NAME: ____________________________  U.I.D. # U  DATE: ________________________  

**FRESHMAN 1**
- CAS MA 123 Calculus I (4)
- ENG EK 100 Freshman Seminar (0)
- CAS CH 101 General Chemistry I (4)
- ENG EK 127/128 Engineering Computation/+ (4)
- CAS WR 100 Writing Seminar (4)

**FRESHMAN 2**
- CAS MA 124 Calculus II (4)
- CAS PY 211 Physics I (4)
- CAS CH 102 General Chemistry II (4)
- ENG EK 102 OR CAS MA 142 – Intro to Linear Algebra (2)
- CAS WR 150 Writing & Research Seminar (4)

**SOPHOMORE 1**
- CAS MA 225 Multivariate Calculus (4)
- CAS PY 212 Physics II (4)
- ENG EK 307 Electric Circuits (4)
- ENG EK 102 OR CAS MA 142 – Intro to Linear Algebra (2)
- Either Semester

**SOPHOMORE 2**
- CAS MA 226 Differential Equations (4)
- ENG BE 209 Principles of Molecular Cell Biology & Biotechnology (4)
- ENG EK 301 Engineering Mechanics I (4)
- ENG BE 200 Introduction to Probability (2)
- Social Science Elective

**JUNIOR 1**
- ENG EK 424 Thermodynamics & Statistical Methods (4)
- CAS BI 315 Systems Physiology (4)
- ENG BE 491 Biomed Measurements I (2) [Fall Only]
- ENG BE 401 Signals & Systems in Biomedical Engineering (4) [Fall Only]
- Humanities Elective

**JUNIOR 2**
- Biomedical Elective (4)
- Fields Elective ENG – BE 419, BE 420, BE 435, or BE 436 (4)
- ENG BE 492 Biomed Measurements II (2) [Spring Only]
- ENG BE 402 Control Systems in Biomedical Engineering (4) [Spring Only]
- Social Science/ Humanities

**SENIOR 1**
- Engineering Elective (4)
- Professional Elective (4)
- ENG BE 467 Product Design/ Innovation (2) [Fall Only]
- ENG BE 465 Senior Project (2)
- General Education Elective

**SENIOR 2**
- Biomedical Elective (4)
- Biomedical Elective (4)
- Professional Elective (4)
- ENG BE 466 Senior Project (4)

**Extra Courses**
- ( )
- ( )
- ( )
- ( )
- ( )

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**General Education Requirements Checklist**
- 1. CAS WR 100
- 2. CAS WR 150
- 3. 1 Course in Social Science
- 4. 1 Course in Humanities
- 5. 1 Course SS or HUM
- 6. 1 Course General Education elective
- 7. Total of at least 24 credits

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- **Prereq. =**
- **Coreq. =**

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**Notes:**
- **GRADUATION REQUIREMENT:** 136 credits
- **ENG Credit Req:** 48 credits/Upper Division Program courses completed at Boston University
- **Design Req:** 4 credits from the design Elective list must be taken to fulfill a professional, engineering, or biomedical elective
- **Pre-Med Majors:** Students should consult with the BU Pre-Professional Advising Office and their ENG Faculty Advisors
Students majoring in Biomedical Engineering are required to complete a minimum of 136 credits as detailed on the Program Planning Sheet on the other side of this form.

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/.

CONTINUOUS 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 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 EK 210 – Intro ENG Design

ENGINEERING ELECTIVES (4 credits required)

ENG EC 311 Intro to Logic Design
ENG EC 327 Intro Software Engineering
ENG EC 412 Analog Electronics
ENG EC 415 Communications Systems
ENG EC 416 Intro Digital Signal Processing
ENG EC 450 Microprocessors
ENG EC 455 Electromagnetic Systems I
ENG EC 456 Electromagnetic Systems II
ENG EC 471 Physics Semiconductor Devices
ENG EC 505 Stochastic Processes
ENG EC 580 Modern Active Circuit Design
ENG EC 481 Nanomaterials & Nanotechnology
ENG EC 302 Engineering Mechanics II
ENG ME 305 Mechanics of Materials
ENG ME 428 Technology & Its Commercialization
ENG ME 306 Material Science

Additionally, any Biomedical Elective (below) that has not been used to satisfy the BME Elective requirement (except BF 527) may be used as an Engineering Elective.

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 EC 410 Introduction to Electronics
ENG BF 527 Application in Bioinformatics,

DESIGN ELECTIVES (4 credits required) One of the elective choices above (Prof, ENG or BME) must include one 4-credit or two 2-credit courses from the design electives list.

Fulfills Professional Elective:
ENG EK 156 - Design and Manufacture (2 cr)
ENG EK 210 - Intro ENG Design (2 cr)
ENG ME 359 - CAD/ Machine Components (2 cr)
ENG ME 360 - Product Design

Fulfills Fields Elective
ENG BE 435 – Transport Phenomena

Fulfills Engineering Elective:
ENG EC 311 - Introduction to Logic Design
ENG EC 412 - Analog Electronics
ENG EC 416 - Intro to Digital Signal Processing
ENG ME 501 - Modern Active Circuit Design
ENG ME 407** – Computer-Aided Design & Manufacture

Fulfills Biomedical Elective:
ENG EC 471 – Physics Semiconductor Devices
ENG EC 505 – Stochastic Processes
ENG EC 580 – Modern Active Circuit Design
ENG ME 305 – Mechanics of Materials
ENG ME 407** – Computer-Aided Design & Manufacture

DEGREE ENHANCEMENTS

CONCENTRATIONS: Students may choose to add a Concentration in Energy Technologies, Nanotechnology or Technology Innovation. Students completing a Minor in Mechanical Engineering may choose to add a concentration in Aerospace Engineering. A concentration requires 4 courses which satisfy courses within the major. Hence, a concentration can usually be completed without additional coursework. More information on concentrations and the specific requirements for each can be found at http://www.bu.edu/eng/academics/programs/concentrations/. Students may also pursue minors in other Colleges at Boston University. For more information, please contact the College of the minor.

MINORS: Students may choose to add a minor in any one of the other degree programs or divisions (Materials Science & Engineering or Systems Engineering) within the College of Engineering. A minor consists of 5 courses, 2 of which may also be used to satisfy requirements for the major. Completing a minor will add a minimum of 12 credits to the total credits for the degree. More information on minors and the specific requirements for each can at http://www.bu.edu/eng/academics/programs/minors/.

DOUBLE MAJORS: Students may earn two engineering BS degrees. Double majors require a minimum of 168 credits and students must fulfill the requirements for each of the degree programs. See http://www.bu.edu/eng/academics/special-programs/ for more details.

OTHER WAYS TO ENHANCE YOUR DEGREE

Students have several additional options available to them including study abroad, research, and co-op/internship opportunities. For more information on these programs, please visit the College of Engineering Undergraduate website at: http://www.bu.edu/eng/academics/.

Notes: For the following 9 sets of courses, only 1 course can be taken for credit in each set due to the overlap of material:

(1) ENG ME 305, ENG BE 420
(2) ENG ME 404, ENG BE 402, ENG EC 402
(3) ENG ME 303, ENG BE 436
(4) ENG ME 441, ENG ME 515
(5) ENG ME 501, ENG EC 501
(6) ENG EK 102, CAS MA 142, CAS MA 242
(7) ENG ME 366, ENG EC 381, ENG BE 200, ENG EK 500
(8) ENG ME 366, ENG EC 381, ENG BE 200, ENG EK 500
(9) ENG ME 359, ENG ME 407**

** Summer only