



# Northern Illinois University

*College of Liberal Arts and Sciences*

## **PHYS 497 - Student Teaching (Secondary) in Physics/Physical Sciences**

**Instructors:** Dr. Michael Eads

Office: LaTourette 209

Office hours: M 1-3pm, Th 3-4pm

Phone: (815) 753-6492

Email: [meads@niu.edu](mailto:meads@niu.edu)

### **Course Description:**

This course will entail student teaching for 14 weeks in a high school or middle school. Assignments will be approved by the teacher certification program coordinator for Environmental Sciences.

The student teaching will take place in selected public schools under the supervision of the cooperating teacher and university supervisor; direction will be furnished by the university supervisor through:

1. Classroom visitations and observations
2. Individual conferences
3. Conferences with the candidate and the cooperating teacher

### **Course Outcomes: *The Student Teacher will be able to:***

1. Demonstrate an understanding of the role and responsibilities of the physical science teacher, teaching as a profession, and the purposes of the school as a social institution.
2. Organize and plan for teaching of physics concepts including the preparation of unit plans and daily lesson plans.
3. Select and apply appropriate and varied methods of instruction which support student learning of physics concepts.
4. Demonstrate and apply knowledge of physics subject matter.
5. Adapt instruction to the needs of individuals including those with giftedness, physical, and learning disabilities.
6. Use various forms of assessment to evaluate student learning and create opportunities for students to use the evaluations to improve their learning.
7. Create a favorable classroom climate that motivates learners.
8. Demonstrate understanding and sensitivity to the needs of learners from varied socio-economic, cultural, ethnic and racial backgrounds.
9. Establish and maintain classroom control.
10. Establish good personal relationships with students, colleagues, and university supervisors.
11. Manage the classroom independent of supervision as demonstrated in daily decision making, organization of activities, and systematization of routines and details.

12. Be an active, cooperative and responsible member of the school faculty.
13. Analyze his or her teaching behavior objectively, develop self-evaluation skills, and recognize the effects of teaching behavior on learners.

***PHYS Program Goals - Candidates for PHYS Teacher Certification will be able to:***

- A. Understand and apply the research, theories and pedagogy of PHYS, including a critical inquiry based science perspective, to teaching and learning classrooms grades 6-12.
- B. Comprehend the needs of a diverse population of learners in a variety of settings.
- C. Translate knowledge of the field into curriculum, instructional material, assessment plans, and technological applications appropriate to the teaching the PHYS in the 21<sup>st</sup> century.
- D. Demonstrate competence in delivering and evaluating a variety of instructional methods and strategies aimed at engaging students in active learning and critical thinking.
- E. Participate as a professional within the field of science education, including the creation of a professional development plan and movement toward leadership in the field.

***Professional Responsibilities - Roles assumed outside of and in addition to those in the classroom with students***

- Reflective teaching practice
- Maintaining accurate records (including student grades and student teaching documents and other school required records)
- Professional relationships with teachers, administrators and parents
- Basic legal responsibilities toward students and the school
- Professional development and growth
- Professional Organizations
- Certification procedures
- Future employment

## Course Activities

**PHYS 497 course activities include but are not limited to the following:**

1. Writing unit plans including daily plans for each day in the unit.
2. Implementing unit/lesson plans.
3. Engaging students in scientific inquiry.
4. Teaching the range of subjects required in the assigned classroom.
5. Assessing student learning needs.
6. Structuring subject content and adapting instructional methods to meet the ability levels and other needs of learners.
7. Evaluating student work and keeping records.
8. Becoming a reflective practitioner.
9. Handling disciplinary problems.
10. Working with faculty members and administrators.
11. Communicating with school parents and participating in parent conferences.
12. Attending faculty and parent teacher meetings.
13. Completing an edTPA for submission.
14. Completing the Professional Teacher Project initiated in PHYS 401.

Candidates will be evaluated by their University supervisor at least 6 times during the semester. After each visit the supervisor will initiate a conference where strengths and weaknesses will be addressed. At the midterm and again at the end of student teaching the cooperation teacher will fill out an evaluation of student teacher performance. This form can be found at [www.niu.edu/sstc](http://www.niu.edu/sstc) in the student teacher link.

### **Due Dates:**

edTPA : Due Week 10

Professional Teacher Project: Due at week 15.

**Minimum Student Requirements to Be Recommended for Certification:**

1. Successfully complete the assigned period of student teaching (minimum of 14 weeks).
2. Participate in evaluative conferences with the cooperating teacher and university supervisor.
3. Attain a satisfactory level of competency in the final student teacher evaluation.
4. Earn a score of 3 or better on the four areas of the edTPA (planning, instructing and engaging students, assessment and academic language).
5. Complete the Professional Teacher Project with a grade of C or better.

**No Recommendation for Certification will be made if:**

A grade of “D” or “F” will be issued if the student teaching experience results in any one of the following outcomes:

1. The cooperating teacher does not recommend that the candidate continue in the program, and the NIU supervisor endorses this recommendation.
2. The candidate does not successfully complete the Minimal Student Requirements.