Biomedical Engineering – Class of 2021 (134 credits)

General Education

- 1. CAS WR 100
- 2. CAS WR 150
- 3. One Social Science course
- 4. One Humanities course
- 5. One Social Science or Humanities course
- 6. One General Education elective course
- 7. Total of at least 24 credits

**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 social science/humanities or writing).

6/3/2020
REQUIREMENTS

Biomedical Engineering majors are required to complete a minimum of 134 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.

GENERAL EDUCATION

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

CONTINUA & FIELDS IN BIOMEDICAL SYSTEMS ELECTIVE

Biomedical Engineering majors complete one Continua & 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 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 ME 357 Intro to CAD (2 cr)
- ENG ME 358 Design & Manufacture (2 cr)
- QST SI 480 The Business of Technology Innovation
- QST SI 482 Technology & Its Commercialization

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 Tissues
- ENG BE 436 Fundamentals Fluid Mechanics
- ENG BE 503 Comp Methods in Biomed
- ENG BE 508 Quant Studies Resp & Card Sys
- ENG BE 511 Biomedical Instrumentation
- ENG BE 521 Continuum Mechanics BME
- ENG EC 311 Intro to Logic Design
- ENG EC 327 Intro Software Engineering
- ENG EC 401 Intro to Electronics
- ENG EC 410 Intro to Electronics
- ENG EC 455 Electromagnetic Systems I
- ENG EC 471 Physics Semiconductor Devices
- ENG EC 505 Stochastic Processes
- ENG EK 102* Nanomaterials & Nanotechnology
- ENG EK 156* Biomedical Instrumentation
- ENG EK 381* Physics of Micro and Nano Systems I
- ENG EK 441 Mechanical Vibrations
- ENG ME 302 Engineering Mechanics II
- ENG ME 305 Mechanics of Materials
- ENG ME 309 Structural Materials
- ENG ME 319 Heat Transfer
- ENG ME 357 Intro to CAD
- ENG ME 358 Design & Manufacture
- ENG ME 359* MEMS: Fabrication & Materials
- ENG ME 366* MEMS: Microfabrication
- ENG ME 441 Mechanical Vibrations
- ENG ME 460, ENG ME 560
- ENG ME 468 Clinical Applications of Biomedical Design
- ENG ME 471 Physics Semiconductor Devices
- ENG ME 503 Comp Methods in Biomed
- ENG ME 511 Biomedical Instrumentation
- ENG ME 521 Continuum Mechanics BME
- ENG ME 555 MEMS: Fabrication & Materials
- ENG ME 567 Nonlinear Systems in BME
- ENG ME 581 MEMS: Fabrication & Materials
- ENG ME 600-699

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.

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

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 EK 102*, ENG EK 103, CAS MA 142, CAS MA 242
4. ENG BE 403, ENG EC 401
5. ENG ME 366*, ENG EC 381*, ENG EK 381, CAS MA 381, CAS MA 581
6. ENG ME 460, ENG ME 560
7. ENG EK 156*, ENG ME 358
8. ENG ME 357, ENG ME 359*

*indicates course no longer offered.