

## PROGRAM OVERVIEW

Earning a bachelor of science in civil engineering is the start of a long and successful career. Given the increase in population, the continuing development of second- and third-world countries and the eventual degradation of city infrastructure, civil engineers will always be in demand. A degree in civil engineering opens the door to many areas of study including transportation and highways, hydrology and wastewater systems, structures and bridges, environmental and sustainability issues, and geotechnical and earth design.

## ACADEMIC ADVISING

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## GRADUATION REQUIREMENTS & POLICIES

All CU Denver Engineering students are required to complete the following minimum general graduation requirements:

1. Complete a minimum of 130 semester hours.
2. Achieve a minimum 2.0 CU cumulative grade point average (GPA).
3. Complete all college and major requirements.
4. Residency: complete a minimum of 30 CU Denver hours in good standing at CU Denver.
5. Terminal Residency: complete at least the final two semesters as an enrolled CEAS student

## PROGRAM REQUIREMENTS & POLICIES

**Students are responsible for meeting with the faculty advisor in their department to confirm major requirements.** Students completing the Civil Engineering B.S. Degree are required to complete the following minimum program requirements based on ABET accreditation guidelines:

1. Complete 24 semester hours of **CU Denver Core Curriculum coursework**.
2. Complete 32-33 semester hours of Math, Chemistry, and Physics.
3. Complete 64 semester hours of engineering coursework, including 18 credits of design courses
4. Take the Fundamentals of Engineering exam prior to graduation.
5. Achieve a minimum 2.0 CU cumulative grade point average (GPA) in all CVEN courses.

Courses	Credits	Notes
<b>* Course prerequisites change regularly. Students are responsible for consulting advisors and the class schedule in the student portal for prerequisite information. *</b>		
<b>Required CU Denver Core Curriculum Coursework</b>	<b>24</b>	
Intellectual Competencies: ENGL 1020+ENGL 2030	6	
Humanities and the Arts	6	
Behavioral Sciences	3	
Social Sciences	3	
Cultural Diversity	3	
International Perspectives	3	
<b>Required Math, Chemistry, and Physics Coursework</b>	<b>32-33</b>	
MATH 1401 Calculus I	4	
MATH 2411 Calculus II	4	
MATH 2421 Calculus III	4	
MATH 3195 Linear Algebra and Differential Equations	4	or MATH 3191 and MATH 3200
CVEN 3611 Statistics for Engineers	3	or MATH 3800
ENGR 1130 Engineering Chemistry	4-5	or CHEM 2031 and CHEM 2038 (may need 1 more credit to achieve the 130 minimum required for degree)
PHYS 2311 Calculus-based Physics I	4	
PHYS 2321 Calculus-based Physics I Lab	1	
PHYS 2331 Calculus-based Physics II	4	
<b>Required Engineering Coursework</b>	<b>46</b>	
ENGR 1100 Computational Foundations of Innovation	3	
CVEN 1025 Civil Engineering Graphics	3	
CVEN 1067 Intro to Civil Engineering	1	
CEMT 2100 Construction Management Fundamentals	3	
CVEN 2121 Analytical Mechanics I	3	
CVEN 2214 Surveying for Engineers	1	or CVEN 2212
CVEN 3200 Computational Methods for Civil Engineers	3	
CVEN 3111 Analytical Mechanics II	3	

CVEN 3121 Mechanics of Materials	3	
CVEN 3141 Intro to Structural Materials	2	
CVEN 3313 Fluid Mechanics	3	
CVEN 3323 Hydrosystems	3	
CVEN 3401 Intro to Environmental Engineering	3	
CVEN 3505 Structural Analysis	3	
CVEN 3602 Transportation Engineering	3	
CVEN 3718 Geotechnical Engineering	3	
CVEN 4000 Senior Seminar	0	
CVEN 4077 Engineering Economy or CVEN 4025 Autocad Civil 3d or CVEN 4087 Engineering Contracts	3	
<b>Design Courses</b>	<b>18</b>	
ENGR 1200 Engineering Design	3	May substitute a CVEN 4000-5000 level design course
CVEN 4067 Senior Design	3	
Level 4000-5000 level CVEN design courses	12	CVEN 4426, CVEN 4427, CVEN 4565, CVEN 4575, CVEN 4585, CVEN 4602, CVEN 4738, CVEN 4591, CVEN 5575, CVEN 5585, CVEN 4650, CVEN 4590, CVEN 5550, CVEN 5540, CVEN 5682
<b>Technical Electives</b>	<b>9</b>	
Any level technical elective	3	No more than 1 course at level 1000-2000 level may be used in this category.
Upper division technical electives	6	Any 4000-level or higher CVEN or CEMT courses. See catalog or advisor for additional options.

### SAMPLE ACADEMIC PLAN OF STUDY

The following academic plan is a *sample* pathway to completing degree requirements for this major. Students should tailor this plan based on previously completed college coursework (e.g., AP, IB, CLEP, dual/concurrent enrollment, and transfer credit), course availability, and individual preferences related to course load, schedules, or add-on programs such as minors or double-majors. **Students deviating from this plan must fulfill course prerequisites and must meet with an advisor in their department to confirm degree requirements.**

Year One	<b>Semester 1</b>	CRS	!	<b>Semester 2 !</b>	CRS
	CVEN 1067 Intro to Civil Engineering	1		CVEN 1025 Civil Engineering Graphics	3
	ENGL 1020 Core Composition I	3		ENGR 1130 Engineering Chemistry	5
	ENGR 1200 Engineering Design	3		MATH 2411 Calculus II	4
	MATH 1401 Calculus I	4		PHYS 2311 Calculus-based Physics I	4
	ENGR 1100 Computational Foundations of Innovation	3		PHYS 2321 Calculus-based Physics I Lab	1
	CU Denver Core Curriculum	3			
Year Two	<b>Semester 3</b>	CRS	!	<b>Semester 4 !</b>	CRS
	CEMT 2100 Construction Management Fundamentals	3		CVEN 2214 Surveying for Engineers	1
	CVEN 2121 Analytical Mechanics I	3		CVEN 3121 Mechanics of Materials	3
	ENGL 2030 Core Composition II	3		CVEN 3141 Intro to Structural Materials	2
	MATH 2421 Calculus III	4		PHYS 2331 Calculus-based Physics II	4
CU Denver Core Curriculum	3	2 CU Denver Core Curriculum	6		
Year Three	<b>Semester 5</b>	CRS	!	<b>Semester 6 !</b>	CRS
	CVEN 3313 Fluid Mechanics	3		CVEN 3111 Analytical Mechanics II	3
	CVEN 3401 Intro to Environmental Engineering	3		CVEN 3200 Computational Methods for Civil Engineers	3
	CVEN 3505 Structural Analysis	3		CVEN 3323 Hydrosystems	3
	CVEN 3602 Transportation Engineering	3		CVEN 3718 Geotechnical Engineering	3
CVEN 3611 Statistics for Engineers	3	MATH 3195 Linear Algebra and Differential Equations	4		
Year Four !	<b>Semester 7</b>	CRS	!	<b>Semester 8 !</b>	CRS
	2 Design electives	6		CVEN 4067 Senior Design	3
	2 Technical electives	6		CVEN 4077 Eng Economy	3
	2 CU Denver Core Curriculum	6		CVEN 4000 Senior Seminar	0
				2 Design electives	6
		Technical Elective	3		