

School of Computing and Informatics

Department of Information Sciences

Bachelor Degree – Information Sciences: (135) Credit Hours

Specialization Pathways:

- Computing
- Data Analytics
- Security
- Intelligent Systems

T: Theoretical Class

P: Practical Class

C: Contact Hours

Summary:

Classification	Credit Hours		
	Compulsory	Elective	Total
University Requirements	24	3	27
Faculty Requirements	42	6	48
Specialization Requirements	9	6	15
Placement in Industry Requirements	18	0	18
Top-up Requirements	21	6	27
Total (bachelor's degree)	114	21	135

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: (27 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): 27 Credit Hours (Mandatory: 24, Elective: 3)

Mandatory: 24 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
10303140	English Advanced	3	4	1	6	Placement Test 67-75 or 10301130
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	-
10303201	Leadership Camp*	1	1	1	3	10301101
Total		24				

* the course includes a 10-day intensive training boot camp held off-campus.

Electives: 3 Credit Hours

Course No.	Course Title	Cr. Hr.	Lecture	Practical	Contact Hours	Prerequisite
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	2	0	3	10301101
	Civil & Professional Culture	1	0	1	2	
	Rights and responsibilities	1	0	1	2	
	Total Taken	3				

2. Faculty Requirements: (42 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*	2	2	0	2	
10101100	Workshop I	2	0	2	2	
10303130	STEM Lab I	1	0	1	2	
	Total	42				

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

3. Faculty Electives: (6 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		6				

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				

Information Sciences Specializations (15 Credit Hours):

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

4.1. General Computing Pathway:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10200280	Discrete mathematics	3	3	0	10200180
10202200	Data Structure & Algorithms	3	2	1	10200101
10202230	Data Mining	3	2	1	10200130
10202240	Forensics (as Department Elective)	3	2	1	10200140
10202251	Artificial Intelligence (as Department Elective)	3	2	1	-
Total		15			

4.2. Data Analytics Pathway:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10200280	Discrete mathematics	3	3	0	10200180
10202230	Data Mining	3	2	1	10200130
10202231	Applied Analytical Models	3	2	1	10200130
	Department Elective	3	2	1	
	Department Elective	3	2	1	
Total		15			

4.3. Security Pathway:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10202240	Forensics	3	2	1	10200140
10202241	Cryptography	3	2	1	10200140
10202242	Information Security Managements	3	2	1	10200140
	Department Elective	3	2	1	
	Department Elective	3	2	1	
Total		15			

4.4. Intelligent Systems Pathway:

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10202200	Data Structure & Algorithms	3	2	1	10200101
10202250	Machine Learning	3	2	1	10200101
10202251	Artificial Intelligence	3	2	1	
	Department Elective	3	2	1	
	Department Elective	3	2	1	
Total		15			

IS 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
10202230	Data Mining	3	2	1	10200130
10200231	Applied Analytical Models	3	2	1	10200130
10202241	Cryptography	3	2	1	10200140
10202240	Forensics	3	2	1	10200140
10202242	Information Security Management	3	2	1	10200140
10202250	Machine Learning	3	2	1	10200101
10202251	Artificial Intelligence	3	2	1	10200101
Total Taken		6			

Top-Up Requirements (21 hours)

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10202420	Operating Systems	3	2	1	
10202450	Management information systems	3	2	1	
10202421	ERP systems	3	2	1	
10202451	Human Computer Interaction	3	2	1	
10202452	Internet of Things	3	2	1	
10202433	Big Data	3	2	1	
10202422	System analysis and design	3	2	1	
Total		21			

Top-Up Electives (choose only 6 hours)

Course No.	Course Title	Cr. Hr.	Lecture	Lab.	Prerequisite
10202400	Computer graphics	3	2	1	
10202430	Digital Image Processing	3	2	1	
10202431	Multimedia	3	2	1	-
10202432	Bioinformatics	3	2	1	-
20102470	Special Topics	3	2	1	
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 (for all pathways)</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		9/12		

General Computing Pathway in IS

<i>Second Year - Fall Semester</i>				
Course No.	Course Title	Cr. hr.	Pearson	Prerequisite
10200130	Faculty Elective (Data Analytics)	3	L4 (HNC)	10200100
10200280	Discrete Math	3	L5 (HND)	10200180
10202200	Data Structure and Algorithms	3	L5 (HND)	10200101
10202240	Forensics	3	L5 (HND)	10200140
10303110	Functional Physics	3		-
	University Elective	1		-
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
10202251	Artificial Intelligence	3	L5 (HND)	
10200230	Business Intelligence	3	L5 (HND)	10200130
10202230	Data Mining	3	L5 (HND)	10200130
Total		15		

Data Analytics Pathway in IS

<i>Second Year - Fall Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
	Faculty Elective	3	
10202230	Data Mining	3	10200130
10200280	Discrete mathematics	3	10200180
10303110	Functional Physics	3	-
	Department Elective	3	
	University Elective	1	
Total		16	

<i>Second Year - Spring Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10200291	Computing Research Project (Pearson set)	6	10200190
10200230	Business Intelligence	3	10200130
10200231	Applied Analytical Models	3	10200130
	Department Elective	3	
	Total	15	

Intelligent systems Pathway in IS

<i>Second Year - Fall Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
	Faculty Elective	3	
10202200	Data Structures and Algorithms	3	10200101
10202250	Machine Learning	3	10200101
10303110	Functional Physics	3	-
	Department Elective	3	
	University Elective	1	
	Total	16	

<i>Second Year - Spring Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10200290	Computing Research Project (Pearson set)	6	10200190
10200230	Business Intelligence	3	10200130
10202251	Artificial Intelligence	3	
	Department Elective	3	
	Total	15	

Security Pathway in IS

<i>Second Year - Fall Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
	Faculty Elective	3	
10202241	Cryptography	3	10200140
10202240	Forensics	3	10200140
10303110	Functional Physics	3	-
	Department Elective	3	
	University Elective	1	
	Total	16	

<i>Second Year - Spring Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10200290	Computing Research Project (Pearson set)	6	10200190
10202242	Information Security Management	3	10202241
10200230	Business Intelligence	3	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	Leadership Camp	1	
10200271	IT Seminar	2	
	University Elective	1	
	University Elective	1	
	Total	7	

<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	

<i>Fourth Year - Fall Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10202420	Operating Systems	3	
10202450	Management information systems	3	
10202421	ERP systems	3	
10303140	English Advanced	3	Placement Test 67-75 or 10301130
	Top-up Elective	3	
Total		15	

<i>Fourth Year - Spring Semester</i>			
Course No.	Course Title	Cr. hr.	Prerequisite
10202451	Human Computer Interaction	3	
10202452	Internet of Things	3	
10202433	Big Data	3	
10202422	System analysis and design	3	-
	Top-up Elective	3	
Total		15	