

School of Computing and Informatics

Department of Computer Science

Technical Degree – Computer Science: (105) Credit Hours

Specialization Pathways:

- General Computing
- Application Development
- Software Engineering
- Network Engineering

T: Theoretical Class

P: Practical Class

C: Contact Hours

Summary:

Classification	Credit Hours		
	Compulsory	Elective	Total
University Requirements	20	2	22
Faculty Requirements	41	9	50
Specialization Requirements	9	6	15
Placement in Industry Requirements	18	0	18
Total (Technical degree)	88	17	105

0. English Language Prerequisites:

Depending on the results of the English language Placement Test

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10301099	Pre-Foundation English Intensive + Lab	4	8	1	Placement Test 0-29

1. University Requirements: (22 Credit Hours)

Practical Hours: Labs, Workshops, Studios, Seminars, Tutorials, Training, Fieldwork, Boot Camps & Excursions.

1 Practical Hour = 2-3 contact hours

University Requirements (Bachelor Degree): 22 Credit Hours (Mandatory: 20, Elective: 2)

Mandatory: 20 Credit hours

Course No.	Course Title	Cr. Hr.	Lecture	Practical	Contact Hours	Prerequisite
10301100	Foundation English Pre-Intermediate Intensive + Lab	4	8	1	10	Placement Test 30-42 or 10301099
OR 10301110	Foundation English Intermediate Intensive + Lab				10	Placement Test 43-58
10301120	English Intermediate + Lab	3	4	1	6	Placement Test 10301100
OR 10301130	English Upper-Intermediate + Lab	3			6	Placement Test 59-66 or 10301110 /10301120
10301101	Soft Skills I	2	0	2	3	-
10301102	Soft Skills II	2	0	2	3	10301101
10303202	Entrepreneurship Boot Camp	6	3	3	12	-
Total		20				

Electives: 2 Credit Hours

Course No.	Course Title	Cr. Hr.	Lecture	Practical	Contact Hours	Prerequisite
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10302191	Science & Society Seminar I: Arab Contributions to Science and Arts	1	0	1	2	-
10303199	Science & Society Seminar II: Philosophy of Science	1	0	1	2	-
10303196	Art Appreciation and Techniques	1	0	1	2	-
	Strategies for Industry Competitiveness: Tools & Techniques	1	0	1	2	10301101
	Civil & Professional Culture	1	0	1	2	
	Rights and responsibilities	1	0	1	2	
	Total Taken	2				

2. Faculty Requirements: (41 Credit Hours)

Course No.	Course Title	Cr. Hr.	Lecture	Lab	Contact Hours	Prerequisite
10303100	Functional Math	3	3	0	3	-
10303110	Functional Physics	3	3	0	3	-
10200100	Fundamentals of Computing	4	3	1	5	-
10200101	Programming	3	2	1	4	10200100
10200110	Networking	3	2	1	4	10200100
10200120	Database Design & Development	3	2	1	4	10200100
10200140	Security	3	2	1	4	
10200190	Managing a Successful Computing Project (Pearson Set)	3	2	1	4	-
10200290	Computing Research Project (Pearson set)	6	4	2	8	10200190
10200230	Business Intelligence	3	2	1	4	10200130
10200191	Professional Practice	3	2	1	4	
10200271	IT Seminar*	1	2	0	2	
10101100	Workshop I	2	0	2	2	
10303130	STEM Lab I	1	0	1	2	
	Total	41				

* Note: Variable credit course(1-3), must be fixed for the student at the time of registration.

3. Faculty Electives: (9 Credit Hours from the following)

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Contact Hours	Prerequisite
10200180	Math for Computing	3	3	0	3	
10200102	Website Design & Development	3	2	1	4	10200100
10200121	Software Development Lifecycle	3	2	1	4	10200100
10200130	Data Analytics	3	2	1	4	10200100
10200150	Strategic Information Systems	3	2	1	4	10200100
10200181	Computer Systems Architecture	3	2	1	4	10200100
Total Taken		9				

4. Placement in Industry Requirements

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Contact Hours	Prerequisite
10200399	On-Job Training	18	0	40	40	Obtain at least one certificate
Total		18				

Computer Science Specializations (15 Credit Hours):

Students should choose to study one of the following lists depending on the specialization pathway:

4.1. CS General Pathway:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10202200	Data Structure & Algorithms	3	2	1	10200101
10201200	Advanced Programming	3	2	1	10200101
10201261	Prototyping	3	2	1	10200101
10201260	Application Development	3	2	1	10200101
10201210	Network Security	3	2	1	10200110
Total		15			

4.2. Application Development Pathway:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10201261	Prototyping	3	3	0	10200101
10201262	Application Program Interface.	3	2	1	10200101
10201260	Application Development	3	2	1	10200101
	Department Elective	3	2	1	
	Department Elective	3	2	1	
Total		15			

4.3. Software Engineering Pathway:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10200280	Discrete Math	3	2	1	10200180
10202200	Data Structures & Algorithms	3	2	1	10200101
10201200	Advanced Programming	3	2	1	10200101
	Department Elective	3	2	1	
	Department Elective	3	2	1	
	Total	15			

4.4. Network Engineering Pathway:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10201211	Transport Network Design	3	2	1	10200110
10201270	Cloud Computing	3	2	1	10200110
10201210	Network Security	3	2	1	10200110
	Department Elective	3	2	1	
	Department Elective	3	2	1	
	Total	15			

CS Department Electives (choose 6 hrs. except for the general pathway):

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10200280	Discrete Mathematics	3	3	0	10200180
10202200	Data Structures & Algorithms	3	2	1	10200101
10201200	Advanced Programming	3	2	1	10200101
10201261	Prototyping	3	2	1	10200101
10201260	Application Development	3	2	1	10200101
10201262	Application Program Interface.	3	2	1	10200101
10201211	Transport Network Design	3	2	1	10200110
10201270	Cloud Computing	3	2	1	10200110
10201210	Network Security	3	2	1	10200110
	Total Taken	6			

English Language Prerequisites:

Depending on the results of the English language Placement Test

Course No.	Course Title	Cr. hr.	Prerequisite
10301099	Pre-Foundation English Intensive + Lab	4	Placement Test 0-29

Study Plan Guide:

<i>First Year - Fall Semester (for all pathways)</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10301100	Foundation English Pre-Intermediate Intensive +Lab	4	Placement Test 30-42
OR 10301110	Foundation English Intermediate Intensive + Lab		Placement Test 43-58
10301100	Functional Math	3	-
10200100	Fundamentals of Computing	4	-
10303130	STEM Lab I	1	-
10301101	Soft Skills I	2	-
10101100	Workshop I	2	-
Total		16	

<i>First Year - Spring Semester (for all pathways)</i>				
Course No.	Course Title	Cr. hr.	Pearson	Prerequisite
10301120	English Intermediate + Lab	3		Placement Test 43-50 or
Or 10301130	English Upper-Intermediate + Lab			Placement Test 59-66 or 10301110 /10301120
10200101	Programming	3	L4 (HNC)	10200100
10200110	Networking	3	L4 (HNC)	10200100
10200180	Math for Computing	3	L4 (HNC)	10303100
10200191	Professional Practice	3	L4 (HNC)	10301101
Total		15		

<i>First Year - Summer Semester</i>				
Course No.	Course Title	Cr. hr.	Pearson	Prerequisite
10200190	Managing a Successful Computing Project (Pearson Set)	3	L4 (HNC)	
10200120	Database design and development	3	L4 (HNC)	10200100
10301130	ENGL 130 / or none	3/0		Placement Test 59-66 or 10301110 /10301120
10200140	Security	3	L4 (HNC)	10200100
Total		12		

General Computing Pathway in CS

<i>Second Year - Fall Semester</i>				
Course No.	Course Title	Cr. hr.	Pearson	Prerequisite
10200102/ 10200121	Faculty Elective	3	L4 (HNC)	10200100
10202200	Data Structures and Algorithms	3	L5 (HND)	10200101
10201261	Prototyping	3	L5 (HND)	10200101
10201200	Advanced Programming	3	L5 (HND)	10200101
10303110	Functional Physics	3		-
Total		15		

<i>Second Year - Spring Semester</i>				
Course No.	Course Title	Cr. hr.	Pearson	Prerequisite
10200290	Computing Research Project (Pearson set)	6	L5 (HND)	10200190
10200230	Business Intelligence	3	L5 (HND)	10200130
10201260	Application Development	3	L5 (HND)	10200101
10201210	Network Security	3	L5 (HND)	10200110
Total		15		

Application Development Pathway

<i>Second Year - Fall Semester</i>				
Course No.	Course Title	Cr. hr.	Pearson	Prerequisite
	Faculty Elective	3	L4 (HNC)	
10201261	Prototyping	3	L5 (HND)	10200101
10201260	Application Development	3	L5 (HND)	10200101
10303110	Functional Physics	3		
	Department Elective	3		
Total		15		

<i>Second Year - Spring Semester</i>				
Course No.	Course Title	Cr. hr.	Pearson	Prerequisite
10200290	Computing Research Project (Pearson set)	6	L5 (HND)	10200190
10200230	Business Intelligence	3	L5 (HND)	10200130
10201262	Application Program Interface	3	L5 (HND)	10200101
	Department Elective	3		
Total		15		

Software Engineering Pathway in CS

<i>Second Year - Fall Semester</i>				
Course No.	Course Title	Cr. hr.	Pearson	Prerequisite
	Faculty Elective	3	L4 (HNC)	
10202200	Data Structures and Algorithms	3	L5 (HND)	10200101
10201200	Advanced Programming	3	L5 (HND)	10200101
10303110	Functional Physics	3		
	Department Elective	3		
Total		15		

<i>Second Year - Spring Semester</i>				
Course No.	Course Title	Cr. hr.	Pearson	Prerequisite
10200290	Computing Research Project (Pearson set)	6	L5 (HND)	10200190
10200280	Discrete Math	3	L5 (HND)	10200180
10200230	Business Intelligence	3	L5 (HND)	10200130
	Department Elective	3		
Total		15		

Network Engineering Pathway in CS

<i>Second Year - Fall Semester</i>				
Course No.	Course Title	Cr. hr.	Pearson	Prerequisite
	Faculty Elective	3	L4 (HNC)	
10201211	Transport Network Design	3	L5 (HND)	10200110
10201270	Cloud Computing	3	L5 (HND)	10200110
10303110	Functional Physics	3		
	Department Elective	3		
Total		16		

<i>Second Year - Spring Semester</i>				
Course No.	Course Title	Cr. hr.	Pearson	Prerequisite
10200290	Computing Research Project (Pearson set)	6	L5 (HND)	10200190
10201210	Network Security	3	L5 (HND)	10200110/10200140
10200230	Business Intelligence	3	L5 (HND)	10200130
	Department Elective	3		
	Total	15		

For all pathways:

<i>Second Year – Summer Semester</i>			
Course No.	Course Title	Cr. Hr.	Prerequisite
10301102	Soft Skills II	2	
10303201	Faculty Elective	3	
10200271	IT Seminar	1	
	University Elective	1	
	University Elective	1	
	Total	8	

<i>Third Year - Fall and Spring Semesters</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10200399	On-Job Training	18	Obtain at least one certificate
	Total	18	

<i>Third Year - Summer Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10303202	Entrepreneurship Bootcamp	6	
	Total	6	