

Honors B.S. in Biology (Aug 2018)

Overview: The H.B.S in Biology is a collaboration between the Honors College and the School of Biological Sciences to reward students undertaking and completing a more rigorous, research-oriented curriculum while pursuing their Honors Bachelor's Degree in Biology at the University of Utah. The centerpiece of Biology Honors Track is a research project culminating in the submission of a written thesis, and presentation of the student's thesis research in a public forum.

Admission to the Biology Honors Track. All students admitted to the Honors College that declare as Biology majors are eligible for the Biology Honors Program. Students that wish to declare their intent to complete a Biology Honors degree should meet with a Biology advisor and plan their academic curriculum specific to the Honors Biology degree. As early as possible (first or second year), Honors Biology students should meet with the Biology Honors Faculty Advisor, Dr. Michael Bastiani, to explore research areas and begin laboratory research for their Honors Biology Thesis.

Before taking Honors Thesis 4999 students must complete the Honors Thesis Proposal Form.

Requirements. The Biology Honors Track is intended to be flexible and to provide maximum access for all Honors Biology majors, including transfer students. To receive an Honors Bachelor of Science degree in Biology students must:

Be admitted to the Honors College of the University of Utah.

Meet all University and School requirements for a bachelor's degree in Biology.

Maintain a cumulative GPA of 3.5 overall, a minimum grade of B in all Biology courses, and a cumulative GPA of 3.5 in all Biology courses.

Complete at least 3 semesters of independent research (Biology 4995 or Biology 4955 or other research in a laboratory approved by the Biology Honors Faculty Advisor).

Complete Biology 4999: Thesis preparation and submission to the Honors College and School of Biological Sciences (3 units^{2,3})

All students must complete and submit a thesis discussing the results of their research project. To receive honors at graduation, students must receive a grade of B or better in Biology 4999 (as well as fulfill the Honors College requirements for the degree). Details of thesis preparation are discussed at the end of this document. The Faculty Advisor may request faculty in the specific research discipline to aid in evaluating the thesis.

Present the results of their research in an appropriate forum (i.e. Biology Undergraduate Research Symposium, University Undergraduate Research Symposium) approved by the Biology Honors Committee. Students should consult with the chair of the Biology Honors Committee (currently Professor Michael Bastiani, bastiani@biology.utah.edu) to arrange their presentation when they enroll in Biology 4999.

Complete at least additional 12 units² of Honors courses and electives fulfilling the requirements.

¹ The minimum requirement is 3 semesters of research totaling 9 credit hours, but students are encouraged to pursue their research in greater depth.

² Required Honors courses and electives may be applied to major and graduation requirements. Specifically, 3 credit hours of Biology 4999 and 6 credit hours of Biology 4995 count as electives towards the major.

³ Students should attend a group Thesis Information Session or schedule a Thesis Information meeting with the Associate Dean of the University Honors College prior to enrolling in Biology 4999 and are required to submit to the Honors College a Thesis Proposal form, available at honors.utah.edu, that outlines the thesis research project and is signed by the student's faculty supervisor and the Biology Honors Advisor, Dr. Michael Bastiani.

The Biology Honors Committee oversees all aspects of the Biology Honors Track. The Committee will (i) approve the research proposal and admission, (ii) monitor the relationship between student and research supervisor, (iii) assess research progress, and (iv) approve the final thesis. To maintain high standards, the Committee may request faculty in the specific research discipline to aid in monitoring and evaluating the research experience. For more information, contact the Biology advising office or the chair of the Biology Honors Committee.

Table 1. Required courses and electives for Honors B.S. in Biology

The following Biology courses (totaling 12 semester hours) must be completed by all students receiving Honors in the School of Biological sciences Honors:

Biology Honors Research

Complete at least 3 semesters of independent research (Biology 4995 or Biology 4955 or other research in a laboratory approved by the Biology Honors Faculty Advisor). Six of these 9 units can count as upper division Biology electives.

Biology 4999 Honors Thesis Preparation (3 credits). These 3 units count as upper division Biology electives.

Electives. In addition to the required Biology courses (above), students must complete at least 12 additional hours of elective honors courses as described below.

Electives to total at least 12 hours

- Students must complete 3 University Honors courses totaling 9 credits.
- 2 Intellectual Traditions courses (e.g., HON 2101, HON 2102, HON 2103, etc.).
- 1 Writing course (HON 2211, HON 3200)

*Students completing the required courses electives, and thesis will graduate with **Honors Bachelor's Degree of Science (or Arts) in Biology.***

Biology 4995 and 4999 – Honors Research and Thesis Preparation

The centerpiece of the Honors B.S. in Biology is an intensive research experience in a laboratory at the cutting edge of science. In Biology 4995, students will be trained in laboratory techniques and then work intensively on a research project for three semesters under the guidance of their faculty research advisor. It is expected that the honors student will have a semi-independent project with the opportunity to make substantial new discoveries. At the end of each term of Biology 4995, the honors student will submit a one-page report (single spaced) of his/her research progress to the chair of the Biology Honors Committee.

Following completion of three semesters of research, students must enroll in Biology 4999: Thesis Preparation (typically one semester before they plan to graduate). Biol 4999 is a writing intensive course in which the student prepares a research thesis in consultation with their faculty research advisor. The format of the Honors thesis should be consistent with standard scholarly practice (i.e. Abstract, Introduction, Methods, Results, Discussion, and References) and must conform to the Honors College guidelines. Most theses are 30-50 pages long (double spaced). Examples of theses submitted in past years are available in the Marriot Library (Science and Special Collections) and in the Honors Center in Ft. Douglas.

The student's research advisor is responsible for helping the student prepare a quality thesis, and must approve the thesis prior to its submission to the chair of the Biology Honors Committee. Once approved by the research advisor, the thesis should be submitted to the chair of the Biology Honors Committee for approval *no less than 2 weeks before the deadline published by the University Honors Program*. The Biology Honors Committee will often require additions or revisions to the thesis document prior to its approval. Final approvals by the Chair of Biology and University Honors Program are also required. As per University Honors policy, the thesis must be completed 'with distinction,' and a grade of B or better in Biology 4999 is required for graduation with honors.

Preparation of a quality thesis is a time-intensive process. Students are encouraged to begin preparation of their thesis, with guidance from their research advisor, early in the semester in which they are enrolled in Biol 4999.