# Astronomy, Minor

The Astronomy Minor is intended for students who are interested in learning about modern astronomy and astrophysics. Students may have the opportunity to participate in undergraduate research with physics department faculty members.

## Minor in Astronomy

**NON-PHYSICS MAJORS**: the minor in astronomy requires one introductory physics sequence (8 credit hours) and four required physics courses (12 credit hours) for a total of 20 credit hours as listed below:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>PHYS 1001 &amp; PHYS 1002</td>
<td>General Physics 1 and General Physics 2</td>
<td>8</td>
</tr>
<tr>
<td>PHYS 1003 &amp; PHYS 1004</td>
<td>General Physics with Introductory Calculus 1 and General Physics with Introductory Calculus 2</td>
<td></td>
</tr>
<tr>
<td>PHYS 1013 &amp; PHYS 1014</td>
<td>Classical and Modern Physics with Calculus 1 and Classical and Modern Physics with Calculus 2</td>
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</tr>
</tbody>
</table>

**Required Courses:**

- PHYS 1008: Astronomy and Space Physics (3 hours)
- PHYS 2400: The Microscopic World (3 hours)
- PHYS 3021: Introduction to Theoretical Astrophysics (3 hours)
- PHYS 3022: Introduction to Observational Astronomy (3 hours)

**Total Credit Hours:** 20

**Note:**

- Students who complete PHYS 1001 General Physics 1 and PHYS 1002 General Physics 2 must take the math requisites MATH 1450 Calculus 1, MATH 1455 Calculus 2, and MATH 2440 Calculus 3 in order to meet the mathematics level of PHYS 2400 The Microscopic World, PHYS 3021 Introduction to Theoretical Astrophysics, and PHYS 3022 Introduction to Observational Astronomy.

**PHYSICS MAJORS**: the minor in astronomy requires the following, taken under the guidance of one of our astronomy/astrophysics faculty with a topic being in the realm of astronomy or astrophysics. **Note:** If the PHYS 4931 Topics in Contemporary Physics course is used for the astronomy minor requirement, it may not then be used for a physics major elective course requirement. The astronomy minor for a physics major requires a total of 12 credit hours beyond the physics major requirements. The required introductory physics sequence is completed as part of the physics major requirements.

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**Required Courses:**

- PHYS 1008: Astronomy and Space Physics (3 hours)
- PHYS 3021: Introduction to Theoretical Astrophysics (3 hours)
- PHYS 3022: Introduction to Observational Astronomy (3 hours)

Choose one of the following:

- PHYS 4034: Modern Optics (3 hours)
- PHYS 4065: Experimental Methods in Molecular Biophysics (3 hours)
- PHYS 4072: Introduction to Nuclear and Elementary Particle Physics (3 hours)
- PHYS 4931: Topics in Contemporary Physics (3 hours)

**Total Credit Hours:** 20
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