

# Civil Engineering, B.S.

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## About

- Bachelor of Science in Civil Engineering
- Bachelor of Science in Civil Engineering, Honors

Civil engineers are involved in the planning, design, construction, and operation of facilities essential to modern life such as dams, bridges, highways, buildings, airports, harbors, river and shore protection, drinking water supplies, wastewater treatment, solid and hazardous waste management and disposal, offshore structures, and space platforms. Because these projects are often of a magnitude that affects large segments of the population, the responsibility of the civil engineer extends beyond mere physical facilities into the social, political, and economic welfare of those they serve.

## Mission Statement

Villanova University's Department of Civil and Environmental Engineering provides our students with a high quality, contemporary, broad-based, personalized civil engineering education within the Augustinian, humanistic context. We prepare our students for professional practice, graduate study, and life-long learning.

## Program Educational Objectives

Three to five years after graduation, we expect our graduates to be able to:

- Use their broad-based civil engineering backgrounds to perform as engineers in construction, environmental, geotechnical, structural, transportation, water resources, or general civil engineering.
- Succeed in graduate school in the disciplines listed above or closely related disciplines, as well as other areas such as business and law.
- Continue the process of life-long learning as required for long-term personal and professional growth.
- Serve society by being ethical members of their professional community.
- Use technical and interpersonal skills to help themselves and their employers succeed.
- Relate their personal and professional lives to the Augustinian, humanistic tradition.
- The broad-based curriculum provides flexibility and meets student needs through a selection of electives.

**Program:** [Engineering](#)

**Type:** Bachelor of Science

# Freshman Year

## First Semester

<b>Course</b>	<b>Title</b>	<b>Credits</b>
ACS 1000	Ancients	3
THL 1000	Faith, Reason, and Culture	3
MAT 1500	Calculus I	4
CHM 1151	General Chemistry I	4
CHM 1103	General Chemistry Lab I	1
EGR 1200	Engineering Design Cornerstone	3
EGR 1001	Career Compass IA	0.5

## Second Semester

<b>Course</b>	<b>Title</b>	<b>Credits</b>
ACS 1001	Moderns	3
CEE 1601	Civil Engineering Fundamentals	4
CHM 1152	General Chemistry II	4
MAT 1505	Calculus II	4
PHY 2400	Physics I Mechanics	3
EGR 1002	Career Compass IB	0.5

# Sophomore Year

## First Semester

<b>Course</b>	<b>Title</b>	<b>Credits</b>
CEE 2105	Mechanics I:Fund. Behavior	4
CEE 2211	Transportation Engineering	3
CEE 2701	CE Project Development	3
MAT 2500	Calculus III	4
	Elective	3
EGR 2003	Career Compass IIA	0.5

## Second Semester

<b>Course</b>	<b>Title</b>	<b>Credits</b>
CEE 2103	Mechanics of Solids	3
CEE 2301	Environmental Eng. Science	4
CEE 2805	Geology for Engineers	3
MAT 2705	Diff Equation with Linear Alg	4
	Elective	3
EGR 2004	Career Compass IIB	0.5

## Junior Year

### First Semester

Course	Title	Credits
CEE 3107	Mechanics III: Fluid Behavior	4
CEE 3301	Unit Operations/Pro in Env Eng	4
CEE 3802	Soil Mechanics	4
	Elective	3
	Elective	3
EGR 3005	Career Compass IIIA	0.5

### Second Semester

Course	Title	Credits
CEE 3401	Structural Analysis	3
CEE 3507	Hydraulic Egr & Hydrology	4
CEE 3903	CE Materials	3
	Elective	3
	Elective	3
EGR 3006	Career Compass IIIB	0.5

## Senior Year

### First Semester

Course	Title	Credits
CEE 4601	CEE Capstone Design 1	3
	Elective	3
	Elective	3
	Elective	3
	Elective	3

### Second Semester

Course	Title	Credits
CEE 4606	CEE Capstone Design 2	3
	Elective	3
	Elective	3
	Elective	3
	Elective	3

## Category Descriptions

### Elective

Credits: 3

[Electives for CE Majors](#)