

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 Artificial Intelligence (Bachelor Program) No.: (Academic year)
Approved by Deans Council by decision () dated ()
(133) Credit Hours

No.	Goals and learning outcomes
Goal 1	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 be able to understand and analyze mathematical problems
ILO 1.2	Student should be able to use mathematical concepts in algorithm analysis.
GOAL 2	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 and employ it to build different computer applications
GOAL 3	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
GOAL 4	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.
GOALS5	Adopting the teaching plans in the field of artificial intelligence to meet the needs of the community within the criteria of accreditation and quality.
ILO 5.1	Ability to use, retrieve and manage information within a smart IT environment.
ILO 5.2	The ability to build smart computing applications and analyze their impact on individuals, institutions and society locally and globally.
ILO 5.3	Student should be able to analyze software requirements and extract main system components.
GOAL6	Support the students of artificial intelligence with the necessary scientific knowledge to qualify them to work in several fields.
ILO 6.1	Ability to work as an analyst, designer and developer of smart information systems of all kinds.
ILO 6.2	Ability to work in intelligent systems management, databases, data mining, information retrieval.
ILO 6.3	The ability to build machine learning and deep learning applications of smart systems.

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
First: University Requirements (27) Credit Hours								
A. Mandatory requirement (15 credit hour)								
<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. Electives (12 credit hours, minimum 3 credits from each field)								
Field I. Humanitarian courses								
<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
Field II. Scientific course								
<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		2/1

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

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<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	
<input type="checkbox"/>	<input type="checkbox"/>	0120127	Linear Algebra	3	3	0	Principles of Calculus and Statistics	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0120128	Numerical Analysis	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"/>	0112131	Digital Logic Design	3	3	0	Discrete Mathematics	1/2
<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"/>	0112212	Data Structure	3	3	0	Principles of Programming	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0113241	Database	3	2	2	Principles of Programming	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0112222	Visual Programming	3	2	2	Principles of Programming	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0112333	Operating Systems	3	3	0	Computer Organization and Design	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0112313	Algorithms	3	3	0	Data Structure	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0113324	Web Applications Programing	3	2	2	Web Design	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0112434	Embedded Systems	3	3	0	Algorithms	4/1

B. Mandatory Minor Requirements (34) Credit Hours

<input type="checkbox"/>	<input type="checkbox"/>	0142141	Principles of Artificial Intelligence	3	3	0	Introduction to Information Technology	1/2
<input type="checkbox"/>	<input type="checkbox"/>	0142223	AI Programming 1	3	2	2	Principles of Programming	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0142325	AI Programming 2	3	2	2	AI Programming 1	2/2
<input type="checkbox"/>	<input type="checkbox"/>	0142342	Principles of Machine Learning	3	3	0	AI Programming 2	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0142347	Cognitive Science and knowledge	3	3	0	Database	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0142344	Neural Networks	3	3	0	Principles of Machine Learning	3/2
<input type="checkbox"/>	<input type="checkbox"/>	0142345	Natural Language Processing	3	3	0	Principles of Machine Learning	3/2
<input type="checkbox"/>	<input type="checkbox"/>	0142346	Probability Theory for AI	3	3	0	Principles of Machine Learning	3/2
<input type="checkbox"/>	<input type="checkbox"/>	0142447	Machine Learning Applications	3	3	0	Natural Language Processing	4/1
<input type="checkbox"/>	<input type="checkbox"/>	0142470	Project building methodology	1	1	0	Department Approval	4/1
<input type="checkbox"/>	<input type="checkbox"/>	0142490	Field Training	3	3	0	Department Approval	4/2
<input type="checkbox"/>	<input type="checkbox"/>	0142472	Project	3	3	0	Department Approval	4/2

C. Major supporting requirements (12) credit hours

<input type="checkbox"/>	<input type="checkbox"/>	0113354	Data Mining	3	3	0	Database	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0113457	Information Retrieval	3	3	0	Data Mining	3/2

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<input type="checkbox"/>	<input type="checkbox"/>	0101221	Linear Algebra (1)	3	3	0	Principles of Mathematics and Statistics	2/1
<input type="checkbox"/>	<input type="checkbox"/>	0101272	Numerical Analysis (1)	3	3	0	Principles of Mathematics and Statistics	3/2
D. Major electives (9) credit hours								
<input type="checkbox"/>	<input type="checkbox"/>	0142351	Robotics	3	3	0	Cognitive Science and knowledge	3/2
<input type="checkbox"/>	<input type="checkbox"/>	0142452	Deep Learning	3	3	0	Neural Networks	4/1
<input type="checkbox"/>	<input type="checkbox"/>	0142253	Operation Research	3	3	0	Linear Algebra (1)	3/1
<input type="checkbox"/>	<input type="checkbox"/>	0142455	Internet of Things	3	3	0	Robotics	4/1
<input type="checkbox"/>	<input type="checkbox"/>	0142481	Special Topics in AI (1)	3	3	0	Department Approval	4/1
<input type="checkbox"/>	<input type="checkbox"/>	0142440	Advanced Artificial Intelligence	3	3	0	Robotics	4/2
<input type="checkbox"/>	<input type="checkbox"/>	0142458	Expert Systems	3	3	0	Advanced Artificial Intelligence	4/2
<input type="checkbox"/>	<input type="checkbox"/>	0142459	Big Data	3	3	0	Data Mining	4/2
<input type="checkbox"/>	<input type="checkbox"/>	0142482	Special Topics in AI (2)	3	3	0	Department Approval	3/2

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)
0142141	Principles of Artificial Intelligence	3	