# B.S. IN ENGINEERING SCIENCE

## Curriculum Requirements

<table>
<thead>
<tr>
<th>Code</th>
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<td>ECE 305</td>
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<td>Introduction to Linear Algebra</td>
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<td>Multivariable Calculus</td>
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<td>Introduction to Ordinary Differential Equations</td>
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# Suggested Plan of Study

## Freshman Year

### Fall

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<thead>
<tr>
<th>Course</th>
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<th>Credit Hours</th>
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<tbody>
<tr>
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<td>PHY 221</td>
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### Spring

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<tr>
<td>MAE 112</td>
<td>Introduction to Engineering II</td>
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<td>CAE 210</td>
<td>Mechanics of Solids I</td>
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<tr>
<td>ENG 107</td>
<td>English Composition II: Science and Technology</td>
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<td>MTH 162</td>
<td>Calculus II</td>
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## Sophomore Year

### Fall

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<tbody>
<tr>
<td>MAE 207</td>
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<td>Principles of Chemistry</td>
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<td>Chemistry Laboratory I</td>
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<td>MTH 210</td>
<td>Introduction to Linear Algebra</td>
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### Spring

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>MAE 202</td>
<td>Dynamics</td>
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<td>ECE 201</td>
<td>Electrical Circuit Theory</td>
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<td>CHM 221</td>
<td>Introduction to Structure and Dynamics</td>
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<tr>
<td>CHM 114</td>
<td>Chemistry Laboratory II</td>
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<tr>
<td>MTH 310</td>
<td>Multivariable Calculus</td>
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<td>PS Cognate (PS Elective)¹</td>
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## Junior Year

### Fall

<table>
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<tr>
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<td>Applied Probability and Statistics</td>
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<tr>
<td>MAE 303</td>
<td>Thermodynamics</td>
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<td>MTH 311</td>
<td>Introduction to Ordinary Differential Equations</td>
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<tr>
<td>PHY 350</td>
<td>Intermediate Electricity and Magnetism</td>
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### Spring

<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MAE 241</td>
<td>Measurements Laboratory</td>
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<tr>
<td>ECE 204</td>
<td>Electrical Circuits Laboratory</td>
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<tr>
<td>MAE 309</td>
<td>Fluid Mechanics</td>
<td>3</td>
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<td>MAE 301</td>
<td>Engineering Materials Science</td>
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<td>PS Cognate (PS Elective)¹</td>
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<td>Senior Year</td>
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<td>MAE 302 Mechanical Behavior of Materials</td>
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<td>MAE 412 System Dynamics</td>
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<td>CHM 360 Physical Chemistry I (Lecture)</td>
<td>3</td>
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<tr>
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<td>PHY 360 Introduction to Modern Physics</td>
<td>3</td>
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<tr>
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<td>PS Cognate (Adv. PS Elective)</td>
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**Credit Hours**

**Spring**

|             | PHY 351 or CHM 202 Intermediate Electricity and Magnetism II or Organic Chemistry II (Lecture) | 3       |
|             | ECE 305 Electronics I                     | 3       |
|             | CHM 205 Chemical Dynamics Laboratory      | 1       |
|             | Applied Elective                          | 3       |
|             | Technical Elective                        | 3       |
|             | HA Cognate (Adv. HA Elective)             | 3       |

**Credit Hours**

**Total Credit Hours** 124

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1. You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

2. Applied electives are advanced courses selected in coordination with the Faculty Advisor and require his/her approval.

3. Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.