

Course Plan for Bachelor program - Course Plan Development and Updating Procedures/ Computer Science Department	QF01/0407-3.0E
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**Course Plan for Computer Networking (Bachelor Program) No.: (Academic year)**  
**Approved by Deans Council by decision (07/72/2016-2017 ) dated (30/8/2017)**  
**(133) Credit Hours**

No.	Goals and learning outcomes
<b>GOAL 1</b>	Ability to use the principles of computer science in understanding, implantation and analysis of mathematical problems and finding their solutions.
ILO 1.1	Student should understand and analyze mathematical problems.
ILO 1.2	Student should be able to use mathematical concepts in algorithm analysis.
<b>GOAL 2</b>	Ability to analyze, design and implement efficient and reliable computer programs.
ILO 2.1	Student should know different programming methods.
ILO 2.2	Student should understand how to build and use computer programs.
ILO 2.3	Student should be able to use different programming languages.
<b>GOAL 3</b>	Knowledge on computer hardware and related software.
ILO 3.1	Student should know the internal computer organization and its components.
ILO 3.2	Student should be able to develop system software.
ILO 3.3	Student should be able to design logic circuits.
<b>GOAL 4</b>	Using practical, scientific and communication skills to enhance team spirit help the local community.
ILO 4.1	Student should maintain life skills and use it to help the community.
ILO 4.2	Student should have self development in continuous education.
ILO 4.3	Student should be able to produce and apply computer applications that comply with local market needs.
<b>GOALS5</b>	Understanding the technical, ethical, lawful and social responsibilities.
ILO 5.1	Student should be aware and their rights and duties toward society.
<b>GOAL6</b>	<b>Knowledge and understanding of wired and wireless computer networks and the network security.</b>
ILO 6.1	Describe and clarify the components of wired and wireless networks and how to keep them secure.
ILO 6.2	Categorization, clarification, and knowledge about the different types of computer networks, and their various protocols
ILO 6.3	Choose or select the suitable type of computer networks that fulfill the foundation needs and requirements.
<b>GOAL 7</b>	<b>The ability to analyze, build and evaluate the wired and wireless networks</b>
ILO 7.1	Create (analyzing, Designing, setting or configuring) wired and wireless local and wide area network (LAN & WAN)
ILO 7.2	Utilize the network's simulation programs for developing, designing, and configuring various network components.
ILO 7.3	Measure, evaluate, compare, and monitor the performance of a computer network.
<b>GOAL 8</b>	<b>The ability to apply and use various tools that are able to discover the various security holes as well as the tools that are able to protect data.</b>
ILO 8.1	Well knowledge about various types of attacks, and threats by which various computer networks are infected or attacked.
ILO 8.2	Analyze the security holes (the weakness points in the network) and utilizes the suitable programs that could be used to defense against them.
ILO 8.3	Use various encryption algorithms to protect the data privacy.

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	Advertisement Plan
Registered	passed							Semester/year
<b>First: University Requirements (27) Credit Hours</b>								
<b>A. Mandatory requirement (15 credit hour)</b>								
<input type="checkbox"/>	<input type="checkbox"/>	0420101	Military Sciences	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0420111	Arabic Language (1)	3	3	0	Remedial Arabic Language	1/1
<input type="checkbox"/>	<input type="checkbox"/>	0420121	English Language (1)	3	3	0	Remedial English Language	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0420151	National Education	3	3	0		1/1
<input type="checkbox"/>	<input type="checkbox"/>	0420171	Life Skills	3	3	0		1/1
<b>B. Electives (12 credit hours, minimum 3 credits from each field)</b>								
<b>Field I. Humanitarian courses</b>								
<input type="checkbox"/>	<input type="checkbox"/>	0420103	History of Jerusalem	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0420112	Islamic Culture	3	3	0		2/2
<input type="checkbox"/>	<input type="checkbox"/>	0420131	Principles of Education	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0420134	Sport and Health	3	2	2		2/2
<input type="checkbox"/>	<input type="checkbox"/>	0420142	Human Civilization	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0420152	Introduction to Sociology	3	3			2/2
<input type="checkbox"/>	<input type="checkbox"/>	0501100	Innovation and Entrepreneurship in Business	3	3	0		2/2
<input type="checkbox"/>	<input type="checkbox"/>	0601102	Law in Our Life	3	3	0		1/2
<b>Field II. Scientific course</b>								
<input type="checkbox"/>	<input type="checkbox"/>	0120111	Information Technology and Society	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0120153	Medicinal Plants	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0301101	First Aid	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0301102	Fundamental of Nutrition	3	3	0		2/2
<input type="checkbox"/>	<input type="checkbox"/>	0906100	Principles of Energy Science	3	3	0		2/2

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**Second: Faculty Requirements (21) credit hours**

Student's information		Course number	Course title	Credit Hours	Theory Hours	Practical Hours	Prerequisite Co-requisite	Advertisement Plan
Registered	passed							Semester/year
<input type="checkbox"/>	<input type="checkbox"/>	0120117	Introduction to Information Technology	3	3	0	*Remedial computer skills	1/1
<input type="checkbox"/>	<input type="checkbox"/>	0120126	Principles of Mathematics and Statistics	3	3	0		1/1
<input type="checkbox"/>	<input type="checkbox"/>	0120110	Principles of Programming	3	2	2	Introduction to Information Technology	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0120118	Professional Skills for Scientific Faculties	3	3	0		1/2
<input type="checkbox"/>	<input type="checkbox"/>	0120261	Web Design	3	2	2	Principles of Programming	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0120127	Linear Algebra 1	3	3	0	Principles of Calculus and Statistics	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0120128	Numerical Analysis 1	3	3	0	Principles of Calculus and Statistics	3/2

**Third: Major requirements (82) credit hours**

**A. Mandatory Major requirements (30) credit hours**

<input type="checkbox"/>	<input type="checkbox"/>	0112111	Discrete Mathematics	3	3	0	Introduction to Information Technology	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0112231	Digital Logic Design	3	3	0	Discrete Mathematics	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0112221	Object Oriented Programming	3	2	2	Principles of Programming	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0112212	Data Structure	3	3	0	Object Oriented Programming	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0112232	Computer Organization and Design	3	3	0	Digital Logic Design	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0112313	Algorithms	3	3	0	Data Structure	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0112322	Visual Programming	3	2	2	Database (1)	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0112323	Web Applications Programming	3	2	2	Web Design	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0112333	Operating Systems	3	3	0	Computer Organization and Design	3/2
<input type="checkbox"/>	<input type="checkbox"/>	0112434	Embedded Systems	3	3	0	Operating Systems	4/1

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B. Mandatory Minor Requirements (37) Credit Hours								
<input type="checkbox"/>	<input type="checkbox"/>	0122141	Computer Networks	3	3	0	Introduction to Information Technology	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0122181	Computer Networks Lab	1	0	0	0106241/Concurrent	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0122242	Networks Protocols	3	3	0	Computer Networks	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0122245	Wireless Computer Networks	3	2	2	Networks Protocols	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0122343	Networks Programming	3	2	2	Visual Programming	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0122381	Networks Design & Simulation 1	3	2	2	Wireless Computer Networks	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0122382	Analysis & Design Of Networks Systems	3	2	2	Wireless Computer Networks	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0122344	Networks Administration	3	2	2	Analysis & Design Of Networks Systems	3/2
<input type="checkbox"/>	<input type="checkbox"/>	0122345	Information Security	3	3	0	Wireless Computer Networks	3/2
<input type="checkbox"/>	<input type="checkbox"/>	0122447	Networks Security	3	2	2	Information Security	4/1
<input type="checkbox"/>	<input type="checkbox"/>	0122481	Networks Monitoring & Documenting	3	2	2	Networks Administration	4/1
<input type="checkbox"/>	<input type="checkbox"/>	0122482	IP Voice Communication	3	2	2	Networks Monitoring & Documenting	4/2
<input type="checkbox"/>	<input type="checkbox"/>	0122472	Graduation Project	3	3	0	Dep. App	4/2
C. Major supporting requirements (6) credit hours								
<input type="checkbox"/>	<input type="checkbox"/>	0113251	Management of Electronic Information Systems	3	3	0	Introduction to Information Technology	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0112251	Database (1)	3	2	2	Object Oriented Programming	2/2
D. Major electives (9) credit hours								
<input type="checkbox"/>	<input type="checkbox"/>	0122351	Mobile Applications Programming	3	2	2	Visual Programming	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0122383	Networks Design & Simulation 2	3	2	2	Networks Design & Simulation 1	3/2
<input type="checkbox"/>	<input type="checkbox"/>	0122352	Packages	3	3	0	Introduction	3/1

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							n to Information Technology	
<input type="checkbox"/>	<input type="checkbox"/>	0122483	E-Commerce & Its Security	3	3	0	Information Security	4/1
<input type="checkbox"/>	<input type="checkbox"/>	0122484	Selected Topics In Computer Networks	3	3	0	Dep. App	4/1
<input type="checkbox"/>	<input type="checkbox"/>	0122485	Cloud Computing	3	3	0	Networks Security	4/2

**Fourth: free electives (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)
0122141	3	Computer Networks	<b>Mandatory Supporting Requirements for Software Engineering/ Software Engineering and Computer Science/Computer Science</b>
0122343	3	Networks Programming	<b>Computer Science/Computer Science</b>