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

Document Approval Date	Study Plan	Document Code
		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
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.

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

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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.
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 computer science.
PLO6	Apply computer science theory and software development fundamentals to produce computing-based solutions.

Credit hours to obtain a degree in Information Technology and Computer Sciences in a specialization of Computer Science			
	Credit Hours		
	Compulsory	**Elective**	**Total**
University Requirements	12	15	**27**
Faculty Requirements	22	0	**22**
Department Requirements	67	18	**85**
Total	**101**	**33**	**134**

First: University Compulsory Courses (12) Credit Hours						
Course Code	**Course No.**	**Course Name**	**Number of Credit Hours**			**Pre-requisite**
			Theoretical	**Practical**	**Total**	
AL	101	Arabic Language 1	3	0	3	-
EL	101	English Language Skills	3	0	3	-
PS	102	National Education	3	0	3	-
MILT	100A	Military Sciences and Citizenship	3	0	3	-
EL	099	English Language Skills- 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 (15) 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 in Human Civilization	3	0	3	-
Hum	106	Introduction to Human Cultures Studies	3	0	3	-
Hum	107	Human Rights	3	0	3	-
Hum	108	Thinking Skills	3	0	3	-
Sci	101	The Environment & Public Health	3	0	3	-
Sci	103	Physical Education for All	3	0	3	-
Sci	105	Renewable Energy	3	0	3	-
Sci	106	Management and Society Development	3	0	3	-
Sci	107	Scientific Research	3	0	3	-

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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	CS 111
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 and CIS 101
STAT	111	Introduction to Probability (1)	3	0	3	-
BIT	106	Communication Skills for Information Technology	3	0	3	-
BIT	221	Legal Issues in Information Technology	3	0	3	BIT 106 and CIS 101
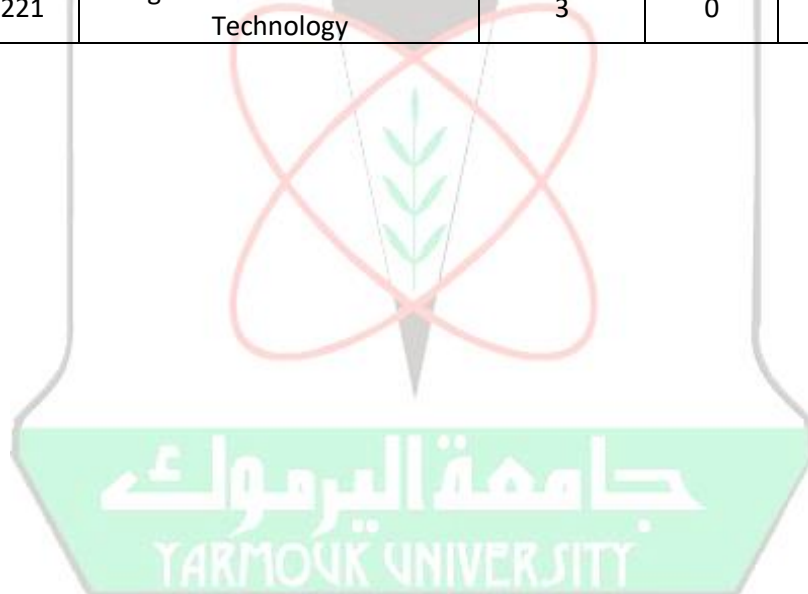
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Fourth: Department Compulsory Courses (67) Credit Hours

Course Code	Course No.	Course Name	Number of Credit Hours			Pre-requisite
			Theoretical	Practical	Total	
CS	130	Operating Systems Fundamentals	3	0	3	CS 111
CS	142	Discrete Structures	3	0	3	MATH 101
CS	210	Object-Oriented Programming	3	0	3	CS 111
CS	210L	Object-Oriented Programming Lab	0	3	1	CS 111L and CS 210
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 and 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 142 and CS 250
CS	352	Problem Solving (1)	0	3	1	CS 351
CS	376	Artificial Intelligence	3	0	3	CS 351
CS	411	Smart Phones Apps Development	3	0	3	CS 130 and CS 310
CS	432	Computer Architecture	3	0	3	CS 225
CS	499A	Graduation Project	0	0	0	Complete successfully 98
CS	499B	Graduation Project	3	0	3	CS 499A
CIS	240	Software Engineering	3	0	3	CIS 101 and CS 210
CIS	214	Visual Programming	3	0	3	CIS 101 and CS 210
CIS	342	System Analysis and Design	3	0	3	CIS240, CIS260
BIT	381	Web application Development (1)	3	0	3	CIS260, CS210

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MATH	102	Calculus (2)	3	0	3	MATH 101
MATH	241	Linear Algebra (1)	3	0	3	MATH 101
CYS	230	Cyber Security Principles	3	0	3	CIS101, BIT106

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	CS 250 and MATH 241
CS	452	Problem Solving (2)	3	0	3	CS 352
CS	470	Expert Systems	3	0	3	CS 376
CS	480	Image Processing	3	0	3	CS 376
CS	492	Special Topics	3		3	Complete successfully 90 Credit Hours
CS	498	Practical Training	3	0	3	Complete successfully 90 Credit Hours and Department Approval
PHYS	102	General Physics (2)	3	0	3	PHYS 101
BIO	101	General Biology (1)	3	0	3	-
BIO	102	General Biology (2)	3	0	3	BIO 101
CHEM	101	General Chemistry (1)	3	0	3	-
CHEM	102	General Chemistry (2)	3	0	3	CHEM 101
EES	101	General Geology	3	0	3	-
EES	102	Environmental Geology	3	0	3	EES 101

Sixth: Department Elective Courses (6) 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	BIT 106
BIT	481	Web application Development (2)	3	0	3	BIT 381
CIS	467A	Data Mining	3	0	3	CIS 260

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CIS	382	Cloud Computing	3	0	3	CS 332 and 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
PHYS	101	General Physics (1) (Mechanics)	3	0	3	-
MATH	322	Numerical Analysis (1) (For IT Students)	3	0	3	CS 142

Mapping Matrix between department mandatory courses and Student outcomes

Course No.	Course Name	SOs					
		1	2	3	4	5	6
CS 130	OPERATING SYSTEM		X		X		
CS 142	DISCRETE STRUCTURES	X					X
CS 210	OBJECT-ORIENTED PROGRAMMING	X	X				X
CS 210L	OBJECT-ORIENTED PROGRAMMING LAB	X	X			X	X
CS 220	COMPUTER LOGIC DESIGN						X
CS 225	COMPUTER ORGANIZATION LAB	X	X				
CS 250	DATA STRUCTURES	X	X				X
CS 281	MULTIMEDIA SYSTEMS		X				
CS 310	ADVANCED PROGRAMMING	X	X				X
CS 332	DATA COMUNICATIONS AND NETWORKS		X	X			

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		1	2	3	4	5	6
CS 332 L	DATA COMUNICATIONS AND NETWORKS LAB		X	X			
CS 342	THEORY OF COMPUTATION	X			X		X
CS 351	ANALYSIS AND DESIGN OF ALGORITHMS	X	X				X
CS 352	PROBLEM SOLVING (1)	X	X		X		X
CS 376	ARTIFICIAL INTELLIGENCE	X	X		X		
CS 411	SMART PHONES APPLICATIONS DEVELOPMENT	X	X				
CS 432	COMPUTER ARCHITECTURE	X	X				
CS 499A	GRADUATION PROJECT (1)			X		X	
CS 499B	GRADUATION PROJECT (2)			X		X	

Mapping Matrix between department-elective courses and learning outcomes							
Course No.	Course Name	1	2	3	4	5	6
CS 331	OPERATING SYSTEMS (2)		X		X		
CS 360	Wireless Networks		X				
CS 380	COMPUTER GRAPHICS	X	X				X
CS 452	PROBLEM SOLVING (2)	X	X		X		X
CS 470	EXPERT SYSTEMS	X	X		X		X
CS 480	IMAGE PROCESSING	X	X				
CS 492	SPECIAL TOPICS						
CS 498	PRACTICAL TRAINING			X	X	X	