PHYSICS MINOR

Learning Goals and Objectives

Goal 1: The student will develop the skills to be able to analyze phenomena quantitatively, be able to build specific models, and see how the scientific method is used to test those models.

Students will be able to:

Objective 1.1: Be conversant with fundamental laboratory methods, the use of the electronic test equipment, and analysis of data including computational methods of processing and analyzing data.

Objective 1.2: Translate problems in the natural sciences, especially those related to the physical world, into mathematical formulations utilizing calculus and other sophisticated mathematical tools.

Goal 2: The student will gain an appreciation and understanding of the foundations of physics including classical mechanics, classical electricity and magnetism, thermodynamics and quantum theory.

Students will be able to:

Objective 2.1: Solve problems using classical Newtonian mechanics.

Objective 2.2: Solve problems in classical electricity and magnetism including wave phenomena and optics.

Objective 2.3: Understand the development of quantum mechanics from the failure of classical mechanics under certain conditions and be able to solve paradigmatic problems using fundamental quantum theory.

Objective 2.4: Understand the development of classical thermodynamics and in conjunction with quantum theory, appreciate the need for a statistical approach to thermodynamics.

A student may elect to minor in Physics by taking the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>PHY 105 &amp; 105L</td>
<td>University Physics I and University Physics Lab I</td>
<td>4</td>
</tr>
<tr>
<td>PHY 106 &amp; 106L</td>
<td>University Physics II and University Physics Lab II</td>
<td>4</td>
</tr>
<tr>
<td>PHY 251</td>
<td>Modern Physics I</td>
<td>4</td>
</tr>
</tbody>
</table>

Any three (3) PHY courses

Modifications are subject to the Chair’s approval in consultation with the department. Interested students should contact the chair prior to the fall semester of their junior year.