WATSON SCHOOL OF EDUCATION
UNIVERSITY OF NORTH CAROLINA WILMINGTON

Teacher Licensure Program in Secondary Science

Program Goals

The teacher licensure program is designed to develop highly competent professionals to serve in educational leadership roles. Such teachers make consistent, defensible, and appropriate decisions to facilitate student achievement on intended learning outcomes. The program includes the acquisition of complex teaching skills through cognitive understandings, building upon academic and pedagogical knowledge bases, followed by practice and reflection on professional development.

Upon completion of the licensure program, students should be able to:

1. Demonstrate breadth of general knowledge, as well as depth of knowledge in the selected discipline area necessary for effective instructional decision making.
2. Communicate effectively in standard English both verbally and in written formats.
3. Adapt instruction to the developmental and learning needs of individuals, including adolescents with special needs and students from culturally diverse backgrounds.
4. Establish a classroom climate conducive to the learning, social, and emotional needs of adolescents.
5. Choose appropriate objectives consistent with state and local curriculum guidelines, the learning needs of students, and the standards established by learned societies.
6. Employ appropriate instructional technologies (including computer-assisted instruction) and evaluative procedures.
7. Demonstrate effective teaching including positive results for student learning, self-reflection, and appropriate professional dispositions.

Secondary Science Program Objectives

The objectives of this program are to encourage the development of exemplary secondary science teaching through competency and understanding in the following areas:

a. Familiarity with the standards, recommendations, and resources of international, national, state, and local science education organizations.
b. Planning and implementation of instruction consistent with the standards and recommendations of international, national, state, and local science education organizations.

c. Selecting and/or designing instructional and assessment strategies appropriate for the needs and interests of high school students.

d. Providing a complex learning environment in which students are encouraged to think scientifically.
e. Contributing to personal and collegial professional development through self-reflective activities, inquiry and research activities, and professional communications.

Licensure Requirements

Students who plan to become licensed teachers in the North Carolina public schools must complete the university's Basic Studies expectations, *all requirements in the major*, and be formally admitted to the Watson School of Education. Requirements for admission are listed in the UNCW Undergraduate Catalogue, and also are listed on the Watson School's website at www.uncw.edu/ed

In addition to the requirements for the academic major, the Psychology and Education courses listed below are required for licensure. A grade of "C" or better must be earned in the following courses:

PSY 223	Lifespan Human Development	(3)
EDN 200	Teacher, School and Society	(3)
EDNL 200	Field Studies	(1)
EDN 203	Psychological Foundations of Teaching	(3)
EDN 301	Instructional Design and Evaluation	(3)
EDN 303	Instructional Technology	(3)

NOTE: *The courses listed below require admission to the Watson School of Education.*

EDN 321	Meeting Needs of Special Students in High Schools	(2)
EDN 356	Reading in the Secondary School	(3)
EDN 402*	Classroom Management in Secondary Schools	(1)
EDN 406	Theory and Practice in Teaching Secondary Science	(3)
EDNL 406	Field Experience in Secondary Science	(1)
EDN 408*	Instructional Seminar	(2)
EDN 409*	Practicum	(12)

*Internship Semester *Total = 40 semester hours*

Program Notes

- Advance planning of programs is essential for students interested in becoming teachers in secondary or allied education areas. Students should apply to the Watson School of Education as soon as admission requirements are met (typically in the sophomore year), select courses carefully, and plan their programs in regular consultation with their advisors. A minimum of 124 hours is required for graduation.
- Students must comply with the Academic Achievement and Professional Behavior expectations described in the Watson School of Education's *Standards for Professional Conduct.*
- The following courses have field experience components so students should plan their schedules to allow sufficient time to complete the expectations: EDN 200, 321, 356, and 406. Students should take EDN 321 in the spring semester of their junior year and EDN 356 in the fall semester of their senior year.
- The Secondary Education Program is committed to providing students with diverse field placements. In cases where students are placed for field experiences at a school with less than 20% of pupils on free or reduced lunch, or with a partnership teacher whose assignment provides limited student diversity (e.g., teaching all honors or AP students), faculty will ensure that students have additional field experiences.
- Successful completion of field experience assignments in EDN 321 and 356 is required in order for students to be able to take additional education courses.
- Successful completion of EDNL 406 (methods lab) is required in order for students to be recommended for internship
- EDN 301 is a prerequisite for most upper level EDN 300 and 400 courses.
- EDN 406 and EDNL 406 are offered during the fall semester only.
- EDN 402, 408 and 409 must be taken during the spring semester, and these three courses comprise the internship.
- In order to be eligible for internship students must:
  a. be admitted to the Watson School of Education
  b. have a cumulative GPA of 2.7 or better
  c. have completed all required Education and academic major courses
  d. complete an application for internship at least one semester in advance of the intended student teaching semester and attend orientation meetings
- Praxis II Specialty Tests are not required for majors who complete the teacher education program, including internship. Lateral entry teachers are required to take Praxis II. Registration materials and study guides are available online at www.ets.org/praxis
- All students seeking teacher licensure are required to demonstrate mastery of essential and advanced technology skills. Instructional technology skills are developed through student enrollment in EDN 303 or 416 and technology infusion in all other core and professional education courses. Demonstration of advanced technology skills requires mastery of the ISTE National Educational Technology Standards (attached).

Additional Information for Teacher Licensure

Students seeking Secondary Science certification can major in Biology, Chemistry, Geology, or Physics. Additional requirements are listed below and are based on your intended major.

BIOLOGY MAJORS
In addition to the 51 hrs of core requirements for a B.A. in Biology degree, 70 hrs of core requirements for a B.S. in Biology degree, or 74-75 hrs of core requirements for a B.S. in Marine Biology, *Biology* majors who wish to be licensed in Secondary Science must complete at least 21 hours from three science areas other than biology. A minimum of two courses from each discipline, including PHY 111 or 260, is required.

CHEMISTRY MAJORS
In addition to the 60 hrs of core requirements for a B.A. degree or 76-81 hrs of core requirements for a B.S. degree, *Chemistry* majors who wish to be licensed in Secondary Science must complete at least 21 hours in other science areas including:

1. BIO 110 and a higher level biology course
2. Two Geology courses to be selected from: GLY 101, 120, or 150
3. PHY 111 or 260

GEOLOGY MAJORS
In addition to the 49-52 hrs of core requirements for a B.A. degree or 74 hrs of core requirements for a B.S. degree, *Geology* majors who wish to be licensed in Secondary Science must complete at least 21 hours in other science areas including:

1. BIO 204 and 205 or BIO 204 and 206
2. GGY 230
3. GLY 150
4. PHY 111 or 260

PHYSICS MAJORS
In addition to the 46 hrs of core requirements for a B.A. degree or 66 hrs of core requirements for a B.S. degree, *Physics* majors who wish to be licensed in Secondary Science must complete at least 21 hours from three science areas other than physics including:

1. BIO 110 and a higher level biology course
2. GLY 120 or 150
3. CHM courses

Note: Students interested in the B.S. Physics degree are advised to take the PHY 201-202 sequence in the freshman year.

Educational Technology Standards and Performance Indicators for All Teachers

Building on the NETS for Students, the ISTE NETS for Teachers (NETS•T), which focus on preservice teacher education, define the fundamental concepts, knowledge, skills, and attitudes for applying technology in educational settings. All candidates seeking certification or endorsements in teacher preparation should meet these educational technology standards. It is the responsibility of faculty across the university and at cooperating schools to provide opportunities for teacher candidates to meet these standards.

The six standards areas with performance indicators listed below are designed to be general enough to be customized to fit state, university, or district guidelines and yet specific enough to define the scope of the topic. Performance indicators for each standard provide specific outcomes to be measured when developing a set of assessment tools. The standards and the performance indicators also provide guidelines for teachers currently in the classroom.

1 TECHNOLOGY OPERATIONS AND CONCEPTS.

Teachers demonstrate a sound understanding of technology operations and concepts. Teachers:

- demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Education Technology Standards for Students)
- demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

2 PLANNING AND DESIGNING LEARNING ENVIRONMENTS AND EXPERIENCES.

Teachers plan and design effective learning environments and experiences supported by technology. Teachers:

- design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
- apply current research on teaching and learning with technology when planning learning environments and experiences.
- identify and locate technology resources and evaluate them for accuracy and suitability.
- plan for the management of technology resources within the context of learning activities.
- plan strategies to manage student learning in a technology-enhanced environment.

3 TEACHING, LEARNING, AND THE CURRICULUM.

Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning. Teachers:

- facilitate technology-enhanced experiences that address content standards and student technology standards.
- use technology to support learner-centered strategies that address the diverse needs of students.
- apply technology to develop students' higher order skills and creativity.
- manage student learning activities in a technology-enhanced environment.

4 ASSESSMENT AND EVALUATION.

Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies. Teachers:

- apply technology in assessing student learning of subject matter using a variety of assessment techniques.
- use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.
- apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

5 PRODUCTIVITY AND PROFESSIONAL PRACTICE.

Teachers use technology to enhance their productivity and professional practice. Teachers:

- use technology resources to engage in ongoing professional development and lifelong learning.
- continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.
- apply technology to increase productivity.
- use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning.

6 SOCIAL, ETHICAL, LEGAL, AND HUMAN ISSUES.

Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply those principles in practice. Teachers:

- model and teach legal and ethical practice related to technology use.
- apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.
- identify and use technology resources that affirm diversity
- promote safe and healthy use of technology resources.
- facilitate equitable access to technology resources for all students.