

## PPSC (all campuses) to CU-Boulder Transfer Advising Guide for Mechanical Engineering (B.S.)

Mechanical Engineering Department Website

#### **Program Overview:**

Mechanical engineers use the principles of mechanics and energy conservation to design, manufacture, and test mechanical devices. They develop power-producing and power-using machines as well as new materials and manufacturing processes. Many mechanical engineers work in fields related to design, aerospace, automotive industries, energy, bioengineering, and research and manufacturing.

#### **Admission Requirements:**

Please see this website for more information regarding CU Engineering admission criteria

**PPSC Course Summary:** (the following courses will apply directly to the degree) **\*BOLD denotes admission requirement courses** 

Mathematics:		
MAT 2410*	Calculus 1	(5 credits)
MAT 2420*	Calculus 2	(5 credits)
MAT 2430 OR	Calculus 3	(5 credits)
MAT 2431	Calculus 3 with Engineering Applications	(5 credits)
MAT 2562	Differential Equations/Linear Algebra	(4 credits)
<u>Science:</u>		
CHE 1111*	General Chemistry 1	(5 credits)
PHY 2111*	Calc-based Physics 1	(5 credits)
^also counts for admissic	on requirement in place of CHE 1111	
PHY 2112	Calc-based Physics 2	(5 credits)
PHY 2113	Physics 3	(3 credits)
Engineering/Computer	<u>Science:</u>	
EGG 1060 (preferred)	Introduction to Engineering Computing	(4 credits)
<u>OR</u> CSC 1060 (C++)	Computer Science 1	(4 credits)
CAD 2455	Solid Works	(4 credits total)
EGG 1020/1040	Engineering Methodologies/Eng. Projects	(3 credits)
<u>OR</u> EGT 1110	Intro to Design and Engineering Applications	(3 credits)
EGG 2011	Statics	(3 credits)

Humanities and Social Sciences (H/SS):

EGG 2012

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

**Dynamics** 

• Six (6) credit hours the upper-division level – *typically taken at CU Boulder* 

(3 credits)

Please consult our <u>CCCS humanities and social science list</u> when selecting these classes

### Suggested Five-Year Course Plan for Mechanical 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

#### Pikes Peak State College (two years)

#### Fall Semester 1

Course	Course Title	Credits
MAT 1440	Pre-Calculus*	5
ENG 1021	English Composition 1 ( <u>H/SS</u> )	3
	Free Elective*	3
	Humanities/Social Science	3
	Total Credits	14

#### Spring Semester 1

Course	Course Title	Credits
MAT 2410	Calculus 1	5
CHE 1111	College Chemistry 1 (with lab)	5
EGG 1060	Engineering Computing	4
	Total Credits	14

#### Fall Semester 2

Course	Course Title	Credits
MAT 2420	Calculus 2	5
PHY 2111	Physics 1	5
CAD 2455	Solid Works 3D Modeling	4
	Total Credits	14

#### Spring Semester 2

Course	Course Title	Credits
MAT 2431	Calculus 3 (Engr. Applications)	5
PHY 2112	Physics 2	5
EGG 1040	Engineering Projects	3
	Humanities/Social Science	3
	Total Credits	16

#### **CU-Boulder (last three years)**

#### Fall Semester 3

Course	Course Title	Credits
MCEN 2000	Professionalism Seminar	1
MCEN 2023	Statics and Structures	3
PHYS 2130	Physics 3	3
APPM 2360	Differential Eq./Linear Alg.	4
MCEN 2024	Materials Science	3
	Total Credits	14

#### Spring Semester 3

Course	Course Title	Credits
MCEN 2043	Dynamics	3
MCEN 3012	Thermodynamics	3
ECEN 3010	Circuits and Electronics	3
MCEN 3030	Computational Methods	3
	Total Credits	12

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

#### Fall Semester 4

Course	Course Title	Credits
MCEN 3021	Fluid Mechanics	3
MCEN 2063	Solid Mechanics	3
MCEN 3025	Component Design	3
MCEN 3047	Data & Measurements	4
	Total Credits	13

#### Spring Semester 4

Course	Course Title	Credits
	Engineering Writing Course	3
MCEN 3022	Heat Transfer	3
MCEN 4026	Manufacturing Systems	3
	UD Humanities/Social Science	3
	Total Credits	12

#### Fall Semester 5

Course	Course Title	Credits
MCEN 4045	Senior Design 1	3
MCEN 4043	System Dynamics	3
MCEN 3032	Thermodynamics 2	3
	General Technical Elective	3
	UD Humanities/Social Science	3
	Total Credits	15

#### **Spring Semester 5**

Course	Course Title	Credits
MCEN 4085	Senior Design 2	3
	ME Technical Elective	3
	ME Technical Elective	3
	General Technical Elective	3
	Total Credits	12