



## CCD to CU-Boulder Transfer Advising Guide for Biomedical Engineering (B.S.)

College of Engineering and Applied Science  
[Biomedical Engineering Department Website](#)

### Program Overview:

Biomedical engineers use engineering principles to analyze and solve problems in biology and medicine, providing an overall enhancement to healthcare. Biomedical engineers create technology to save lives and improve the quality of life. Much of the equipment in hospitals and clinics across the globe was designed, built and tested by biomedical engineers. At the same time, biomedical engineers employ concepts learned from biology and medicine to generate new biomimetic engineering designs in fields such as robotics and artificial intelligence.

### Admission Requirements:

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

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

*\*BOLD denotes admission requirement courses*

*\*\*Denotes recommended course before transfer*

#### Mathematics:

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

#### Science:

<b>CHE 111*</b>	<b>General Chemistry 1</b>	<b>(5 credits)</b>
<b>CHE 112**</b>	<b>General Chemistry 2</b>	<b>(5 credits)</b>
PHY 211	Calc-based Physics 1	(5 credits)
PHY 212	Calc-based Physics 2	(5 credits)
BIO 111 + 112	General Biology 1+2 (need both, or take at CU)	(10 credits combined)

#### Engineering/Computer Science:

CSC 160	Computer Science 1	(4 credits)
CAD 255-259	Solid Works ( <i>choose one course</i> )	(3 credits)
EGG 106	Robotics	(1 credit)
EGG 151	Experimental Design	(2 credits)

#### Humanities and Social Sciences (H/SS):

- Up to nine (9) 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 Biomedical 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

## Community College of Denver (first two years)

### Fall Semester 1

Course	Course Title	Credits
MAT 121	College Algebra*	4
EGG 106	Robotics	1
ENG 121	English Composition 1 *	3
BIO 111	General Biology 1	5
	<a href="#">Humanities/Social Science</a>	3
	<b>Total Credits</b>	<b>16</b>

### Spring Semester 1

Course	Course Title	Credits
MAT 166	Pre-Calculus*	5
CHE 111	College Chemistry 1 (with lab)	5
EGG 151	Experimental Design	2
BIO 112	General Biology 2	5
	<b>Total Credits</b>	<b>17</b>

\*if credit load is too high per semester, take BIO at CU

### Fall Semester 2

Course	Course Title	Credits
MAT 201	Calculus 1	5
CAD 255-259	Solid Works 3D Modeling (only need one course)	3
CHE 112	General Chemistry 2	5
	<a href="#">Humanities/Social Science</a>	3
	<b>Total Credits</b>	<b>16</b>

### Spring Semester 2

Course	Course Title	Credits
MAT 202	Calculus 2	5
PHY 211	Physics 1	5
ENG 122	English Composition 2 ( <a href="#">H/SS</a> )	3
CSC 160	Computer Science 1 (C++)	4
	<b>Total Credits</b>	<b>17</b>

## 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
BMEN 2000	Intro to Biomedical Eng.	3
MCDB 1150	Cellular and Molecular Bio*	3
	<b>Total Credits</b>	<b>15</b>

\*if BIO 111+112 already taken, no need for MCDB 1150

### Spring Semester 3

Course	Course Title	Credits
APPM 2360	Differential Eq./Linear Alg.	4
BMEN 2010	Biomaterials	3
MCEN 2023	Statics and Structures	3
ECEN 2250	Intro to Circuits	3
	<b>Total Credits</b>	<b>13</b>

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

### Fall Semester 4

Course	Course Title	Credits
BMEN 3010	Biotransport	3
MCEN 2063	Mechanics of Solids	3
ECEN 2260	Circuits as Systems	3
ECEN 2270	Electronics Design Lab	3
	<b>Total Credits</b>	<b>12</b>

### Spring Semester 4

Course	Course Title	Credits
BMEN 3030	Bioinstrumentation	3
MCEN 4133	Biomechanics	3
ECEN 3300	Linear Systems	3
	Engineering Writing Course	3
	<a href="#">UD Humanities/Social Science</a>	3
	<b>Total Credits</b>	<b>15</b>

### Fall Semester 5

Course	Course Title	Credits
BMEN 4010	BME Design 1	3
BMEN 4117	A&P for Engineers	3
	Technical Elective	3
	Technical Elective	3
CHEN 3010	Applied Data Analysis	3
	<b>Total Credits</b>	<b>15</b>

### Spring Semester 5

Course	Course Title	Credits
BMEN 4020	BME Design 2	3
	Technical Elective	3
	Technical Elective	3
	<a href="#">UD Humanities/Social Science</a>	3
	<b>Total Credits</b>	<b>12</b>