BSc in Water Engineering – Curriculum Chart

Term 1

Courses	Credits	Code	Prerequisites / (Corequisite)	Type
General Mathematics 1	٣	٣٨١٣٠٠٣	-	B
General Chemistry	٢	٣٨١٧٠٧٢	(General Chemistry Lab)	B
General Chemistry 1 Lab	١	٣٨١٧٠٨٠	(General Chemistry)	B
Physics 1	٢	٣٨١٥٠١٠	(General Physics 1 Lab)	B
General Physics 1 Lab	١	٣٨١٥٠١١	(Physics 1)	B
English Language	٣	٢٨١٩٠٠٧	-	G
General Persian	٣	٣٨١٦٠٠٨	-	G
Islamic Thought 1	٢	٣٨١٨٠٠١	-	G
Students Life Skills	٢	٣٨٢٥٠٩٣	-	G
Total Credits	١٩			

Term 2

Courses	Credits	Code	Prerequisites / (Corequisites)	Type
General Mathematics 2	٣	٣٨١٣٠٠٤	General Mathematics 1	B
Engineering Statistics	٢	٣٨٢٠١٣٢	General Mathematics 1	B
Agricultural Climatology	٢	١٨١٦١٠٩	Physics 1 - (Agricultural Climatology Lab)	R
Agricultural Climatology Lab	١	١٨١٦١١٠	(Agricultural Climatology)	R
Foundations of Agriculture	٣	١٨٢٤١٤٥	-	R
General Soil Science	٢	١٨١٦٠٩٥	General Chemistry - (General Soil Science Lab)	R
General Soil Science Lab	١	١٨١٦٠٩٦	(General Soil Science)	R
Statics	٢	١٨٢٤١٤٣	General Mathematics 1 - Physics 1 - (Statics Practice)	R
Statics (Practice)	١	١٨٢٤١٤٤	(Statics)	R
Islamic Thought 2	٢	٣٨١٨٠٠٢	Islamic Thought 1	G
Total Credits	١٩			

Term 3

Courses	Credits	Code	Prerequisites / (Corequisites)	Type
Differential Equations	۳	۳۸۱۳۰۰۹	General Mathematics 1 - (Fluid Mechanics)	B
Geology	۱	۱۸۱۶۱۲۷	(Geology Lab)	B
Geology Lab	۱	۱۸۱۶۱۲۸	(Geology)	B
Irrigation Principles and Methods	۲	۱۸۱۶۰۹۹	Climatology - General Soil Science - (Irrigation Principles and Methods Practice)	R
Irrigation Principles and Methods (Practice)	۱	۱۸۱۶۱۰۰	(Irrigation Principles and Methods)	R
Strength of Materials	۳	۱۸۲۴۰۰۷	Statics	R
Fluid Mechanics	۳	۱۸۲۴۰۰۱	Statics - (Differential Equations)	R
Technical Drawing	۱	۱۸۲۴۱۰۰	(Technical Drawing Practice)	R
Technical Drawing (Practice)	۱	۱۸۲۴۱۰۱	(Technical Drawing)	R
Thematic Commentary of the Holy Quran	۲	۳۸۱۸۰۰۳	-	G
Physical Education 1	۱	۲۲۱۰۰۰۱	-	G
Total Credits	۱۹			

Term 4

Courses	Credits	Code	Prerequisites / (Corequisites)	Type
Computer Programming	۲	۱۸۱۶۱۳۳	(Computer Programming Practice)	B
Computer Programming (Practice)	۱	۱۸۱۶۱۳۴	(Computer Programming)	B
Hydraulics of Pipes and Closed Ducts	۲	۱۸۲۴۱۵۴	Fluid Mechanics	R
Surveying 1	۲	۱۸۲۴۱۴۶	General Mathematics 1 - (Surveying 1 Practice)	R
Surveying 1 (Practice)	۱	۱۸۲۴۱۴۷	(Surveying 1)	R
Surface Waters Hydrology	۲	۱۸۲۴۱۰۴	Engineering Statistics - Agricultural Climatology	R
Foundations of Drainage	۲	۱۸۲۴۱۵۳	Irrigation Principles and Methods - (Surveying 1)	R
Building Methods and Materials	۱	۱۸۲۴۱۵۷	Physics 1 - Strength of Materials - (Building Methods and Materials Practice)	R
Building Methods and Materials (Practice)	۱	۱۸۲۴۱۵۸	(Building Methods and Materials)	R
Analytical History of Early Islam	۲	۳۸۱۸۰۰۴	-	G
Internship 1	۳	۱۸۱۶۰۰۷	-	R
Total Credits	۱۹			

Term 5

Courses	Credits	Code	Prerequisites / (Corequisites)	Type
Numerical Analysis	۲	۳۸۱۳۰۱۳	Differential Equations - Computer Programming	B
Soil Mechanics	۲	۱۸۲۴۱۰۲	Strength of Materials - (Soil Mechanics Lab)	R
Soil Mechanics Lab	۱	۱۸۲۴۱۰۳	(Soil Mechanics)	R
Hydraulics of Open Ducts	۲	۱۸۲۴۱۵۵	Fluid Mechanics - (Hydraulics Lab of Open and Closed Ducts)	R
Hydraulics Lab (Open and Closed Ducts)	۱	۱۸۲۴۱۵۶	Hydraulics of Pipes and Closed Ducts - (Hydraulics of Open Ducts)	R
Foundations of Environment	۲	۱۸۲۴۱۵۰	-	R
Engineering Hydrology	۲	۱۸۲۴۱۱۶	Surface Waters Hydrology	R
Islamic Ethics	۲	۳۸۱۸۰۰۶	-	G
Physical Education 2	۱	۲۲۱۰۰۰۲	Physical Education 1	G
Total Credits	۱۵			

Term 6

Courses	Credits	Code	Prerequisites / (Corequisites)	Type
Water Structures Design 1	۲	۱۸۲۴۱۵۹	Hydraulics of Open Ducts - Soil Mechanics - (Water Structures Design 1 Practice)	R
Water Structures Design 1 (Practice)	۱	۱۸۲۴۱۶۰	(Water Structures Design 1)	R
Surveying 2	۲	۱۸۲۴۱۴۸	Surveying 1 - (Surveying 2 Practice)	R
Surveying 2 (Practice)	۱	۱۸۲۴۱۴۹	(Surveying 2)	R
Underground Water Resources	۲	۱۸۲۴۱۱۲	Geology - Fluid Mechanics - (Underground Water Resources Practice)	R
Underground Water Resources (Practice)	۱	۱۸۲۴۱۱۳	(Underground Water Resources)	R
Surface Irrigation Systems Design	۲	۱۸۲۴۱۶۴	Irrigation Principles and Methods - Hydraulics of Open and Closed Ducts - (Surface Irrigation Systems Design Practice)	R
Surface Irrigation Systems Design (Practice)	۱	۱۸۲۴۱۶۵	(Surface Irrigation Systems Design)	R
Pumps and Pumping Stations	۱	۱۸۲۴۱۶۳	Hydraulics of Pipes and Closed Ducts - (Pumps and Pumping Stations Lab)	R
Pumps and Pumping Stations Lab	۱	۱۸۲۴۱۱۵	(Pumps and Pumping Stations)	R
Islamic Revolution and its Roots	۲	۳۸۱۸۰۰۵	-	G
Internship 2	۳	۱۸۲۴۲۲۱	Internship 1	R
Total Credits				

Term 7

Courses	Credits	Code	Prerequisites / (Corequisites)	Type
Water Structures Design 2	٣	١٨٢٤٠٤٣	Water Structures Design 1	R
Pressurized Irrigation Systems Design	٢	١٨٢٤١٦٦	Irrigation Principles and Methods - Hydraulics of Pipes and Closed Ducts - (Pressurized Irrigation Systems Design Practice)	R
Pressurized Irrigation Systems Design (Practice)	١	١٨٢٤١٦٧	(Pressurized Irrigation Systmes Design)	R
Water Resources Engineering	١	١٨٢٤١٦١	Surface Waters Hydrology - Underground Water Resources - (Water Resources Engineering Practice)	R
Water Resources Engineering (Practice)	١	١٨٢٤١٦٢	(Water Resources Engineering)	R
Drainage Systems Design	٢	١٨٢٤١٦٨	Foundations of Drainage - Surface Waters Hydrology - Surveying 2 - (Drainage Systems Design Practice)	R
Drainage Systems Design (Practice)	١	١٨٢٤١٦٩	(Drainage Systems Design)	R
Water, Soil, and Plants Interaction	٢	١٨١٦٠٥٠	Irrigation Principles and Methods - General Soil Science - (Water, Soil, and Plants Interaction Lab)	R
Water, Soil, and Plants Interaction Lab	١	١٨١٦٠٥١	(Water, Soil, and Plants Interaction)	R
Water Supply Networks Design	٢	١٨٢٤١٨٧	Pumps and Pumping Stations	R
Knowledge of Family and Population	٢	٣٨١٨٠٠٧	-	G
Total Credits	١٨			

Term 8

Courses	Credits	Code	Prerequisites	Type
Introduction to Water Engineering Software Applications	۱	۱۸۲۴۱۷۲	Hydraulics of Open Ducts - Soil Mechanics - Hydraulics of Pipes and Closed Ducts - (Introduction to Water Engineering Software Applications Practice)	R
Introduction to Water Engineering Software Applications (Practice)	۱	۱۸۲۴۱۷۳	(Water Engineering Software Applications)	R
Engineering Economics	۲	۳۸۱۶۰۹۱	*Term 6 and above*	R
Systems Management	۲	۱۸۲۴۱۸۱	Water Resources Engineering - (Systems Management Practice)	R
Systems Management (Practice)	۱	۱۸۲۴۱۸۲	(Systems Management)	R
Water and Soil Conservation	۱	۱۸۲۴۱۲۰	Surveying 1 - Surface Waters Hydrology - (Water and Soil Conservation Lab)	R
Water and Soil Conservation Lab	۱	۱۸۲۴۱۲۱	(Water and Soil Conservation)	R
Quantity Surveying and Estimation of Water Projects	۱	۱۸۲۴۱۹۵	Surveying 2 - (Quantity Surveying and Estimation of Water Projects Practice)	R
Quantity Surveying and Estimation of Water Projects (Practice)	۱	۱۸۲۴۱۹۶	(Quantity Surveying and Estimation of Water Projects)	R
River Engineering	۲	۱۸۲۴۱۹۱	Surface Waters Hydrology / Hydraulics of Open Ducts	R
Project	۲	۱۸۱۶۰۶۷	*Term 6 and above*	R
Total Credits	۱۵			

Course Types: G=General   B=Basic   R=Required