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

Biomedical Engineering – 2017
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)
CAS WR 100 Writing Seminar (4)

SOPHOMORE 1
CAS MA 225 Multivariate Calculus (4)
CAS PY 212 Physics II (4)
ENG EK 307 Electric Circuits (4)
ENG EK102 Intro Linear Algebra (4)
CAS WR 150 † Writing & Research Seminar (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 491 Biomedical Measurements I (2) [Fall Only]
ENG BE 401 Signals & Systems in Biomedical Engineering (4) [Fall Only]
Humanities Elective (4)

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

- GRADUATION 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.

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

* STUDY ABROAD: Students who plan to study abroad in Sophomore 2 should take EK 301 in Sophomore 1

Prereq. =
Coreq. =

Grey Box = Either Semester

†) PreMed CASCH203/204 Professional Electives on Back
Universities and Colleges of Engineering Undergraduate website: http://www.bu.edu/eng/current-students/ugrad/requirements/.

**CONTINUING 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)**

- ENG BE 501 Mechanical Vibrations
- ENG BE 504 Dynamics
- ENG BE 511 Technology & Its Commercialization
- ENG BE 515 Nanometer Scale Processes
- ENG ME 306 Medical Science
- ENG ME 309 Structural Mechanics
- ENG ME 407** (Summer Only)
- ENG ME 407**

**ENGINEERING ELECTIVES (4 credits required)**

- ENG EC 311 Intro to Logic Design
- ENG EC 372 Intro to Software Engineering
- ENG EC 412 Analog Electronics
- ENG EC 415 Communications Systems
- ENG EC 416 Intro to Digital Signal Processing
- ENG EC 450 Microprocessors
- ENG EC 455 Electromagnetic Systems I
- ENG ME 301 Mechanics of Materials
- ENG ME 305 Material Science
- ENG ME 404 Engineering Mechanics II
- ENG ME 511 Intro Biomed Instrumentation

**BIOMEDICAL ENGINEERING ELECTIVES (12 credits required)**

- ENG BE 400 and 500 level courses (except BE 500)
- ENG EC 410 Introduction to Electronics
- ENG BF 527 Application in Bioinformatics

**DESIGN ELECTIVES (4 credits required)**

- Fulfills Professional Elective: ENG EC 311 – Introduction to Logic Design
- Fulfills Engineering Elective: ENG EC 372 Intro to Software Engineering
- Fulfills Biomedical Elective: ENG BE 428 – Device Diagnostics & Design

**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 be found 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: 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. 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 ME 501, ENG EC 501
7. ENG ME 501, ENG EC 501
8. ENG ME 501, ENG EC 501
9. ENG ME 501, ENG EC 501
10. ENG ME 501, ENG EC 501