



FRCC (all campuses) to CU-Boulder Transfer Advising Guide for Aerospace Engineering (B.S.)

[Aerospace Engineering Sciences Department Website](#)

Program Overview:

CU-Boulder's Department of Aerospace Engineering Sciences is nationally known for teaching, research and hands-on experiments and design projects alongside expert faculty. CU aerospace alumni are working at top companies and research labs, including the Jet Propulsion Laboratory, Johnson Space Center, Boeing, and Lockheed Martin. Our graduates tackle challenges in aerospace technology and science, focusing on Aerospace Engineering Systems, Astrodynamics & Satellite Navigation Systems, Bioastronautics and Remote Sensing, Earth & Space Sciences.

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*

***denotes recommended requirement before transferring*

Mathematics:

MAT 2410*	Calculus 1	(5 credits)
MAT 2420*	Calculus 2	(5 credits)
MAT 2431	Calculus 3 with Engineering Applications	(5 credits)
MAT 2562	Differential Equations/Linear Algebra	(4 credits)

Science:

PHY 2111*	Calc-based Physics 1	(5 credits)
PHY 2112	Calc-based Physics 2	(5 credits)
CHE 1111	General Chemistry 1	(5 credits)

^ also counts for admission requirement in place of PHY 211

Engineering/Computer Science:

EGG 1000	Introduction to Engineering	(1 credit – free elective)
EGG 1060 (preferred)**	Introduction to Engineering Computing	(4 credits)
OR CSC 1060 (C++)	Computer Science 1	(4 credits)
EGG 1040	Engineering Projects	(3 credits)
EGG 2011 (Statics)+EGG 2030 (Solid Mech.) = ASEN 2701		(6 credits = 3 credits)

Humanities and Social Sciences (H/SS):

- Up to nine (9) credit hours at the lower division (1000-2000) 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

NOTE: Students must have Calc 1+2, PHY 2111 and either EGG 1060/CSC 1060 complete before progressing to the fall sophomore year coursework of the ASEN curriculum at CU Boulder.

Suggested Five-Year Course Plan for Aerospace 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 (first two years)

Fall Semester 1

Course	Course Title	Credits
MAT 1440	Pre-Calculus*	5
ENG 1021	English Composition (H/SS)	3
	Free Elective*	3
EGG 1000	Intro to Engineering*	1
	Total Credits	12

Spring Semester 1

Course	Course Title	Credits
MAT 2410	Calculus 1	5
CHE 1111	College Chemistry (with lab)	5
ENG 1022	English Composition 2 (H/SS)	3
	Total Credits	13

Fall Semester 2

Course	Course Title	Credits
MAT 2420	Calculus 2	5
PHY 2111	Physics 1	5
EGG 1040	Engineering Projects	3
	Humanities/Social Science	3
	Total Credits	16

Spring Semester 2

Course	Course Title	Credits
MAT 2431	Calculus 3 (Engr. Applications)	5
PHY 2112	Physics 2	5
EGG 1060	Engineering Computing	4
	Total Credits	14

CU-Boulder (last three years)

Fall Semester 3

Course	Course Title	Credits
APPM 2360	Differential Eq./Lin. Algebra	4
ASEN 2701	Statics, Structures and Matls.	3
ASEN 2702	Thermo and Aerodynamics	3
ASEN 2012	Exp. & Comp. Methods	2
ASEN 2802	Aerospace Lab 1	1
	Total Credits	13

Spring Semester 3

Course	Course Title	Credits
ASEN 1022	Materials Science for Aero.	3
ASEN 2703	Intro to Dynamics and Syst.	3
ASEN 2704	Vehicle Design and Perform.	3
ASEN 2803	Dynamics and Controls Lab	1
ASEN 2804	Aero. Vehicle Design Lab	2
	Total Credits	12

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

Fall Semester 4

Course	Course Title	Credits
ASEN 3711	Aerodynamics	3
ASEN 3712	Structures	4
ASEN 3713	Thermo and Heat Transfer	4
ASEN 3802	Aerospace Lab 2	1
	Total Credits	12

Spring Semester 4

Course	Course Title	Credits
ASEN 3728	Aircraft Dynamics	3
ASEN 3700	Orbit Mech. /Attitude Dyn.	3
ASEN 3300	Electronics and Comms.	4
ASEN 3801	Aero Vehicles Dyn & Controls	1
	Professional Area Elective	3
	Total Credits	14

Fall Semester 5

Course	Course Title	Credits
ASEN 4013	Found. of Propulsion	3
ASEN 4018	Senior Projects	4
	Professional Area Elec. (x2)	6
	Engineering Writing Course	3
	Total Credits	17

Spring Semester 5

Course	Course Title	Credits
ASEN 4028	Senior Projects 2	4
	Professional Area Elec. (x2)	6
	UD Humanities/Social Science	3
	UD Humanities/Social Science	3
	Total Credits	15