

BSc in Mathematics and Applications – Curriculum Chart

Term 1

Courses	Credits	Prerequisites	Type
General Mathematics	۴		Basic
Fundamentals of Mathematical Sciences	۳		Core
Fundamentals of Physics	۳		Basic
Fundamentals of Computer and Programming	۳		Basic
General Persian	۳		General
Total Credits	17		

Term 2

Courses	Credits	Prerequisites	Type
General Mathematics (2)	۴	General Mathematics (1)	Basic
Fundamentals of Probability	۳	General Mathematics (1)	Core
Fundamentals of Matrices and Linear Algebra	۳	Fundamentals of Mathematical Sciences	Core
Advanced Software Development	۳	Fundamentals of Computer	Core/Elective
General English	۳		General
Islamic Thought (1)	۲		General
Total Credits	18		

Term 3

Courses	Credits	Prerequisites	Type
General Mathematics (3)	۴	General Mathematics (2)	Basic
Fundamentals of Mathematical Analysis	۳	General Mathematics (2)	Core
Fundamentals of Combinatorics	۳	Fundamentals of Mathematical Sciences	Required
Fundamentals of Numerical Analysis	۳	General Mathematics (2)	Core
Fundamentals of Algebra	۳	Fundamentals of Mathematics	Required
Islamic Thought (2)	۲	Islamic Thought (1)	General
Total Credits	18		

Term 4

Courses	Credits	Prerequisites	Type
Mathematical Analysis	۳	Fundamentals of Mathematical Analysis	Required
Algebra	۳	Fundamentals of Algebra	Required/ Elective
Numerical Linear Algebra	۳	Fundamentals of Matrices and Linear Algebra / Fundamentals of Numerical Analysis	Required
Differential Equations	۳	General Mathematics (1)	Basic
Probability (1)	۳	Fundamentals of Probability	Required
Islamic Ethics and Training	۲		General
Total Credits	17		

Term 5

Courses	Credits	Prerequisites	Type
Linear Optimization	۳	Fundamentals of Matrices and Linear Algebra	Required
[Fundamentals of Logic and Set Theory] OR [Fundamentals of Geometry]	۳	Fundamentals of Mathematical Sciences	Required
Mixed Functions	۳	Fundamentals of Mathematical Analysis and General Mathematics	Required/ Elective
Ordinary Differential Equations Theory	۳	Differential Equations	Required
Size Theory and Applications	۳	Fundamentals of Mathematical Analysis	Required/ Elective
Islamic Revolution	۲		General
Total Credits			

Term 6

Courses	Credits	Prerequisites	Type
[Fundamentals of Dynamic Systems] OR [Differential Equations with Partial Derivatives]	3	Differential Equations	Required
Introductory Number Theory	۳	Analysis	Required
History of Mathematics	۲	Fundamentals of Mathematical Sciences	Required/ Elective
General Topology	۲	-	Basic
A Course from the List of Minor Courses	۳	Fundamentals of Mathematical Sciences	Required
Analytical History of Early Islam	۲	Minor Courses	Elective
Total Credits	16		

Term 7

Courses	Credits	Prerequisites	Type
<i>Three of the Minor Courses</i>	9		Elective/Minor
Mathematical Software	3		Elective/Minor
English for Students of Mathematics	3		Elective/Minor
Physical Education (2)	1		General
Total Credits	16		

Term 8

Courses	Credits	Prerequisites	Type
Graph Theory and Applications	3		Elective/Minor
Three of the Minor Courses	9		Elective/Minor
Knowledge of Family and Population	2		General
Philosophy of Mathematics	2		Basic
Total Credits	16		

General Courses (A) : 20

Elective Courses (B) : 15

Basic Courses (C) : 24

Minor (D) : 30

Required-Shared (E) : 15

Required-Field (F) : 30