

**Graduate Certificate in Teaching
Secondary Education (9-12)
Comprehensive Science Licensure based on a Major in Biology**

Required courses

- MDSK 6162:** Planning for K-12 Teaching (3)
READ 5255: Integrating Reading and Writing in the Content Areas (3)
EDUC 5100: Diverse Learners (3)
SECD 5140: The Secondary School Experience (3)
MDSK 5251: Middle and Secondary Science Methods

Final course

- MDSK 6161:** Analysis of K-12 Teaching (3)

This final course is a full time internship requiring employment as a secondary science teacher in an approved high school or a non-paid placement with a licensed science teacher in a public high school. It requires application and approval during the semester prior to the internship.

Additional requirements for licensure

Other specific background courses in science, if applicable – See below

Technology portfolio

Applying for the teaching license

Application for NC Standard Professional I license to be filed in TEAL Office, with all appropriate forms regarding completion of coursework, technology portfolio, and internship

Looking ahead

You may wish to apply to the Master of Arts in Teaching (MAT) in Secondary Education at the completion of the Graduate Certificate program: <http://www.uncc.edu/gradmiss/index.asp> . All your coursework for the Graduate Certificate will be applied toward the requirements for that degree. Completion of the master's degree leads to the advanced "M" teaching license and a 10% pay raise.

Comprehensive Science (9-12) Background Requirements

For Biology Majors

Candidates must have at least a bachelor's degree in Biology and coursework in the specific competency areas below. The GPA for background requirements must be at least a 2.5, and no courses may be presented for licensure with grades lower than a C.

Competency Area	Coursework required and UNC Charlotte examples	Candidate's courses	Grades	Plan for satisfying deficiencies*
1. Science teachers understand the unifying concepts of science:				
b. Understanding of the major concepts in physical science : measurements, atomic theory and periodic law, structure and properties of matter, chemical reactions, forces and motion, electromagnetism	Take four courses: CHEM I (CHEM 1251+L) CHEM II (CHEM 1252+L) PHYS I (PHYS 1101+L) PHYS II (PHYS 1102+L)			
c. Understanding of the major concepts in earth science : origin and evolution of the Earth and universe, astronomy, properties of earth materials, earth dynamics and systems, interaction of the earth and living systems	Take both courses: GEOL I (GEOL 1200+L) GEOL II (GEOL 1210+L)			

Remaining competency areas are met by the previous degree in biology:

- 1a. Understanding of the major concepts in **life science**: evolution, gene theory, cell theory, form and function of plants and animals, ecological relationships and interdependence
2. Science teachers understand the nature of science and the development of scientific thought.
3. Science teachers understand the historical development of scientific thought and the application of science in society.
4. Science teachers understand the math concepts and processes and the technologies that are used in science.

Note: Age of courses and work experience in science may affect the plan for graduate coursework in the sciences during Phase II of the MAT, especially in areas of great recent advancements.

Note: Higher level courses in the fields above will be substituted for required background courses if possible during transcript analysis.