NAME: ________________________ U.I.D.# ____________________ DATE: ________

**Electrical Engineering – 2021**
Undergraduate Program Planning Sheet

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**FRESHMAN 1**
- CAS MA 123 Calculus I (4)
- CAS CH 131 Principles of General Chemistry (4)
- ENG EK 100 Freshman Seminar (0)

**FRESHMAN 2**
- CAS MA 124 Calculus II (4)
- CAS PY 211 Physics I (4)
- CAS WR 100 Writing Seminar (4)

**SOPHOMORE 1**
- CAS MA 225 Multivariate Calculus (4)
- CAS PY 212 Physics II (4)
- ENG EK 131/132 Intro to ENG Design (2)

**SOPHOMORE 2**
- CAS MA 226 Differential Equations (4)
- CAS PY 313 Waves & Modern Physics (4)
- ENG EK 301 Engineering Mechanics I (4)

**JUNIOR 1**
- ENG EK 401 Signals and Systems (4)
- ENG EK 410 Introduction to Electronics (4)
- ENG EK 301 Engineering Mechanics I (4)
- ENG EK 455 Introduction to Electromagnetics (4)

**JUNIOR 2**
- Systems Elective
  - ENG EC 402, EC 415, or EC 416 (4)
- ENG EC 381 Probability Theory in ECE (4)
- Electrophysics Elective List on Reverse (4)

**SENIOR 1**
- ENG EC 463 Senior Design Project I (4) [Fall Only]
- Computer Elective
  - ENG EC 327, EC 413, or EC 441 (4)
- Technical Elective (4)
- Social Science/ Humanities Elective

**SENIOR 2**
- ENG EC 464 Senior Design Project II (4) [Spring Only]
- Technical Elective (4)
- Technical Elective (4)
- General Education Elective (4)

**Extra Courses**

Extra Courses: 

- ( )
- ( )
- ( )
- ( )

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

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**Prereq. =**

**Coreq. =**

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**General Education Requirements Checklist**

- **GRADUATION REQUIREMENT: 130 credits**
- **ENG Credit Requirement: 48 credits/Upper Division Program courses completed at Boston University**

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**Key:**
- Math
- Natural Science
- Engineering Common
- General Education
- Electrical Required
- Electives

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**Grey Box = Either Semester**
**REQUIREMENTS**

Students majoring in Electrical Engineering are required to complete a minimum of 130 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/.

**ELECTRONICS ELECTIVES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG EC 412</td>
<td>Analog Electronics</td>
</tr>
<tr>
<td>ENG EC 417</td>
<td>Electric Energy Systems</td>
</tr>
<tr>
<td>ENG EC 450</td>
<td>Microprocessors</td>
</tr>
<tr>
<td>ENG EC 470</td>
<td>Sensors in Space</td>
</tr>
</tbody>
</table>

**ELECTROPHYSICS ELECTIVES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG EC 417</td>
<td>Electric Energy Systems</td>
</tr>
<tr>
<td>ENG EC 456</td>
<td>Electromagnetic Systems II</td>
</tr>
<tr>
<td>ENG EC 470</td>
<td>Sensors in Space</td>
</tr>
<tr>
<td>ENG EC 471</td>
<td>Physics of Semiconductor Devices</td>
</tr>
</tbody>
</table>

**TECHNICAL ELECTIVES**  
(see Notes below)  
Electrical Engineering majors complete 3 Technical Elective courses.  
Acceptable courses include all EC courses and ENG BE 209.  
Additionally, all ENG BE, EK and ME courses at the 300-level and above are acceptable as Technical Electives.

**Pre-Approved Courses Outside Engineering that fulfill a Technical Elective:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS AS 414</td>
<td>Solar and Space Physics</td>
</tr>
<tr>
<td>CAS CS 440</td>
<td>Intro to Artificial Intelligence</td>
</tr>
<tr>
<td>CAS CS 480</td>
<td>Intro to Computer Graphics</td>
</tr>
<tr>
<td>CAS CS 585</td>
<td>Image and Video Computing</td>
</tr>
<tr>
<td>CAS MA 511</td>
<td>Introduction to Analysis I</td>
</tr>
<tr>
<td>CAS MA 528</td>
<td>Intro to Modern Geometry</td>
</tr>
<tr>
<td>CAS MA 531</td>
<td>Computability and Logic</td>
</tr>
<tr>
<td>CAS MA 541</td>
<td>Modern Algebra 1</td>
</tr>
<tr>
<td>CAS MA 583</td>
<td>Intro to Stochastic Processes</td>
</tr>
<tr>
<td>CAS PY 451</td>
<td>Quantum Physics 1</td>
</tr>
<tr>
<td>CAS PY 452</td>
<td>Quantum Physics 2</td>
</tr>
<tr>
<td>SMG SI 480</td>
<td>Business of Technology Innovation</td>
</tr>
<tr>
<td>SMG SI 482</td>
<td>Technology Commercialization</td>
</tr>
</tbody>
</table>

**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 can usually be used to 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/.  
*Electrophysics: EC 500 F1 can not substitute EK 481(exc. Nanotech Concentration)*

**MINORS**

Students may choose to add a minor in any one of the other departments 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/. Students may also pursue minors in other Colleges at Boston University. For more information, please contact the College of the minor.

**DOUBLE MAJORS**

Students may earn two engineering BS degrees. Double majors require a minimum of 162 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 8 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 403, 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 BE 401, ENG EC 401  
8. ENG ME 366, ENG EC 381, ENG BE 200, ENG EK 500