

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 CEDC 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
* Course prerequisites change regularly. Students are responsible for consulting advisors and the class schedule in the student portal for prerequisite information. *		
Required CU Denver Core Curriculum Coursework	24	
Intellectual Competencies: ENGL 1020+ENGL 2030	6	
Humanities and the Arts	6	
Behavioral Sciences	3	
Social Sciences	3	
Cultural Diversity	3	
International Perspectives	3	
Required Math, Chemistry, and Physics Coursework	32-33	
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	
Required Engineering Coursework	46	
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	
Design Courses	18	
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	See catalog for complete list of design course options
Technical Electives	9	
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	Semester 1		CRS
	CVEN 1067 Intro to Civil Engineering		1
	ENGL 1020 Core Composition I		3
	ENGR 1200 Engineering Design		3
	MATH 1401 Calculus I		4
	ENGR 1100 Computational Foundations of Innovation		3
	CU Denver Core Curriculum		3

Semester 2		CRS
CVEN 1025 Civil Engineering Graphics		3
ENGR 1130 Engineering Chemistry		5
MATH 2411 Calculus II		4
PHYS 2311 Calculus-based Physics I		4
PHYS 2321 Calculus-based Physics I Lab		1

Year Two	Semester 3		CRS
	CEMT 2100 Construction Management Fundamentals		3
	CVEN 2121 Analytical Mechanics I		3
	ENGL 2030 Core Composition II		3
	MATH 2421 Calculus III		4
	CU Denver Core Curriculum		3

Semester 4		CRS
CVEN 2214 Surveying for Engineers		1
CVEN 3121 Mechanics of Materials		3
CVEN 3141 Intro to Structural Materials		2
PHYS 2331 Calculus-based Physics II		4
2 CU Denver Core Curriculum		6

Year Three	Semester 5		CRS
	CVEN 3313 Fluid Mechanics		3
	CVEN 3401 Intro to Environmental Engineering		3
	CVEN 3505 Structural Analysis		3
	CVEN 3602 Transportation Engineering		3
	CVEN 3611 Statistics for Engineers		3

Semester 6		CRS
CVEN 3111 Analytical Mechanics II		3
CVEN 3200 Computational Methods for Civil Engineers		3
CVEN 3323 Hydrosystems		3
CVEN 3718 Geotechnical Engineering		3
MATH 3195 Linear Algebra and Differential Equations		4

Year Four	Semester 7		CRS
	2 Design electives		6
	2 Technical electives		6
	2 CU Denver Core Curriculum		6

Semester 8		CRS
CVEN 4067 Senior Design		3
CVEN 4077 Eng Economy		3
CVEN 4000 Senior Seminar		0
2 Design electives		6
Technical Elective		3