BIOMEDICAL ENGINEERING PRE-MED TRACK- FALL 2025

BMEN 1025 (4) 1 Computer-Aided Design & Fabrication

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

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

MCDB 1150 (3)

Intro to Molecular and Cellular Biology

APPM 1350 (4) Calculus 1 For Engineers

BMEN 1000 (1) Explore BME

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

CHEM 1134 (1) Gen Chem 2 Lab (PR: CHEN 1201, CHEM 1114)

(CR: CHEM 1133)

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

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

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

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

Spring Only

MCDB 1161 (2)

Phage Genomics Lab I

PHYS 1120 (4) General Physics 2 (PR: PHYS 1110)

(CR APPM 1360)

Social Science (3)

Lower Division

Humanities &

APPM 2350 (4)

Calculus 3 For Engineers (PR: APPM 1360)

BMEN 2010 (3)

Biomaterials (PR: CHEN 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)

BMEN 3010 (3)

Biotransport (PR: BMEN 2100, CHEN 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

ECEN 2250 (3)

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

Humanities & Social Science (3)

Lower Division

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)

CHEN 3010 (3)

Applied Data Analysis (PR: APPM 2360, CHEN 1310)

ECEN 3301 (3)

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

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

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)

Free Elective (3) **Upper Division**

Example

COURSE NUMBER (Cr.)

Course Name (PR: Pre-Requisites) (CR: Co-Requisites)

Effective: Fall 2025

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)
- **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



Biomedical Engineering Society

Clubs&Organizations



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

Advisor

Career Services can help with:

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

Look for the icon in Buff Portal Advising