جامعة الزيتونة الأردنية
Al-Zaytoonah University of Jordan

كلية العلوم وتكنولوجيا المعلومات
Faculty of Science &IT

"حيث تصبح الرؤية واقعاً"
"When Vision Becomes Reality"

"عراقة وجودة"
"Tradition and Quality"

Course Plan for Bachelor program - Course Plan Development and Updating Procedures/ Department of Computer Science – Computer Science	QF01/0407-3.0E

Course Plan for Computer Science / Computer Science (Bachelor's Program) No.: (2018/2019) Approved by Deans Council Decision Number (02/20/2018-2019) Dated (06/05/2019) (133) Credit Hours

No.	Goals and Learning Outcomes
Goal 1	Improving the student's ability to use the principles of computer science in the understanding, implantation and analysis of mathematical problems and finding their solutions.
Student should be able to:	
ILO 1.1	Analyze mathematical problems
ILO 1.2	Use mathematical concepts in algorithm analysis.
GOAL 2	Supply the student with the ability to analyze, design and implement efficient and reliable computer programs
Student should be able to:	
ILO 2.1	Know different programming methods and languages
ILO 2.2	Build computer programs and utilize them in developing various computer applications
ILO 2.3	Verify the correctness and reliability of software
GOAL 3	Provide knowledge of computer hardware and related software
Student should be able to:	
ILO 3.1	Know the internal computer organization and its main components
ILO 3.2	Develop systems software
ILO 3.3	Design various logic circuits
GOAL 4	Develop the student's ability to understand and design computer networks and related matters
Student should be able to:	
ILO 4.1	Know the stages of network construction and operation
ILO 4.2	Understand the basics of network security

Note: G= Goal, ILO= Intended Learning Outcome
        Assign 3-7 ILOs for each goal

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Student's information		Course number	Course title	Credit Hours	Theory Hours	Practical Hours	Prerequisite Co-requisite	Advisement Plan
Registered	passed							Semester/ year
First: University Requirements (27) Credit Hours								
a.	**Mandatory Requirement (15 credit hour)**							
☐	☐	0420101	Military Sciences	3	3	0		2/4
☐	☐	0420111	Arabic Language (1)	3	3	0	Remedial Arabic Language	1/2
☐	☐	0420121	English Language (1)	3	3	0	Remedial English Language	2/1
☐	☐	0420151	National Education	3	3	0		1/1
☐	☐	0420171	Life Skills	3	3	0		1/1
b.	**Electives (12 credit hours, minimum 3 credits from each field)**							
Field I. Humanities courses								
☐	☐	0420103	History of Jerusalem	3	3	0		1/3
☐	☐	0420112	Islamic Culture	3	3	0		1/2
☐	☐	0420131	Principles of Education	3	3	0		1/1
☐	☐	0420134	Sport and Health	3	2	2		2/3
☐	☐	0420142	Human Civilization	3	3	0		2/3
☐	☐	0420152	Introduction to Sociology	3	3			1/3
☐	☐	0520100	Innovation and Entrepreneurship in Business	3	3	0		2/2
☐	☐	0620102	Law in Our Life	3	3	0		2/1
Field II. Science courses								
☐	☐	0120111	Information Technology and Society	3	3	0	Remedial Computer Skills	2/1
☐	☐	0120153	Medicinal Plants	3	3	0		1/3
☐	☐	0320101	First Aid	3	3	0		2/1
☐	☐	0320102	Fundamental of Nutrition	3	3	0		2/2

Second: Faculty Requirements (21) Credit Hours								
Student's information		Course number	Course title	Credit Hours	Theory Hours	Practical Hours	Prerequisite Co-requisite	Advisement Plan
Regist-ered	passed							Semester /year
☐	☐	0113130	Introduction to Information Technology	3	3	0	*Remedial Computer Skills	1/1
☐	☐	0101110	Principles of Mathematics and Statistics	3	3	0		1/1
☐	☐	0112120	Principles of Programming	3	2	2	Introduction to Information Technology	2/1
☐	☐	0112130	Professional Skills for Scientific Faculties	3	3	0		2/1
☐	☐	0112110	Discrete Mathematics	3	3	0		1/1

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		0112220	Object Oriented Programming	3	2	2	Principles of Programming	1/2
☐	☐	0113220	Web Design	3	2	2	Principles of Programming	2/2
Third: Major Requirements (82) Credit Hours								
a.	**Mandatory Major Requirements (27) credit hours**							
☐	☐	0112131	Digital Logic Design	3	3	0	Discrete Mathematics	2/1
☐	☐	0112232	Computer Organization and Design	3	3	0	Digital Logic Design	1/2
☐	☐	0112212	Data Structures	3	3	0	Object Oriented Programming	2/2
☐	☐	0113241	Databases	3	2	2	Object Oriented Programming	2/2
☐	☐	0112222	Visual Programming	3	2	2	Object Oriented Programming	2/2
☐	☐	0112333	Operating Systems	3	3	0	Computer Organization and Design	1/3
☐	☐	0112313	Algorithms	3	3	0	Data Structures	1/3
☐	☐	0113324	Web Applications Programing	3	2	2	Web Design	1/3
☐	☐	0112434	Embedded Systems	3	3	0	Algorithms	1/4
b.	**Mandatory Minor Requirements (28) credit hours**							
☐	☐	0112241	Computation Theory	3	3	0	Discrete Mathematics	1/2
☐	☐	0112251	Operations Research	3	3	0	Linear Algebra 1	2/2
☐	☐	0112252	Data Communications and Security	3	3	0	Computer Networks	1/3
☐	☐	0112351	Database Systems Programming	3	2	2	Databases	1/3
☐	☐	0112341	Computer Architecture	3	3	0	Operating Systems	1/3
☐	☐	0112352	Mobile Device Programming	3	2	2	Visual Programming	2/3
☐	☐	0112342	Systems Analysis and Design	3	3	0	Algorithms	2/3
☐	☐	0112470	Preparing and Documenting Computer Projects	1	0	2	Department Approval	1/4
☐	☐	0112471	Practical Training	3	3	0	Completing 90 C.H.	2/4
☐	☐	0112472	Graduation Project	3	3	0	Department Approval	2/4
c.	**Minor Supporting Requirements (18) credit hours**							
☐	☐	0114151	Software Engineering Principles	3	3	0	Introduction to Information Technology	2/1
☐	☐	0122141	Computer Networks	3	3	0	Introduction to Information Technology	2/1
☐	☐	0142141	Artificial Intelligence Principles	3	3	0	Introduction to Information Technology	2/1
☐	☐	0113353	Information Security	3	3	0	Algorithms	2/3
☐	☐	0101221	Linear Algebra 1	3	3	0	Principles of Mathematics and Statistics	1/2
☐	☐	0101272	Numerical Analysis	3	3	0	Principles of Mathematics and Statistics	1/4
d.	**Minor Electives (9) credit hours**							
☐	☐	0112221	Software Packages	3	0	0	Object Oriented Programming	2/2
☐	☐	0112223	Computer Graphics	3	2	2	Object Oriented Programming	2/2

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		0112353	Distributed Systems	3	3	0	Data Communications and Security	2/3
☐	☐	0112353	Distributed Systems	3	3	0	Data Communications and Security	2/3
☐	☐	0112354	Advanced Databases	3	2	2	Databases	2/3
☐	☐	0112421	Special Programming Language	3	2	2	Mobile Device Programming	1/4
☐	☐	0112451	Image Processing	3	2	2	Visual Programming	1/4
☐	☐	0112481	Selected Topics in CS (1)	3	3	0	Department Approval	1/4
☐	☐	0112482	Internet of Things Programming	3	3	0	Data Communications and Security	2/4
☐	☐	0112483	Selected Topics in CS (2)	3	3	0	Department Approval	2/4

Fourth: Free Elective (3) Credit Hours

(Student may choose any course from any course plan at the university unless the student had passed it previously)

* Co-requisite

Courses Given to Other Majors

Course Number	Course title	Credit Hours	Type of Requirement (University Requirements, Faculty Requirements, Supporting Requirements)
0112110	Discrete Mathematics	3	Faculty Requirement
0112120	Principles of Programming	3	Faculty Requirement + Mathematics
0112130	Professional Skills for Scientific Faculties	3	Faculty Requirement + Mathematics
0112220	Object Oriented Programming	3	Faculty Requirement
0112222	Visual Programming	3	Major Requirement for the SWE, CS, and CIS Families
0112131	Digital Logic Design	3	Major Requirement for the SWE, CS, and CIS Families
0112212	Data Structures	3	Major Requirement for the SWE, CS, and CIS Families
0112313	Algorithms	3	Major Requirement for the SWE, CS, and CIS Families
0112333	Operating Systems	3	Major Requirement for the SWE and CS Families
0112232	Computer Organization and Design	3	Major Requirement for the CS Family
0112434	Embedded Systems	3	Major Requirement for the CS Family