PHYSICS B.S.
All students must meet the University Requirements.
All students must meet the College Requirements.

MAJOR REQUIREMENTS
All courses in core and all courses in one of the listed options.

<table>
<thead>
<tr>
<th>Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose one of the following sequences:</td>
</tr>
<tr>
<td>PHYS 051 &amp; PHYS 152 Fundamentals of Physics I and Fundamentals of Physics II</td>
</tr>
<tr>
<td>PHYS 031 &amp; PHYS 125 &amp; PHYS 022 Physics for Engineers I and Physics for Engineers II and Introductory Lab II</td>
</tr>
<tr>
<td>PHYS 128 Waves and Quanta</td>
</tr>
<tr>
<td>PHYS 211 Classical Mechanics</td>
</tr>
<tr>
<td>PHYS 213 Electricity &amp; Magnetism</td>
</tr>
<tr>
<td>PHYS 273 Quantum Mechanics I</td>
</tr>
<tr>
<td>PHYS 214 Electromagnetism</td>
</tr>
<tr>
<td>or PHYS 274 Applications of Quantum Mechanics</td>
</tr>
<tr>
<td>MATH 021 Calculus I</td>
</tr>
<tr>
<td>MATH 022 Calculus II</td>
</tr>
<tr>
<td>MATH 121 Calculus III</td>
</tr>
<tr>
<td>MATH 271 Adv Engineering Mathematics</td>
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<tr>
<td>or MATH 230 Ordinary Differential Equation</td>
</tr>
<tr>
<td>MATH 124 Linear Algebra</td>
</tr>
<tr>
<td>or MATH 272 Applied Analysis</td>
</tr>
<tr>
<td>CHEM 031 General Chemistry I</td>
</tr>
<tr>
<td>One additional course in chemistry (CHEM 032 recommended)</td>
</tr>
<tr>
<td>CS 021 Computer Programming I (^1)</td>
</tr>
</tbody>
</table>

Options

Pure Physics:

| PHYS 201 Experimental Physics I                                      |
| PHYS 202 Experimental Physics \(^2\)                                 |
| PHYS 265 Thermal & Statistical Physics                              |

Twelve credits of approved physics electives

Mechanical Engineering:

| ME 012 Dynamics                                                     |

| ME 014 Mechanics of Solids                                         |
| ME 040 & ME 044 Thermodynamics and Heat Transfer                   |
| ME 042 Applied Thermodynamics                                      |
| ME 101 Materials Engineering                                       |
| ME 111 System Dynamics                                             |
| ME 143 Fluid Mechanics                                             |
| CE 001 Statics                                                     |
| EE 100 Electrical Engr Concepts                                    |

Civil and Environmental Engineering: 30

| CE 001 Statics                                                      |
| CE 010 Geomatics                                                    |
| CE 100 Mechanics of Materials                                       |
| CE 150 Environmental Engineering                                   |
| CE 170 Structural Analysis                                         |
| CE 173 Reinforced Concrete                                         |
| ME 012 Dynamics                                                     |
| ME 040 & ME 044 Thermodynamics and Heat Transfer                    |
| EE 100 Electrical Engr Concepts                                    |

Electrical Engineering (Signals and Systems): 30

| EE 003 Linear Circuit Analysis I                                   |
| EE 004 Linear Circuit Analysis II                                  |
| EE 081 Linear Circuits Laboratory I                               |
| EE 082 Linear Circuits Laboratory II                              |
| EE 120 Electronics I                                               |
| EE 121 Electronics II                                              |
| EE 171 Signals & Systems                                           |
| EE 174 Communication Systems                                       |
| EE 275 Digital Signal Processing                                   |

Choose one of the following:

| EE 276 Image Processing & Coding                                   |
| EE 277 Image A\&y\&Pattern Recognition                             |
| EE 295 Special Topics                                              |

Electrical Engineering (Circuits and Devices): 30

| EE 003 Linear Circuit Analysis I                                   |

|
## 2015-2016 Catalogue

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 004</td>
<td>Linear Circuit Analysis II</td>
</tr>
<tr>
<td>EE 081</td>
<td>Linear Circuits Laboratory I</td>
</tr>
<tr>
<td>EE 082</td>
<td>Linear Circuits Laboratory II</td>
</tr>
<tr>
<td>EE 120</td>
<td>Electronics I</td>
</tr>
<tr>
<td>EE 121</td>
<td>Electronics II</td>
</tr>
<tr>
<td>EE 131</td>
<td>Fundamentals of Digital Design</td>
</tr>
<tr>
<td>EE 163</td>
<td>Solid State Phys Electronics I</td>
</tr>
<tr>
<td>EE 183</td>
<td>Electronics Laboratory I</td>
</tr>
<tr>
<td>EE 184</td>
<td>Electronics Laboratory II</td>
</tr>
<tr>
<td>EE 221</td>
<td>Prin VLSI Digital Circuit Des</td>
</tr>
</tbody>
</table>

### Astrophysics:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 257</td>
<td>Modern Astrophysics</td>
</tr>
<tr>
<td>PHYS 201</td>
<td>Experimental Physics I</td>
</tr>
<tr>
<td>PHYS 214</td>
<td>Electromagnetism</td>
</tr>
<tr>
<td>PHYS 265</td>
<td>Thermal &amp; Statistical Physics</td>
</tr>
</tbody>
</table>

Nine credits of approved science or mathematics electives

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1 PHYS 202 and CS 021 may be waived in favor of credit in readings and research.