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

Biomedical Engineering – 2019
Undergraduate Program Planning Sheet

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 131/132 Intro to Engineering (4)
- EK 210 Intro to Engineering Design (2)

SOPHOMORE 1
- CAS MA 225 Multivariate Calculus (4)
- CAS PY 212 Physics II (4)
- ENG EK 307 Electric Circuits (4)
- ENG EK 210 Intro to Engineering Design (2)
- Social Science/Elective (4)

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 Intro to Probability (2)
- Social Science/Elective (4)

JUNIOR 1
- ENG EK 424 Thermodynamics & Statistical Methods (4)
- CAS BI 315 Systems Physiology (4)
- ENG BE 401 Biomedical Measurements I (2) [Fall Only]
- ENG BE 402 Control Systems in Biomedical Engineering (4) [Spring Only]
- Humanities Elective (4)

JUNIOR 2
- Biomedical Elective (4)
- ENGR EK 410 Intro to Engineering Design (2)
- ENG BE 402 Biomedical Measurements II (2) [Spring Only]
- ENG BE 406 Senior Project (2)
- Social Science/Elective (4)

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 (4)

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

Extra Courses

Grading Requirement: 136 credits
ENG Credit Req: 48 credits/Upper Division Program courses completed at BU.

Please note, this is a model of completion for the BME undergraduate curriculum. If this model is followed, all necessary prerequisites and co-requisites should be fulfilled. However, if you choose to deviate from this model, you will need to speak with your advisor to ensure you are taking everything you need in the correct order. 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.
REQUIREMENTS

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

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/).

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

<table>
<thead>
<tr>
<th>ENG BE 419 Principles of Continuum Mechanics and Transport</th>
<th>ENG BE 435 Transport Phenomena in Living Systems</th>
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<tr>
<td>ENG BE 420 Introduction to Solid Biomechanics</td>
<td>ENG BE 436 Fundamentals of Fluid Mechanics</td>
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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)

** 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/](http://www.bu.edu/eng/academics/programs/concentrations/). Students may also pursue minors in other Colleges at Boston University. For more information, please visit 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 be at [http://www.bu.edu/eng/academics/programs/minors/](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/](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: [http://www.bu.edu/eng/academics/](http://www.bu.edu/eng/academics/).

**Notes:**

For the following 10 sets of courses, only 1 course can be taken for credit in each set due to the overlap of material:

1. (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

2. (6) ENG ME 501, ENG EC 501 (7) ENG EK 102, CAS MA 142, CAS MA 242 (8) ENG BE 401, ENG EC 401 (9) ENG ME 366, ENG EC 381, ENG BE 200, ENG EK 500 (10) ENGME 359, ENG ME 407 **(Summer Only)**