

BIOMEDICAL ENGINEERING *PRE-MED TRACK- FALL 2025*

1

BMEN 1025 (4)
Computer-Aided Design
& Fabrication

CHEM 1201 (4)
Gen Chem for Engineers
(CR: CHEM 1114)

CHEM 1114 (1)
Gen Chem 1 Lab
(CR: CHEM 1201)

MCDB 1150 (3)
Intro to Molecular and
Cellular Biology

APPM 1350 (4)
Calculus 1 For Engineers

2

BMEN 1000 (1)
Explore BME
Spring Only

CHEM 1133 (4)
Gen Chem 2
(PR: CHEM 1201, CHEM 1114)

CHEM 1134 (1)
Gen Chem 2 Lab
(PR: CHEM 1201, CHEM 1134)
(CR: CHEM 1133)

PHYS 1110 (4)
General Physics 1
(CR: APPM 1350)

CHEM 1310 (3)
Intro to Engineering
Computing
(CR: Calculus 1)

APPM 1360 (4)
Calculus 2 For Engineers
(PR: APPM 1350 or APPM 1345)

3

BMEN 2100 (3)
Biomedical Principles
and Methods
(PR: APPM 1350, BIEN 2810,
CHEM 1201, PHYS 1110)

MCDB 1161 (2)
Phage Genomics Lab I

PHYS 1120 (4)
General Physics 2
(PR: PHYS 1110)
(CR APPM 1360)

**Humanities &
Social Science (3)**
Lower Division

APPM 2350 (4)
Calculus 3 For Engineers
(PR: APPM 1360)

4

BMEN 2010 (3)
Biomaterials
(PR: CHEM 1201)
Spring Only

CHEM 3311 (4)
Organic Chem 1
(PR: CHEM 1133/1134)
(CR: CHEM 3321)

CHEM 3321 (1)
Organic Chem 1 Lab
(PR: CHEM 1133/1134)
(CR: CHEM 3311)

PHYS 1140 (1)
Experimental Physics
(CR: PHYS 1120)

MCEN 2023 (3)
Statics & Structures
(PR: APPM 1360, PHYS 1110)

APPM 2360 (4)
Linear Algebra &
Differential Equations
(PR: APPM 1360)

5

BMEN 3010 (3)
Biotransport
(PR: BMEN 2100, CHEM 1310,
PHYS 1110)
(CR: APPM 2360)
Fall Only

CHEM 3331 (4)
Organic Chem 2
(PR: CHEM 3311/3321)
(CR: CHEM 3341)

CHEM 3341 (1)
Organic Chem 2 Lab
(PR: CHEM 3311/3321)
(CR: CHEM 3331)

BMEN 4117 (3)
Anatomy & Physiology for
Biomedical Engineering
(PR: BMEN 2100)
(RPR: BMEN 2010)
Fall Only

ECEN 2250 (3)
Intro to Circuits &
Electronics
(PR: APPM 1360, PHYS 1120)
(CR: APPM 2360 or MATH 3430)

**Humanities &
Social Science (3)**
Lower Division

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BMEN 3030 (4)
Bioinstrumentation
(PR: BMEN 2100, ECEN 2250)
Spring Only

BCHM 4611 (3)
Principles of
Biochemistry
(PR: CHEM 3311)

MCDB 2150 (3)
Principles of Genetics
(RPR: MCDB 1150)

CHEM 3010 (3)
Applied Data Analysis
(PR: APPM 2360, CHEM 1310)

ECEN 3301 (3)
Biomedical Signals &
Systems
(PR: ECEN 2250)
Spring Only

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BMEN 4010 (3)
BME Design 1
(PR: BMEN 1025, BMEN 2010,
BMEN 3010) (CR: Writing)
Fall Only

**Engineering
Technical
Elective (3)**
Upper Division

**Engineering
Technical
Elective (3)**
Upper Division

**Writing
Requirement(3)**

**Humanities &
Social Science (3)**
Lower Division

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BMEN 4020 (3)
BME Design 2
(PR: BMEN 4010)
Spring Only

**Focus
Technical
Elective (3)**
Upper Division

**Humanities &
Social Science (3)**
Upper Division

**Humanities &
Social Science (3)**
Upper Division

Free Elective (3)

Example
COURSE NUMBER (Cr.)
Course Name
(PR: Pre-Requisites)
(CR: Co-Requisites)

Biomedical Engineering Curriculum

Notable Course Substitutions for Pre-Medical

- **APPM 1350:** MATH 1300, APPM 1345
- **APPM 1360:** MATH 2300
- **APPM 2350:** MATH 2400
- **APPM 2360:** MATH 2130 and MATH 3430 (taken as a sequence)
- **BMEN 1025:** MCEN 1025, GEEN 1017 and BMEN 1035
- **BMEN 4117:** BMEN 5117, MCEN 4117 or 5117
- **CHEN 1310:** CSCI 1300 (**CS Minors Only**), (CSCI 1320, ASEN 1320 approved for transfer students)
- **CHEN 3010:** STAT 4000 (**CS Minors Only**)
- **MCEN 2023:** CVEN 2121, GEEN 2851
- **MCDB 1161:** MCDB 1171

Technical Electives

The Pre-Med Track requires a total of 9 credits of Technical Electives. Visit the program's [Advising & Curriculum](#) webpage for options.

Focus Electives

3 credits of technical electives must be taken from the Focus Elective list on the Biomedical Engineering website. Please consult the Advising & Curriculum website for a current list of options.

Humanities & Social Science Electives

Visit [Humanities, Social Sciences, and Writing Requirements](#) for options.

Writing Requirement Options

- ENES 1010 (freshmen only), ENES 3100
- WRTG 3030, WRTG 3035
- PHYS 3050
- ENLP 3100 (previous success in an ENLP course highly recommended)

Grade Requirements

The minimum passing grade for a prerequisite or co-requisite course within the biomedical engineering curriculum is a C-. This requirement includes courses completed in another program or department (APPM, PHYS, etc.). The minimum passing grade for standalone classes is a D-. In addition, students need to have a cumulative and major GPA of at least 2.000 in order to graduate from the College of Engineering. **Pass/Fail** is only permitted for BMEN 1000 and Free Elective credits.

Effective: Fall 2025

Common Biomedical Engineering Resources

Clubs&Organizations



[Biomedical Engineering Society](#)



[Society of Women Engineers](#)



[National Society of Black Engineers](#)



[Society of Asian Scientists & Engineers](#)



[Society of Hispanic Professional Engineers](#)



[Engineers Without Borders USA](#)

Pre-Med & Career Services



Pre-Health Advising can help with:

- Understanding Medical School requirements
- MCAT Preparations
- PA/MD/DO distinctions
- More!

Look for the pre-health icon in Buff Portal Advising



Career Services
Meet with a
Career Services
Advisor

Career Services can help with:

- Resume/Cover Letters
- Using the Handshake Portal
- Interview skills
- More!

Look for the # icon in Buff Portal Advising