

## **DEGREE REQUIREMENTS**

### **Major in Civil Engineering**

A minimum of 131 credit hours are required to complete the major in Civil Engineering, including the following:

- A minimum of 33 credit hours in core curriculum requirements.
- A minimum of 27 credit hours in college requirements.
- A minimum of 56 credit hours in major requirements
- A minimum of 12 credit hours in major technical electives.
- A minimum of 3 credit hours in additional science electives.

### **Core Curriculum Requirements (33 CH)**

#### **Identity & Communication Package (15 CH)**

- ARAB 100 Arabic Language I
- ENGL 202 English Language I Post Foundation
- ENGL 203 English Language II Post Foundation
- DAWA 111 Islamic Culture
- HIST 121 History of Qatar

#### **Social/Behavioral Sciences Package (3CH)**

Any course in the CCP defined social package.

#### **Natural Science/Mathematics Package (3 CH)**

- MATH 101 Calculus I

#### **Supplemental College / Program Core Requirements Package (12 CH)**

- PHYS 191 General Physics for Engineering I
- PHYS 192 Experimental General Physics for Engineering I
- PHYS 193 General Physics for Engineering II

- PHYS 194 Experimental General Physics for Engineering II
- CHEM 101 General Chemistry I
- CHEM 103 Experimental General Chemistry I

### **College Requirements (27 CH)**

- MATH 102 Calculus II
- MATH 211 Calculus III
- MATH 217 Mathematics for Engineers
- GENG 106 Computer Programming
- GENG 107 Engineering Skills and Ethics
- GENG 200 Probability and Statistics for Engineers
- GENG 300 Numerical Methods
- GENG 360 Engineering Economics
- GENG 111 Engineering Graphics

### **Major Requirements (56 CH)**

- CVEN 210 Properties and Testing of Materials
- CVEN 212 Fluid Mechanics
- CVEN 213 Statics
- CVEN 214 Strength of Materials
- CVEN 220 Analysis of Structures
- CVEN 230 Geotechnical Engineering
- CVEN 270 Surveying for Construction
- CVEN 320 Design of Reinforced Concrete Members
- CVEN321 Analysis of Indeterminate Structures
- CVEN 330 Foundation Engineering I
- CVEN 340 Analysis and Design of Hydraulic Systems
- CVEN 350 Environmental Engineering
- CVEN 360 Highway Engineering

- CVEN 380 Construction Engineering
- CVEN 381 Contracts, Specifications, and Local Regulations
- CVEN 399 Practical Training
- CVEN 401 Civil Engineering Design Project I
- CVEN 402 Civil Engineering Design Project II
- CVEN 420 Design of Steel Structures

### **Major Technical Electives (12 CH)**

Students must complete a minimum of 12 credit hours in elective courses selected from the following list:

- CVEN 422 Design of Reinforced Concrete Structures
- CVEN 423 Selected Topics in Structural Design
- CVEN 424 Structural Matrix Analysis
- CVEN 430 Foundation Engineering II
- CVEN 431 Selected Topics in Geotechnical Engineering
- CVEN 442 Selected Topics in Water Resources
- CVEN 453 Selected Topics in Environmental Engineering
- CVEN 460 Pavement Materials and Design
- CVEN 461 Traffic Engineering
- CVEN 462 Selected Topics in Transportation Engineering
- CVEN 463 Railway Track Engineering
- CVEN 481 Project Planning and Scheduling
- CVEN 482 Selected Topics in Construction Engineering and Management

### **Major Additional Science Electives (3 CH)**

Students must complete a minimum of 3 credit hours in courses selected from the following list:

- BIOL 101 Biology I
- GEOL 101 Principal of General Geology

## Study Plan

Bachelor of Science in Civil Engineering

<b>FIRST YEAR (32 Credit Hours)</b>			
Term	Course #	Course Title	Credit Hours
Fall	ENGL 202	English Language I Post Foundation	3
	GENG 106	Computer Programming	3
	MATH 101	Calculus I	3
	CHEM 101	General Chemistry I	3
	CHEM 103	Experimental General Chemistry I	1
	GENG 107	Engineering Skills and Ethics	3
<b>Total Credit Hours in Semester</b>			<b>16</b>
Spring	ENGL 203	English Language II Post Foundation	3
	MATH 102	Calculus II	3
	PHYS 191	General Physics for Engineering I	3
	PHYS 192	Experimental General Physics for Engineering	1
	DAWA111	Islamic Culture	3
	GENG 111	Engineering Graphics	3
<b>Total Credit Hours in Semester</b>			<b>16</b>

**SECOND YEAR (34 Credit Hours)**

Term	Course #	Course Title	Credit Hours
Fall	MATH 211	Calculus III	3
	PHYS 193	General Physics for Engineering II	3
	PHYS 194	Experimental General Physics for Engineering II	1
	GENG 200	Probability and Statistics for Engineers	3
	CVEN 210	Properties and Testing of Materials	3
	CVEN 213	Statics	3
<b>Total Credit Hours in Semester</b>			<b>16</b>
Spring	MATH 217	Mathematics for Engineers	3
	CVEN 214	Strength of Materials	3
	CVEN 230	Geotechnical Engineering	3
	CVEN 220	Analysis of Structures	3
	CVEN 212	Fluid Mechanics	3
		Major Additional-Science Elective	3
<b>Total Credit Hours in Semester</b>			<b>18</b>

**THIRD YEAR (39 credit hours)**

Term	Course #	Course Title	Credit Hours
Fall	CVEN 320	Design of Reinforced	3

**THIRD YEAR (39 credit hours)**

Term	Course #	Course Title	Credit Hours
		Concrete Members	
	GENG 300	Numerical Methods	3
	CVEN 321	Analysis of Indeterminate Structures	3
	CVEN 330	Foundation Engineering I	3
	CVEN 270	Surveying for Construction	3
	CVEN 340	Analysis and Design of Hydraulic Systems	3
<b>Total Credit Hours in Semester</b>			<b>18</b>
Spring	GENG 360	Engineering Economics	3
	CVEN 350	Environmental Engineering	3
	CVEN 360	Highway Engineering	3
	CVEN 380	Construction Engineering	3
		Major elective I	3
	HIST 121	History of Qatar	3
<b>Total Credit Hours in Semester</b>			<b>18</b>

**THIRD YEAR (39 credit hours)**

Term	Course #	Course Title	Credit Hours
Summer	CVEN 399	Practical Training	3
<b>Total Credit Hours in Semester</b>			<b>3</b>

**FOURTH YEAR (24 credit hours)**

Term	Course #	Course Title	Credit Hours
Fall	CVEN 420	Design of Steel Structures	3
	ARAB 100	Arabic Language I	3
	CVEN 401	Civil Engineering Design Project I	2
		Major Elective II	3
		Major Elective III	3
<b>Total Credit Hours in Semester</b>			<b>14</b>
Spring	CVEN 381	Contracts, Specifications, and Local Regulations	3
	CVEN 402	Civil Engineering Design Project II	3
		Major Elective IV	3
		Core Curriculum Elective*	3
<b>Total Credit Hours in Semester</b>			<b>12</b>

\*Student must complete a minimum of 3 credit hours from the Social/Behavioral Sciences Package.