



جامعة اليرموك  
Yarmouk University  
كلية تكنولوجيا المعلومات وعلوم الحاسوب  
Faculty of Information Technology and  
Computer Sciences



Document Code	Study Plan	Document Approval Date
AP02-PR04		

Department: Computer Science	Program: Computer Science	Official Stamp
The study plan was approved by the decision of the Deans' Council no. .... on .....		

Overview
<p>The Department of Computer Sciences was established in 1978 and started offering a B.Sc. degree in Computer Science in 1980. At the beginning of the academic year 2002/2003 the Faculty of Information Technology and Computer Sciences was established, and the Department of Computer Science was moved to this new faculty. The curriculum has been modified accordingly to keep pace with changes and developments taking place locally and internationally in order to raise the level of academic graduates and to provide them with the skills and techniques that qualify them to be competitive in the market. The department of Computer Science offers two master's programs: the mater's program in Computer science that was established in 2000 and the master's program in Artificial Intelligence that was established in 2019. Both master's programs were designed to provide advanced theoretical and technical skills.</p>

Vision and Mission	
Vision	Deliver leading and entrepreneur educational program in Computer Science area that is recognized locally, regionally and globally.
Mission	Providing students with the necessary skills, knowledge, and competences to solve complex computing problems using distinguished teaching and learning process.

Program Objective	
1	Be successfully employed, pursue a graduate degree, or continue their professional education.
2	Apply their skills in clear communication and demonstrate professional attitudes and ethics to be identified as a valuable member in the organization and demonstrate adaptability, responsibility, and leadership.
3	Demonstrate an understanding of the context and broader impacts of technology in their organization and have the ability to adapt to a rapidly changing environment.

Program Learning Outcomes PLOs	
PLO1	Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
PLO2	Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.



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PLO3	Communicate effectively in a variety of professional contexts.
PLO4	Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
PLO5	Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
PLO6	Apply computer science theory and software development fundamentals to produce computing-based solutions.



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Credit hours to obtain a degree in Information Technology and Computer Sciences in a specialization of Computer Science			
	Credit Hours		
	Compulsory	Elective	Total
<b>University Requirements</b>	15	12	<b>27</b>
<b>Faculty Requirements</b>	22	0	<b>22</b>
<b>Department Requirements</b>	70	15	<b>85</b>
<b>Total</b>	<b>107</b>	<b>27</b>	<b>134</b>

First: University Compulsory Courses (15) Credit Hours						
Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
HUM	117	Pioneering and Creativity	1	0	1	---
HUM	118	Leadership and Society	1	0	1	---
HUM	119	Life Skills	1	0	1	---
HUM	120	Communication Skills (English Language)	3	0	3	EL099
HUM	121	Communication Skills (Arabic Language)	3	0	3	---
PS	102	Political Sciences	3	0	3	---
MILT	100A	Military Sciences	3	0	3	---
EL	099	English Language – Remedial	Remedial	0	0	---
AL	099	Arabic Language – Remedial	Remedial	0	0	---
COMP	099	Computer Skills – Remedial	Remedial	0	0	---



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Second: University Elective Courses (12) Credit Hours						
Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
HUM	101	Basic of Mass Communication	3	0	3	---
HUM	102	Citizenship and Allegiance	3	0	3	---
HUM	103	Islamic: Intellect & Civilization	3	0	3	---
HUM	104	Arts and Behaviours	3	0	3	---
HUM	105	Jordan Contribution to Human Civilization	3	0	3	---
HUM	106	Introduction to Human Cultural Studies	3	0	3	---
HUM	107	Human Rights	3	0	3	---
HUM	108	Thinking Skills	3	0	3	---
HUM	109	Islamic Systems	3	0	3	---
HUM	110	The Culture of Tourism and Hospitality	3	0	3	---
HUM	111	History of Jerusalem	3	0	3	---
HUM	112	Geography of Jordan	3	0	3	---
HUM	113	Islamic Educational Thinking	3	0	3	---
HUM	114	Good Governance and Integrity	3	0	3	---
HUM	115	Legal Education	3	0	3	---
HUM	116	Ancient writings of Jordan	3	0	3	---
HUM	122	Economy and Society	3	0	3	---
HUM	123	Performing Arts	3	0	3	---
SCI	101	Environment & Public Health	3	0	3	---
SCI	103	Physical Education for All	3	0	3	---
SCI	104	Effective Communication Skills	3	0	3	---
SCI	105	Renewed Energy	3	0	3	---
SCI	106	Management and Society	3	0	3	---



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		Development				
SCI	107	Scientific Research	3	0	3	---
SCI	110	Development and environment	3	0	3	---
SCI	111	Principle of Epidemiology and Community Immunity	3	0	3	---

**Third: Faculty Compulsory Courses (22) Credit Hours**

Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
CS	111	Programming in a Selected Language	3	0	3	---
CS	111L	Programming in a Selected Language Lab	0	3	1	CS111
MATH	101	Calculus 1	3	0	3	---
CIS	101	Introduction to Information Systems	3	0	3	---
CIS	260	Database Systems	3	0	3	CS 210, CIS 101
STAT	111	Introduction to Probability (1)	3	0	3	---
BIT	221	Legal Issues in Information Technology	3	0	3	CYS 230
BIT	381	Web Application Development (1)	3	0	3	CIS 260

**Fourth: Department Compulsory Courses (70) Credit Hours**

Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	



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CS	130	Operating Systems Fundamentals	3	0	3	CS111
CS	142	Discrete Structures	3	0	3	MATH 101
CS	210	Object-Oriented Programming	3	0	3	CS111
CS	210L	Object-Oriented Programming (Lab)	0	3	1	CS210, CS111L
CS	220	Computer Logic Design	3	0	3	CS 142
CS	225	Computer Organization Lab	0	3	1	CS 220
CS	250	Data Structures	3	0	3	CS 210
CS	281	Multimedia Systems	3	0	3	CIS 101, CS 210
CS	310	Advanced Programming	3	0	3	CS 210
CS	332	Data Communications and Networks	3	0	3	CYS 230
CS	332L	Data Communications and Networks Lab	0	3	1	CS 332
CS	342	Theory of Computation	3	0	3	CS 142
CS	351	Analysis and Design of Algorithms	3	0	3	CS 250 , CS 142
CS	376	Artificial Intelligence	3	0	3	CS 351
CS	411	Smart Phones Apps Development	3	0	3	CS 130 ,CS 310
CS	432	Computer Architecture	3	0	3	CS 225
CS	499A	Graduation	0	0	0	Complete 90



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		Project A				credits
CS	499B	Graduation Project B	<b>3</b>	<b>0</b>	<b>3</b>	CS 499A
CIS	240	Introduction to Software Engineering	<b>3</b>	<b>0</b>	<b>3</b>	CIS 101 ,CS 210
CIS	214	Visual Programming	<b>3</b>	<b>0</b>	<b>3</b>	CIS 101 ,CS 210
CIS	342	Systems Analysis and Design	<b>3</b>	<b>0</b>	<b>3</b>	CIS 240 ,CIS 260
BIT	481	Web Applications Development (2)	<b>3</b>	<b>0</b>	<b>3</b>	BIT 381
MATH	102	Calculus 2	<b>3</b>	<b>0</b>	<b>3</b>	MATH 101
MATH	241	Linear Algebra (1)	<b>3</b>	<b>0</b>	<b>3</b>	MATH 101
CYS	230	Cyber Security Principles	<b>3</b>	<b>0</b>	<b>3</b>	CS 111
PHYS	101	General Physics-1	<b>3</b>	<b>0</b>	<b>3</b>	---
PHYS	105	General Physics-1 Lab	<b>0</b>	<b>3</b>	<b>1</b>	PHYS 101

**Fifth: Department Elective Courses (9) Credit Hours**

Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
CS	331	Operating Systems	3	0	3	CS 130
CS	360	Wireless Networks	3	0	3	CS 332
CS	380	Computer Graphics	3	0	3	CS250 MATH 241
CS	453	Problem Solving	3	0	3	CS 351
CS	470	Expert Systems	3	0	3	CS 376



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CS	480	Image Processing	3	0	3	CS 376
CS	492	Special Topics	3	0	3	Complete 90 Credits
CS	497	Certificate of training*	3	0	3	---
CS	498	Practical Training	3	0	3	Complete 90 Credits and Department approval

(\* ) Equivalent to an accredited international certificate in one of the fields of specialization approved by the department according to special foundations

**Sixth: Department Elective Courses (3) Credit Hours– Faculty of IT**

Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
BIT	222	Entrepreneurship in IT	3	0	3	CIS 101
CIS	467A	Data Mining	3	0	3	CIS 260
CIS	382	Cloud Computing	3	0	3	CS 332, CIS 260

**Seventh: Department Elective Courses (3) Credit Hours – Faculty of Science**

Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
STAT	101	Introduction to Statistics (1)	3	0	3	
STAT	211	Introduction to Probability (2)	3	0	3	STAT 111 and MATH 102
MATH	322	Numerical Analysis (1) (For IT Students)	3	0	3	CS 142





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Mapping of Program Learning Outcomes PLOs

No.	Course Code and number	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
1	CS 111	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	CS 111L	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	CS 130	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	CS 142	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	CS 210	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	CS 210L	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	CS 220	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	CS 225	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	CS 250	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	CS 281	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	CS 310	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12	CS 332	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13	CS 332 L	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	CS 342	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	CS 351	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16	CS 352	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17	CS 376	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
18	CS 411	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
19	CS 331	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
20	CS 360	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21	CS 380	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22	CS 452	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23	CS 470	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
24	CS 480	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
25	CS 492	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26	CS 498	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>