ASTRONOMY MINOR

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The goal of physics and astronomy is a unified description of the properties of matter and energy. The study of matter and energy encompasses a range of phenomena, from the subnuclear to the cosmological. Physics seeks to understand the way the universe "works," from the very small scale (quarks and neutrinos) to the human scale (materials encountered in daily life) to the very large (the structure of the cosmos). Different approaches and technologies are used in these different regimes.

Department Programs
Majors

• Physics Major, B.A. (http://catalog.unc.edu/undergraduate/programs-study/physics-major-ba/)
• Physics Major, B.S. (http://catalog.unc.edu/undergraduate/programs-study/physics-major-bs/)

Minors

• Astronomy Minor (p. 1)
• Physics Minor (http://catalog.unc.edu/undergraduate/programs-study/physics-minor/)

Graduate Programs

• M.S. in Physics (http://catalog.unc.edu/graduate/schools-departments/physics-astronomy/)
• Ph.D. in Physics (http://catalog.unc.edu/graduate/schools-departments/physics-astronomy/)

Requirements
In addition to the program requirements listed below, students must:

• take at least nine hours of their minor "core" requirements at UNC–Chapel Hill
• earn a minimum cumulative GPA of 2.000 in the minor core requirements. Some programs may require higher standards for minor or specific courses.

For more information, please consult the degree requirements section of the catalog (http://catalog.unc.edu/undergraduate/general-education-curriculum-degree-requirements/#degreerequirementstext).

The minor in astronomy consists of five courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTR 101</td>
<td>Introduction to Astronomy: The Solar System H</td>
<td>3</td>
</tr>
<tr>
<td>ASTR 101L</td>
<td>Introduction to Astronomy Laboratory: Our Place in Space</td>
<td>1</td>
</tr>
<tr>
<td>or ASTR 111L</td>
<td>Educational Research in Radio Astronomy</td>
<td></td>
</tr>
<tr>
<td>ASTR 202</td>
<td>Introduction to Astrophysics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 118</td>
<td>Introductory Calculus-based Mechanics and Relativity 1</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 119</td>
<td>Introductory Calculus-based Electromagnetism and Quanta 2</td>
<td>4</td>
</tr>
</tbody>
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Total Hours 15

H Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

1 Prerequisite, MATH 231; pre- or corequisite, MATH 232; permission of the instructor for students lacking the prerequisites.

2 Prerequisites, MATH 232 and PHYS 118; pre- or corequisite, MATH 233; permission of the instructor for students lacking the prerequisites.

See program page here (http://catalog.unc.edu/undergraduate/programs-study/physics-major-ba/#opportunitiestext) for special opportunities.