## PHYSICS, B.A. - 3/2
### COOPERATIVE ENGINEERING OPTION

### Major in Physics, BA

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REQUIRED PHYSICS COURSES</strong></td>
<td></td>
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</tr>
<tr>
<td>PHYS 231</td>
<td>Physics 1 with Calculus</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 232</td>
<td>Physics 2 with Calculus</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 233</td>
<td>Wave-Particle Theory</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 266</td>
<td>Electronics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 311</td>
<td>Mechanics 1</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 321</td>
<td>Electromagnetic Fields 1</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 334</td>
<td>Macroscopic Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 335</td>
<td>Quantum Systems</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 351</td>
<td>Intermediate Physics Lab</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 492</td>
<td>Physics Research and Seminar</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 498</td>
<td>Independent Study/Research</td>
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<tr>
<td><strong>OPTION REQUIREMENTS</strong></td>
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<td></td>
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<tr>
<td>Option in Cooperative Engineering - See separate block</td>
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<tr>
<td><strong>Total Hours</strong></td>
<td>35</td>
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### Concentration in Cooperative Engineering

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Credits for Completion of BS in Engineering</td>
<td>25</td>
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</table>

Upon completion and certification of a BS in Engineering, 25 credits will be awarded toward the BA in Physics.

<table>
<thead>
<tr>
<th><strong>Total Hours</strong></th>
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<tbody>
<tr>
<td><strong>25</strong></td>
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### Req Related for Physics Co-Engineering, BA

<table>
<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td><strong>CHEMISTRY</strong></td>
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<tr>
<td>CHEM 111</td>
<td>Introductory Chemistry 1</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 112</td>
<td>Introductory Chemistry 2</td>
<td>4</td>
</tr>
<tr>
<td><strong>MATHEMATICS</strong></td>
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<tr>
<td>Calculus I(C- minimum) or Calculus Honors - Choose 1 of the following:</td>
<td>4-5</td>
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<tr>
<td>MATH 161</td>
<td>Calculus 1</td>
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<tr>
<td>MATH 163H</td>
<td>Honors Calculus 1</td>
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</tr>
<tr>
<td>MATH 211</td>
<td>Calculus 2 (C- minimum)</td>
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<tr>
<td>MATH 311</td>
<td>Calculus 3</td>
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<td>Ord Diff Equations</td>
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<tr>
<td>MATH 365</td>
<td>Ordinary Differential Equation</td>
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<table>
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<tr>
<th><strong>Total Hours</strong></th>
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<tbody>
<tr>
<td><strong>23-24</strong></td>
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</tbody>
</table>

Students must consult their advisors or the physics department coordinator for cooperative engineering.