" عراقة وجودة"
"Tradition and Quality"

Course Plan for Bachelor program - Course Plan Development and Updating Procedures/ Mathematics Department	QF01/0407-3.0E

Course Plan for Mathematics (Bachelor Program) No. 2018-2019
Approved by the Deans Council, Decision No. (02/20/2018-2019), dated (06/05/2019)
(133) Credit Hours

No.	Goals and learning outcomes
GOAL 1	Provide students with the basic concepts in mathematics.
ILO 1.1	Students will be able to Distinguish types of functions and to their operations.
ILO 1.2	Employ basic concepts in set theory and geometry effectively.
ILO 1.3	Identify basic concepts in statistics and probability
GOAL 2	Provide students with knowledge in the various mathematical fields.
ILO 2.1	Use theory of algebra and real and complex analysis proficiently.
ILO 2.2	Apply probability theory and mathematical statistics.
ILO 2.3	Recruit different fields of applied mathematics such as differential equations and mathematical modeling.
GOAL 3	Enable students to develop logical thinking and construct rigorous proofs.
ILO 3.1	Communicate mathematics by writing mathematical arguments.
ILO 3.2	Use different methods of proof.
GOAL 4	Provide students with sufficient proficiency in technology.
ILO 4.1	Write programs in at least one programming language.
ILO 4.2	Apply at least one of the mathematical software's packages in solving problems.

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	Practice Hours	Prerequisite Co-requisite	Advising Plan Semester/Year
Registered	Passed							

First: University Requirements (27) Credit Hours

A. Mandatory requirement 15 Credit Hours

		0420000	Community Service	3	3	0		1/2
☐	☐	0420101	Military Sciences	3	3	0		1/2
☐	☐	0420111	Arabic Language (1)	3	3	0	Remedial Arabic Language	1/1
☐	☐	0420121	English Language (1)	3	3	0	Remedial English Language	1/2
☐	☐	0420151	National Education	3	3	0		1/1
☐	☐	0420171	Life Skills	3	3	0		1/1

B. Electives 12 Credit Hours (Minimum of 3 Credit Hours from Each Field)

Field I. Humanitarian Courses

		0420103	History of Jerusalem	3	3	0		1/2
☐	☐	0420112	Islamic Culture	3	3	0		2/2
☐	☐	0420131	Principles of Education	3	3	0		1/2
☐	☐	0420134	Sport and Health	3	2	2		2/2
☐	☐	0420142	Human Civilization	3	3	0		1/2
☐	☐	0420152	Introduction to Sociology	3	3			2/2
☐	☐	0501100	Innovation and Entrepreneurship in Business	3	3	0		2/2
☐	☐	0601102	Law in Our Life	3	3	0		1/2

Field II. Scientific Courses

		0120111	Information Technology and Society	3	3	0		1/2
☐	☐	0120153	Medical Plants	3	3	0		1/2
☐	☐	0301101	First Aid	3	3	0		1/2
☐	☐	0301102	Fundamental of Nutrition	3	3	0		2/2

Second: Faculty Requirements (21) Credit Hours

		0113130	Introduction to Information Technology	3	3	0	*Remedial computer skills	1/1
☐	☐	0101101	Calculus (1)	3	3	0	………………	1/1
☐	☐	0120141	General chemistry	3	3	0	………………	1/2
☐	☐	0101140	Statistics and Probability	3	3	0	………………	2/1
☐	☐	0112130	Professional Skills for Scientific Faculties	3	3	0		1/2
☐	☐	0120131	General Physics (1)	3	3	0	………………	1/2
☐	☐	0112120	Principles of Programming	3	3	0	Introduction to Information Technology	2/2

Third: Major Requirements (82) Credit Hours

A. Mandatory Major Requirements 76 Credit Hours

		0101112	Foundations of Mathematics	3	3	0		1/2
☐	☐	0101102	Calculus (2)	3	3	0	Calculus (1)	2/1
☐	☐	0101201	Calculus (3)	3	3	0	Calculus (2)	1/2

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		0101221	Linear Algebra (1)	3	3	0	Calculus (1)	1/2
☐	☐	0101273	Ordinary Differential Equations (1)	3	3	0	Calculus (2)	1/2
☐	☐	0101231	Euclidean Geometry	3	3	0	………………	2/2
☐	☐	0101212	Number Theory	3	3	0	Set Theory	2/2
☐	☐	0101251	Real Analysis (1)	3	3	0	Calculus (2) \ Set Theory	2/2
☐	☐	0101272	Numerical Analysis (1)	3	3	0	Calculus (1)	1/2
☐	☐	0101377	Numerical Analysis (2)	3	3	0	Numerical Analysis (1)	1/3
☐	☐	0101323	Abstract Algebra (1)	3	3	0	Number Theory	1/3
☐	☐	0101341	Probability Theory	3	3	0	Statistics and Probability \Calculus (3)	1/3
☐	☐	0101352	Complex Analysis (1)	3	3	0	Real Analysis (1) \ Calculus (3)	1/3
☐	☐	0101372	Mathematical Modeling (1)	3	3	0	Principles of Programming	1/3
☐	☐	0101353	Real Analysis (2)	3	3	0	Real Analysis (1)	1/3
☐	☐	0101322	Linear Algebra (2)	3	3	0	Linear Algebra (1)	2/3
☐	☐	0101361	Methods of teaching mathematics	3	3	0	Dep. App.	2/3
☐	☐	0101374	Partial Differential Equations	3	3	0	Ordinary Differential Equations (1)	2/3
☐	☐	0101376	Linear Programming & Game Theory	3	3	0	Linear Algebra (1)	2/3
☐	☐	0101424	Abstract Algebra (2)	3	3	0	Abstract Algebra (1)	1/4
☐	☐	0101432	Topology	3	3	0	Real Analysis (1)	2/4
☐	☐	0101442	Mathematical Statistics	3	3	0	Probability Theory	1/4
☐	☐	0101462	Practical Education in Teaching Mathematics	3	3	0	Methods of teaching mathematics	2/4
☐	☐	0101443	Applied Statistics	3	3	0	Mathematical Statistics	2/4
☐	☐	0101475	Applied Mathematics	3	3	0	Partial Differential Equations	2/4
☐	☐	0101482	Research Seminar in Mathematics	1	1	0	Dep. App.	2/4
B.	**Major Electives 6 Credit Hours**							
☐	☐	0101370	Graph theory	3	3	0	Foundations of Mathematics	2/3
☐	☐	0101343	Applied Probability	3	3	0	Probability Theory	2/3
☐	☐	0101452	Functional Analysis	3	3	0	Real Analysis (2)	1/4
☐	☐	0101455	Special Functions	3	3	0	Ordinary Differential Equations (1)	1/4
☐	☐	0101471	Mathematical Modeling (2)	3	3	0	Mathematical Modeling (1)	1/4
☐	☐	0101477	Selected Topics in mathematics	3	3	0	Dep. App.	1/4
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

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Courses Given by the Department of Mathematics to Other Majors:

Course Number	Credit Hours	Course Title	Faculty-Department
0101104	3	Calculus (2) for Engineering Students	Faculty of Engineering & Technology - for the Departments: Mechanical Engineering, Computer & Communication Engineering and Civil & Infrastructure Engineering.
0101205	3	Calculus (3) for Engineering Students	Faculty of Engineering & Technology- for the Departments: Mechanical Engineering, Computer & Communication Engineering and Civil & Infrastructure Engineering.
0101273	3	Ordinary Differential Equations (1)	Faculty of Engineering & Technology- for the Departments: Mechanical engineering, Computer & Communication Engineering, Civil & infrastructure Engineering.
0101221	3	Linear Algebra (1)	Faculty of Science & Information Technology- for the IT Departments.
0101272	3	Numerical Analysis (1)	Faculty of Science & Information Technology- for the IT Departments.
0101140	3	Principles of Mathematics and Statistics	Faculty of Science & Information Technology- for the IT Departments.