Doctor of Philosophy in Quantitative Biology (BS Entry)

About This Program

Doctor of Philosophy in Quantitative Biology is designed to train students to apply sophisticated quantitative techniques to solving basic and applied problems in biology. Students will attain substantially greater quantitative skills than in traditional doctoral programs in the biological sciences, providing them with a competitive advantage in business, industry, government, and academia.

Competencies

1. Upon completion, students will be able to synthesize and explain, in written and oral forms, complex concepts and theories in the field of biology as presented in primary literature.
2. Upon completion, students will be able to analyze biological data and interpret the results for presentation in written and oral formats.
3. Upon completion, students will be able to effectively communicate their research with others in their field of study through publication and presentation.
4. Upon completion, students will be able to plan and implement the investigative procedures, formulate hypotheses, collect, analyze and interpret data, and draw conclusions from their research and write a publication-quality article, necessary to obtain a doctoral degree.

Admissions Criteria

HOW TO APPLY

Read the general instructions for applying to the graduate program and download the checklists available on the Office of Admissions webpage (https://catalog.uta.edu/programadmin/393/www.uta.edu/admissions/graduate/apply/). International applicants have specific requirements, and a separate admissions checklist (https://www.uta.edu/admissions/apply/international-graduate/). Additionally, the Department requests that applicants complete a questionnaire (https://common.forms.uta.edu/view.php?id=2034157).

A BS in Biology or related field is required for admission. Some course requirements may be waived for students who have earned an MS in Biology or related field. Students are accepted into our PhD program as either direct admit or rotation students.

DIRECT ADMIT

To qualify as a direct admit, an applicant must secure the support of a faculty member before applying, mention their faculty support in their letter of intent, and ask that their faculty member reach out to the chair of the admissions committee (see the Department of Biology (https://www.uta.edu/academics/schools-colleges/science/departments/biology/graduate-programs/phd-program/) website for details and contact information). To secure the support of a faculty member before applying, begin by visiting our Biology faculty page: (https://www.uta.edu/academics/schools-colleges/science/departments/biology/faculty- research/faculty/) review the research focuses of the labs, and contact individual faculty members to discuss your research interests. Explain how your interests align with their lab and inquire if they would consider having you join their lab as a new PhD student.

ROTATION PROGRAM

Applicants would choose this option if they are unsure which area of research interests them. Please indicate your interest in the rotation program in your letter of intent. Applicants admitted into the program will perform three rotations in three separate labs. At the end of the rotation period, applicants are placed in a home lab under the guidance of a Rotation Program Committee. Applicants will select their rotation labs only after being admitted into the PhD program. Please note that applications to the rotation program are only considered for the Fall semester. For more information about the rotation program, please contact the chair of the Rotation Program Committee (see the Department of Biology (https://www.uta.edu/academics/schools-colleges/science/departments/biology/graduate-programs/phd-program/) website for details and contact information).

ADMISSION CRITERIA

Decisions are based on consideration of all the information listed below and are not based on any single criterion alone.

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. A minimum undergraduate GPA of 3.0 on a 4.0 scale, as calculated by the Graduate School. Applicants overall GPA in the Sciences and within Biology are also considered.
3. Favorable letters of recommendation from at least three individuals able to assess the applicant's potential for success in graduate school.
4. Letter of Intent (see below)
5. Department Questionnaire (see below)

6. International students whose home country's native language is not English must provide a score on the Test of Spoken English (TSE) of at least 45, a minimum score of 23 on the Speaking portion of the TOEFL iBT exam or a minimum score of 7 on the Speaking portion of the IELTS exam.

DENIAL OF ADMISSION

A candidate may be denied admission if they have less than satisfactory performance on a majority of the admission criteria listed above.

FELLOWSHIPS AND SCHOLARSHIPS

Award of scholarships or fellowships will be based on consideration of the same criteria utilized in admission decisions. To be eligible, candidates must be new students coming to UT Arlington in the Fall semester, must have a GPA of 3.0 in their last 60 undergraduate credit hours plus any graduate credit hours as calculated by the Graduate School, and must be enrolled in a minimum of 6 hours of coursework in both long semesters to retain their fellowships.

Curriculum

Foundations		
BIOL 6101	GRADUATE DEVELOPMENT	1
BIOL 6102	RESPONSIBLE CONDUCT IN RESEARCH	1
BIOL 6103	CAREER DEVELOPMENT	1
Select 3 from the following:		9
BIOL 6301	ESSENTIAL TOPICS IN GENOMICS	
BIOL 6302	MICROBIOLOGY, MOLECULAR AND CELLULAR BIOLOGY	
BIOL 6303	ECOLOGICAL AND EVOLUTIONARY ANALYSIS	
BIOL 5340	BIOINFORMATICS	
BIOL 5314	BIOMETRY	
Complete at least 30 hours from the following:		30
BIOL 5301	LABORATORY ROTATION	
BIOL 6391	ADVANCED RESEARCH	
BIOL 6691	ADVANCED RESEARCH	
BIOL 6999	DISSERTATION	
BIOL 7399	DOCTORAL DEGREE COMPLETION	
Total Hours		**42**

Program Completion

The Doctor of Philosophy in Quantitative Biology requires distinguished attainment both in scholarship and in research. In addition to meeting the minimum requirements of a planned course of study, the ultimate basis for conferring the degree must be the demonstrated ability to do independent and creative work and the exhibition of a profound grasp of the subject matter within the field.

Each student will make three research presentations that are open to the entire department. These may include the proposal defense, a research progress report, and the dissertation defense.

Advising Resources

Location:

Life Science Building, Room 337
501 S. Nedderman Dr.
Arlington, TX 76019

Email:

askbiology@uta.edu

Phone:

817-272-2872

Web:

Department of Biology Advising (https://www.uta.edu/academics/schools-colleges/science/departments/biology/advising/)