



## FRCC (all campuses) to CU-Boulder

### Transfer Advising Guide for Architectural Engineering (B.S.)

[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](#)

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

**\*BOLD denotes admission requirement courses**

*NOTE: Some courses may only be taught at the Boulder County campus. Please check with FRCC advisors.*

#### Mathematics:

<b>MAT 201*</b>	<b>Calculus 1</b>	<b>(5 credits)</b>
<b>MAT 202*</b>	<b>Calculus 2</b>	<b>(5 credits)</b>
MAT 204	Calculus 3 with Engineering Applications	(5 credits)
MAT 266	Differential Equations/Linear Algebra	(4 credits)

#### Science:

<b>PHY 211*</b>	<b>Calc-based Physics 1</b>	<b>(5 credits)</b>
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:

EGG 100	Introduction to Engineering	(1 credit – free elective)
EGG 145 ( <b>preferred</b> )	Introduction to Engineering Computing	(4 credits)
OR CSC 160	Computer Science 1	(4 credits)
CAD 227 (or 101+102)	Computer Aided Drafting	(3-6 credits)
EGG 140	Engineering Projects	(3 credits)
EGG 211	Statics	(3 credits)
EGG 212	Dynamics	(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 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

## Front Range Community College (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
EGG 100	Intro to Engineering*	1
	<b>Total Credits</b>	<b>13</b>

### Spring Semester 1

Course	Course Title	Credits
MAT 166	Pre-Calculus*	5
CHE 111	College Chemistry (with lab)	5
ENG 122	English Composition 2 (H/SS)	3
	<a href="#">Humanities/Social Science</a>	3
	<b>Total Credits</b>	<b>16</b>

### Fall Semester 2

Course	Course Title	Credits
MAT 201	Calculus 1	5
CAD 227 OR CAD 101+102	Advanced Revit Architecture Computer Aided Drafting	3 6
EGG 145	Engineering Computing	4
	<b>Total Credits</b>	<b>12-15</b>

### Spring Semester 2

Course	Course Title	Credits
MAT 202	Calculus 2	5
PHY 211	Physics 1	5
	<a href="#">Humanities/Social Science</a>	3
EGG140	Engineering Projects	3
	<b>Total Credits</b>	<b>16</b>

## CU-Boulder (last three years)

### Fall Semester 3

Course	Course Title	Credits
APPM 2350	Calculus 3	4
PHYS 1120	Physics 2	4
CVEN 2121	Analytical Mechanics 1	3
AREN 2050	Building Materials and Syst.	3
AREN 2110	Thermodynamics	3
	<b>Total Credits</b>	<b>17</b>

### 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
	<b>Total Credits</b>	<b>13</b>

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

### Fall Semester 4

Course	Course Title	Credits
AREN 3540	Illumination 1	3
CVEN 2012	Geomatics	3
AREN 3010	Mechanical Sys. for Bldgs.	3
CVEN 3525	Structural Analysis	3
ECEN 3030	Electrical Circuits	3
	<b>Total Credits</b>	<b>15</b>

### 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
	<b>Total Credits</b>	<b>15</b>

### 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
	<b>Total Credits</b>	<b>14</b>

### 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
	<b>Total Credits</b>	<b>14</b>

## Suggested Four-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

### Front Range CC (first 1.5 years)

#### Fall Semester 1

Course	Course Title	Credits
MAT 201	Calculus 1	5
CHE 111	College Chemistry (with lab)	5
CAD 227	Advanced Revit Architecture	3
OR 101+102	Computer Aided Drafting	6
EGG 100	Intro to Engineering*	1
	<b>Total Credits</b>	<b>13-16</b>

#### Spring Semester 1

Course	Course Title	Credits
MAT 202	Calculus 2	5
EGG 145	Engineering Computing	4
PHY 211	Physics 1	5
EGG 140	Engineering Projects	3
	<b>Total Credits</b>	<b>17</b>

#### Fall Semester 2

Course	Course Title	Credits
MAT 204	Calculus 3	5
EGG 211	Statics	3
PHY 212	Physics 2	5
	<a href="#">Humanities/Social Science</a>	3
	<b>Total Credits</b>	<b>16</b>

\*Transfer to CU Boulder for Spring Sem.

### CU-Boulder (last 2.5 years)

#### Spring Semester 2

Course	Course Title	Credits
APPM 2360	Diff.Eq/Linear Algebra	4
AREN 2110	Thermodynamics	3
CVEN 3161	Mechanics of Materials	3
CVEN 3246	Intro to Construction	3
	<a href="#">Humanities/Social Science</a>	3
	<a href="#">Humanities/Social Science</a>	3
	<b>Total Credits</b>	<b>16</b>

#### Fall Semester 3

Course	Course Title	Credits
CVEN 2012	Geomatics #	3
AREN 3540	Illumination 1 #	3
AREN 2050	Building Materials and Syst. #	3
ECEN 3030	Electrical Circuits #	3
	Engineering Writing Course	3
	<b>Total Credits</b>	<b>15</b>

### CU-Boulder (last 2.5 years)...continued

#### Spring Semester 3

Course	Course Title	Credits
AREN 2120	Fluids and Heat Transfer #	3
CVEN 3525	Structural Analysis	3
	Technical Elective	3
	AREN/CVEN Concentration 1	3
	AREN/CVEN Concentration 2	3
	<b>Total Credits</b>	<b>15</b>

#### Fall Semester 4

Course	Course Title	Credits
AREN 3010	Mechanical Sys. for Bldgs. #	3
	AREN/CVEN Proficiency 1	3
	AREN/CVEN Proficiency 2	3
ENVD 3114	Hist. & Theories of Arch. 1 #	3
ARCH 4010	Senior Design 1 #	5
	<b>Total Credits</b>	<b>17</b>

^ Summer coursework can lighten semester loads

#### Spring Semester 4

Course	Course Title	Credits
ENVD 3134	Hist. & Theory of Arch. 2 #	3
AREN 4317	Architectural Engr. Design #	5
	Technical Elective	3
	Technical Elective	3
	Technical Elective	3
	<b>Total Credits</b>	<b>15</b>

# Course is offered once per year (Fall or Spring, as shown)

Note: ENVD 3114 and 3134 are dual-counted as upper-division H/SS electives.