

**Master of Arts in Teaching
Secondary Education (9-12)
Biology**

NOTE: School systems strongly prefer Comprehensive Science licensure.

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)

This final course is a full time internship requiring employment as a secondary biology teacher in an approved high school or a non-paid placement with a licensed biology 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 sets of options below

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

Technology competencies completion form _____ (date)

Fast track completion form signed by advisor and filed with TEAL office _____ (date)

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

Phase Two (21 hours)

Requirements to begin this phase: Completion of Phase One and full-time employment as a secondary biology teacher

- RSCH 6101:** Educational Research Methods (3)
XXXX xxxx: Graduate Courses in Biology (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)

Option 1: Secondary Biology (9-12) Background Requirements For Biology majors

Candidates must have at least a bachelor's degree with a major in biology. The GPA for background requirements must be at least a 2.75, and no courses may be presented for licensure with grades lower than a C.

Competency areas met by the major in biology:

- Cellular and general physiology
- Genetics
- Systematics and ecology
- Plant and animal growth and development, behavior, evolution
- Chemistry
- Organic chemistry
- Statistics

Competency area which may not have been met within the major in Biology:

Understands the nature of science: process, content, interrelationships among the sciences	<i>Additional requirement: One course in physics or geology, e.g.,</i> PHYS 1101 +L: Introductory Physics I GEOL 1200+L: Introductory Geology
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Option 2: Secondary Biology requirements for students with less than a biology major

Candidates must have at least a bachelor's degree. In order to build the equivalent of a major in biology, a candidate must earn at least 24 hours in biology. In order to meet the background requirements for a biology license, a candidate must earn credits for courses aligned with all competencies 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 exemplar UNC Charlotte courses	Courses taken	Year taken	Grades	Plan for satisfying deficiencies*
	There must be at least one course in each cell unless otherwise noted				
Physiology (cellular and general)	<i>One course in cell biology, e.g.,</i> BIOL 2111+L: Cell Biology AND <i>One course in human/animal or plant physiology, e.g.,</i> BIOL 3272: Plant Physiology BIOL 3273: Animal Physiology				
Genetics	<i>One course in genetics, e.g.,</i> BIOL 3166: Genetics				
Systematics, Ecology	<i>One course in ecology, e.g.,</i> BIOL 3144: Ecology				
General and organic chemistry	<i>Sequence of courses in both general and organic chemistry, e.g.,</i> CHEM 1251+L: Inorganic Chem AND CHEM 1252+L: Inorganic Chem II AND CHEM 2131+L: Organic Chemistry				
Growth and development, morphology, behavior, evolution	<i>Two semester sequence of courses in animal and plant biology, e.g.,</i> BIOL 1222+L: Plant Biology and BIOL 1233+L: Animal Biology OR BIOL 1101+L: Biology I and BIOL 1115+L: Biology II				
Understands the nature of science: process, content, interrelationships among the sciences	<i>One course in physics or geology, e.g.,</i> PHYS 1101: Introductory Physics I GEOL 1200+L: Introductory Geology				
Use of mathematics in the sciences	<i>Any statistics course, e.g.,</i> STAT 1221: Statistics				

Note: Courses required to satisfy deficiencies may have prerequisites.