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 59 credit hours in major requirements
- A minimum of 12 credit hours in major technical 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)
Courses taken to satisfy concentration or major elective requirements cannot be double-counted toward the requirements of any other package. The number of credit hours required for this package is 3 credit hours, including:

- EDUC 200 Education and Societal Problems
- EDUC 203 Family Relationships
- EPSY 201 Introduction to Psychology
- EPSY 205 Social Psychology
- HONS 102 Introduction to Honors
- INTA 101 Political and Social Thoughts
- INTA 103 Introduction to International Relations
- INTA 206 Globalization
- MCOM 103 Media and Society
- PSYC 201 Fundamentals of Psychology
- PSYC 206 Introduction to Social Psychology
- SOCI 120 Introduction to Sociology

• SOCI 121 Introduction to Anthropology

• SOWO 101 Introduction to Social Work and Welfare

• SOWO 361 Society and Human Rights

• UNIV 200 Innovation, Leadership and Civic Engagement

• UNIV 220 Community Service Learning

Natural Science/Mathematics Package (3 CH)
Courses taken to satisfy concentration or major elective requirements cannot be double-counted toward the requirements of any other package. The number of credit hours required for this package is 3 credit hours, including:

• MATH 101 Calculus I

Supplemental College / Program Core Requirements Package (12 CH)
The number of credit hours required for this package is 12 credit hours, the courses are:

• 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)
Students must complete a minimum of 27 credit hours in college requirements:

• 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 (59 CH)
Students must complete a minimum of 59 credit hours in major requirements courses:

- 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
- CVEN 422 Design of Reinforced Concrete Structures

Major Technical Electives (12 CH)

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

- 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 454 Environmental Sustainability
- CVEN 455 Environmental Noise and Vibration
- CVEN 456 Environmental Impact Assessment
- 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

Study Plan

Bachelor of Science in Civil Engineering

FIRST YEAR (32 Credit Hours)			
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
Total Credit Hours in Semester			**16**
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 I	1
	DAWA111	Islamic Culture	3
	GENG 111	Engineering Graphics	3
Total Credit Hours in Semester			**16**

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
Total Credit Hours in Semester			**16**
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
	GENG 300	Numerical Methods	3
Total Credit Hours in Semester			**18**

THIRD YEAR (39 credit hours)		
Term	**Course # Course Title**	**Credit Hours**
Fall	GENG 360 Engineering Economics	3
	CVEN 320 Design of Reinforced Concrete Members	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
Total Credit Hours in Semester		**18**
Spring	CVEN 350 Environmental Engineering	3
	CVEN 360 Highway Engineering	3
	CVEN 380 Construction Engineering	3
	CVEN 422 Design of Reinforced Concrete Structures	3
	Major elective I	3
	HIST 121 History of Qatar	3
Total Credit Hours in Semester		**18**

Term	**Course # Course Title**	**Credit Hours**
Summer	CVEN 399 Practical Training	3
Total Credit Hours in Semester		**3**

FOURTH YEAR (26 credit hours)			
Term	**Course #**	**Course Title**	**Credit Hours**
Fall	ARAB 100	Arabic Language I	3
	CVEN 420	Design of Steel Structures	3
	CVEN 401	Civil Engineering Design Project I	2
		Major Elective II	3
		Major Elective III	3
Total Credit Hours in Semester			**14**
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
Total Credit Hours in Semester			**12**

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