PHYSICS SECOND MAJOR FOR ISP STUDENTS

Students must also complete the Undergraduate Registration Requirement (https://catalogs.northwestern.edu/undergraduate/requirements-policies/undergraduate-registration-requirement/) and the degree requirements of their home school.

NOTE: This Catalog describes Weinberg College BA requirements that pertain to students who matriculated at Northwestern after spring quarter 2023. Refer to the Archives (https://catalogs.northwestern.edu/archives/) if you are following BA requirements described in the 2018-2019 through 2022-2023 editions.

The Integrated Science Program is a highly selective BA program in Weinberg College that includes the following as part of its curriculum:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSICS 125-1</td>
<td>General Physics ISP</td>
</tr>
<tr>
<td>&amp; PHYSICS 125-2</td>
<td>and General Physics for ISP</td>
</tr>
<tr>
<td>&amp; PHYSICS 125-3</td>
<td>and General Physics for ISP</td>
</tr>
<tr>
<td>&amp; PHYSICS 126-1</td>
<td>and Physics Laboratory for ISP</td>
</tr>
<tr>
<td>&amp; PHYSICS 126-2</td>
<td>and Physics Laboratory for ISP</td>
</tr>
<tr>
<td>&amp; PHYSICS 126-3</td>
<td>and Physics Laboratory for ISP</td>
</tr>
<tr>
<td>PHYSICS 339-1</td>
<td>Quantum Mechanics</td>
</tr>
<tr>
<td>&amp; PHYSICS 339-2</td>
<td>and Quantum Mechanics</td>
</tr>
<tr>
<td>PHYSICS 339-3</td>
<td>Particle and Nuclear Physics</td>
</tr>
<tr>
<td>or PHYSICS 337-0</td>
<td>Physics of Condensed Matter</td>
</tr>
<tr>
<td>ASTRON 331-0</td>
<td>Astrophysics for ISP</td>
</tr>
</tbody>
</table>

Application to this program is made directly to ISP.

It is possible to complete a double major in physics and ISP by completing the following 6 additional upper-level courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSICS 330-1</td>
<td>Classical Mech</td>
</tr>
<tr>
<td>&amp; PHYSICS 330-2</td>
<td>and Classical Mechanics</td>
</tr>
<tr>
<td>or PHYSICS 333-1</td>
<td>Advanced Electricity &amp; Magnetism</td>
</tr>
<tr>
<td>&amp; PHYSICS 333-2</td>
<td>and Advanced Electricity &amp; Magnetism</td>
</tr>
<tr>
<td>1 lab course from:</td>
<td></td>
</tr>
<tr>
<td>ASTRON 321-0</td>
<td>Observational Astrophysics</td>
</tr>
<tr>
<td>PHYSICS 357-0</td>
<td>Optics Laboratory</td>
</tr>
<tr>
<td>PHYSICS 359-0</td>
<td>Electronics</td>
</tr>
<tr>
<td>PHYSICS 360-0</td>
<td>Advanced Physics Laboratory</td>
</tr>
<tr>
<td>Plus 3 courses chosen from 300-level physics or astronomy courses other than:</td>
<td></td>
</tr>
<tr>
<td>PHYSICS 311-1</td>
<td>Mathematical Tools for the Physical Sciences</td>
</tr>
<tr>
<td>&amp; PHYSICS 311-2</td>
<td>and Mathematical Tools for the Physical Sciences</td>
</tr>
<tr>
<td>PHYSICS 312-0</td>
<td>Scalar and Vector Field Methods in Physics</td>
</tr>
<tr>
<td>PHYSICS 398-0</td>
<td>Independent Thesis Research</td>
</tr>
<tr>
<td>PHYSICS 399-0</td>
<td>Independent Study</td>
</tr>
<tr>
<td>ASTRON 398-0</td>
<td>Honors Independent Study</td>
</tr>
<tr>
<td>ASTRON 399-0</td>
<td>Independent Study</td>
</tr>
<tr>
<td>And other than those required by ISP:</td>
<td></td>
</tr>
<tr>
<td>PHYSICS 339-1</td>
<td>Quantum Mechanics</td>
</tr>
<tr>
<td>&amp; PHYSICS 339-2</td>
<td>and Quantum Mechanics</td>
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</tr>
<tr>
<td>ASTRON 331-0</td>
<td>Astrophysics for ISP</td>
</tr>
</tbody>
</table>

- Students pursuing an ISP/physics double major may not substitute INTG_SCI 398-0 for any physics or math course in the ISP curriculum. They do not have to choose a physics course concentration.

Honors in Physics and Astronomy

Majors with strong records in their physics, astronomy, and mathematic courses and an interest in pursuing honors should notify the director of undergraduate studies in October of senior year. Eligible students must enroll for 2 units of PHYSICS 398-0 Independent Thesis Research or PHYSICS 399-0 Independent Study by the time of graduation. They participate in research culminating in a written report.

Students whose research reports and grades meet department criteria are recommended to the college for graduation with honors. For more information consult the director of undergraduate studies and see Honors in the Major (https://catalogs.northwestern.edu/undergraduate/arts-sciences/#academicoptionstext).