

# BS in Civil Engineering

## Program Codes:

20FQ0106BS

## Degree Requirements

To earn a Bachelor of Science in Civil Engineering degree from UIC, students need to complete university, college, and department degree requirements. The Department of Civil, Materials, and Environmental Engineering degree requirements are outlined below. Students should consult the *College of Engineering* section for additional degree requirements and college academic policies.

Code	Title	Hours
<b>Summary of Requirements</b>		
Nonengineering and General Education Requirements		55
Required in the College of Engineering		64
Technical Electives		9
<b>Total Hours</b>		<b>128</b>

## Nonengineering and General Education Requirements

Code	Title	Hours
<b>Required Courses</b>		
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
ENGL 161	Academic Writing II: Writing for Inquiry and Research	3
Exploring World Cultures course <sup>a</sup>		3
Understanding the Creative Arts course <sup>a</sup>		3
Understanding the Past course <sup>a</sup>		3
Understanding the Individual and Society course <sup>a</sup>		3
Understanding U.S. Society course <sup>a</sup>		3
MATH 180	Calculus I <sup>b</sup>	4
MATH 181	Calculus II <sup>b</sup>	4
MATH 210	Calculus III <sup>b</sup>	3
MATH 220	Introduction to Differential Equations	3
MATH 310	Applied Linear Algebra	3
or STAT 381	Applied Statistical Methods I	
PHYS 141	General Physics I (Mechanics) <sup>b</sup>	4
PHYS 142	General Physics II (Electricity and Magnetism) <sup>b</sup>	4
CHEM 122	Matter and Energy <sup>b,c</sup>	3
CHEM 123	Foundations of Chemical Inquiry I <sup>b,c</sup>	2
Select one of the following:		4
EAES 101	Global Environmental Change <sup>b</sup>	
EAES 111	Earth, Energy, and the Environment <sup>b</sup>	
<b>Total Hours</b>		<b>55</b>

<sup>a</sup> Students should consult the [General Education](#) section of the catalog for a list of approved courses in this category.

<sup>b</sup> This course is approved for the Analyzing the Natural World General Education category.

<sup>c</sup> General Education credit is given for successful completion of both CHEM 122 and CHEM 123.

## Required in the College of Engineering

Code	Title	Hours
<b>Required Courses</b>		
ENGR 100	Engineering Orientation <sup>a</sup>	1
CS 109	Programming for Engineers with MatLab	3
CME 197	Introduction to Civil and Environmental Engineering	0
CME 201	Statics	3
CME 203	Strength of Materials	3
CME 205	Structural Analysis I	3
CME 211	Fluid Mechanics and Hydraulics	3
CME 260	Properties of Materials	3
CME 300	Composition and Properties of Concrete	2
CME 301	Behavior and Design of Metal Structures	3
CME 302	Transportation Engineering	3
CME 310	Design of Reinforced Concrete Structures	3
CME 311	Water Resources Engineering	3
CME 315	Soil Mechanics and Laboratory	4
CME 322	Environmental Engineering	3
CME 396	Civil Engineering Systems Design	2
CME 402	Geometric Design of Highway Facilities	3
CME 405	Foundation Analysis and Design	3
CME 434	Finite Element Analysis I	3
CME 497	Capstone Design	2
IE 201	Financial Engineering	3
ME 210	Engineering Dynamics	3
ME 250	Introduction to Engineering Design and Graphics	3
or CME 297	Civil and Environmental Engineering Drawing and Design	
ECE 210	Electrical Circuit Analysis	3
or ME 205	Introduction to Thermodynamics	
<b>Total Hours</b>		<b>64</b>

<sup>a</sup> ENGR 100 is a one-semester-hour course, but the hour does not count toward the total hours required for graduation.

## Technical Electives

Code	Title	Hours
<b>Courses</b>		
Select any three Technical Elective courses (total of 9 hours) of the offered 400-level CME Technical Electives (with the approval of their faculty advisors).		9
Taking CME 493, CME 496, or CME 494, in lieu of technical elective courses, must be separately petitioned for by the student (and the faculty advisors) and also be approved by the director of undergraduate studies or by the department head prior to the students' enrollment in those courses (as a replacement for a technical elective course).		
<b>Total Hours</b>		<b>9</b>

**Note:** Students who are interested in taking the Illinois Structural Engineering Licensure Examination must take two courses in the structural design area. This statement is not a degree requirement and the availability of the structural design courses varies from time to time.

## Sample Course Schedule

Course	Title	Hours
<b>Freshman Year</b>		
<b>First Semester</b>		
MATH 180	Calculus I	4
CHEM 122	Matter and Energy	3
CHEM 123	Foundations of Chemical Inquiry I	2
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
General Education Core course		3
ENGR 100	Engineering Orientation <sup>a</sup>	1
<b>Hours</b>		<b>15</b>
<b>Second Semester</b>		
CME 197	Introduction to Civil and Environmental Engineering	0
MATH 181	Calculus II	4
PHYS 141	General Physics I (Mechanics)	4
ENGL 161	Academic Writing II: Writing for Inquiry and Research	3
ME 250 or CME 297	Introduction to Engineering Design and Graphics or Civil and Environmental Engineering Drawing and Design	3
General Education Core course		3
<b>Hours</b>		<b>17</b>
<b>Sophomore Year</b>		
<b>First Semester</b>		
MATH 210	Calculus III	3
PHYS 142	General Physics II (Electricity and Magnetism)	4
CS 109	Programming for Engineers with MatLab	3
CME 201	Statics	3
IE 201	Financial Engineering	3
<b>Hours</b>		<b>16</b>
<b>Second Semester</b>		
MATH 220	Introduction to Differential Equations	3
MATH 310 or STAT 381	Applied Linear Algebra or Applied Statistical Methods I	3
CME 203	Strength of Materials	3
ME 210	Engineering Dynamics	3
CME 211	Fluid Mechanics and Hydraulics	3
General Education Core course		3
<b>Hours</b>		<b>18</b>
<b>Junior Year</b>		
<b>First Semester</b>		
CME 205	Structural Analysis I	3
CME 302	Transportation Engineering	3

CME 315	Soil Mechanics and Laboratory	4
CME 322	Environmental Engineering	3
EAES 101 or EAES 111	Global Environmental Change or Earth, Energy, and the Environment	4
<b>Hours</b>		<b>17</b>
<b>Second Semester</b>		
CME 310	Design of Reinforced Concrete Structures	3
CME 311	Water Resources Engineering	3
ME 205 or ECE 210	Introduction to Thermodynamics or Electrical Circuit Analysis	3
CME 260	Properties of Materials	3
CME 300	Composition and Properties of Concrete	2
General Education Core course		3
<b>Hours</b>		<b>17</b>
<b>Senior Year</b>		
<b>First Semester</b>		
CME 301	Behavior and Design of Metal Structures	3
CME 396	Civil Engineering Systems Design	2
CME 434	Finite Element Analysis I	3
CME Technical Elective I		3
CME Technical Elective II		3
<b>Hours</b>		<b>14</b>
<b>Second Semester</b>		
CME 402	Geometric Design of Highway Facilities	3
CME 405	Foundation Analysis and Design	3
CME 497	Capstone Design	2
CME Technical Elective III		3
General Education Core course		3
<b>Hours</b>		<b>14</b>
<b>Total Hours</b>		<b>128</b>

<sup>a</sup> ENGR 100 is a one-semester-hour course, but the hour does not count toward the total hours required for graduation.