## Bachelor of Science in Engineering (BIC)

### School of Engineering and Computer Science

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIC 1314</td>
<td>World Cultures I: Roots of Culture</td>
<td>3</td>
</tr>
<tr>
<td>BIC 1324</td>
<td>World Cultures II: Religion and Culture</td>
<td>3</td>
</tr>
<tr>
<td>BIC 2334</td>
<td>World Cultures III: The Modern World</td>
<td>3</td>
</tr>
<tr>
<td>BIC 2344</td>
<td>World Cultures IV: The United States in the World</td>
<td>3</td>
</tr>
</tbody>
</table>

### Interdisciplinary Core Requirements

#### World Cultures

- BIC 1314: World Cultures I: Roots of Culture
- BIC 1324: World Cultures II: Religion and Culture
- BIC 2334: World Cultures III: The Modern World
- BIC 2344: World Cultures IV: The United States in the World

#### Additional Humanities and Social Sciences

#### Foreign Language

Second level proficiency (at least 1302, 1402, or 1412) must be achieved.

### Chapel

Two semesters, usually freshman year

### Mathematics and Basic Sciences

- CHE 1301: Basic Principles of Modern Chemistry I
- MTH 1321: Calculus I
- MTH 1322: Calculus II
- MTH 2311: Linear Algebra
- MTH 2321: Calculus III
- MTH 3325: Ordinary Differential Equations
- STA 3381: Probability and Statistics
- PHY 1420: General Physics I
- & PHY 1430: General Physics II

Select one of the following Mathematics or Basic Science Courses:

- MTH 4329: Theory of Functions of a Complex Variable (Required for Electrical and Computer Engineering major)

### Other Requirements

- PWR 3300: Technical Writing 3
- ECO 3308: Engineering Economic Analysis 3

### Ethics Elective

- EGR 3305: Social and Ethical Issues in Engineering 1 3
- or EGR 3315: Ethics of International Service 3

### Lifetime Fitness

- One activity course 2 1

### Major

See the Department of Engineering section of this catalog for specific requirements. 64

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## Bachelor of Science in Computer Science (BIC)

### School of Engineering and Computer Science

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MTH 3326</td>
<td>Partial Differential Equations (Required for the Mechanical Engineering major)</td>
<td></td>
</tr>
</tbody>
</table>

### Other Requirements

- PWR 3300: Technical Writing 3
- ECO 3308: Engineering Economic Analysis 3

### Ethics Elective

- EGR 3305: Social and Ethical Issues in Engineering 1 3
- or EGR 3315: Ethics of International Service 3

### Lifetime Fitness

- One activity course 2 1

### Major

See the Department of Engineering section of this catalog for specific requirements. 64

1 BSE Program requires EGR 3305 Social and Ethical Issues in Engineering.

2 PUBH 1145 Health and Human Behavior will not meet this requirement.
Two semesters, usually freshman year

**Technical Core Requirements**

**Mathematics**
- MTH 1321 Calcualus I
- MTH 1322 Calculus II
- STA 3381 Probability and Statistics
- MTH 2311 Linear Algebra
  or MTH 2321 Calculus III

**Sciences**
Complete one group from the following natural or physical sciences. Complete an additional six to eight hours from the courses below or from courses which have one or more of the below courses as prerequisites:

<table>
<thead>
<tr>
<th>Group</th>
<th>Course Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BIO 1305 &amp; BIO 1105</td>
<td>Modern Concepts of Bioscience and Modern Concepts of Bioscience Laboratory</td>
</tr>
<tr>
<td>1</td>
<td>BIO 1306 &amp; BIO 1106</td>
<td>Modern Concepts of Bioscience, continued and Modern Concepts of Bioscience Laboratory</td>
</tr>
<tr>
<td>2</td>
<td>CHE 1301 &amp; CHE 1302</td>
<td>Basic Principles of Modern Chemistry I and Basic Principles of Modern Chemistry II</td>
</tr>
<tr>
<td>3</td>
<td>GEO 1405 &amp; GEO 1306 &amp; GEO 1106</td>
<td>The Dynamic Earth and The Earth Through Time and The Earth Through Time, Laboratory</td>
</tr>
</tbody>
</table>

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<th>Group</th>
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</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>PHY 1408 &amp; PHY 1409</td>
<td>General Physics for Natural and Behavioral Sciences I and General Physics for Natural and Behavioral Sciences II</td>
</tr>
<tr>
<td>4</td>
<td>PHY 1425</td>
<td></td>
</tr>
</tbody>
</table>

**Major**
See the Engineering and Computer Science B.S.C.S. degree section of this catalog for specific requirements.

**Minor**
Optional, see specific requirements in departmental sections of this catalog.

**Other Requirements**
The requirements for advanced credit, residence, language, a specified comprehensive examination, chapel, minimum grade point average, maximum credit, and lifetime fitness are the same as for the bachelor of arts degree.

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**Bachelor of Science in Informatics (BIC)**

**School of Engineering and Computer Science**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Minimum Requirements</strong></td>
<td>(136)</td>
</tr>
<tr>
<td></td>
<td>Residence Requirement – minimum (including the last thirty hours)</td>
<td>(60)</td>
</tr>
</tbody>
</table>

**Technical Core Requirements**

- MTH 1321 Calculus I
- STA 2381 Introductory Statistical Methods
  or MTH 3381
- CHE 1301 Basic Principles of Modern Chemistry I
  or MTH 1102
- CHE 1101 General Chemistry Laboratory I
- CHE 1302 Basic Principles of Modern Chemistry II
  or CHE 1102
- CHE 1102 General Chemistry Laboratory II
- CHE 3238 Organic Chemistry Laboratory
- CHE 3331 Organic Chemistry I
- CHE 3332 Organic Chemistry II

**Interdisciplinary Core Requirements**

**World Cultures**
- BIC 1314 World Cultures I: Roots of Culture
- BIC 1324 World Cultures II: Religion and Culture
- BIC 2334 World Cultures III: The Modern World
- BIC 2344 World Cultures IV: The United States in the World

**The World of Rhetoric**
- BIC 1313 World of Rhetoric I

**The Social World**
- BIC 2330 Social World I: The City and the Soul
  & BIC 2340 Social World II: The Conditions and Possibilities of Human Fulfillment

**The Examined Life**
- BIC 1112 Examined Life
  & BIC 3358 Examined Life II: Biblical Heritage and Contemporary Ethical Issues

**Additional Core Requirements**
- PWR 3300 Technical Writing
- Foreign Language
- One language through 1302 or 1412

**Chapel**
- Two semesters, usually freshman year

**Technical Core Requirements**

- MTH 1321 Calculus I
- STA 2381 Introductory Statistical Methods
  or MTH 3381
- CHE 1301 Basic Principles of Modern Chemistry I
  or MTH 1102
- CHE 1101 General Chemistry Laboratory I
- CHE 1302 Basic Principles of Modern Chemistry II
  or CHE 1102
- CHE 1102 General Chemistry Laboratory II
- CHE 3238 Organic Chemistry Laboratory
- CHE 3331 Organic Chemistry I
- CHE 3332 Organic Chemistry II

**Major**
See the Engineering and Computer Science B.S.I. degree section of this catalog for specific requirements.

**Other Requirements**
The requirements for a minor, advanced credit, and maximum credit are the same as for the Bachelor of Science in Computer Science degree.