Freshman 1
- CAS MA 123: Calculus I
- ENG EK 100: Freshman Seminar
- CAS CH 101: Chemistry I
- ENG EK 125: Program for Engrs
- CAS WR 120: Writing Seminar FYW

Freshman 2
- CAS MA 124: Calculus II
- CAS PY 211: Physics I
- CAS CH 102: Chemistry II
- ENG EK 131: Intro to Eng
- ENG EK 103: Comp Lin Alg

Sophomore 1
- CAS MA 225: Multivar Calculus
- CAS PY 212: Physics II
- ENG EK 307: Electric Circuits
- ENG EK 210: Intro Eng Des TWC
- CAS WR 15x: Writing & Res WRI; RIL

Sophomore 2
- CAS MA 226: Diff Equ CRT
- ENG BE 209: Princ Molec Cell Bio & Biotech
- ENG EK 301: Eng Mechanics CRT; CRI
- Hub Elective

Junior 1
- ENG EK 381: Prob, Stats & DS
- CAS BI 315: Systems Physiol
- ENG EK 403: Signals & Cntrls
- ENG BE 491: BME Meas I
- Hub Elective

Junior 2
- ENG EK 424: Thermo & Stat Mech
- BME Elective
- Fields Elective
- ENG BE 492: BME Meas II
- Hub Elective

Senior 1
- ENG Elective
- BME Design Elective
- ENG BE 465: Senior Design I
- Hub Elective

Senior 2
- BME Elective
- Professional Elective
- Professional Elective
- ENG BE 466: Senior Design II WIN;OSC;DME;RIL

Notes
- Grey box = either semester
- = prerequisite; = corequisite
- Students planning to study abroad sophomore 2 should take EK 301 in sophomore 1.
- Premed students take CAS CH203/4 sophomore year and defer WR 150 and Hub elective.
- Students must complete 48 credits of upper-division program coursework (not including Hub or writing).
- See back for Hub Unit Legend

Hub Electives: must include all Hub areas below to fulfill degree requirements
- 1. One unit Philosophical Inquiry & Life’s Meanings (PLM)
- 2. One unit Aesthetic Exploration (AEX)
- 3. One unit Historical Consciousness (HCO)
- 4. One unit Social Inquiry (SO1 or SO2)
- 5. One unit Individual & Community (IIC)
- 6. First unit Global Citizenship & Intercultural Literacy (GCI)
- 7. Second unit Global Citizenship & Intercultural Literacy (GCI)
- 8. One unit Ethical Reasoning (ETR)
- Total of at least 16 credits

8/24/2020
REQUIREMENTS

Biomedical Engineering majors are required to complete a minimum of 133 credits as detailed on the Program Planning Sheet on the other side of this page. Pre-Med Majors should consult with the BU Pre-Professional Advising Office and their ENG Faculty Advisors.

HUB ELECTIVES

All students are required to complete a total of 26 Hub units. Eighteen of these Hub units are included in courses required for the BME BS degree. The remaining eight Hub units must be satisfied through four (or more) Hub Electives that incorporate the following seven Hub areas: Philosophical Inquiry; Aesthetic Exploration; Historical Consciousness; Social Inquiry; Individual in Community; Ethical Reasoning; Global Citizenship & Intercultural Literacy (2X). Boston University’s Course Search tool can be used to search for courses by School/College, number of credits and/or specific Hub units https://www.bu.edu/phpbin/course-search/.

CONTINUUMS & FIELDS IN BIOMEDICAL SYSTEMS ELECTIVE

Biomedical Engineering majors complete one Continuum & Fields Elective from the following:

- ENG BE 420 Introduction to Solid Biomechanics
- ENG BE 435 Transport Phenomena in Living Systems
- ENG BE 436 Fundamentals of Fluid Mechanics

PROFESSIONAL ELECTIVES

Biomedical Engineering majors complete two Professional Electives (8 credits) from the following:

All ENG BE, EC, EK, and ME 300, 400, and 500 level courses are suitable as a professional elective (except all directed study & directed research, BE 500, and courses with material that overlaps with requirements — see Notes below); directed study and BE 500 may be acceptable by petition.

- CAS CH 203, CAS CH 204 and all CAS CH 300, 400 and 500 level courses (except: CAS CH 391, 392, 401, 402, 491, 492).
- All CAS PY 300, 400, and 500 level courses (except PY 355, 371, 401, 402, 482, 491, 492).
- All CAS MA 300, 400, and 500 level courses (except CAS MA 381, 401, 402, 581).
- CAS BI 206, CAS BI 216 and all CAS BI 300, 400 and 500 level courses (except Bi 315, 371, 391, 392)

- ENG ME 357 Intro to CAD (2 cr)
- ENG ME 358 Design & Manufacture (2 cr)

ENGINEERING ELECTIVES

Biomedical Engineering majors complete one Engineering Elective course from the following list:

- ENG BE 400 Biomedical Special Topics
- ENG BE 404 Advanced Controls
- ENG BE 420 Intro to Solid Biomechanics
- ENG BE 435 Transport Phenomena in Living Systems
- ENG BE 436 Fundamentals of Fluid Mechanics
- ENG BE 503 Comp Methods in Biomed
- ENG BE 511 Biomedical Instrumentation
- ENG BE 517 Optical Microscopy of Biological Mtrls
- ENG BE 521 Continuum Mechanics BME
- ENG BE 417 Intro to Quantum Mechanics
- ENG BE 502 Quantum Physics
- ENG BE 533 Biomech of Biomedical Devices
- ENG BE 534 Neuroengineering Devices
- ENG BE 535 Biomech of Living Systems
- ENG BE 536 Fluid Mechanics

- ENG EC 311 Intro to Logic Design
- ENG EC 327 Intro Software Engineering
- ENG EC 410 Intro to Electronics
- ENG EC 455 Electromagnetic Systems I
- ENG EC 505 Stochastic Processes
- ENG EC 555 MEMS: Fabrication & Materials

- ENG ME 302 Engineering Mechanics II
- ENG ME 305 Mechanics of Materials
- ENG ME 306 Materials Science
- ENG ME 309 Structural Materials
- ENG ME 419 Heat Transfer
- ENG ME 441 Mechanical Vibrations
- ENG ME 555 MEMS: Fabrication & Materials

BIOMEDICAL ENGINEERING ELECTIVES

Biomedical Engineering majors complete two Biomedical Engineering Electives (8 credits) from the following:

All ENG BE 400 and 500 level courses (except BE 451, BE 452 & BE 500); BE 451, BE 500, and BE 600-level & 700-level courses may be acceptable by petition.

BIOMEDICAL ENGINEERING DESIGN ELECTIVES

Biomedical Engineering majors complete one Biomedical Engineering Design Elective from the following:

- ENG BE 428 Device Diagnostics & Design
- ENG BE 468 Clinical Applications of Biomedical Design

Hub Unit Legend:

- QR1 = Quantitative Reasoning 1
- QR2 = Quantitative Reasoning 2
- S1 = Scientific Reasoning 1
- S2 = Scientific Reasoning 2
- FYW = First-Year Writing Seminar
- WR1 = Writing, Research & Inquiry
- WIN = Writing-Intensive Course
- OSC = Oral and/or Signed Communication
- DME = Digital/Multimedia Expression
- CRT = Critical Thinking
- RIL = Research and Information Literacy
- TWC = Teamwork/Collaboration
- CRI = Creativity/Innovation

Notes:

For each of the following sets of courses, only one course can be taken for credit in each set due to the overlap of material:

1. ENG ME 403, ENG ME 404, ENG EC 402, ENG BE 404
2. ENG ME 303, ENG BE 436
3. ENG KE 303, CAS MA 142, CAS MA 242
4. ENG BE 403, ENG EC 401
5. ENG ME 366*, ENG KE 381, CAS MA 381, CAS MA 581
6. ENG ME 460, ENG ME 560

*Indicates course no longer offered.