PHYSICS, BSLAS (SCIENCES & LETTERS)

for the degree of Bachelor of Science in Liberal Arts and Sciences: Major in Physics (Sciences and Letters)

department website: https://physics.illinois.edu/
department faculty: Physics Faculty (https://physics.illinois.edu/people/
directory)

overview of college admissions & requirements: Liberal Arts &
Sciences (http://catalog.illinois.edu/schools/las/academic-units)
college website: https://las.illinois.edu/
email: undergrad-info@physics.illinois.edu

The Physics Major (Sciences and Letters) is a flexible program for
students who plan to pursue technical or professional careers in areas
requiring a sound grounding in physical science and mathematics.
Students can use the concentration to prepare for employment
immediately upon graduation or for continuing on to graduate study in a
wide variety of fields. Students who are certain that they want to go on to
graduate study in physics or in a closely allied field should also consider
the LAS Specialized Curriculum in Physics. In some cases, however, the
greater flexibility of the Science and Letters Curriculum may make it a
better choice for graduate school preparation for those who want to
pursue a combined major and minor, a double major, or double degrees.

Students in this major must choose an approved elective technical
or professional option no later than the end of the second semester
of the sophomore year. A set of pre-approved options is available via
the departmental web site (http://physics.illinois.edu/undergrad/las-
options.asp) and from the departmental undergraduate studies office.
Students may also design and follow a "custom option" subject to
departmental approval. Students completing the Astrophysics option will
earn a minor in Astronomy, if appropriate Minor form is filed.

Entering freshmen typically take calculus, chemistry, rhetoric, and
PHYS 110 during the first semester and begin the general physics
sequence in the second semester. Students with advance placement
in mathematics should begin the general physics sequence in the first
semester. All students are strongly encouraged to plan ahead to allow
space in their programs for undergraduate research.

A Major Plan of Study Form must be completed and submitted to the LAS
Student Affairs Office before the end of the fifth semester (60-75 hours).
Please see your adviser.

Departmental distinction: Graduation with distinction is awarded to
students who complete 8 additional hours of 300- or 400- or 500-level
physics courses or advanced courses in closely related technical
subjects, and who have attained cumulative grade point averages as
follows: distinction, 3.5; high distinction, 3.8; highest distinction, 3.8 plus
acknowledgement of truly outstanding work/research.

General education: Students must complete the Campus General
Education (https://courses.illinois.edu) requirements including the
campus general education language requirement.

Minimum required major and supporting course work: Minimum
required major and supporting course work normally equates to
65-73 hours. Twelve hours of 300- and 400-level courses in the
major must be taken on this campus. Minimum hours required for
graduation: 120 hours.

GPA requirements: Students in the major must maintain an overall
grade point average of at least 2.0 and also a grade point average of
at least 2.0 in all required physics and mathematics courses. To
be permitted to enroll in advanced physics courses in this major
a student must maintain at least a 2.0 average in all attempts at
science and mathematics courses taken at the University of Illinois.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td></td>
<td>Fixed Physics Core</td>
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<tr>
<td>PHYS 110</td>
<td>Physics Careers</td>
<td>23-24</td>
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<tr>
<td>PHYS 211</td>
<td>University Physics: Mechanics</td>
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<td>PHYS 212</td>
<td>University Physics: Elec &amp; Mag</td>
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<td>PHYS 213</td>
<td>Univ Phys: Thermal Physics</td>
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<td>PHYS 214</td>
<td>Univ Phys: Quantum Physics</td>
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<td>PHYS 225</td>
<td>Relativity &amp; Math Applications</td>
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<td>PHYS 325</td>
<td>Classical Mechanics I</td>
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<td>PHYS 435</td>
<td>Electromagnetic Fields I</td>
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<tr>
<td>PHYS 486</td>
<td>Quantum Physics I</td>
<td>9-15</td>
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<tr>
<td>or PHYS 485</td>
<td>Atomic Phys Quantum Theory</td>
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<td>Flexible physics core electives. Choose three courses from a departmentally approved list, with at least one being PHYS 401, PHYS 403, PHYS 404, or pHYS 406. The number of hours varies depending upon the courses chosen. (<a href="http://physics.illinois.edu/undergrad/las-sl-flexcore.asp">http://physics.illinois.edu/undergrad/las-sl-flexcore.asp</a>)</td>
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<tr>
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<td>Supporting Technical Courses</td>
<td>21-22</td>
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<tr>
<td>MATH 221</td>
<td>Calculus I 1</td>
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<td>MATH 231</td>
<td>Calculus II</td>
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<td>MATH 241</td>
<td>Calculus III</td>
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<td>MATH 285</td>
<td>Intro Differential Equations</td>
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<td>or MATH Intro to Differential Eq Plus</td>
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<tr>
<td>CHEM 102</td>
<td>General Chemistry I</td>
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<td>CHEM 103</td>
<td>General Chemistry Lab I</td>
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<td>CS 101</td>
<td>Intro Computing: Engrg &amp; Sci</td>
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<td></td>
<td>Elective Technical or Professional Option</td>
<td>12</td>
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</table>

A set of technical or professional courses that addresses an
intellectually coherent body of knowledge. At least 9 hours
should be at the 200-level or higher. Required courses may
not be included in the set. Students may select from a list of
pre-approved options or design a custom option, subject to
departmental approval.

1 MATH 220 may be substituted with four of the five credit hours applying
toward the degree. MATH 220 is appropriate for students with no
background in calculus.