Biomedical Engineering – 2021 (134 credits)

General Education

- CAS WR 100
- CAS WR 150
- One Social Science course
- One Humanities course
- One Social Science or Humanities course
- One General Education elective course
- Total of at least 24 credits

Notes
- 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.
- Grey box = either semester
- Students must complete 48 credits of upper-division program coursework (not including social science/humanities or writing).
REQUIREMENTS

Pre-Med Majors: Students should consult with the BU Pre-Professional Advising Office and their ENG Faculty Advisors.

General Education courses: For a list of specific courses that satisfy the Social Science, Humanities, and the General Education Elective, please go to the College of Engineering Undergraduate Requirements website at: [http://www.bu.edu/eng/current-students/ugrad/requirements](http://www.bu.edu/eng/current-students/ugrad/requirements).

CONTINUUM AND FIELDS IN BIOMEDICAL SYSTEMS ELECTIVE (4 credits required)

- ENG BE 419  Principles of Continuum Mechanics and Transport
- ENG BE 420  Introduction to Solid Biomechanics
- ENG BE 435  Transport Phenomena in Living Systems
- ENG BE 436  Fundamentals of Fluid Mechanics

PROFESSIONAL ELECTIVES (8 credits required)

All ENG BE, EC, EK, and ME 300, 400, and 500 level courses are suitable as a professional elective

[Exceptions due to overlap of material *: BE 500, EC 381, EC 402, EK 500, ME 308, ME 403, ME 404, ME 501]

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 371, 401, 402, 482, 491, 492).

All CAS MA 300, 400, and 500 level courses (except CAS MA 381, 401, 402).

CAS BI 206, CAS BI 216 and all CAS BI 300, 400 and 500 level courses (except BI 315, 371, 372, 391, 392)

- ENG BF 527  Applications in Bioinformatics
- ENG EK 156  Design & Manufacture
- ENG EC 327  Intro Software Engineering
- ENG EC 416  Intro Digital Signal Processing
- ENG EC 471  Physics Semiconductor Devices
- ENG BE 40  Biomedical Special Topics
- ENG BE 404  Advanced Controls
- ENG BE 419  Principles of Continuum Mechanics
- ENG BE 435  Transport Phenomena in Living Tissues
- ENG BE 436  Fundamentals Fluid Mechanics
- ENG BE 503 Comp Methods in Biomed ENG
- ENG BE 533 Bioheology
- ENG BE 567 Nonlinear Systems in BME
- ENG EC 311  Intro to Logic Design
- ENG EC 327  Intro Software Engineering
- ENG EC 410  Intro to Electronics
- ENG EC 416  Intro Digital Signal Processing
- ENG EC 455  Electromagnetic Systems I
- ENG EC 471  Physics Semiconductor Devices
- ENG BE 511  Biomedical Instrumentation
- ENG BE 521 Continuum Mechanics BME
- ENG EC 505  Stochastic Processes
- ENG BF 527  Application in Bioinformatics
- ENG EK 102, CAS MA 142, CAS MA 242
- ENG ME 555 MEMS: Fabrication & Materials
- ENG ME 302  Engineering Mechanics II
- ENG ME 305  Mechanics of Materials
- ENG ME 306 Materials Science
- ENG ME 419 Heat Transfer
- ENG ME 441 Mechanical Vibrations
- ENG ME 501, ENG EC 501
- ENG ME 366, ENG EC 381, ENG EK 381, ENG BE 200
- ENG ME 460, ENG ME 560

BIOMEDICAL ENGINEERING ELECTIVES (12 credits required)

All ENG BE 400 and 500 level courses (except BE 500); BE 700 level courses may be petitioned.

ENG BF 527 Application in Bioinformatics

BIOMEDICAL ENGINEERING DESIGN ELECTIVES (4 credits required)

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

Notes: For the following sets of courses, only 1 course can be taken for credit in each set due to the overlap of material:

1. ENG ME 403, ENG ME 404, ENG BE 402, ENG EC 402
2. ENG ME 303, ENG BE 436 / ENG ME 304, ENG EK 424
3. ENG ME 441, ENG ME 515
4. ENG ME 501, ENG EC 501
5. ENG ME 102, CAS MA 142, CAS MA 242
6. ENG BE 401, ENG BE 403, ENG EC 401
7. ENG ME 366, ENG EC 381, ENG EK 381, ENG BE 200
8. ENG ME 460, ENG ME 560