

## BSc in Computer Science – Curriculum Chart

### Term 1

Courses	Credits	Code	Prerequisites	Type
General Mathematics (1)	۴			C
Fundamentals of Physics	۳			C
Fundamentals of Mathematical Sciences	۳		General Mathematics	E
Fundamentals of Computer and Programming	۳			C
General English	۳			A
<b>Total Credits</b>	<b>16</b>			

### Term 2

Courses	Credits	Code	Prerequisites	Type
Advanced Software Development	۳		Fundamentals of Computer and Programming	F
Data Structure and Algorithm	۴		Fundamentals of Computer and Programming / Advanced Software Development	F
Fundamentals of Probability	۳		General Mathematics (1)	E
General Mathematics (2)	۴		General Mathematics (1)	C
General Persian	۳			A
<b>Total Credits</b>	<b>17</b>			

### Term 3

Courses	Credits	Code	Prerequisites	Type
Fundamentals of Matrices and Linear Algebra	۳		Fundamentals of Mathematical Sciences	E
Fundamentals of Computability Theory	۳		Fundamentals of Mathematical Sciences	F
Fundamentals of Combinatorics	۳		Fundamentals of Mathematical Sciences	F
Principles of Computer Systems	۴		Advanced Software Development	F
Differential Equations	۳		General Mathematics (1)	C
Physical Education (1)	۱			A
<b>Total Credits</b>	<b>17</b>			

### Term 4

Courses	Credits	Code	Prerequisites	Type
General Mathematics (3)	۴		General Mathematics (2)	C
Fundamentals of Algebra	۳			F
Fundamentals of Numerical Analysis	۳		General Mathematics (2)	E
Principles of Operating Systems	۴		Data Structure and Algorithm	F
Islamic Thought (1)	۲			A
Physical Education (2)	۱			A
<b>Total Credits</b>	<b>17</b>			

Term 5

Courses	Credits	Code	Prerequisites	Type
Coding	۳		Fundamentals of Algebra	D
Numerical Linear Algebra	۳		Fundamentals of Matrices and Linear Algebra / Fundamentals of Numerical Analysis	F
Numerical Analysis	۳		Fundamentals of Numerical Analysis	B
Design and Analysis of Algorithms  OR  Database	۳		Fundamentals of Computability Theory / Fundamentals of Combinatorics  Data Structure and Algorithm	B
Fundamentals of Logic and Theory of Sets	۳		Fundamentals of Mathematical Sciences	F
Islamic Ethics	۲			A
<b>Total Credits</b>	<b>17</b>			

Term 6

Courses	Credits	Code	Prerequisites	Type
English for Students of Computer Sciences	۳		General English	C
Linear Optimization	۳		Fundamentals of Matrices and Linear Algebra	B
Fundamentals of Mathematical Analysis	۳		General Mathematics 2	E
Dynamic Optimization	۳		Design and Analysis of Algorithms	D
Logic Circuit	۳		Fundamentals of Combinatorics	D
Thematic Commentary of the Quran	۲			A
<b>Total Credits</b>	<b>17</b>			

Term 7

Courses	Credits	Code	Prerequisites	Type
Nonlinear Optimization	۳		Fundamentals of Numerical Analysis / Linear Optimization	B
Analytical History of Early Islam	۲			A
Boolean Algebra and Computer Science	۳		Fundamentals of Mathematical Sciences	D
Combinatorics and Applications	۳		Fundamentals of Combinatorics	D
Combinatorial Optimization			Fundamentals of Combinatorics / Linear Optimization	
Graph Theory and its Applications	۳		Fundamentals of Combinatorics	D
Probability (1)	۳		General Mathematics (1) / Fundamentals of Probability	D
<b>Total Credits</b>	<b>17</b>			

Term 8

Courses	Credits	Code	Prerequisites	Type
Knowledge of Family and Population	۲			A
Islamic Thought (2)	۲		Islamic Thought (1)	A
Mathematical Software	۳		Fundamentals of Numerical Analysis	D
Artificial Intelligence	۳		Probability (1)	D
Computer Simulation			Probability (1)	
Issues in Computer Science	۳		<i>Permission from the Department</i>	B
Computer Graphics	۳		Data Structure and Algorithm	D
<b>Total Credits</b>	<b>16</b>			

General Courses (A) : 20

Elective Courses (B) : 15

Basic Courses (C) : 24

Minor (D) : 30

Required-Shared (E) : 15

Required-Field (F) : 30