Program Overview

The NIU physics licensure program prepares you to teach any level physics class (honors, accelerated, AP) in grades 9-12. You will also be qualified to teach introductory level biology, chemistry, earth and space, and environmental science classes.

The program consists of 36 credits in science teaching methodology, clinicals, and professional education courses taken over four semesters.

Undergraduates or transfer students wanting to earn a professional educator license with an endorsement in physics must be enrolled in NIU and working toward a physics bachelor's degree with emphasis 2: Secondary School Teaching. Typically, students complete the licensure program during their last two years at NIU concurrently with their upper level physics classes.

Individuals who have already earned a B.S. in physics should contact program advisors to help determine the specific course requirements satisfied by the degree.

This document outlines program requirements, how to apply, and lists the necessary courses you need to earn your Illinois Professional Educator License. For more information, please contact:

Paul Fix, Assistant Director
Secondary Science Educator Licensure
pfix@niu.edu
(815) 753-6819
http://www.niu.edu/elss/
Program Entry Requirements

Before applying to the program, make sure you satisfy these requirements:

- **Degree** - You must be pursuing, or planning on pursuing, a physics B.S. with emphasis 2 at NIU or have already earned a B.S. in physics. Previously earned physics degree do not have to be from NIU.

- **Grade Point Average** - Cumulative GPA of at least 2.5 if you are a Physics Undergraduate or 3.0 if you are a Graduate student. GPA in all science and math courses must also be at least 2.5.

- **Basic Competency Test** – Passing scores on the Test of Academic Proficiency (TAP), ACT, or SAT. More information about the TAP test: http://www.il.nesinc.com/TestView.aspx?f=HTML_FRAG/IL400_TestPage.html

  In lieu of the TAP test candidates may use their ACT+ or SAT scores if they meet the following requirements: Composite **ACT** score of 22 or higher AND a minimum of 6 on the Writing portion, OR Composite **SAT** score of 1110 or higher (critical reading and writing) AND minimum score of 26 on writing and language portion (https://www.isbe.net/Documents/act-sat-testing-in-lieu-of-tap.pdf).

How to Apply

New cohorts are accepted in the spring and begin their coursework in the fall semester each year. Applications must be submitted in electronic format from Jan 1st to March 1st of the spring semester prior to beginning in the fall. Applications submitted after March 1st may be considered based on clinical placement availability. All application materials can be found at http://www.niu.edu/elss/how-to-apply. Contact program advisors if you have any questions after visiting the website.

Program Completion Requirements

In order to earn your PEL with an endorsement in physics, the following tests, checks, and coursework must be completed while in the program.

- **100 Hours of Observations** – During your clinical placements, you will be completing a minimum of 100 hours of observations in at least three different high school classrooms around the Northern Illinois region.

- **ILTS Subject Matter Test** - You must successfully pass the ILTS Physics content test prior to student teaching. More information can be found at http://www.il.nesinc.com/

- **edTPA (Teacher Performance Assessment)** - You must successfully pass the edTPA during student teaching in order to receive an Illinois teaching license.

- **Criminal Background Checks** – Many area schools where you will be completing your clinicals require a criminal background check. Details on how to complete this will be provided to you in the clinical classes.

- **Health Checks** - All candidates must take and pass a TB test prior to their third semester in the program. TB tests are available for free to NIU students at the NIU Health Center and are good for one year.

- **Required Coursework** – All courses listed below must be completed in order to earn your license. Transfer students new to NIU should contact program advisors before applying to the program to determine which courses have been satisfied by prior coursework.

  Students must pass all coursework listed with a grade of C- or better. All coursework with a D or F must be repeated in order to successfully complete the program.
Physics Content Coursework
Emphasis 2: Physics Secondary School Teaching

REQUIRED PHYSICS COURSES: 31-33 hours total

- PHYS 253 Fundamentals of Physics 1: Mechanics (4)
- PHYS 273 Fundamentals of Physics 2: Electromagnetism (4)
- PHYS 283 Fundamentals of Physics 3: Quantum Phys. (3)
- PHYS 284 Lab (1)
- PHYS 300 Analytical Mechanics (3)
- PHYS 320 Thermodynamics and Statistical Physics (3)
- PHYS 367 Waves and Vibrations (3)
- PHYS 370 Electricity and Magnetism (3)
- PHYS 374 Introduction to Experimental Physics (3)
- PHYS 383 Intermediate Quantum Physics (3)
- PHYS 498 Senior Seminar (1) or 499H Senior Project (3)

REQUIRED CHEMISTRY COURSES: 8 hours total

- CHEM 210 General Chemistry I (3)
- CHEM 212 General Chemistry I Lab (1)
- CHEM 211 General Chemistry II (3)
- CHEM 213 General Chemistry II Lab (1)

REQUIRED MATH COURSES: 12 hours total

- MATH 229 Calculus I (4)
- MATH 230 Calculus II (4)
- MATH 232 Calculus III (4)
- MATH 336 Differential Equations (4)

Note: Detailed course descriptions can be reviewed from the current NIU Course Catalog. Course equivalents from other accredited institutions may be substituted at the discretion of the Licensure Advisor.

GENERAL EDUCATION COURSES MUST INCLUDE:

- Oral Communication (3 hrs)
- Written Communication (3-6 hrs) – ENGL 103/104 or ENGL 103/203 or ENGL 204
- Psychology (3)
Physics Licensure Courses

Licensure courses are usually taken during a student's last four semesters before graduation (36 cr. total) and all courses must be completed with a C- or better. Only 7-9 credits of education courses will be taken per semester allowing undergraduates to take upper level physics courses concurrently. However, during the final semester in the program, student teaching will occupy your entire schedule.

The schedule of courses in professional education usually look as follows:

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<thead>
<tr>
<th>First Semester (Fall only)</th>
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<tbody>
<tr>
<td><strong>ILAS 201</strong> - Introductory Clinical Experience (30 hours observation; 1 cr)</td>
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<tr>
<td><strong>ETT 402</strong> - Use of Technology in Teaching (3 cr)</td>
</tr>
<tr>
<td><strong>EPS 406</strong> - Human Development and Learning, Middle School and High School (3 cr)</td>
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<tr>
<td><strong>PHYS 490x</strong> - Nature of Science (2 cr)</td>
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<th>Second Semester (Spring only)</th>
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<tr>
<td><strong>ILAS 301</strong> – Second Clinical Experience (30 hours observation; 1 cr)</td>
</tr>
<tr>
<td><strong>LTIC 420</strong> - Methods and Materials for Teaching English to Speakers of Other Languages (3 cr)</td>
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<tr>
<td><strong>PHYS 493x</strong> – Interdisciplinary Teaching of Science in Secondary Education (3 cr)</td>
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<th>Third Semester (Fall only)</th>
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<tr>
<td><strong>PHYS 401</strong> - Pre-student teaching clinical (40+ hours obs; 2 cr)</td>
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<tr>
<td><strong>PHYS 495</strong> – Methods in Teaching Physics (3 cr)</td>
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<td><strong>SESE 457</strong> - Integrating Exceptional Students in the Regular Classroom (3 cr)</td>
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<th>Fourth Semester (Spring only)</th>
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<tr>
<td><strong>PHYS 497</strong> - Student Teaching (10 cr)</td>
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<tr>
<td><strong>PHYS 496</strong> - Transition to Professional Teaching (2 cr)</td>
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Contact Information

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[meads@niu.edu](mailto:meads@niu.edu) or (815) 753 6492

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Webpage  
[http://www.niu.edu/elss/](http://www.niu.edu/elss/)

NIU Secondary Science Licensure Program is professionally accredited through: