

**Graduate Certificate in Teaching
Secondary Education (9-12)
Earth Science**

NOTE: School systems strongly prefer the Comprehensive Science license.

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 earth science teacher in an approved high school or a non-paid placement with a licensed earth 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 the sciences, if applicable – See two options 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.

Option 1: Secondary Earth Science (9-12) Background Requirements For Earth Science or Geology majors

Candidates must have at least a bachelor's degree with a major or equivalent in Earth Science or Geology. 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.

Competencies already met through the major in earth science or geology

- Geology and meteorology
- Oceanography
- Upper division coursework in one of the following areas: geology, meteorology, astronomy or oceanography
- Calculus

Competency areas that may not have been met through the major in earth science or geology:

Competency Area	Coursework required and UNC Charlotte examples	Candidate's courses	Grade	Plan for satisfying deficiencies
Astronomy	<i>A course in astronomy, e.g.,</i> PHYS 1130+L: Astronomy			
Understands the nature of science: process, content, inter-relationships among the sciences	<i>One additional science course outside earth science or geology, e.g.,</i> CHEM 1251+L: Principles of Chemistry BIOL 1101 +L: Biology I			

Option 2: Secondary Earth Science (9-12) Background Requirements For students creating the equivalent of an Earth Science/Geology major

Candidates must have at least a bachelor's degree. Candidates must take a minimum of 24 hours in Earth Science and Geology to meet the equivalent of a major in this field. They must also satisfy the requirements for the competency area requirements. 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	Grade	Plan for satisfying deficiencies
Geology and Meteorology	<i>A basic earth science - geography course, e.g.,</i> ESCI 1101+L: Earth Science – Geography AND <i>A two course sequence in geology that includes treatment of meteorology, e.g.,</i> GEOL 1200+L: Physical Geology GEOL 1210+L: Earth History			
Astronomy	<i>A course in astronomy, e.g.,</i> PHYS 1130+L: Astronomy			
Oceanography	<i>A course in oceanography, e.g.,</i> ESCI 2105: Oceanography			
Advanced work in one of the four areas above	<i>At least 3 courses at the 3000 level or above in one of the following specialty areas :</i> <ul style="list-style-type: none"> • geology • meteorology • astronomy • oceanography 			
Mathematical competency	<i>A course in calculus, e.g.,</i> MATH 1241: Calculus I			
Understands the nature of science: process, content, inter-relationships among the sciences	<i>One additional science course outside earth science/geology, e.g.,</i> CHEM 1251+L: Principles of Chemistry BIOL 1101 +L: Biology I			

Note: Courses required to satisfy deficiencies may have prerequisites.