

**Master of Arts in Teaching:
Secondary Education (9-12)
Comprehensive Science Licensure based on a Major in Biology**

Phase One (18 hours)

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 in this phase:

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

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.

Plus any background courses in science required for Standard Professional I licensure: See below:

Praxis II Specialty Area exams passed – if applicable _____ (date)

Technology competencies completion form _____ (date)

Phase One completion form signed by advisor and filed with TEAL office _____ (date)

Application for Standard Professional I license filed in TEAL Office _____ (date)

Phase Two (minimum 21 hours)

Requirements to begin this phase: Completion of Phase One and full-time employment as a high school science teacher

RSCH 6101: Educational Research Methods (3)

XXXX xxxx: Graduate courses in the sciences (9)

Note: See advisor for approved choices in your field.

MDSK 6351: Advanced Methods in Middle and Secondary Science

Final courses in Phase Two:

MDSK 6260: Principles of Teacher Leadership (3)

MDSK 6691: Seminar in Professional Development (3)

Completion of 39 graduate hours to be applied to the degree _____

Application for candidacy filed with the Graduate School _____ (date)

Application for graduation filed with the Graduate School _____ (date)

Report of project/portfolio sent to the Graduate School _____ (date)

Application for “M” license filed in TEAL Office _____ (date)

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.