



RRCC to CU-Boulder Transfer Advising Guide for Architectural Engineering (B.S.)

College of Engineering and Applied Science
[Architectural Engineering Department Website](#)

Program Overview:

Architectural engineers focus on the engineering aspects of buildings; they design the structural systems, the mechanical systems, and the lighting and electrical systems of buildings, while tackling the challenges related to managing the construction process. While architectural engineers work with architects, they are engineers and not architects. CU graduates in architectural engineering are working at such companies as Accenture, Whiting-Turner Contracting, Elkhorn Construction, Hathaway Dinwiddie Construction, LiteControl, and MCLA, to name only a few.

Admission Requirements:

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

RRCC Course Summary: (the following courses will apply directly to the degree)

***BOLD** denotes admission requirement *courses (only ONE science course needed for admission)*

Mathematics:

MAT 201*	Calculus 1	(5 credits)
MAT 202*	Calculus 2	(5 credits)
MAT 204	Calculus 3 with Engineering Applications	(5 credits)
MAT 261	Differential Equations	(4 credits)
MAT 255	Linear Algebra	(3 credits)

Science:

PHY 211*	Calc-based Physics 1	(5 credits)
CHE 111	General Chemistry 1	(5 credits)
PHY 212	Calc-based Physics 2	(5 credits)

[^]CHE 111 will also count for admission requirement in place of PHY 211

Engineering/Computer Science:

CSC 160	Computer Science 1	(4 credits)
CAD 101+102 (OR 227)	Computer Aided Drafting	(6 credits total)
CAD 227 (OR 101+202)	Advanced Revit Architecture	(3 credits)
EGT 140	IDEA (engineering projects)	(3 credits)
EKG 211	Statics (<i>prerequisite of PHY 211</i>)	(3 credits)

Humanities and Social Sciences (H/SS):

- Up to nine (9) credit hours at the lower division (100-200) level
 - Six (6) credit hours at the upper-division level – *typically taken at CU Boulder*
- Please consult our [CCCS humanities and social science list](#) when selecting these classes

Suggested Five-Year Course Plan for Architectural Engineering

This is a suggested guide of coursework only and is subject to change. Always consult with your academic advisor for graduation planning purposes.

*denotes courses that do not apply directly to degree, other than as free electives

Red Rocks Community College (first two years)

Fall Semester 1

Course	Course Title	Credits
MAT 121	College Algebra*	4
CHE 101	Intro to Chemistry (with Lab)*	5
ENG 121	English Composition*	3
	Total Credits	12

Spring Semester 1

Course	Course Title	Credits
MAT 122	Trigonometry*	3
CHE 111	College Chemistry (with lab)	5
ENG 122	English Composition 2 (H/SS)	3
	Humanities/Social Science	3
	Total Credits	14

Fall Semester 2

Course	Course Title	Credits
MAT 201	Calculus 1	5
CAD 101+102 OR CAD 227	Computer Aided Drafting Advanced Revit Architecture	6 3
CSC 160	Computer Science 1	4
	Total Credits	12-15

Spring Semester 2

Course	Course Title	Credits
MAT 202	Calculus 2	5
PHY 211	Physics 1	5
	Humanities/Social Science	3
EGT 140	IDEA (engineering projects)	3
	Total Credits	13

CU-Boulder (last three years)

Fall Semester 3

Course	Course Title	Credits
APPM 2350	Calculus 3	4
CVEN 2012	Geomatics	3
CVEN 2121	Analytical Mechanics 1	3
AREN 2050	Engr. Systems for Buildings	3
AREN 2110	Thermodynamics	3
	Total Credits	16

Spring Semester 3

Course	Course Title	Credits
APPM 2360	Differential Eq./Lin. Algebra	4
CVEN 3161	Mechanics of Materials	3
AREN 2120	Fluids and Heat Transfer	3
CVEN 3246	Intro to Construction	3
PHYS 1120	Physics 2	4
	Total Credits	17

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

Fall Semester 4

Course	Course Title	Credits
AREN 3540	Illumination 1	3
AREN 3010	Mechanical Sys. for Bldgs.	3
CVEN 3525	Structural Analysis	3
ECEN 3030	Electrical Circuits	3
	Total Credits	12

Spring Semester 4

Course	Course Title	Credits
	AREN/CVEN Proficiency 1	3
	AREN/CVEN Proficiency 2	3
	AREN/CVEN Concentration 1	3
	Technical Elective	3
	Engineering Writing Course	3
	Total Credits	15

Fall Semester 5

Course	Course Title	Credits
ENVD 3114	Hist. & Theories of Arch. 1	3
ARCH 4010	Arch. Appreciation & Design	5
	AREN/CVEN Concentration 2	3
	Technical Elective	3
	Total Credits	17

Spring Semester 5

Course	Course Title	Credits
ENVD 3134	Hist. & Theory of Arch. 2	3
AREN 4317	Architectural Engr. Design	5
	Technical Elective	3
	Technical Elective	3
	Total Credits	14