل، وإدراك مفهوم الفرصة، ومختلف أشكال ملكية المؤسسة الاقتصادية الموجودة في سلطنة عمان، وأيضاً مختلف التطبيقات العملية والزيارات الميدانية.

## **ثانياً: المتطلبات التخصصية الإجبارية:**

### **ECON 100 مبادئ علم الاقتصاد**

**(3 ساعات معتمدة)**

يحتوي المقرر على بيان النظم الاقتصادية المختلفة السائدة في العالم، ودور الدولة في النشاط الاقتصادي في ضوء كل نظام اقتصادي، الإنتاج من حيث الكميات الاقتصادية، ونظرية الإنتاج، وقوانين العرض والطلب. وكذلك دراسة الدخل القومي وعناصره المختلفة. وأخيراً دراسة النظام النقدي.

### **LAWS 100 المدخل للقانون**

**(3 ساعات معتمدة)**

يتضمن هذا المقرر دراسة نظرية القانون، وتشمل تعريف القاعدة القانونية وخصائصها والفرقة بينها وبين غيرها من القواعد الاجتماعية الأخرى ومصادرها، وتدرجها، تفسيرها، وتطبيقها من حيث الزمان ومن حيث المكان وإلغاؤها. وكذا دراسة نظرية الحق وتشمل تعريف الحق وبيان أنواع الحقوق، وأركان الحق ومحله والحماية القانونية.

### **LAWS 101 نظرية الدولة ونظم الحكم**

**(3 ساعات معتمدة)**

يدرس الطالب نظرية الدولة من حيث تعريفها ونشأتها وخصائصها ووظائفها، وأنواع الدول، كما يدرس الحكومة من حيث أشكال الحكومات ووسيلة إسناد السلطة المعاصرة في الحكم، كالنظام البرلماني والنظام الرئاسي ونظام حكومة الجمعية.

### **LAWS 103 مصادر الالتزام**

**(3 ساعات معتمدة)**

يتناول هذا المقرر دراسة مصادر الالتزام سواء في ذلك المصادر الإرادية والمصادر غير الإرادية للالتزام. وتشمل المصادر الإرادية العقد بأركانه وشروط صحته ونطاقه والمسؤولية المدنية عن الإخلال به، وكذا الإرادة المنفردة، بينما تشمل المصادر غير الإرادية الفعل الضار والفعل النافع والقانون.

### **LAWS 105 مبادئ القانون التجاري**

**(3 ساعات معتمدة)**

يتضمن المقرر تحديد مفهوم القانون التجاري، وتطوره، ومصادره، ومفهوم العمل التجاري، وتمييزه العمل المدني، وتحديد أنواع الأعمال التجارية، ومفهوم التاجر وشروط اكتساب صفة التاجر، وبيان الواجبات المفروضة على التاجر (مسك الدفاتر التجارية، التسجيل في السجل التجاري، الابتعاد عن المنافسة الغير مشروعة)، وتحديد مفهوم المتجر، والتصرف في المتجر بطريق البيع، أو الإيجار، أو الرهن.

### **LAWS 107 المنظمات الدولية والإقليمية**

**(3 ساعات معتمدة)**

يتضمن مقرر هذا المقرر دراسة النظرية العامة للمنظمات الدولية، من حيث تعريف المنظمة الدولية وعناصر قيامها، وكذلك أنواعها، ثم أحكام العضوية فيها وهيكلها الداخلي من حيث أجهزتها الرئيسية والفرعية، وبعد ذلك التعرض للشخصية القانونية للمنظمات الدولية وما يترتب عليها من نتائج، والعلاقات الخارجية للمنظمات الدولية، وتطبيق هذه القواعد على الأمم المتحدة كمنظمة عالمية، ثم الجامعة العربية، ومجلس التعاون لدول الخليج العربي كنموذج للمنظمة إقليمية.

## **LAWS 202 أحكام الالتزام**

**(3 ساعات معتمدة)**

ويتناول هذا المقرر أحكام الالتزام من حيث آثاره (التنفيذ العيني- التعويض) وحماية الضمان العام، وأوصاف الالتزام (الشرط والأجل - التضامن - عدم قابلية الالتزام للانقسام) ثم انتقاله (الحواله حق، دين ، عقد)، انقضائه بالوفاء، أو ما يعادل الوفاء أو بدون وفاء.

## **LAWS 204 النظام الأساسي لسلطنة عمان**

**(3 ساعات معتمدة)**

يحتوي المقرر على دراسة المبادئ الدستورية العامة، ودراسة النظام الأساسي للسلطنة من حيث التعرف على النظام الأساسي، وفهمه وتحليله من خلال دراسة القواعد العامة، وخصائص هذا النظام، وتطور نظام الحكم في السلطنة حتى إعلان النظام الأساسي. والحقوق العامة للمواطنين وواجباتهم، واختصاصات رئيس الدولة، ومجلس عمان، ومجلس الوزراء ، ودور السلطة القضائية.

## **LAWS 206 قانون الجزاء (القسم العام)**

**(3 ساعات معتمدة)**

دراسة القواعد الخاصة بمبدأ المشروعية، وتحديد نطاق تطبيق القانون الجزائي من حيث الزمان والمكان، وتعريف الجريمة، والوقوف على أركانها، والظروف المختلفة التي قد تكتنفها مؤثرة في تكييفها أو عقوبتها، وأسباب إباحتها، وأحكام المسؤولية الجنائية لمركبها. العقوبة . والأحكام العامة للعقوبة، وأنواعها المختلفة، و تطبيق العقوبة، ووقف التنفيذ. وانقضاء العقوبة، والتدبير الاحترازي ومبدأ الشرعية، والشروط العامة للتدبير الاحترازي، وأنواع التدابير الاحترازية . وانقضاء التدبير الاضطراري.

## **LAWS 208 قانون الشركات التجارية**

**(3 ساعات معتمدة)**

يتضمن هذا المقرر التعريف بالشركة وشروط إنشائها من شروط موضوعية عامة وخاصة والشروط لشكلية، وتقسيم الشركات ، (شركات أشخاص كالتضامن وشركات أموال كالمساهمة)، وأنواع الشركات في قانون الشركات العماني. والشخصية المعنوية للشركة وآثارها، وأسباب انقضاء الشركات، (تصفية الشركات، تحول الشركات، اندماج الشركات)

## **LAWS 210 القانون الدولي العام**

**(3 ساعات معتمدة)**

يتضمن مقرر هذه المقرر تعريف القانون الدولي العام وتمييزه عن غيره من فروع القانون الأخرى، وأساس القوة الإلزامية لقواعد هذا القانون وتحديد مصادره، ثم أشخاص القانون الدولي وهم الدول والمنظمات الدولية، حيث يتناول بشكل تفصيلي للدولة من حيث عناصر قيامها والاعتراف بها ، وكذلك أنواعها ، ثم دراسة إقليم الدولة بعناصره الثلاثة البري و البحري والجوي.

## **LAWS 215 قانون الإثبات**

**(3 ساعات معتمدة)**

يحتوي هذا المقرر على دراسة المبادئ العامة في الإثبات ، ونعني بها محله، وععب الإثبات ، وحيد القاضي، ومدى تعلق قواعده بالنظام العام، ثم بعد ذلك أدلة الإثبات وهي الكتابة وشهادة الشهود والإقرار والقرائن واليمين بنوعيهما، والمعاينة والخبرة.

## **LAWS 225 القانون الإداري**

**(3 ساعات معتمدة)**

التعريف بالقانون الإداري، ببيان مدوله ونشأته وتطوره ومصادره، ونطاق تطبيقه، وتنظيم السلطة الإدارية مع شرح التنظيم القانوني للوظيفة العامة في عمان، والتعريف بالعمل الإداري، وتنظيم المرافق العامة والأموال العامة، وأساليب العمل الإداري، أي التصرفات الإدارية وهي تشمل القرارات الإدارية والعقود الإدارية والأعمال المادية.

## **LAWS 235 قانون الإجراءات المدنية والتجارية**

**(3 ساعات معتمدة)**

يتناول هذا المقرر المبادئ التي يقوم عليها النظام القضائي العماني، ورجال القضاء من حيث تعيينهم وضمائنتهم، كما يتناول نظرية الدعوى، وتوزيع الاختصاص على جهات القضاء في السلطنة على أساس تقسيم جهات القضاء إلى جهتين هما القضاء الإداري والقضاء العادي، والاختصاص النوعي والقيمي والمحلي، والأوراق القضائية وكيفية تحديدها وإعلانها، ورفع الدعوى وسيرها. كما يتناول الأحكام القضائية وأنواعها وكيفية إصدارها، وطرق الطعن المختلفة فيها.

## **LAWS 241 قانون الأحوال الشخصية (1)**

**(3 ساعات معتمدة)**

يتناول المقرر المسائل المتعلقة بالزواج والفرقة بين الزوجين (الواردة في المادة 1 إلى 198 من قانون الأحوال الشخصية العماني) ، فيشمل الخطبة وأحكام الزواج وشروطه وأركانه، والمحرمات من النساء،

وأحكام الطلاق، والخلع، والتطليق بحكم القضاء، والآثار المترتبة على الفقرة بين الزوجين، بالنسبة للمرأة وبالنسبة للولاد.

### **LAWS 302 قانون الجزاء (القسم الخاص) (3 ساعات معتمدة)**

يدرس المقرر الجرائم الواقعة على حياة الإنسان وسلامته: جريمة القتل، الأسباب المشددة، الأسباب المخفضة، وجريمة الإجهاض، وجرائم الإيذاء. والجرائم الواقعة على العرض بأنواعها المختلفة، والجرائم المخلّة بالحياة العام، والجرائم الواقعة على حرية الأشخاص، وانتهاك حرمة منزل، والإهانة، كما يتناول جرائم الأموال بأنواعها المختلفة (جرائم السرقات وظروفها المشددة، جرائم الاحتيال، جرائم الشيك بدون رصيد، جرائم إساءة الأمانة).

### **LAWS 308 القضاء الإداري (3 ساعات معتمدة)**

دراسة مبدأ المشروعية ومصادره، وضمانات مبدأ المشروعية، ومعرفة أنواع الرقابة القضائية على أعمال الإدارة. ودراسة دعوى الإلغاء، (مراجعة القرار الإداري) من حيث مفهومها وخصائصها، وشروط رفع دعوى مراجعة القرار الإداري أمام محكمة القضاء الإداري، والأعمال التي لا يجوز الطعن عليها بالإلغاء. ودراسة الأحكام المنظمة لمحكمة القضاء الإداري.

### **LAWS 312 قانون العمل والتأمينات الاجتماعية (3 ساعات معتمدة)**

يحتوي هذا المقرر على تعريف عقد العمل، ونطاق تطبيقه، وإبرامه وقبوضه، وآثاره، التنظيم القانوني لأوقات العمل. وتعريف التأمين الاجتماعي وخصائصه وتنظيمه الإداري، والاشتراكات، ونطاق تطبيق قانون التأمين الاجتماعي، وتحديد الفئات المستفيدة منه، وكذا أنواع التأمينات.

### **LAWS 320 قانون الأحوال الشخصية (2) (3 ساعات معتمدة)**

يدرس في هذا المقرر أحكام كل من الوصية والتركات (الميراث) الواردة في المادة من 198 إلى 282 من قانون الأحوال الشخصية العماني. فيشمل أركان الوصية وشروط كل ركن ومبطلاتها، وحدودها وقبوضها، والحقوق المتعلقة بالتركة، وأركان الإرث، وأصناف الورثة وحقوقهم، وذوو الأرحام وميراث الغائب والمفقود والحمل، والخنثى، والتخارج من التركة.

### **LAWS 328 القانون البحري (3 ساعات معتمدة)**

تتضمن دراسة هذا المقرر تعريف القانون البحري وتطوره ومصادره و نطاق تطبيقه، مفهوم السفينة وحالتها المدنية، وأسباب كسب ملكيتها والحقوق العينية التي ترد عليها، وحقوق الامتياز، الحجز على السفينة بأنواعه، وأشخاص الملاحة، وعقد إيجار السفينة، عقد نقل البضائع، ونقل الأشخاص بطريق البحر، والقطر والإرشاد، والبيوع البحرية، والحوادث البحرية، التصادم البحري، والمساعدة والإنقاذ، الخسائر البحرية المشتركة، عقد التأمين البحري.

### **LAWS 335 الأوراق التجارية والإفلاس (3 ساعات معتمدة)**

يتضمن هذا المقرر تحديد مفهوم الأوراق التجارية، وأنواعها ووظائفها، والمبادئ التي يقوم عليها قانون الصرف. ودراسة الكمبيالة من حيث مفهومها وشروطها، وتداولها بالتظهير، بأنواعها المختلفة، وأحكام الوفاء بالكمبيالة، والتقدم. ثم دراسة السند للأمر من حيث شروطه، وتداوله، والامتناع عن الوفاء، تقدم السند للأمر. ثم تناول الشيك من حيث مفهومه، وشروطه، وتداوله، وتقدمه، وبيان أنواع خاصة من الشيكات. ثم دراسة أحكام الإفلاس من حيث تعريفه وأنواعه، وإدارة التفليسة، والصلح الواقي من الإفلاس، ورد اعتبار المفلس.

### **LAWS 341 العقود المسماة (البيع والإيجار) (3 ساعات معتمدة)**

يتبادل هذا المقرر عرض لعقدي البيع والإيجار من حيث أركان انعقاد كل منهما (الرضا - المحل - السبب)، وأثار كل من العقدين ويشتمل الالتزامات الناشئة عن العقدين. والتوكيد على أحكام قانون الإيجار.

### **LAWS 345 التنفيذ الجبري (3 ساعات معتمدة)**

يتناول هذا المقرر تعريف السندات التنفيذية وأنواعها المختلفة، وأشخاص التنفيذ المتمثلة في المنفذ والمنفذ ضده وقاضي التنفيذ، والمقومات اللازمة لبدء إجراءات التنفيذ، وأنواع الحجز مع بيان إجراءات الحجز على المنقول وبيعه بالمزاد العلني، وإجراءات الحجز على العقار وبيعه بالمزاد العلني، وطرق الاعتراض على الحجز وكيفية توزيع حصيلة التنفيذ على الدائنين.

### **375 LAWS المالية العامة والتشريعات الضريبية (3 ساعات معتمدة)**

يحتوي هذا المقرر على تحديد ماهية المالية العامة ونشأتها، وعلاقتها بالعلوم الأخرى، ودراسة أنواع الإيرادات العامة في الدولة، ودرجة أهميتها، وبيان النفقات العامة في الدولة وأنواعها، والنظم الضريبية المختلفة مع التركيز على النظام الضريبي المطبق في سلطنة عمان.

### **410 LAWS الحقوق العينية (3 ساعات معتمدة)**

يحتوي هذا المقرر على دراسة حق الملكية في ذاته، والقيود الواردة عليه، ثم أنواع الملكية ولاسيما الملكية الشائعة، وأسباب كسب الملكية وهي الاستيلاء، الالتصاق، الشفعة، الحيازة، والحقوق المتفرعة عن حق الملكية، ثم تعريف التأمينات العينية وأهميتها، وعرض تفصيلي للرهن الرسمي والرهن الحيازي من حيث تعريفهما وانعقادهما وآثارهما، وحقوق الامتياز المختلفة.

### **412 LAWS قانون الإجراءات الجزائية (1) (3 ساعات معتمدة)**

يتناول المقرر الدعاوى التي تنشأ عن الجريمة ببيان الخصوم في الدعوى الجزائية والادعاء العام واخصاصاته، وقيود رفع الدعوى الجزائية، والأسباب المختلفة لسقوط الدعوى الجزائية. ودراسة الدعوى المدنية التابعة للدعاوى الجزائية. ودراسة التحقيق الأولي: إجراءات تحقق الأولى، الانتداب، ضمانات التحقيق الابتدائي، الحبس الاحتياطي، التفتيش، الاستجواب، ضبط المراسلات، قرار التصرف بالتحقيق بصوره المختلفة.

### **418 LAWS الأعمال المصرفية والعقود التجارية (3 ساعات معتمدة)**

يتضمن هذا المقرر دراسة ودیعة النفود من حيث مفهومها وأنواعها وأحكام كل منها، وآثارها. وودیعة الأوراق المالية من حيث مفهومها وأحكامها وآثارها. وأحكام عقد إيجار الخزائن. والنقل المصرفي، والاعتماد البسيط، والاعتماد المستندي وأنواعه. وخطاب الضمان. والحساب الجاري، ثم دراسة الأحكام العامة للعقود التجارية، وبيان أحكام عقد البيع التجاري، وعقد النقل بنوعيه، والرهن التجاري، والوكالة التجارية، والوكالة بالعمولة، والسمسة.

### **430 LAWS القانون الدولي الخاص (3 ساعات معتمدة)**

يتناول المقرر دراسة الجنسية في القانون العماني، والجنسية الأصلية، والجنسية المكتسبة (التجنيس، الزواج المختلط، الاسترجاع) وزوال الجنسية العمانية وكذلك النظرية العامة لتنازع القوانين (قواعد الإسناد، التكيف، الإحالة) واستبعاد القانون الأجنبي واجب التطبيق، الأحكام الوضعية في تنازع القوانين، نظام الأحوال الشخصية، ونظام الأموال، والالتزامات. وتنازع الاختصاص القضائي الدولي (النظرية العامة وحرية الدولة في تحديد الاختصاص)، وضوابط الاختصاص القضائي، وتنفيذ الأحكام الأجنبية.

### **434 LAWS القانون الدولي الخاص (3 ساعات معتمدة)**

وكذلك النظرية العامة لتنازع القوانين (قواعد الإسناد، التكيف، الإحالة) واستبعاد القانون الأجنبي واجب التطبيق، الأحكام الوضعية في تنازع القوانين، نظام الأحوال الشخصية، ونظام الأموال، والالتزامات. وتنازع الاختصاص القضائي الدولي (النظرية العامة وحرية الدولة في تحديد الاختصاص)، وضوابط الاختصاص القضائي، وتنفيذ الأحكام الأجنبية.

### **447 LAWS مناهج البحث القانوني (3 ساعات معتمدة)**

يتناول المقرر تعريف مناهج البحث وأهميتها، وبيان المناهج المختلفة (المنهج الاستقرائي والمنهج التحليلي والمنهج الوصفي والمنهج المقارن)، وكيفية اختيار الموضوع، وقواعد إعداد الخطة وفقاً للنظام اللاتيني والنظام الأنجلوسكسوني، وكيفية الرجوع إلى المراجع التي يجب أن يستعين بها الباحث، وإعداد قائمة المراجع، وقواعد تحرير البحث من الناحية اللغوية والمنهجية.

### **451 LAWS قانون الإجراءات الجزائية (2) (3 ساعات معتمدة)**

يدرس المقرر اختصاص المحاكم (النوعي، المكاني، الشخصي)، وجرائم الجلسات، والقواعد الأساسية في عمل المحاكم، وطرق إثبات الدعوى الجزائية (الاعتراف، الشهادة، البنية الخطية، القرائن، البصمات) والحكم الجزائي من حيث شروط الحكم الجزائي، والأمر الجزائي، والطعن في الأحكام: المعارضة والاستئناف، والطعن أمام المحكمة العليا وإعادة النظر، وتنفيذ الأحكام الجزائية.

### **LAWS 455 اصول الفقه**

**(3 ساعات معتمدة)**

يتضمن المقرر تعريف أصول الفقه وأهميته، وبيان الأدلة المتفق عليها، والأدلة المختلف فيها، فيتناول القرآن الكريم كمصدر أول، من حيث تعريفه ومقاصده، ودلالته على الأحكام. والسنة من حيث تعريفها وحجيتها وتقسيماتها، والإجماع من حيث تعريفه وأنواعه وحجيته، والقياس من ناحية تعريفه وحجيته وشروط الأدلة الأخرى، كالاستحسان، والمصالح المرسلة، والعرف. كما يتناول تعريف الحكم وتقسيماته، والألفاظ من حيث دلالتها على المعاني.

### **LAWS 475 حقوق الملكية الفكرية**

**(3 ساعات معتمدة)**

يتضمن هذا المقرر دراسة الملكية الصناعية والتجارية، ويعالج فيها براءات الاختراع والرسوم والنماذج الصناعية، والعلامات التجارية، والمحل التجاري والعملاء والاسم والسمعة التجارية، والملكية الأدبية والفنية، وتشمل حقوق المؤلف من حيث طبيعة حقه وسلطاته الأدبية والمالية، ومدة حماية حق المؤلف، وكيفية الحماية وصورها، والحقوق المجاورة لحق المؤلف، وهي حقوق فنان الأداء، ومنتجي التسجيلات الصوتية، وحقوق هيئات الإذاعة.

### **LAWS 490 تطبيقات عملية**

**(3 ساعات معتمدة)**

يتضمن هذا المقرر تدريب الطالب على كيفية إعداد وصياغة العقود المختلفة، وكتابة صحف الدعاوى بأنواعها المختلفة، وكيفية إبداء الدفوع أثناء الدعوى وكذا كيفية صياغة وتسبيب الأحكام. وكيفية إجراء التحقيق الجنائي والإداري، وكيفية إعداد المرافعة الشفوية والمذكرات القانونية، وتدريب الطالب على الدقة في تكييف الوقائع لتطبيق القواعد القانونية عليها.

### **ثالثاً: المتطلبات التخصصية الاختيارية:**

#### **LAWS 326 قانون التحكيم**

**(2 ساعات معتمدة)**

يتضمن هذا المقرر التعريف بالتحكيم التجاري والإقليمي بشكل عام، وبيان طبيعته القانونية، والتمييز بين التحكيم وغيره من وسائل فض المنازعات. ثم شروط صحة اتفاق التحكيم والآثار المترتبة عليه، وكذلك هيئة التحكيم وإجراءات عملها، وصدر حكم التحكيم، وتحديد القانون الواجب التطبيق أمامها، وتنفيذ حكم المحكم.

#### **LAWS 330 القانون الجوي**

**(2 ساعات معتمدة)**

يتضمن هذا المقرر تعريف القانون الجوي، خصائصه ومصادره، وعقد النقل الجوي من حيث مفهومه وطبيعته إثباته، وأحكام الطائرة، وأنواع النقل الجوي، الداخلي والخارجي، وعقد النقل الجوي للأشخاص، ونقل البضائع، ومسؤولية الناقل الجوي في نقل الأشخاص وفي نقل البضائع، وحالات دفع المسؤولية، وتحديد مسؤولية الناقل الجوي في قانون التجارة العماني، والاتفاقات المتعلقة بالإعفاء من المسؤولية أو التخفيف منها.

#### **LAWS 334 الإدارة العامة**

**(2 ساعات معتمدة)**

يتضمن هذا المقرر تمثيل الإدارة العامة من الناحية العضوية، وأهم سلطات الدولة وهي السلطة الإدارية من ناحية توفر الخدمات اللازمة لأفراد المجتمع، وإنجاز التنمية الشاملة في كافة المجالات في المجتمع، وتحقيق أهداف الدولة بصفة عامة، مما يوجب على رجل القانون أن يستوعب نشاط الإدارة من الناحية الفنية ودراسة القواعد العامة التي تحكم هذا النشاط من حيث مفهوم العملية الإدارية وعناصرها وأهدافها.

#### **LAWS 350 تاريخ القانون وفلسفته**

**(2 ساعات معتمدة)**

يتضمن هذا المقرر تاريخ نشأة القانون في المجتمعات القديمة وتطور القاعدة القانونية في نشأتها من عصر القوة إلى عصر القانون المكتوب، ودراسة بعض النظم القانونية في العصر الفرعوني، والروماني والبيزنطي، وفي بلاد ما بين النهرين. وكذلك دراسة تاريخ القانون في سلطنة عمان.

#### **LAWS 352 مصطلحات قانونية باللغة الإنجليزية**

**(2 ساعات معتمدة)**

يتضمن هذا المقرر بعض المصطلحات القانونية باللغة الإنجليزية، في فروع القانون المختلفة وعلى الخصوص في القانون التجاري والمدني والإداري والجنائي والدستوري وذلك من خلال دراسة بعض الموضوعات واستخراج المصطلحات القانونية منها، وتدريب الطالب على إدخالها في عبارات قانونية.

## **LAWS 354 قوانين الاستثمار**

**(2 ساعات معتمدة)**

يحتوي هذا المقرر على دراسة فرص الاستثمار المتاحة في سلطنة عمان، وخاصة في قطاع استخراج المعادن والبتترول، والزراعة والثروة السمكية، وقطاع الصناعة، والسياحة، مع بيان الحوافز للمستثمر كالإعفاءات الضريبية أو الأسعار المدعومة، وأخيراً ضمانات المحافظة على استمرارية فرص الاستثمار قائمة.

## **LAWS 356 عقد المقاولة والوكالة**

**(2 ساعات معتمدة)**

يتضمن هذا المقرر تعريف عقد المقاولة وخصائصه وتمييزه عما يشته به، ثم أركانه من تراضي ومحل وسبب، وأخيراً آثاره المتمثلة في الحقوق والالتزامات الناشئة عن عقد المقاولة مع دراسة مستفيضة لفكرة الضمان العشري. كما يحتوي هذا تعريف عقد الوكالة وخصائصه وتمييزه عن غيره، وأركانه، وآثاره في العلاقة بين الوكيل والموكل.

## **LAWS 436 عقد الكفالة**

**(2 ساعات معتمدة)**

يحتوي هذا المقرر على دراسة عقد من أهم العقود المدنية في ضمان حق الدائن، ويحتوي دراسة عقد الكفالة على دراسة تعريف الكفالة وخصائصها وتمييزها عن غيرها، ثم بيان أركانها (تراضي ومحل وسبب) وأخيراً آثارها المتمثلة في الحقوق والالتزامات الناشئة عن عقد الكفالة، سواء في العلاقة بين الدائن والكفيل وماله من دفع ضده، أو في العلاقة بين المدين والكفيل. وأخيراً انقضاء الكفالة بصفة أصلية أو بصفة تبعية.

## **LAWS 438 عقد التأمين**

**(2 ساعات معتمدة)**

يتضمن عقد التأمين دراسة تعريف العقد وخصائصه وتمييزه عن غيره، وبيان أركانه (الرضاء والمحل والسبب)، وآثاره، أي الحقوق والالتزامات الناشئة عنه سواء على عاتق المؤمن أو المؤمن له، وجزاء الإخلال بها، مع التركيز على الجزاءات الخاصة بعقد التأمين. وأخيراً استعراض بعض أنواع التأمين وخاصة التأمين على المركبات.

## **LAWS 440 علم الإجرام والعقاب**

**(2 ساعات معتمدة)**

يتضمن هذا المقرر دراسة أهم النظريات العلمية في تفسير الظاهرة الإجرامية، والسلوك الإجرامي والعوامل المؤدية إلى ارتكاب الجريمة. بالإضافة إلى ذلك فإن هذا المقرر يتناول دراسة العقوبة والتدابير الاحترازية، وأنواع المؤسسات العقابية ونظمها، وتصنيف المجرمين في هذه المؤسسات.

## **LAWS 465 التشريع الجنائي الإسلامي**

**(2 ساعات معتمدة)**

يتضمن هذا المقرر تعريف الجريمة والعقوبة في الفقه الإسلامي، وبيان أنواع الجريمة في الفقه الإسلامي، وتقسيم العقوبات إلى حدود وتعازير وقصاص، وبيان حالات وشروط تطبيق كل عقوبة من هذه العقوبات، وبيان علاقة العقوبة بتحقيق مقاصد الشريعة الإسلامية (حفظ الدين والنفس والعقل والنسل والمال).

## **LAWS 469 تاريخ التشريع الإسلامي**

**(2 ساعات معتمدة)**

يتضمن هذا المقرر تعريف الشريعة الإسلامية، وبيان خصائصها، وعلاقتها بالشرائع السابقة، والتعريف بالفقه الإسلامي، وبيان خصائصه، وبيان أدوار الفقه الإسلامي عبر العصور المختلفة من عصر النبوة، وعصر الخلفاء الراشدين، وعصر التابعين، وعصر المدارس الفقهية مع التعريف بكل مدرسة من تلك المدارس، وأسباب اختلاف الفقهاء، مع بيان مصادر الأحكام الشرعية.

## **LAWS 473 قوانين حماية البيئة**

**(2 ساعات معتمدة)**

يتضمن هذا المقرر دراسة تحديد معنى البيئة والمقصود بالتلوث، والقواعد العامة للمحافظة على البيئة ومكافحة التلوث، والحماية القانونية للمجال البيئي: التربة، الماء، الهواء، المجال الأخضر. والمكافحة القانونية للتلوث مثل: مكافحة النفايات الصلبة، والتلوث الصوتي، والإشعاعي، الذري، ودور الضبط الإداري في حماية البيئة، والجزاءات القانونية بشأن تلويث البيئة.

## **LAW 477 القانون الدولي للبحار**

**(2 ساعات معتمدة)**

تتضمن دراسة هذا المقرر تعريف القانون الدولي للبحار وتطوره وخصائصه ومصادره ونطاق تطبيقه، كما تتضمن دراسة المناطق البحرية داخل السيادة الإقليمية وهي المياه الداخلية والمياه الإقليمية، والمناطق



التي للدولة الساحلية حقوق سيادية وهي المنطقة المتاخمة والمنطقة الاقتصادية الخالصة، والجرف القاري، ويتناول المقرر دراسة المنطقة خارج السيادة الإقليمية وهي أعالي البحار والمنطقة (منطقة التراث الإنساني المشترك). كما يتضمن هذا المقرر دراسة المنازعات البحرية والبيئة البحرية.

#### **LAWS 481 التجارة الإلكترونية**

**(2 ساعات معتمدة)**

يتضمن المقرر دراسة تقنيات التجارة الإلكترونية والتي من أهم مواضيعها: الأمان والخصوصية، والشؤون القانونية والاجتماعية، وإستخدام الويب كقاعدة بيانات.

#### **LAWS 485 التجارة الدولية**

**(2 ساعات معتمدة)**

يتضمن هذا المساق الضوابط الحكومية والمؤسسات الدولية المشرفة على أعمال التجارة العالمية، كما يتناول المساق السلطات والصلاحيات للهيئات التنظيمية الأساسية في عدد من البلدان، ويغطي كذلك الرسوم واللوائح الجمركية، والملكية الفكرية، وحقوق الطبع والنشر، والعلامات التجارية، وبراءات الاختراع، وقواعد الترخيص.

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## دبلوم علوم الحاسوب للطلبة ذوي الإعاقة السمعية

### 1- نظرة عامة على البرنامج

شهد مجال تعليم الطلاب ذوي الإعاقة السمعية في العالم عدة تغيرات خلال العقدین الأخيرین، حیث تم تطبیق برامج الدمج بأشكالها المختلفة، وتقديم خدمات للطلاب ذوي الإعاقة السمعية وزارعي القوقعة، ومن المجالات التي شهدت تغيراً ملحوظاً هو مجال التعليم العالي للأشخاص ذوي الإعاقة السمعية.

إن دبلوم علوم الحاسوب هو برنامج يتكون من 60 ساعة معتمدة موزعة على مدى سنتين من الدراسة. وهدفه الكفاءة كما تتطلبه معايير صناعة تكنولوجيا المعلومات مع التركيز على المفاهيم التالية:

Computer Platforms منصات الحاسوب

System Analysis تحليل الأنظمة

Programming البرمجة

Database Design تصميم قواعد البيانات

Personal Skills Development تنمية المهارات الفردية

إن البرنامج يوازن بين النظرية والممارسة. وعلى الرغم من أنها تؤكد على التطبيق العملي، فإنها تغطي أيضاً الأسس النظرية من أجل إقامة روابط كافية مع التعليم على مستوى أعلى وإبقاء الطلاب على اطلاع دائم بالمعرفة الحالية في هذا المجال. وسوف يتمتع الطلاب بخبرة عملية في مجال معدات الحاسوب وبرامجه ومنهجيات تقييم البرمجيات وتطوير تطبيقات الحاسوب مع التركيز بقوة على تطوير مهارات البرمجة، بما في ذلك برمجة الشبكة العالمية. بالإضافة إلى ذلك، يتبع البرنامج منهج الفنون الليبرالية الحديثة من خلال تعريضه للطلاب إلى معرفة سليمة بالعلوم العامة، والفنون، ودراسة الثقافة العمانية، وإتقان مهارات الحوسبة العامة، والاستخدام الفعال للغات العربية والإنجليزية.

وعلى الرغم من أن حملة الدبلوم يمكنهم الخروج من التعليم الجامعي بهذه الدرجة، إلا أنهم سيتاح لهم أيضاً فرص مواصلة تعليمهم لاستكمال البكالوريوس في العلوم الحاسوبية إذا كانوا يستوفون شروط الالتحاق بذلك البرنامج، ثم يتم تحويل جميع الاعتمادات التي تم إكمالها بنجاح في برنامج الدبلوم إلى برنامج البكالوريوس.

### 2- أهداف البرنامج :

يهدف برنامج دبلوم العلوم في علوم الحاسوب للطلاب ذوي الإعاقة السمعية إلى:

- 1 - تعزيز التعلم الفعال من خلال تعريض الطلاب ذوي الإعاقة السمعية للخبرات النظرية والعملية التي تم تكييفها بشكل يتواءم مع خصائص الصم والتي تتطلب التفكير والممارسة.
- 2 - توفير تعليم متميز من خلال اعتماد المعرفة المتقدمة في الحوسبة وغيرها من تقنيات المعلومات والاتصالات وممارسات التدريس الفعال.
- 3 - تقديم فرص للطلاب لتطوير وظائف في علوم الحاسوب وتكنولوجيا المعلومات.
- 4 - إعداد الطلاب ذوي الإعاقة السمعية للانخراط في سوق العمل.
- 5 - تقديم فرص للطلاب ذوي الإعاقة السمعية الحاصلين على شهادة الدبلوم العام لمتابعة التعليم العالي في علوم الحاسوب.
- 6 - تزويد الطلاب ذوي الإعاقة السمعية بالتعليم المناسب لهم والتدريب العملي ومهارات التعليم والتعلم والقيم المناسبة.
- 7 - تعزيز التعلم المستقل مدى الحياة.
- 8 - إكساب المتعلم العديد من مهارات الحاسوب، وتطبيقاتها العملية في مجالات الحياة المختلفة.

### 3- مخرجات التعلم للبرنامج :

بناء على الأهداف المذكورة، يتوقع في نهاية دراستهم للبرنامج تمكّن الطلاب ذوي الإعاقة السمعية من:

- 1 - إتقان المعرفة بموضوعات علوم الحاسوب الأساسية والمتقدمة.
- 2 - إظهار القدرة على تصميم وتنفيذ وتقييم نظام قائم على الحاسوب أو عملية أو مكون أو برنامج لتلبية الاحتياجات المطلوبة.
- 3 - إظهار القدرة على تحديد واستخدام المعلومات التقنية من مصادر متعددة.
- 4 - القدرة على استخدام التقنيات والمهارات والأدوات الحالية اللازمة لممارسات الحوسبة.
- 5 - الربط بين التكنولوجيا والمجتمع.
- 6 - القدرة على إجراء التعلم المستقل.
- 7 - إظهار القدرة على التواصل الفعال في ضوء أعلى إمكانيات التواصل الكلي وفق إعاقاتهم.
- 8 - امتلاك فهم المسؤوليات المهنية والأخلاقية والاجتماعية

### 4- شروط القبول بالبرنامج :

- 1- أن يكون المتقدم للالتحاق بالبرنامج حاصلاً على شهادة دبلوم التعليم العام أو ما يعادلها.
- 2- إفادة من جهة حكومية تفيد أن الطالب من ذوي الإعاقة السمعية.
- 3- يكون قد اجتاز بنجاح اختبار تحديد المستوى.
- أ- كل الطلاب المقبولين في جامعة ظفار عليهم ان يجروا اختبار تحديد مستوى من قبل وحدة البرنامج التأسيسي بهدف اختبار مستواهم في اللغة الانجليزية والرياضيات وتقنية المعلومات.
- ب- بناء على نتائج اختبار تحديد المستوى ينقسم الطلاب إلى قسمين: القسم الأول الطلاب الذين أحرزوا نتائج عالية واثبتوا مستوى متقدم في اللغة الانجليزية والرياضيات وتقنية المعلومات هم مؤهلون للدخول مباشرة في أول سنة من البرنامج. القسم الثاني من الطلاب يحتاجون إلى الالتحاق بالبرنامج التأسيسي لفصل واحد على الأقل لتحقيق المستوى المطلوب اللغة الانجليزية والرياضيات وتقنية المعلومات. هناك ثلاث مستويات في اللغة الانجليزية في البرنامج التأسيسي والطلاب سوف يتم وضعهم في المستوى الذي يحدده اختبار تحديد المستوى.
- 4- عدم وجود إعاقة أخرى تؤثر على تحصيلهم الأكاديمي.

### 5- متطلبات التخرج:

أن يجتاز الطالب بنجاح جميع المقررات الدراسية الواردة في الخطة الدراسية واكمال عدد الساعات المطلوبة (60 ساعة معتمدة) كما هي موضحة في الجدول التالي:

متطلبات الجامعة	متطلبات الكلية	متطلبات التخصص		مجموع الساعات
		المتطلبات الإجبارية	المتطلبات الاختيارية	
24	3	33	0	60

## 6- متطلبات الجامعة:

1. ARAB 101D : الكتابة الأكاديمية باللغة العربية
2. CMPS 100D : مدخل إلى تقنيات الحاسوب للأدب
3. ENGL 101D : اللغة الانجليزية الأكاديمية التأسيسية
4. SOCS 102D : المجتمع العماني
5. ENTR 200D : ريادة الأعمال
6. ENGL102D : اللغة الانجليزية لعلوم الحاسوب 1
7. MATH 199D : التفاضل والتكامل 1
8. ENGL 203D : اللغة الانجليزية لعلوم الحاسوب 2

## 7- متطلبات الكلية:

مقرر اختياري العلوم الإنسانية والاجتماعية: يختار الطالب مقررًا واحدًا

## 8- متطلبات التخصص:

1. CMPS 110D : مدخل إلى البرمجة – المستوى الأول
2. CMPS 160D : بنية البيانات
3. CMPS180D : تصميم النظم الرقمية
4. MATH 370D : الرياضيات المتقطعة
5. CMPS 215D : تنظيم الحاسوب و لغة التجميع
6. CMPS 240D : تحليل الخوارزميات
7. CMPS 245D : البرمجة كائنية التوجه
8. CMPS 250D : شبكات الحاسب الآلي
9. CMPS 260D : أنظمة التشغيل
10. CMPS 270D : نظم قواعد البيانات
11. CMPS 285D : ربط قاعدة البيانات بالويب باستخدام ASP.net

## 9- جدول الخطة الدراسية :

السنة الأولى		
الفصل الدراسي الأول (خريف) 15 ساعة		
رمز ورقم المقرر	عنوان المقرر	الساعات التدريسية
ARAB 101D	الكتابة الأكاديمية باللغة العربية	3
CMPS 100D	مدخل إلى تقنيات الحاسوب للعلوم	3
CMPS 110D	مدخل إلى البرمجة - المستوى الأول	3
ENGL 101D	اللغة الانجليزية الأكاديمية التأسيسية	3
MATH 199D	التفاضل والتكامل 1	3
الفصل الدراسي الثاني (ربيع) 15 ساعة		
رمز ورقم المقرر	عنوان المقرر	الساعات التدريسية
CMPS 160D	بنية البيانات	3
CMPS 180D	تصميم النظم الرقمية	3
ENGL 102D	اللغة الانجليزية لعلوم الحاسوب 1	3
MATH 370D	الرياضيات المتقطعة	3
SOCS 102D	المجتمع العماني	3
السنة الثانية		
الفصل الدراسي الثالث (خريف) 15 ساعة		
رمز ورقم المقرر	عنوان المقرر	الساعات التدريسية
CMPS 215D	تركيب الحاسوب مع لغة التجميع	3
CMPS 240D	تحليل الخوارزميات	3
ENGL 203D	اللغة الانجليزية لعلوم الحاسوب 2	3
ENTR 200D	ريادة الاعمال: الابتكار والإبداع	3
CMPS 245D	البرمجة كائنية التوجه	3
الفصل الرابع (ربيع) 15 ساعة		
رمز ورقم المقرر	عنوان المقرر	الساعات التدريسية
CMPS 250D	شبكات الحاسوب	3
CMPS 260D	نظم التشغيل	3
CMPS 270D	نظم قواعد البيانات	3
CMPS 285D	ربط قاعدة البيانات بالويب باستخدام ASP.net	3
	مقرر اختياري عام	3
مجموع الساعات المعتمدة للبرنامج ككل		60

## 10- توصيف المقررات الدراسية

### ARAB 101D الكتابة الأكاديمية باللغة العربية

يركز هذا المساق على دراسة العناصر الأساسية في الكتابة الأكاديمية العربية، ويشمل: الجمل التامة، والفقرات، والمقالات والأبحاث الأكاديمية، والتقارير المهنية، والرسائل الرسمية. ويتوجب على الطلبة إظهار قدرات متقدمة في إنتاج وكتابة نصوص أكاديمية صحيحة.

### CMPS 100D مدخل لتقنيات الحاسوب للعلوم

يتضمن هذا المساق مفاهيم البرمجة باستخدام الأداة المناسبة، حيث سيتم تعريف الطلاب بمفاهيم حلقات البرمجة (loops) والتعليمات المشروطة. كما يقوم المساق بتغطية بعض جوانب المساق CMPS100A مثل تطبيق قاعدة البيانات وتصميم صفحات الويب البسيطة، و توفير الامتداد للبرامج المعرفية كمقدمة لـ HTML/Java

### CMPS 110D مدخل إلى البرمجة – المستوى الأول

يتناول هذا المساق مدخلا إلى طرق البرمجة واستخدامها لحل مسائل متنوعة بالحاسوب ، ويشمل مدخلا إلى دراسة لغة برمجة متقدمة، مع التركيز على التجريد الإجرائي، وعلى أسلوب برمجة واف وعلى مفهوم التصميم الخوارزمي.

### ENGL 101D Basic Academic English

Consistent with its aim of enabling first year students in the university departments to become efficient communicators in English Language, this course scaffolds with their knowledge, skills and competence developed in Level 3 of the Foundation Program and continues to build on their language and study skills. This integrated skills course is designed to develop the Sign Language-based skills of the students so that they can understand English in a range of contexts and express thoughts, opinions, and a range of language functions to users of English and other languages with sufficient clarity and accuracy of language. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study skills in order to increase their academic, professional, and employment potential.

### MATH 199D التفاضل والتكامل 1

يتناول المقرر حساب التفاضل والتكامل لمتغير واحد: النهايات، والمتوالية، والاشتقاق، قاعدة التسلسل، الحد الأقصى والحد الأدنى، وتخطيطات المنحنيات، نظرية Rolle ، التكامل عن طريق الاستبدال، التكاملات المحددة مع تطبيقات في المساحة، الأحجام وطول الأقواس، النظرية الأساسية في التفاضل والتكامل، الدالات الأسية واللوغاريتمية، دوال النسب المثلثية، ومعادلات الهندسة المستوية التحليلية في الفضاء.

### CMPS 160D بنية البيانات

يركز المقرر على تصميم الخوارزميات وعلى تقنيات البرمجة للبرامج الكبيرة. كما يتضمن دراسة معمقة للمعطيات وتجريدها وطريقة بنائها كصفوف البيانات واللوائح المتصلة والتشجيرات، ويقدم للطلبة أيضا مدخلا إلى تعقيد البرامج والتحقق.

### CMPS180D تصميم النظم الرقمية

يوفر المساق للطلبة أدوات أساسية لتصميم دوائر رقمية، كما يوفر مفاهيم أساسية في تصميم الأنظمة الرقمية كالمناطق التجميعي والمنطق المتسلسل المتزامن، والمنطق المبرمج ومفاهيم أخرى أساسية. ويتناول المساق مدخلا إلى التصميم الرقمي للدوائر الإلكترونية. تستخدم الدوائر الإلكترونية في تصميم وبناء أنظمة أخرى كالحواسيب الرقمية وإيصال المعطيات، والتسجيل الرقمي وتطبيقات أخرى تتطلب استخدام أدوات رقمية.

### ENGL 102D English For Computer Science I

The main aim of this course is to improve students' professional communication skills for the content and tasks to which they will be exposed to in their courses related to their field of study. Scaffolding with the knowledge, skills and competence developed in ENGL 101D, this course is designed to improve specialist language knowledge and communication skills of the students studying and working in the fields of Computer Science and Information Technology and

enable them to work more confidently and effectively. The course content covers topics common to the fields of Computer Science, and the classroom tasks and activities range from understanding, talking and discussing about a wide range of topics and issues related to computers, information technology and the multimedia, reflecting about changes in the fields of computers and information technology to working with a set of authentic situations and scenarios that provide problem-solving practice in the field. The course also aims at enabling the students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential.

### **MATH 370D الرياضيات المتقطعة**

يحتوي هذا المساق على المنطق، المجموعات، العلاقات والوظائف، الحساب النمطي، الاستقراء الرياضي، علاقات التكرار ، طرق العد ، استبعاد التضمين ، نظرية ذات الحدين ، الاحتمال الأولي ، مقدمة عن الرسوم البيانية والأشجار ، الخوارزميات العودية ، وبعض الجبر البولي.

### **SOCS 102D المجتمع العماني**

يتناول المقرر المعارف الخاصة بتاريخ سلطنة عمان القديم والمعاصر، والسمات الراهنة للمجتمع العماني، ولا سيما الهيكل الاجتماعي والفئات الاجتماعية، والثقافية، وكذلك النظام الإداري والسياسي السائد في سلطنة عمان، وعملية التغيير الاجتماعي وتنمية المجتمعات المحلية. كما يتضمن الحديث فلسفة التعليم ومراحلها في سلطنة عمان، وتطور التعليم والجهود المبذولة لتطوير التعليم، وتطور النظام الصحي في عمان.

### **CMPS 215D تنظيم الحاسوب و لغة التجميع**

يتناول هذا المساق اسس تنظيم الحاسوب مستخدما لغة التجميع التي تساعد على دراسة نظام الحاسوب. تشتمل المواضيع على تقديم المعطيات على مستوى الآلة، ورسم الحاسبة الآلية الرقمية المنطقية، تصميم وحدة المعالجة المركزية ووحدة المنطق الحسابية، وتنظيم وبناء نظام الذاكرة، والكود الكائني، والبرمجة المصغرة، والحاسوبية المعقدة الأوامر، والحاسوبية مبسطة الأوامر، واستخدام أجهزة الحاسوب المتوازية.

### **CMPS 240D تحليل الخوارزميات**

يتناول المقرر دراسة تقنيات تصميم الخوارزميات المؤثرة وتحليلها وبنيات البيانات المتقدمة، ويشمل الموضوعات التالية: التحليل المتقارب، والتصنيف الجذري المعكوس، وخوارزميات حل المشكلات، والبرمجة الحركية ، حيث يطبق الطلبة التقنيات على مشكلات عدة، مثل: البحث والتصنيف، والرسوم، والمصفوفات، والتعامل بالمجموعات.

### **ENGL 203D English For Computer Science II**

This course builds on the knowledge, skills and competence developed in ENGL 102 C and further continues to improve students' professional communication skills for the content and tasks to which they will be exposed to in their courses related to their field of study. The course is designed to improve specialist language knowledge and communication skills of the students studying and working in the fields of Computer Science and Information Technology and enable them to work more confidently and effectively. The course content covers topics common to the fields of Computer Science, and the classroom tasks and activities range from understanding, talking and discussing about a wide range of topics and issues related to computers, information technology and the multimedia, reflecting about changes in the fields of computers and information technology to working with a set of authentic situations and scenarios that provide problem-solving practice in the field. The course also aims at enabling the



students to develop into self-dependent/autonomous learners by exposing them to a range of learning techniques and strategies, critical thinking, basic study and research skills in order to increase their academic, professional, and employment potential

#### **ENTR 200D ريادة الأعمال: الابتكار والإبداع**

يوفر هذا المقرر منهجاً يمكن الطالبات لاستكشاف ريادة الأعمال كموضوع دراسة وكذلك كممارسة، حيث أصبحت ريادة الأعمال واحدة من أقوى قوة للتغيير في العالم. يهدف المقرر إلى توفير فهم أساسي لأهم المفاهيم والعمليات ذات الصلة في مجال ريادة الأعمال بالإضافة إلى التدريب العملي، يتضمن المقرر موضوعات أهمية ريادة الأعمال، ودراسة الجدوى، ونموذج الأعمال، وخطة العمل، وفهم مفهوم الفرصة، وأنواع مختلفة من ملكية الأعمال الموجودة في سلطنة عمان، بالإضافة إلى التطبيقات العملية والزيارات الميدانية.

#### **CMPS 245D البرمجة كائنية التوجه**

يتناول هذا المساق مدخلا إلى طرق البرمجة الشيئية واستخدامها لحل مسائل متنوعة بالحاسوب، ويشمل مدخلا إلى دراسة لغة برمجة Java، مع التركيز على تعلم آليات كتابة واختبار وتصحيح البرامج الموجهة للكائنات باستخدام لغة برمجة Java.

#### **CMPS 250D شبكات الحاسب الآلي**

يتناول هذا المساق مبادئ أساسيات شبكة الحاسوب. يقدم نظرة فوقية إلى طبقة خطوط الأنظمة التواصلية المعمارية، يركز على بروتوكول اتصالات الانترنت، يشتمل أيضا على أنظمة عميلة /الخوادم، وبروتوكول شبكة تحويل الحزم، نظرية التصفيف، وتطبيقات البروتوكولات، وبرمجة مميزات الخدمة والنقل الموثوق، وبروتوكولات يو دي بي، وتي سي بي، والحماية.

#### **CMPS 260D أنظمة التشغيل**

يُعد المساق بمثابة النظرة العامة على أنظمة التشغيل، ويشمل مبادئ نظام التشغيل، والجدولة وإدارة الموارد، والذاكرة الظاهرية، وأنظمة الملفات، والمعالجة المتزامنة والمزامنة، وجدولة القرص. تعتبر البرمجة ضمن UNIX جزءاً أساسياً من هذا المساق مع التركيز على الاتصالات المتزامنة والاتصالات بين العمليات IPC

#### **CMPS 270D نظم قواعد البيانات**

يُعد هذا المساق مقدمة لنمذجة البيانات والنماذج العلائقية المختلفة (مع الجبر العلائقي والحسبان) في نظام قاعدة البيانات، ويشمل مواضيع متعددة كنموذج علاقة الكيان، وقيود SQL والتكامل، وتنظيم الملفات وملفات الفهرس؛ والتطبيق.

#### **CMPS 285D ربط قاعدة البيانات بالويب باستخدام ASP.net**

يهدف هذا المقرر لإعداد الطلاب لاكتساب المهارات العملية لبناء تطبيقات الويب الديناميكية باستخدام ASP.NET

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