

UTA Biology Department Master of Science Handbook (Starting 2024 Academic Year)

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Program Overview

The Master of Science (M.S.) in Biology is designed to prepare students to pursue careers in research, science education, industry, and government. Courses are taught by award winning, nationally recognized research and teaching faculty and cover a range of essential topics in contemporary biology. Our Biology Department offers two distinct Master of Science programs: the Master of Science with Thesis option (MST), and the online Master of Science without a thesis, or “Non-Thesis,” option (MSNT- Online).

About This Handbook

The handbook will be updated when and if major changes to the program occur. You are expected to complete the graduation requirements described in the UTA Graduate Catalog and the Biology Graduate Handbook for the year you began your program. If you wish to follow the requirements of a more recent catalog and handbook, you can ask permission from the Graduate Program Faculty Advisor.

If you have questions not answered in this handbook, please email askbiology@uta.edu (prospective students) or contact a graduate advisor with any remaining questions you have about the Master’s degree program in biology. Applicants who have applied should include their UTA student ID # or application number in the email.

Master of Science Non-Thesis Option (MSNT) Online

The Master of Science in Biology Non-Thesis option is an online asynchronous Master's degree program. The requirements include a capstone course and 27 additional hours of 5000 level lecture courses (see below). Students can be part-time or full-time. Full-time status requires that students enroll in at least nine credit hours each in Fall and Spring semesters. Taking courses in the summer is not required. Students can begin the MSNT in fall, spring, or summer.

The non-thesis option is intended to meet the needs of students looking to advance in their careers, for biology teachers wishing to expand their knowledge or be qualified to teach dual credit, or those seeking additional preparation for professional or health science programs. The MSNT program does not involve laboratory research and is not a research degree. Students interested in research should consider applying to the MST (MS Thesis track) or PhD program. Students who are admitted into the MSNT program cannot switch to the MST or the PhD. Those are different programs with different admissions requirements and applicant evaluation processes.

All MSNT students are required to complete a Capstone course in their final semester. The Capstone course gives students the opportunity to develop skills and materials that will help in preparing for next steps in education or career. Students will complete a Capstone project on a topic of their choice with instructor guidance, that expands upon knowledge gained during the MS degree.

MSNT Required Coursework

- BIOL 5392: Master's Non-Thesis Capstone (taken in the last semester)
- Additional courses needed to meet the minimum required 30 credits (see the current course catalog)

*Subject to written approval by the Graduate Advisor and within the limitations stated in the General Graduate School Regulations, a MST or MSNT student may take up to nine hours of coursework from courses listed under Biology at the 3000 or 4000 levels in support of career goals.

Master of Science Thesis Option (MST)

The Master of Science in Biology Thesis option is a research-focused degree, intended to prepare students for careers in research and industry or for PhD programs. MST students obtain skills such as the collection and analysis of data, evaluation of primary literature, and essential laboratory techniques. MST students have the option to conduct research leading to a thesis in a variety of specializations, including aquatic biology, ecology, genetics, evolutionary biology, genomics, microbiology, and cell biology.

The MST degree is a full time, campus-based program that must be completed within 2 years. Students are expected to be on campus taking courses and conducting experiments and working in the lab daily. Those who are working or looking for a more flexible program should apply to the online MSNT program. MST students are only admitted for a fall start. It is not possible to begin the thesis program in the spring or summer.

Students are matched with a faculty member conducting research in the student's area of interest (the "concentration"). Students will declare their concentration during the application process and, if admitted, be matched with an appropriate lab.

All MST students will complete a Master's thesis under the guidance of their faculty advisor ("Principal Investigator"), and complete 30 credit-hours of advanced biology coursework. The MST degree is not a prerequisite for admission to the PhD program. Students who are interested in a PhD should apply directly to that program. Students cannot switch from the MST to the PhD.

MS Thesis Required Coursework

- BIOL 5314: Biometry (3 credits)
- BIOL 5340: Bioinformatics (3 credits)
- BIOL 537X: Thesis Research in the chosen concentration (3 credits, may be repeated)
- BIOL 5698: Thesis (6 credits, taken in the last semester)
- Additional courses needed to meet the minimum required 30 credits (see the current course catalog)

*Subject to written approval by the Graduate Advisor and within the limitations stated in the General Graduate School Regulations, a MST or MSNT student may take up to nine hours of coursework from courses listed under Biology at the 3000 or 4000 levels in support of career goals.

Additional MS Thesis Requirements

In addition to a minimum of 30 credits, MST students must satisfactorily complete a research component and write a thesis. A satisfactory research product is determined by thesis committee,

not the number of research credits taken. With guidance from the PI and advisory committee, MST students can take any of BIOL 5000 level courses (see the current course catalog). MST students should not take online courses/sections unless approved by the PI and the MST graduate advisor.

A student in the thesis option program must be enrolled for six hours of thesis (Biology 5698) in the semester in which the final master's examination is held. Once enrolled for thesis, continuous enrollment must be maintained until graduation. An Application for Graduation must be filed electronically on MyMav and the diploma fee paid according to the deadlines in the applicable semester.

Supervising Professor and Supervisory Committee

The supervising professor, also called principal investigator (PI) will oversee and direct the thesis project and advise on all aspects of the student's program. In consultation with the supervising professor two additional faculty members must be selected to complete the supervisory committee. The supervisory committee is responsible for providing guidance regarding courses and the thesis project and conducts the final oral examination for thesis degree. The PI should work with the student to choose appropriate committee members. The committee must be formed by the end of the student's second semester of work. If for any reason the membership of the Supervisory Committee must be changed after it has been established, the change must be made by notifying the Graduate Advisor no later than one long semester before the anticipated final defense of thesis.

Proposal or Project Outline of Research Plans

Each student in the thesis option must hold a committee meeting and present a Proposal or Proposal Outline of the research project to the supervisory committee no later than the end of the second semester of work. The outline should contain detail sufficient to allow the supervisory committee to evaluate the appropriateness and feasibility of the proposed research. Once approved, the student may proceed with their project under the guidance of the PI.

Thesis

The thesis is a narrative presentation of the results and conclusions drawn from the completion of an original research project. The project is directed by the supervising professor with advice and counsel from the remaining members of the supervisory committee. When completed, the thesis must be approved by the supervising professor; on his or her approval, a copy of the thesis must be provided to each member of the supervisory committee for evaluation at least two weeks prior to the thesis defense.

The Office of Admissions, Records, and Registration sets deadlines for submitting the application to graduate, for holding a thesis defense, and for thesis submission. See the Graduate Calendar for current deadlines. Thesis writing instructions, guidelines, and templates are located on the Library's Thesis and Dissertation website. Upon approval by the supervisory committee,

the thesis will be presented electronically to the Library's Electronic Thesis and Dissertation website (<http://www.uta.edu/library/etd/>).

Thesis Defense

Masters Thesis candidates must hold an oral defense of the work presented in the thesis. Minimally, all members of the supervisory committee must be present before the oral defense may proceed. The candidate must provide a completed copy of the thesis to each member of the supervisory committee two weeks prior to the scheduled defense. The thesis defense will be publicly announced.

The defense consists of an oral presentation of the thesis work by the candidate followed by an oral examination period in which the candidate answers questions from members of the audience. The candidate first entertains questions relating to the thesis work from the general audience (faculty, students, guests), after which all but the student's committee and interested faculty are excused. The candidate is then questioned by the supervisory committee. After questioning by the supervisory committee, the candidate is excused, and the committee evaluates the candidate's performance. All faculty members present may express their opinions of the candidate's presentation and judgment of the overall acceptability of the candidate's defense; however, the committee is the ultimate judge of the acceptability of the candidate's defense. The supervisory committee may conclude that the candidate: (a) passed unconditionally; (b) passed conditionally upon meeting specified additional requirements; (c) failed, with permission to retake the exam after a period specified by the supervisory committee; or (d) failed, with a recommendation that the student not continue in the program.

A Final Master's Examination Report indicating the results of the final master's thesis defense must be filed in the Office of Admissions, Records, and Registration by the deadline stipulated on the office's Graduation Webpage. The student should complete and print out the appropriate form from the Office of Graduate Studies webpage, bring it to the thesis defense, and submit the signed form to the Graduate Advisor for filing with the Office of Admissions, Records, and Registration.

Resources for Master's Students

Helpful Websites

General Degree Requirements

<https://catalog.uta.edu/academicregulations/degree requirements/graduate/#linkstext>

Graduate School Master's Guidance

<https://www.uta.edu/academics/schools-colleges/gradschool/navigating-your-degree/masters>

UTA Library Thesis and Dissertation Page

<https://libraries.uta.edu/services/thesis-dissertation>

Applying for Graduation

<https://www.uta.edu/administration/registrar/students/graduation/applying>

UTA Graduate School Funding

<https://www.uta.edu/academics/schools-colleges/gradschool/funding/internal>

Financial Support

MSNT and MST students are not eligible for graduate teaching assistantships (GTA) but are potentially eligible for other scholarships and campus work-study opportunities. Students are encouraged to apply for appropriate College of Science, Department of Biology, and University scholarships and should reach out to the UTA Financial Aid Office for questions about aid options.

The following is a list of some of the opportunities that may be available to Master's students and was current at the time this handbook was published. There may be other opportunities and students should visit the official website for UTA scholarships, Mav Scholarship (https://uta.scholarships.ngwebsolutions.com/CMXAdmin/Cmx_Content.aspx?cpId=1682), for a current list of opportunities. Students should also speak with their advisor regarding discipline-specific opportunities.

Note that Department and College awards and fellowships provide funds for the following semester. Master's students should apply in their first year to be eligible.

University Scholarships

- UTA EDGE Center Scholarship (<https://www.uta.edu/hr/edge-center/the-center/scholarship>)
- UTA Graduate School Internal Funding (<https://www.uta.edu/academics/schools-colleges/gradschool/funding/internal>)

College Scholarships

- Dean's Excellence Scholarship
- Alexander Scholarship
- Edward and Dorothy Perez Scholarship

Biology Department Awards and Fellowships

- Graduate Research Achievement Award
- Chad Watkins Memorial Award for Excellence in Graduate Mentorship of Undergraduate Research in Biology
- William F. Pyburn Award (Fellowship) – Award for one full-time graduate student (Master's or Doctoral) pursuing studies of Natural History, especially in the areas of systematics, ecology, or behavior.
- Biology Graduate Student Association- travel and small research grants provided

National Organizations

- Sigma Xi: <https://www.sigmaxi.org>
 - These have typically been limited to a \$1000 maximum, including funds for travel and subsistence and supplies, but not for equipment or salary. The grant proposal includes a brief description of the proposed research and a detailed budget. Three letters of recommendation are also required. There are two deadlines each year for these grants (March 15 and November 15).

Department Information

Communication

Email is the official means of communication at UTA. Students are responsible for keeping up with their uta email account(s).

Microsoft Teams is the official of instant messaging and video conferencing. Students should utilize their UTA Microsoft Teams account.

UTA and the Department both use listservs as communication tools.

Biology Administration Contacts

Biology Graduate Program Staff Advisor – Stephanie Fenton (stephanie.fenton@uta.edu)

The Graduate Program Staff Advisor Supports graduate students from admissions to graduation and is the main point of contact.

Biology Graduate Program Faculty Advisor for the MST and MSNT programs and Associate Chair for Academics – Melissa Walsh (mjwalsh@uta.edu)

Head of MST/MSNT admissions. Works with the Graduate Program Staff Advisor to ensure that all students are enrolled each semester. Matches MST students with a faculty thesis mentor. Tracks progress of MSNT/MST students.

Biology Department Chair – Clay Clark: (clay.clark@uta.edu)

Oversees all department operations and supervises all faculty in the Biology Department.

Biology Head Departmental Administrative Services Officer – Steven Nickols
(steven.nickols@uta.edu)

Head accountant, and director of office staff.

Applying to the Master of Science in Biology Program

The following are minimal requirements for entrance into the graduate program in biology. However, satisfying or exceeding these requirements does not guarantee admission to the program. Admission to the program is determined solely by the Biology Graduate Studies Committee and the Graduate School and is based on an evaluation of all pertinent aspects of an applicant's record.

(see also [The Department of Biology Graduate Catalog page](#))

1. A bachelor's degree in biology or a bachelor's degree in some other discipline with at least 12 hours of advanced level coursework (junior or senior level courses) in biology.
2. Successful applicants tend to have undergraduate GPA of 3.0 or greater on a 4.0 scale, as calculated by the Graduate School. Applicants GPA in the Sciences will also be considered.
3. Favorable letters of recommendation from at least three individuals able to assess the applicant's potential for success in graduate school.
4. Evidence of previous research experience may also be considered.
5. International students whose native language is not English must provide a score on the Test of Spoken English (TSE) of at least 45, a minimum score of 21 on the Speaking portion of the TOEFL iBT exam, a minimum score of 6.5 on the Speaking portion of the IELTS exam, or a minimum Duolingo score of 100. See the following website for complete details: <https://www.uta.edu/admissions/apply/international-graduate>

How To Apply

First, read the general instructions for applying to the graduate program and download the checklists available on the Office of Graduate Studies webpage: <https://www.uta.edu/admissions/apply/graduate>

See the Biology Department website for additional information about applying and an FAQ about these programs. <https://www.uta.edu/academics/schools-colleges/science/departments/biology/graduate-programs/masters-program>

Questions?

Email askbiology@uta.edu with any remaining questions you have about the M.S. program in biology. Applicants who have applied should include their UTA student ID # or application number in the email.