



CCA 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](#)

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

**BOLD denotes admission requirement courses*

Mathematics:

MAT 201*	Calculus 1	(5 credits)
MAT 202*	Calculus 2	(5 credits)
MAT 204	Calculus 3 w/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 can be used for admission requirement

***If you take CHE 111, it is recommended for this major you complete CHE 112 before transferring*

Engineering/Computer Science:

CSC 160	Computer Science 1	(4 credits)
CAD 227 (OR 101+202)	Advanced Revit Architecture	(Civil or Arch Option)
CAD 255	Solid Works	(Mechanical option)
EGG 106	Robotics	(1 credit)
EGG 151	Experimental Design	(2 credits)

Humanities and Social Sciences (H/SS):

- Minimum of 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 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

Community College of Aurora (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
	Intro to Engineering Workshop*	0
	Total Credits	12

Spring Semester 1

Course	Course Title	Credits
MAT 166	Pre-Calculus*	5
ENG 122	English Composition 2 (H/SS)	3
CSC 119	Intro to Programming*	3
EGG 106	Robotics	1
	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
CSC 160	Computer Science 1	4
EGG 132*	Data Analysis	1
	Total Credits	15

Spring Semester 2

Course	Course Title	Credits
MAT 202	Calculus 2	5
PHY 211	Physics 1	5
CAD	101+102, or 255, or 227)	--
EGG 151	Experimental Design	2
	Total Credits	12+

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
	Humanities/Social Science	3
	Total Credits	15

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