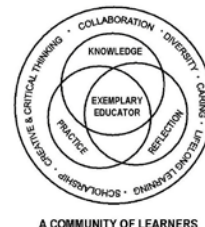




# Northern Illinois University



## Secondary Teaching in Chemistry Emphasis 3: Environmental Science Teaching Teacher Certification Requirements

The Physical Science Certification programs have been designed to prepare exemplary teachers. The experiences candidates are provided will enable them to demonstrate that they meet the Illinois and National Science Teachers Association standards. Individuals completing the programs are sought after as science teachers.

It is **NOT** necessary to complete a degree program at NIU at the same time as completing certification requirements but you must have a bachelor's degree and the equivalent of a degree in the subject area in which you seek certification. With one or two possible exceptions (indicated below) it IS strongly suggested that all the professional education requirements are completed at NIU. Candidates successfully completing the teacher certification program in chemistry will earn a Type 09 certificate (grades 6-12) with a primary endorsement in chemistry. An endorsement to teach middle school science is included in the program as well. Students will also be required to earn an endorsement in a second discipline.

### Admission to Certification Program

Potential candidates must be admitted to NIU to be admitted to the certification program. If they are not admitted to the program, they cannot take the required courses in the program nor can they be recommended by NIU for licensure. Before potential candidates can be admitted, they must pass the Illinois Certification Testing System (ICTS) basics skills test. Information regarding the ICTS may be found at the following web site ([www.icts.nesinc.com](http://www.icts.nesinc.com)). Potential candidates have the following choices of student classification:

**Undergraduate** – Choose this option if you do not have a college degree. You should declare to be a chemistry major but do not have to select the chemistry teaching emphasis. Approximately half the students becoming licensed in chemistry are not in an education degree emphasis.

**Post-graduate** – If you already have an appropriate bachelor degree, you may wish to enroll as a post-graduate. Post-graduates are classified as undergraduate students. They may be pursuing a second bachelor's degree or simply be pursuing a teaching license. They do not have the ability to enroll in graduate level courses. Students often pursue this choice when they do not have an appropriate degree and need to take undergraduate level science courses. It is possible to switch status from post-graduate to either student-at-large or graduate student. You may not switch back once you have done so.

**Student-at-Large** – Choose this option if you have a bachelor's degree and wish to be able to take some courses for graduate credit. Students pursue this option when they are unsure of whether or not they wish to pursue a Masters Degree or if they don't have time to complete the lengthy application process for admission to a graduate program as a graduate student. Due to recent NIU policies regarding order of registration for classes, this is the least desirable choice. It is always possible to switch status from student-at-large to graduate student.

**Graduate student** – A graduate student is someone who is pursuing a graduate degree, either masters or doctorate. It is not necessary to complete the degree to complete the teacher license program.

## Tests and Checks

In addition to completing the required coursework, you must also meet the following:

- ✓ **Basic Competency** – Candidates must pass the ICTS test of Basic Skills to be eligible for admission to the certification program.
- ✓ **Health Checks** –Candidates must take and pass a TB test each year that they are in the program. TB tests are available for free to NIU students at the NIU Health Center and are good for one year. You will need to prove that you do not have TB before your clinical experiences. Because the typical license program takes two years, most students are able to have just two, one before the first clinical experience and another before the third experience.
- ✓ **Criminal Background Checks** – Potential candidates must pass a criminal background check. State law requires all individuals that will work in the public schools to have a criminal background check. Information on how to have the check done is available at the NIU teacher certification website.
- ✓ **ICTS Subject Matter test** – You must successfully pass the ICTS Subject matter test(s) appropriate to your program prior to student teaching.
- ✓ **Aptitude for Professional Teaching Test (APT)** – You must successfully pass this test to receive an Illinois License to teach.
- ✓ **Grade Point Average Requirements** – You must have a GPA of at least 2.5 if you are a chemistry undergraduate or 3.0 if you are a graduate student. All coursework individually specified for certification including content, must have a grade of C or better.

## Required Coursework

Completing the following courses should provide you with the evidence necessary to demonstrate that you have met standards. You must **complete at least 32 hours in your field/science area** to become licensed, and these hours must include courses in the following required areas.

**Subject discipline courses:** You may have some flexibility in your course selection as long as selections meet the requirements for chemistry teacher certification.

### REQUIRED CHEMISTRY COURSES: 30-36 hours total

- \_\_\_\_\_ CHEM 210, General Chemistry 1 (3)
- \_\_\_\_\_ CHEM 212, General Chemistry I Lab (1)
- \_\_\_\_\_ CHEM 211, General Chemistry II (3)
- \_\_\_\_\_ CHEM 213, General Chemistry II Lab (1)
- \_\_\_\_\_ CHEM 336, Organic Chemistry I (3)
- \_\_\_\_\_ CHEM 337, Organic Chemistry II (3)
- \_\_\_\_\_ CHEM 332, Organic Chemistry Lab (2)
- \_\_\_\_\_ CHEM 325, Analytical Chemistry (3)
- \_\_\_\_\_ CHEM 440, Physical Chemistry (3)
- \_\_\_\_\_ CHEM 442, Physical Chemistry Lab (1)

CHEM elective (3-4 hrs), choice of:

- \_\_\_\_\_ CHEM 425(4), \_\_\_\_\_ CHEM 460 (3), or \_\_\_\_\_ CHEM 470(3)

**and**

CHEM electives (4-9 hrs), choice of:

- CHEM 425 (4); CHEM 435(3); CHEM 460 (3); CHEM 461 (1); CHEM 462(3); CHEM 470 (3); CHEM 498 (1-3)

### REQUIRED PHYSICS COURSES: 8 hours total

- \_\_\_\_\_ PHYS 210, General Physics I, including lab (4)
- \_\_\_\_\_ PHYS 211, General Physics 2, including lab (4)

### REQUIRED MATH COURSES: 8 hours total

- \_\_\_\_\_ MATH 229, Calculus I (4)
- \_\_\_\_\_ MATH 230, Calculus II (4)

### REQUIRED COURSES:

- \_\_\_\_\_ BIOS 205, Organismal Diversity (3) + BIOS 207 Lab (1)
- \_\_\_\_\_ BIOS 208, Fundamentals of Biology 1 (3) + BIOS 210 Lab (1)
- \_\_\_\_\_ GEOL 120, Introductory Geology (3) or GEOL 325, Solid Earth Composition (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 Certification Advisor.

### GENERAL EDUCATION COURSES MUST INCLUDE:

- \_\_\_\_\_ Oral Communication (3 hrs)
- \_\_\_\_\_ Written Communication (6 hrs)
- \_\_\_\_\_ Psychology (3 hrs)

## Professional Education

Professional education courses are usually taken during a student's last four semesters before certification.

- \_\_\_\_\_ Educational Psychology (typically EPS 406 or 508)
- \_\_\_\_\_ Identification of Exceptional Children (typically TLSE 457)
- \_\_\_\_\_ ILAS 201 and 301
- \_\_\_\_\_ CHEM 201, 301, and 401 (Seminars in teaching science)
- \_\_\_\_\_ CHEM 490, The Nature of Science across Time and Culture
- \_\_\_\_\_ CHEM 493, Interdisciplinary Teaching of Secondary Science
- \_\_\_\_\_ CHEM 494 or PHYS 494, The Use of Technology in the Teaching of Physical Science
- \_\_\_\_\_ CHEM 495, Methods of Teaching Physical Science
- \_\_\_\_\_ CHEM 496, Transition to Professional Science Teaching
- \_\_\_\_\_ CHEM 497, Student Teaching

The schedule of courses in professional education would usually look as follows.

Fall	Spring
Semester 1 <ul style="list-style-type: none"><li>• ILAS 201 (1)</li><li>• CHEM 201 (1)</li><li>• CHEM 490 (2)</li><li>• PHYS 494 (2)</li></ul>	Semester 2 <ul style="list-style-type: none"><li>• ILAS 301 (1)</li><li>• CHEM 301 (1)</li><li>• EPS 406 (3)</li><li>• CHEM 493 (3)</li></ul>
Semester 3 <ul style="list-style-type: none"><li>• CHEM 401 (1)</li><li>• CHEM 495 (3)</li><li>• TLSE 457 (3)</li></ul>	Semester 4 <ul style="list-style-type: none"><li>• CHEM 496 (1)</li><li>• CHEM 497 (7-12)</li></ul>

**Note:** Identification of Exceptional Children (typically TLSE 457/557) and Human Development and Learning, Middle School and High School (EPS 406/508) can be taken any time after successfully completing ILAS 201 and CHEM 201.

## Contact Information

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## Webpage

[http://www.niu.edu/chembio/academic/teacher\\_cert.shtml](http://www.niu.edu/chembio/academic/teacher_cert.shtml)