

## MISSION STATEMENT

The M.S. in biology program at Winthrop University offers students broad training in biology. Students may concentrate in areas ranging from conservation biology and behavioral ecology to biomedical research in cancer, molecular biology, and bioinformatics. Students work closely with graduate faculty advisors who hold Ph.D.s in their areas of specialization and are active researchers. Graduate courses are small (12 students or fewer) allowing for maximum interactions between students and their professors. Our graduate faculty members enjoy teaching and mentoring graduate students and many have won awards for their teaching and scholarship.



## MASTER OF SCIENCE BIOLOGY



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# COLLEGE OF ARTS AND SCIENCES

## ABOUT THE PROGRAM

Students have a choice of two paths including a traditional thesis-based option and a nonthesis option within the M.S. degree program. Students interested in continuing on to Ph.D. or professional programs typically pursue the thesis option while the nonthesis option works well for full-time, working professionals who seek advancement in their field.

Thesis students are paired with a faculty advisor at the time of admission with whom they work on a research project. A foundational course, taken in the first semester, prepares students to develop and carry out research. The size of our program allows faculty to work closely with students to help them select courses and develop projects which best fit their interests and career goals. The thesis option provides students with excellent preparation to continue their training in doctoral or professional programs which emphasize a research component.

The nonthesis option emphasizes breadth of training, with students taking advanced coursework across the full range of biology subfields. Nonthesis students may opt to carry out a one-semester project with a faculty member to gain research experience. Nonthesis students leave the program well-prepared to continue on to professional schools, to enter biologically-oriented professions in research or government, or to teach at the community college level.

## COMPARISON OF THESIS AND NONTHESIS OPTIONS

Thesis Option	30 hrs	5 required courses, 3 of which are thesis courses	Coursework; research project and completion of thesis
Non Thesis Option	36 hrs	7 required courses including 3 area courses	Coursework; short research project optional

## FACULTY

### WHO ARE WE?

All biology graduate faculty hold Ph.D.s in their area of expertise from major research universities (University of South Carolina; Duke University; University of North Carolina, Chapel Hill; University of California, Berkeley; University of Tennessee; University of Texas; Purdue University; Southern Illinois University; Washington State University; and the Bulgarian Institute of Genetics).

### WHAT DO WE DO?

Graduate faculty members include active researchers at the forefront of their fields who offer students training in the most current lab and field techniques and theoretical approaches. We collaborate with faculty and researchers all over the U.S. and in other countries and regularly attend national and international scientific meetings. We strongly encourage our graduate students to present their research results at meetings and to publish in scientific journals.

Graduate faculty conduct research in a wide range of areas including:

- Biomedical research including prostate cancer, angiogenesis, Cardiac cell repair
- Bioinformatics of viruses
- Behavioral ecology of dolphins, primates and other animals
- Aquatic biology, wetland ecology and tropical ecosystems
- Conservation biology
- Plant genetics and systematics
- Developmental and neurobiology
- Entomology
- Comparative anatomy
- Microscopy

## RESEARCH SITES AND FACILITIES

Winthrop has a state-of-the-art facility for biomedical and molecular biological research. Faculty members conduct field research in behavioral ecology, tropical ecology and conservation biology at field sites throughout the Carolinas and in Peru, Costa Rica and the Dominican Republic.

## WHERE ARE OUR GRADUATES NOW?

M.S. in biology graduates go on to careers in a wide variety of biology-related fields or continue their training in doctoral and professional degree programs. Here are some of the directions our students have gone in:

**PROFESSIONAL AND PH.D. PROGRAMS:** Our M.S. graduates have gone on to doctoral and professional programs all over the country including

- University of South Carolina (immunology, marine biology, paleontology, paleopathology)
- Medical University of South Carolina (medicine, biomedicine)
- Medical College of Georgia (biomedicine)
- University of Georgia (veterinary medicine)
- University of South Florida (landscape ecology)
- The Ohio State University (evolutionary biology)
- Penn State University (biology)
- Wake Forest University (microbiology/immunology)
- University of Arizona (physiology)

**CAREERS:** Our graduates are employed in

- biomedical research (University of South Carolina, Vanderbilt University, Carolinas Medical Center, North Carolina Research Campus, Kanapolis Research Campus)
- government agencies (USDA, State of South Carolina, Mecklenberg County)
- museums (American Museum of Natural History, Schiele Museum, Museum of York County)
- private industry
- college-level biology teaching

