PHYSICS TEACHING
CONCENTRATION WITHIN
THE SCIENCES AND LETTERS
CURRICULUM

Completion of this concentration fulfills state certification requirements
to teach both physics and general science. Certification in other areas
can also be earned. In order to remain in good standing in this program
and be recommended for certification, candidates are required to
maintain UIUC, cumulative, content area, and professional education,
grade-point averages of 2.5 (A= 4.0). Candidates should consult their
advisor or the Council on Teacher Education for the list of courses used
to compute these grade-point averages. http://www.cote.illinois.edu/

E-mail: undergrad-info@physics.illinois.edu
Web address for department: http://physics.illinois.edu
Degree title: Bachelor of Science in Liberal Arts and Sciences
General education: Students must complete the Campus General
Education (https://courses.illinois.edu) requirements. In addition,
students must take one of the following speech performance courses:
CMN 101, CMN 113, CMN 321, or CMN 323.

Minimum hours required for graduation: 120 hours
Departmental distinction: Distinction is determined by a combination of
grade point average and achievement in student teaching. The student's
practice teaching experience will be evaluated by the departmental
honors adviser and the teaching supervisor. Distinction requires a
3.2 grade point average; high distinction, 3.4; highest distinction, 3.6.
Students desiring distinction should consult with the departmental
honors adviser during the junior year.

Prerequisites to transfer to the Teaching Concentration: EPSY 201;
EPS 201; CHEM 102 and CHEM 103, or CHEM 202 and CHEM 203;
MATH 220, MATH 221, MATH 231, MATH 241, and MATH 285; and
PHYS 211, PHYS 212, PHYS 213, and PHYS 214 must be completed prior
to transfer into the teaching concentration. Candidates must also pass
the Illinois Certification Test of Basic Skills before they may be admitted
to the program.

In addition to the requirements for the concentration listed below,
students must complete the Teacher Education Minor in Secondary
School Teaching (http://illinois.dev6.leepfrog.com/2012/fall/programs/
undergrad/education/secondary.html) (37 - 38 hours). See the College of
Education (http://education.illinois.edu) section for requirements of the
minor. Conferral of the degree of Bachelor of Science in Liberal Arts and
Sciences prior to completion of the minor requires approval by petition
to the LAS Student Affairs Office. Ordinarily, all students will require 10
semesters to complete this program.

Physics Core
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 110</td>
<td>Physics Careers</td>
<td>0</td>
</tr>
<tr>
<td>PHYS 211</td>
<td>University Physics: Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 212</td>
<td>University Physics: Elec &amp; Mag</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 213</td>
<td>Univ Physics: Thermal Physics</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 214</td>
<td>Univ Physics: Quantum Physics</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>PHYS 325</td>
<td>Classical Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 435</td>
<td>Electromagnetic Fields I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 485</td>
<td>Atomic Phys &amp; Quantum Theory</td>
<td>3</td>
</tr>
<tr>
<td>or PHYS 486</td>
<td>Quantum Physics I</td>
<td></td>
</tr>
</tbody>
</table>

Choose at least three courses from List A and List B below. At
least one course must come from List B.

A
- PHYS 326 Classical Mechanics II
- PHYS 436 Electromagnetic Fields II
- PHYS 427 Thermal & Statistical Physics
- PHYS 470 Subatomic Physics
- PHYS 487 Quantum Physics II
- PHYS 460 Condensed Matter Physics
- PHYS 475 Introduction to Biophysics

B
- PHYS 401 Classical Physics Lab
- PHYS 403 Modern Experimental Physics
- PHYS 404 Electronic Circuits
- PHYS 406 Acoustical Physics of Music

Supporting Technical Courses
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>MATH 220</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 221</td>
<td>Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 241</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 285</td>
<td>Intro Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>or MATH 286</td>
<td>Intro to Differential Eq Plus</td>
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</tbody>
</table>

Additional Technical Courses
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CHEM 102</td>
<td>General Chemistry I</td>
<td>4-5</td>
</tr>
<tr>
<td>&amp; CHEM 103</td>
<td>and General Chemistry Lab I</td>
<td></td>
</tr>
<tr>
<td>or CHEM 202</td>
<td>Accelerated Chemistry I</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 203</td>
<td>and Accelerated Chemistry Lab I</td>
<td></td>
</tr>
<tr>
<td>IB 100</td>
<td>Biological Sciences</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 107</td>
<td>Physical Geology</td>
<td>4</td>
</tr>
<tr>
<td>ASTR 210</td>
<td>Introduction to Astrophysics</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours 58-64

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.

Twelve hours of 300- and 400-level courses in the major must be taken on
this campus.

All foreign language requirements must be satisfied.

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.