



FRCC (Boulder County Campus) to CU-Boulder Transfer Advising Guide for Engineering Physics (B.S.)

[Engineering Physics Department Website](#)

Program Overview:

Engineering Physics provides students with a broad exposure to the basic physical theories and mathematical techniques underlying engineering. The program may be specialized to meet the student's interests through engineering electives. Most students become involved in laboratory research, and graduates find opportunities in optics, electronics, magnetics, and other hardware-based job markets.

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:

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

Science:

PHY 211*	Calc-based Physics 1	(5 credits)
PHY 212	Calc-based Physics 2	(5 credits)
CHE 111	General Chemistry 1	(5 credits)
CHE 112	General Chemistry 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 (preferred)	Introduction to Engineering Computing	(4 credits)
<u>OR</u> CSC 160	Computer Science 1	(4 credits)
CAD 227 (preferred)	Advanced Revit Architecture	(3 credits)
<u>OR</u> CAD101+102	Computer Aided Drafting	(Civil/Architectural option)
CAD 255-259 (Choose 1)	Solid Works	(Mechanical option)
EGG 140	Engineering Projects	(3 credits)
EGG 211	Statics	(Civ/Mech/Arch/Env options)
EGG 212	Dynamics	(Civil/Mechanical Option)

Humanities and Social Sciences (H/SS):

- Up to twelve (12) 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 Engineering Physics

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 for free electives

Front Range Community College

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
	Total Credits	13

Spring Semester 1

Course	Course Title	Credits
MAT 166	Pre-Calculus*	5
COM 115	Public Speaking*	3
CSC 119	Intro to Programming*	4
	Humanities/Social Science	3
	Total Credits	15

Fall Semester 2

Course	Course Title	Credits
MAT 201	Calculus 1	5
CHE 111	Chemistry 1 (with lab)	5
EGG 145	Engineering Computing	4
	Humanities/Social Science	3
	Total Credits	17

Spring Semester 2

Course	Course Title	Credits
MAT 202	Calculus 2	5
PHY 211	Physics 1	5
	CAD (101+102, or 255-259, or 227)	3-6
	Humanities/Social Science	3
	Total Credits	13+

CU-Boulder (last three years)

Fall Semester 3

Course	Course Title	Credits
APPM 2350	Calculus 3	4
PHYS 1120	Physics 2	4
PHYS 1140	Experimental Physics	1
	Engineering Elective	3
	Total Credits	12

Spring Semester 3

Course	Course Title	Credits
APPM 2360	Differential Eq./Lin. Algebra	4
PHYS 2170	Foundations of Modern Phys.	3
PHYS 2150	Experimental Physics	1
CHEM 1133	Chemistry 2	4
CHEM 1134	Chemistry 2 Lab	1
	Total Credits	13

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

Fall Semester 4

Course	Course Title	Credits
PHYS 2210	Classical Mechanics 1	3
	Engineering Elective	3
	Engineering Elective	3
	Engineering Writing Course	3
	Total Credits	12

Spring Semester 4

Course	Course Title	Credits
PHYS 3210	Classical Mechanics 2	3
PHYS 3310	Elec. & Magnetism 1	3
PHYS 3330	Junior Lab	1
	Upper-Division Math/APPM	3
	Physics Elective	3
	Total Credits	13

Fall Semester 5

Course	Course Title	Credits
PHYS 3220	Quantum Mechanics 1	3
PHYS 3320	Elec. & Magnetism 2	3
PHYS 4230	Thermo. and Stat. Mechanics	3
	Physics Elective	3
	UD Humanities/Social Science	3
	Total Credits	15

Spring Semester 5

Course	Course Title	Credits
PHYS 4410	Quantum Mechanics 2	3
	Engineering Elective	3
	Engineering Elective	3
	Physics Elective	3
	UD Humanities/Social Science	3
	Total Credits	15