

# BIOLOGY, M.S.

The Department of Biology Department offers a 30 credit-hour Master of Science (M.S.) program that prepare students for careers in the biological sciences or that draw on the biological sciences.

The M.S. thesis option not only provides career preparation, but also provides a strong foundation for further academic training, such as medical school or a doctoral program. Students select an advisor who helps them select an advisory committee that works closely with each student to tailor a specific curriculum to meet that student's needs and interests and to guide their thesis work. Students typically complete the necessary course work and research thesis for the master's degree in 2-3 years.

The M.S. non-thesis option is based on preparing students for a broad array of careers that draw on expertise in the biological sciences. Non-thesis students will generally select 27 credits of electives from graduate-level biology courses but may include up to 12 credits of graduate courses in other programs. Non-thesis students will complete a 3 credit capstone experience and will select an advisor to work closely with them on tailoring a specific curriculum and capstone experience to meet that student's needs and interests. The non-thesis option can be completed in 1-2 years.

Students in the biology master's programs have research, capstone and/or course work opportunities that reflect the diverse interests of faculty members within the department. Please see the description of research of Biology faculty members and description of graduate courses in Biology.

For information regarding deadlines and requirements for admission, please see <https://grs.uncg.edu/programs/>.

In addition to the application materials required by the Graduate School, applicants must submit a personal statement explaining how the master's degree at UNC Greensboro will help them achieve their career ambitions.

Qualified applicants will have a strong undergraduate background in biology and science.

## Degree Program Requirements

**Required:** 30 credit hours

### Thesis Option

Code	Title	Credit Hours
<b>Biology Electives (24 credits)</b>		
Select 24 credits from graduate-level biology courses *		24
<b>Thesis (6 credits)</b>		
BIO 699	Thesis	6
<b>Total Credit Hours</b>		<b>30</b>

\* *Students with the thesis option can take up to 8 credits at the graduate level in other departments. Requires the prior approval of the graduate student's committee and the final approval of the Graduate Program Director and/or the Department Head.*

### Non-Thesis Option

Code	Title	Credit Hours
<b>Biology Electives (27 credits)</b>		
Select 27 credits of electives from graduate-level biology courses *		27
<b>Capstone Experience (3 credits)</b>		
BIO 698	Non-Thesis	3
<b>Total Credit Hours</b>		<b>30</b>

\* *Students with the non-thesis option may potentially take up to 12 credits at the graduate level in other departments. Requires the prior approval of the graduate student's committee and the final approval of the Graduate Program Director and/or the Department Head.*

### Biology Electives

Thesis students will select 24 credits of electives and non-thesis students will select 27 credits of electives from graduate-level biology courses. Students who elect the thesis option can take up to 8 credits at the graduate level in other departments, and students who elect the non-thesis option may potentially take up to 12 credits at the graduate level in other departments. Both require the prior approval of the graduate student's committee and the final approval of the Graduate Program Director and/or the Department Head.

### Capstone Experience

#### Thesis

Students writing a thesis as a capstone experience must have at least 15 credits (including 6 credits of BIO 699 Thesis) in 600-749 level courses.

#### Non-Thesis

Students taking the non-thesis option as a capstone experience must have at least 15 credits in 600-749 level courses and cannot enroll in BIO 695 Biological Research, BIO 699 Thesis, BIO 801 Thesis Extension, or BIO 803 Research Extension. Three credit hours of BIO 698 Non-Thesis is required for all M.S. non-thesis students to provide students time to complete the capstone. The student's faculty advisor will be the instructor for BIO 698. The capstone experience will be designed by the student's faculty mentor and the committee, and could include a comprehensive exam, a written report, or a scholarly literature review on a topic in the student's biology-based career.

Prior to the end of the first semester of enrollment, each student is expected to identify a Master of Science Advisory Committee composed of an advisor and two other faculty members; the Graduate Program Director must approve the composition of the committee.

## Accelerated B.S. or B.A. to M.S. in Biology

### Application and Admission

UNC Greensboro undergraduate students who are pursuing a B.A. or B.S. in Biology may apply for admission to the Accelerated Master's Program (AMP) in Biology. Students may apply for admission to the AMP after the completion of 60 credit hours, with at least 30 credits completed at UNCG. Applicants must have a cumulative undergraduate GPA of at least 3.5 at UNCG. All applicants must complete the AMP information when applying for admission to the M.S. in Biology. The standard application requirements for the M.S. in Biology also apply to the AMP.

## Courses

Students admitted to the AMP may apply up to, but not more than, 12 credits of graduate-level course work toward completion of both the undergraduate and graduate degree, provided that they earn a grade of B (3.0) or better in the course and fulfill graduate-level requirements. The graduate courses the students will take in the Accelerated Master's Program in Biology must be approved by the Graduate Program Director. Some biology classes are cross-listed as undergraduate and graduate.

For those cross-listed courses offered to both undergraduate and graduate students, a student may not receive graduate credit for corresponding courses previously taken at the undergraduate level.

The following courses may be counted towards both the B.S. or B.A. and the M.S. degrees:

Code	Title	Credit Hours
BIO 601	Seminar in Animal Ecology	3
BIO 605	Seminar in Ecology	3
BIO 609	Seminar in Molecular Cell Biology	3
BIO 610	Seminar in Molecular Genetics	3
BIO 611	Advanced Topics in Animal Ecology	3
BIO 614	Prenatal Development: Embryology and Teratology	3
BIO 615	Advanced Topics in Animal Physiology	3
BIO 617	Advanced Topics in Genetics	3
BIO 618	Computational Biology	3
BIO 619	Plant Physiology	3
BIO 620	Ecosystem Ecology and Biogeochemistry	3
BIO 624	Advanced Topics in Microbiology	3
BIO 626	Conservation Biology	3
BIO 627	Landscape Ecology	3
BIO 628	Microbial Ecology	3
BIO 629	Aquatic Ecology	3
BIO 630	Advanced Topics in Plant Ecology	3
BIO 635	Molecular Toxicology	3
BIO 636	Ecotoxicology	3
BIO 637	Human Evolutionary Genetics	3
BIO 639	Biochemistry: Metabolic Regulation in Health and Disease	3
BIO 640	Biology of Aging	3
BIO 641	Stream Ecology	3
BIO 642	Genes and Signals	3
BIO 644	Entomology	3
BIO 645 & 645L	Disease Ecology and Disease Ecology Laboratory	4
BIO 646	Advanced Topics in Neurobiology	3
BIO 648	Current Topics in Biology	1-3
BIO 651 & 651L	Vascular Plant Systematics and Vascular Plant Systematics Laboratory	4
BIO 652	Metamorphosis	3
BIO 655	Vertebrate Reproduction	3
BIO 656	Global Change	3
BIO 660	Symbiosis	3
BIO 673	Drugs and the Brain	3
BIO 676	Population Genetics and Molecular Evolution	3

BIO 678	Hormones in Action	3
BIO 680	Environmental Physiology	3
BIO 685	Virology	3
BIO 686	Cell Cycle and Cancer	3
BIO 687	Epigenetics	3
BIO 691	Genetics of Complex Traits	3
BIO 694	Advanced Genetics	3

Students must have completed the appropriate prerequisites required for listed courses or have permission of the department. All courses that lead to the completion of the M.S. in Biology must be approved by the Graduate Program Director. Please consult with an undergraduate advisor to determine how courses taken at the graduate level will meet requirements in the bachelor's degree program. All degree requirements for the M.S. in Biology remain the same.