

University of Colorado **Denver**

## Front Range Community College (FRCC) to CU-Denver Transfer Advising Guide for Mechanical Engineering (B.S.)

College of Engineering, Design and Computing

[Mechanical Engineering Department Website](#)

### Program Overview:

The Mechanical engineering offers interesting and challenging career opportunities in research, design, development, manufacturing, testing and marketing for either private industry or government. As a mechanical engineer, you may work on products such as engines, transmissions, compressors, pumps, computer disk drives, CAD/CAE software, oil field drilling rigs, missiles, space satellites, earth moving equipment, container manufacturing machines and medical equipment.

### Admission Requirements:

[Please see this website for more information regarding CU Engineering admission criteria.](#)

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

\* **BOLD denotes admission requirement courses**

<u>Core Curriculum:</u> (Please consult <a href="#">CU Denver Core Curriculum</a> and <a href="#">Transferology</a> )		FRCC Credits
ENG 121	English Composition 1	(3 credits)
ENG 122	English Composition 2	(3 credits)
Arts & Humanities	Two Courses (GT-AH1, AH2, AH3, or AH4)	(6 credits)
Social & Behavior Science	Two courses (GT-SS1, GT-SS2, or GT-SS3)	(6 credits)
History	GT-HI1	(3 credits)
 <u>Mathematics:</u>		
<b>MAT 201*</b>	<b>Calculus 1</b>	<b>(4 credits)</b>
<b>MAT 202*</b>	<b>Calculus 2</b>	<b>(4 credits)</b>
MAT 204 OR 203	Calculus 3 with Eng Applications OR Calculus 3	(4 or 5 credits)
MAT 266 OR 265/255	Differential Equations with Linear Algebra OR Differential Equations/Linear Algebra	(4 or 3 credits)
 <u>Science:</u>		
<b>PHY 211*</b>	<b>Calc-based Physics I</b>	<b>(5 credits)</b>
PHY 212	Calc-based Physics II	(5 credits)
CHE 111	General Chemistry I	(5 credits)
 <u>Engineering/Computer Science:</u>		
CSC 160	Computer Science	(4 credits)
CAD 255-259	Solid Works (choose one course)	(3 credits)
EGG 140	Engineering Projects	(4 credits)
EGG 211	Statics	(3 credits)
EGG 212	Dynamics	(3 credits)

## Suggested Five-Year Course Plan for Mechanical Engineering

This is a suggested guide of coursework only and is subject to change. Students should consult with a CU Denver academic advisor as soon as possible prior to transferring. CU Denver courses may be reverse transferred to count toward a community college associate degree. Course credits shown below reflect those awarded by the institution offering the course.

\* denotes courses that do not apply to the B.S. degree

### Front Range Community College (FRCC) first two years

#### Fall Semester 1

Course	Course Title	Credits
MAT 121	College Algebra*	4
ENG 121	English Composition 1	3
EGG 100	Intro to Engineering*	1
	Art/Hum/SS/BS/HI	3
	Art/Hum/SS/BS/HI	3
	<b>Total Credits</b>	<b>14</b>

#### Spring Semester 1

Course	Course Title	Credits
MAT 166 or 122	Pre-Calculus or Trigonometry *	3/5
ENG 122	English Composition 2	3
CHE 111	College Chemistry 1 (with lab)	5
CAD 255	SolidWorks/Mechanical	3
	<b>Total Credits</b>	<b>14-16</b>

#### Fall Semester 2

Course	Course Title	Credits
MAT 201	Calculus 1	5
EGG 140	Engineering Projects	4
	Art/Hum/SS/BS/HI	3
	Art/Hum/SS/BS/HI	3
	<b>Total Credits</b>	<b>15</b>

#### Spring Semester 2

Course	Course Title	Credits
MAT 202	Calculus 2	5
PHY 211	Physics 1	5
CSC 160	Computer Science 1	4
	Art/Hum/SS/BS/HI	3
	<b>Total Credits</b>	<b>17</b>

### CU-Denver (last three years)

#### Fall Semester 3

Course	Course Title	Credits
MATH 2421	Calculus III	4
	Cultural Diversity	3
MECH 2024	Materials Science	3
MECH 2034	Properties of Materials Lab	1
MECH 2023	Statics	3
	<b>Total Credits</b>	<b>14</b>

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

#### Spring Semester 3

Course	Course Title	Credits
MATH 3195	Linear Algebra & Differential Equations	4
MECH 1045	Manufacturing	3
MECH 3043	Strength of Materials	3
PHYS 2331/2341	General Physics II with Lab	5
	<b>Total Credits</b>	<b>15</b>

#### Fall Semester 4

Course	Course Title	Credits
MECH 3012	Thermodynamics	3
MECH 3010	Elem. Numerical Methods & Programming	3
ELEC 3030/MECH 3032	Electric Circuits & Systems w/ Lab	4
MECH 2033	Dynamics	3
	<b>Total Credits</b>	<b>13</b>

#### Spring Semester 4

Course	Course Title	Credits
MECH 3021	Introduction to Fluid Mechanics	3
MECH 3031	Fluids Thermal Lab	1
MECH 3022	Thermodynamics II	3
MECH 3035	Design of Mechanical Elements	3
MECH 3023	System Dynamics I	3
	<b>Total Credits</b>	<b>13</b>

#### Fall Semester 5

Course	Course Title	Credits
MECH 4023	System Dynamics II	3
MECH 4035	Senior Design I	3
MECH 3042	Heat Transfer	3
MECH	Technical Elective	3
	<b>Total Credits</b>	<b>12</b>

#### Spring Semester 5

Course	Course Title	Credits
MECH 4045	Senior Design II	3
MECH 3027/3028	Measurements w/ Lab	4
MECH 4142	Thermal Systems Design	3
MECH	Technical Elective	3
MECH	<b>Total Credits</b>	<b>13</b>