Civil Engineering B.S. Program Requirements:
Required credits to graduate: 131-132  Required credits within this major: 122-123  No minor is required with this major.

Admission Requirements:
Freshman, sophomores, and transfer students may declare a CE major and be admitted to lower division status. Admission to the upper division B.S.C.E. program is competitive and based on performance in lower division courses and space availability. To be considered, students must complete the CE Application to upper division. The following requirements must be met:
1. Completion of the following 11 classes with a C- or better in each class (total 36 cr).
2. A cumulative GPA of 2.5 or better in the 11 required classes

Chemistry
CHEM 1153 - General Chemistry I (4.0 cr)
CHEM 1154 - General Chemistry Lab I (1.0 cr)
or CHEM 1161 - Honors: General Chemistry I (5.0 cr)

Civil Engineering
CE 1025 - Introduction to Civil Engineering (1.0 cr)
CE 2017 - Engineering Mechanics and Statics of Materials (5.0 cr)

Computer Science
CS 1121 - Introduction to Programming: Visual BASIC.NET (3.0 cr)
or CS 1411 - Introduction to Programming: Matlab (4.0 cr)

Writing
WRIT 1120 - College Writing (3.0 cr)

Program Requirements: C- or better is required in all Civil Engineering courses.

B.S.C.E. Major Requirements (41 cr)
CE 2425 - Geologic Principles for Civil Engineers (4.0 cr)
CE 3015 - CAD & Engineering Drawing (3.0 cr)
CE 3016 - Surveying (2.0 cr)
CE 3025 - Environmental Engineering (3.0 cr)
CE 3026 - Project Management (3.0 cr)
CE 3027 - Infrastructure Materials (4.0 cr)
CE 3115 - Structural Analysis (3.0 cr)
CE 3221 - Fluid Mechanics (3.0 cr)
CE 3225 - Hydraulics and Hydrology (4.0 cr)
CE 3316 - Transportation Engineering (4.0 cr)
CE 3426 - Soil Mechanics (4.0 cr)
CE 4255 - Senior Design (4.0 cr)

Additional B.S.C.E. Requirements (24 cr)
COMM 1112 - Public Speaking (3.0 cr)
MATH 3298 - Calculus III (4.0 cr)
STAT 3411 - Engineering Statistics (3.0 cr)
SW 1210 - Global Issues (3.0 cr)
PHYS 2015 - General Physics II (4.0 cr)
PHYS 2016 - General Physics Lab II (1.0 cr)
WRIT 31xx - Adv Writ (3 cr)
ECON 1022 - Principles of Economics: Macro (3.0 cr)
or ECON 1023 - Principles of Economics: Micro (3.0 cr)

General Technical Elective (6 cr)
Catalog lists as “General Civil Engineering Electives”
An additional 6 credits of general technical electives must be taken and can be chosen from any course in the Swenson College of Science and Engineering at 2xxx or above (including CE courses not already counted toward the degree). CHEM 1152 or CHEM 1155, as well as GIS 3563, can also be used to fulfill a portion of the general technical elective requirement.

Civil Engineering Elective (15 cr)
Catalog lists as “Civil Engineering Technical and Additional Electives”
At least two courses (6 credits) must be taken from the same area. Faculty advisors will help with course selection.

Structures  Environmental and Water Resources  Transportation Engineering  Geotechnical Engineering
Civil Engineering Sample Plan

The sample plan below shows you one of several possible ways to complete this degree. Your academic plan may look different if you have already fulfilled some requirements, if you have multiple course options to choose from in your major, or if courses do not fit your schedule in a given term. Work with your academic adviser to ensure that you are on track to graduate on time.

Complete Program requirement information can be found within the UMD Catalog: [http://www.d.umn.edu/catalogs/current/](http://www.d.umn.edu/catalogs/current/)

### Year 1 Fall Semester: 14 cr
- **CE 1025** - Introduction to Civil Engineering 1.0 cr
- **MATH 1296** - Calculus I 5.0 cr: LOGIC & QR
- **CHEM 1153** - General Chemistry I 4.0 cr: NAT SCI
- **CHEM 1154** - General Chemistry Lab I 1.0 cr: NAT SCI
- Liberal Education Course 3.0 cr

### Year 1 Spring Semester: 16 cr
- **WRIT 1120** - College Writing 3.0 cr: WRITING & INFO LITERACY
- **COMM 1112** - Public Speaking 3.0 cr: COMM & LAN
- **MATH 1297** - Calculus II 5.0 cr: LOGIC & QR
- **PHYS 2013** - General Physics I 4.0 cr: NAT SCI
- **PHYS 2014** - General Physics Lab I 1.0 cr: NAT SCI

### Year 2 Fall Semester: 16 cr
- **CE 2017** - Engineering Mechanics (Statics and Strength) 5.0 cr
- **MATH 3280** - Differential Equations w/Linear Algebra 4.0 cr
- **STAT 3411** - Engineering Statistics 3.0 cr
- **CS 1411** – Intro to Programming in Matlab 4.0 cr

### Year 2 Spring Semester: 16 cr
- **MATH 3298** - Calculus III 4.0 cr
- **PHYS 2015** - General Physics II 4.0 cr
- **PHYS 2016** - General Physics Lab II 1.0 cr
- **CE 2425** - Geologic Principles, Civil Engineers 4.0 cr: SUSTAIN
- **CE 3221** - Fluid Mechanics 3.0 cr

### Year 3 Fall Semester: 17 cr
- **CE 3015** - CAD & Engineering Drawing 3.0 cr
- **CE 3027** - Infrastructure Materials 4.0 cr
- **CE 3115** - Structural Analysis 3.0 cr
- **CE 3316** - Transportation Engineering 4.0 cr
- **ECON 1022 or 1023** – Macro or Micro Econ 3.0 cr: SOC SCI
- **ECE 1022 or 1023** – Macro or Micro Econ 3.0 cr: SOC SCI

### Year 3 Summer Semester: 5.0 cr
- **CE 3016** - Surveying 2.0 cr
- **WRIT 31xx** - Advanced Writing 3.0 cr

### Year 3 Spring Semester: 17 cr
- **CE 3025** - Environmental Engineering 3.0 cr
- **CE 3026** - Project Management 3.0 cr
- **CE 3225** - Hydraulics and Hydrology 4.0 cr
- **CE 3426** - Soil Mechanics 4.0 cr
- **SW 1210** - Global Issues 3.0 cr: SOC SCI, GLOBAL PER

### Year 4 Fall Semester: 15 cr
- **Civil Engineering Elective** 3.0 cr
- **Civil Engineering Elective** 3.0 cr
- **Civil Engineering Elective** 3.0 cr
- **General Technical Elective** 3.0 cr
- Liberal Education Course 3.0 cr

### Year 4 Spring Semester: 16 cr
- **CE 4255** - Senior Design 4.0 cr
- **Civil Engineering Elective** 3.0 cr
- **Civil Engineering Elective** 3.0 cr
- **General Technical Elective** 3.0 cr
- Liberal Education Course 3.0 cr

* Catalog refers to these courses as “Civil Engineering Technical and Additional Electives”
** Catalog refers to these courses as “General Civil Engineering Electives”

Information current as of Fall 2015