

University of Colorado **Denver**

Front Range Community College (FRCC) to CU-Denver Transfer Advising Guide for Civil Engineering (B.S.)

College of Engineering, Design and Computing

[Civil Engineering Department Website](#)

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.

Admission Requirements:

[Please see this website for more information regarding CU Engineering admission criteria.](#)

FRCC Course Options: (the following courses will apply directly to the degree)

* **BOLD denotes admission requirement courses**

<u>Core Curriculum:</u> (Please consult CU Denver Core Curriculum and Transferology)		<u>FRCC Credits</u>
ENG 121	English Composition 1	(3 credits)
ENG 122	English Composition 2	(3 credits)
Arts & Humanities	Two Courses (GT-AH1, AH2, AH3, or AH4)	(6 credits)
Social & Behavior Science	Two courses (GT-SS1, GT-SS2, or GT-SS3)	(6 credits)
History	GT-HI1	(3 credits)
 <u>Mathematics:</u>		
MAT 201*	Calculus 1	(4 credits)
MAT 202*	Calculus 2	(4 credits)
MAT 204 OR 203	Calculus 3 with Eng Applications OR Calculus 3	(4 or 5 credits)
MAT 266 OR 265/255	Differential Equations with Linear Algebra OR Differential Equations/Linear Algebra	(4 or 3 credits)
 <u>Science:</u>		
PHY 211*	Calc-based Physics I	(5 credits)
PHY 212	Calc-based Physics II	(5 credits)
CHE 111	General Chemistry I	(5 credits)
BIO 111 or CHE 112 or GEY 111	General Biology or Chemistry 2 or Physical Geology	(4-5 credits)
 <u>Engineering/Computer Science:</u>		
CSC 119 or CSC 160 or EGG 145	Intro to Programming/Computing	(3-4 credits)
CAD 101+102	Computer Aided Drafting	(6 credits total)
EGG 211	Statics	(3 credits)
EGG 212	Dynamics	(3 credits)

Suggested Five-Year Course Plan for Civil Engineering

This is a suggested guide of coursework only and is subject to change. Students should consult with a CU Denver academic advisor as soon as possible prior to transferring. CU Denver courses may be reverse transferred to count toward a community college associate degree. Course credits shown below reflect those awarded by the institution offering the course.

* denotes courses that do not apply to the B.S. degree

Front Range Community College (FRCC) first two years

Fall Semester 1

Course	Course Title	Credits
MAT 121	College Algebra*	4
ENG 121	English Composition 1	3
CHE 111	College Chemistry 1 (with lab)	5
EGG 100	Intro to Engineering*	1
	Art/Hum/SS/BS/Hi	3
	Total Credits	16

Spring Semester 1

Course	Course Title	Credits
MAT 166 or 122	Pre-Calculus or Trigonometry *	3/5
ENG 122	English Composition 2	3
CSC 119	Intro to Programming	3
	Art/Hum/SS/BS/Hi	3
	Total Credits	12-14

Fall Semester 2

Course	Course Title	Credits
MAT 201	Calculus 1	5
GEY 111	Physical Geology	4
	Art/Hum/SS/BS/Hi	3
	Art/Hum/SS/BS/Hi	3
	Total Credits	15

Spring Semester 2

Course	Course Title	Credits
MAT 202	Calculus 2	5
PHY 211	Physics 1	5
	Art/Hum/SS/BS/Hi	3
	Total Credits	13

CU-Denver (last three years)

Fall Semester 3

Course	Course Title	Credits
CVEN 1025	Graphics and CAD	3
CVEN 1067	Intro to Civil Engineering	1
CVEN 2121	Analytical Mechanics I	3
CVEN 2212	Engineering Surveying	2
CVEN 3602	Transportation Engineering	3
	Total Credits	12

CU-Denver (last three years)...continued

Spring Semester 3

Course	Course Title	Credits
CVEN 3121	Mechanics of Materials	3
CVEN 3141	Intro to Structural Materials	2
CVEN 3401	Intro to Environmental Engineering	3
MATH 2421	Calculus III	4
	Cultural Diversity Core	3
	Total Credits	15

Fall Semester 4

Course	Course Title	Credits
CVEN 3111	Analytical Mechanics II	3
CVEN 3313	Fluid Mechanics	3
CVEN 3505	Structural Analysis	3
CVEN 3718	Geotechnical Engineering I	3
PHYS 2321	Calculus-based Physics II	4
	Total Credits	16

Spring Semester 4

Course	Course Title	Credits
CVEN 3323	Hydrosystems	3
CVEN 3414	Water Supply & Distribution	3
CVEN 4728	Geotechnical Engineering II	2
MATH 3195	Linear Algebra & Differential Equations	4
	Design Elective	3
	Total Credits	15

Fall Semester 5

Course	Course Title	Credits
CVEN 4025, CVEN 4077, OR CVEN 4087	AutoCAD Civil 3D, OR Engineering Economy, OR Contracts	3
	Design Elective	3
	Technical Elective	3
CVEN 3611	Engineering Statistics	3
CVEN 4230	Construction Engineering	3
	Total Credits	15

Spring Semester 5

Course	Course Title	Credits
CVEN 4000	Senior Seminar	0
CVEN 4067	Senior Design	3
	Design Electives x2	6
	Technical Elective	3
	Total Credits	12