Physics, B.S.

Requirements

The Bachelor of Science with a major in physics requires a minimum of 120 s.h., including at least 58 s.h. of work for the major (minimum of 42 s.h. in physics plus 16 s.h. in supporting coursework). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core.

Students must complete several required mathematics courses in addition to their required physics core. The department offers a wide range of upper-level electives and students are encouraged to explore different research areas. All students are strongly encouraged to get involved with research.

Students who earn a B.S. in physics may not earn a B.S. in applied physics or a B.A. in physics.

The B.S. with a major in physics requires the following courses or their equivalents.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mathematics Courses</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Introductory Physics Courses</td>
<td>8-12</td>
</tr>
<tr>
<td></td>
<td>Physics Core Courses</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Upper-Level Elective Courses</td>
<td>9-11</td>
</tr>
<tr>
<td></td>
<td><strong>Total Hours</strong></td>
<td><strong>58-64</strong></td>
</tr>
</tbody>
</table>

Mathematics Courses

All of these:
- MATH:1850 Calculus I 4
- MATH:1860 Calculus II 4
- MATH:2700 Introduction to Linear Algebra 4
- MATH:2850 Calculus III 4

Introductory Physics Courses

These three courses:
- PHYS:1701 Physics I 4
- PHYS:1702 Physics II 4
- PHYS:2703 Physics III 4

Or these two courses:
- PHYS:1611 Introductory Physics I 4
- PHYS:1612 Introductory Physics II 4

Physics Core Courses

All of these:
- PHYS:2704 Physics IV 4
- PHYS:3710 Intermediate Mechanics 3
- PHYS:3730 Statistical Physics 3
- PHYS:3741 Introduction to Quantum Mechanics I 3
- PHYS:3742 Introduction to Quantum Mechanics II 3
- PHYS:3756 Intermediate Laboratory 3
- PHYS:3811 Electricity and Magnetism I 3
- PHYS:3812 Electricity and Magnetism II 3

Upper-Level Elective Courses

Students can only take these courses once:
- PHYS:3850 Electronics 4
- PHYS:4750 Advanced Laboratory 3
- ASTR:4850 Astronomical Laboratory 3

Two of these:
- PHYS:3850 Electronics 4
- PHYS:4720 Introductory Optics 3
- PHYS:4726 Electro Optics 3
- PHYS:4728 Introductory Solid State Physics 3
- PHYS:4731 Plasma Physics I 3
- PHYS:4740 Elementary Particles and Nuclear Physics 3
- PHYS:4750 Advanced Laboratory 3
- PHYS:4761 Mathematical Methods of Physics I 3
- PHYS:4762 Mathematical Methods of Physics II 3
- PHYS:4820 Optical Signal Processing 3
- PHYS:4860 Computational Physics 3
- PHYS:4905 Special Topics in Physics 3
- PHYS:5905 Special Topics in Physics 3
- ASTR:3771 Introduction to Astrophysics I 3
- ASTR:3772 Introduction to Astrophysics II 3
- ASTR:4850 Astronomical Laboratory 3

In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.S. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the coursework is accepted toward requirements for the major. Students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average, but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

Students earning a B.S. with a double major in physics and astronomy may count more than 56 s.h. earned in the Department of Physics and Astronomy to the 120 s.h. required for graduation, but they must earn at least 56 s.h. in coursework outside the department in order to graduate.
Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

Double Major in Physics and Astronomy

Students working toward a Bachelor of Science with a double major in physics and in astronomy must complete all requirements for both majors and must earn a minimum of 56 s.h. outside the Department of Physics and Astronomy in order to graduate. Students interested in earning a double major should consult with their advisors. See Requirements for a Bachelor's Degree on the College of Liberal Arts and Sciences website.