BS in Physics

Degree Program Description

Physics is the science that studies the structure and properties of matter and transformations of energy. With math as the language and experimental verification as a guide, physical study has established the fundamental laws of nature that are the foundation of all natural science and technology. The study of physics includes learning the general principles and the phenomena that have been discovered and developing the skills that enable such knowledge to be advanced through research. The BS degree in Physics is designed to prepare students for scientific careers immediately upon graduation, for further training in graduate school, or for teaching high school physics. Physics plays a pivotal role in such areas of expanding and societal importance as biomedical optical imaging/biomedicine, materials science, and homeland security, and as such, courses are offered in optical sciences, biological physics, materials sciences and nanotechnology. Students can specialize by pursuing a BS in physics with an emphasis in astronomy, biophysics, or materials science.

Major Program Requirements

Students must complete the University general education requirements and graduation requirements in addition to the Major Program Requirements below.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>CR</th>
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<tbody>
<tr>
<td>PHYSCS 2010</td>
<td>Undergraduate Seminar in Physics</td>
<td>2</td>
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<tr>
<td>PHYSCS 2750 &amp; PHYSCS 2760</td>
<td>University Physics I and University Physics II</td>
<td>10</td>
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<tr>
<td>PHYSCS 3150W</td>
<td>Introduction to Modern Physics - Writing Intensive</td>
<td>3</td>
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<tr>
<td>PHYSCS 4060</td>
<td>Advanced Physics Laboratory I</td>
<td>3</td>
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<tr>
<td>PHYSCS 4100</td>
<td>Electricity and Magnetism I</td>
<td>3</td>
</tr>
<tr>
<td>PHYSCS 4120</td>
<td>Introduction to Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>PHYSCS 4140</td>
<td>Mechanics</td>
<td>3</td>
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<tr>
<td>PHYSCS 4800</td>
<td>Introduction to Quantum Mechanics I</td>
<td>3</td>
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<tr>
<td>MATH 1500 &amp; MATH 1700 &amp; MATH 2300</td>
<td>Analytic Geometry and Calculus I and Calculus II and Calculus III</td>
<td>13</td>
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<tr>
<td>MATH 4100</td>
<td>Differential Equations</td>
<td>3</td>
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<tr>
<td>CHEM 1320</td>
<td>College Chemistry I</td>
<td>4</td>
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<tr>
<td>or CMP_SC 1050</td>
<td>Algorithm Design and Programming I</td>
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Electives

- Additional physics/astronomy: 15
- Additional math: 6

Total Credits: 71

Semester Plan

Below is a sample plan of study, semester by semester. A student’s actual plan may vary based on course choices where options are available.