

PROGRAM IN BIOLOGY HONORS CONCENTRATION PROGRAM

Purpose of the Honors Program

The Program in Biology administers an Honors Program to train students to conduct independent research in Biology; Ecology and Evolutionary Biology (EEB); Molecular, Cellular and Developmental Biology (MCDB); and Plant Biology; and shares in the administration of the Honors Program in Microbiology and Neuroscience. In addition to completing all the requirements for the concentration, an honors degree requires a concentration GPA of at least 3.4, and the completion of a significant piece of independent research that is reported in an honors thesis and presented in a public forum.

DECLARING AN HONORS CONCENTRATION

These policies apply to honors in all concentrations unless otherwise stated.

- Even if students participated in the freshman and sophomore Honors Program, they must still specifically declare an honors concentration.
- Students who did not participate in the freshman and sophomore Honors Program are eligible to declare an honors concentration provided they meet the honors concentration requirements.
- It is recommended that students discuss the Honors Program with a concentration advisor early in their undergraduate careers, and declare their participation in Honors as soon as possible.
- It is important that students discuss the proposed project with a concentration advisor in advance to ensure that the subject matter is appropriate for a thesis in the concentration.
- Students may join the Honors Program for their particular concentration at any time during their undergraduate career, **but it is preferred that a student identify a research mentor by the end of the sophomore year.**
- To declare an honors concentration, a student must make an appointment with a concentration advisor.
- A student may declare in the Honors Program up to the deadline for submission of the honors thesis, but this is **not recommended.**

Sponsors and Co-sponsors

Students must identify a research sponsor, preferably by the end of the sophomore year.

Students may do research with a faculty member (research scientist or tenure track) of the Department of Ecology and Evolutionary Biology (EEB); Molecular, Cellular and Developmental Biology (MCDB); or with other faculty of the University of Michigan campus **as defined below.** If the mentor is not a member of the department that administers the concentration, the student **must** identify a research or tenure track co-sponsor in one of the departments identified for each concentration below **prior to** commencing their honors research project.

Sponsors

Biology

The research mentor can be a member of the Department of EEB, or a member of the Department of MCDB, or with approval of a co-sponsor, a scientist holding a faculty appointment in another unit of the University such as the Medical School or the School of Public Health.

EEB

The research mentor can be a member of the Department of EEB, or with approval of a co-sponsor, a scientist holding a faculty appointment in another unit of the University such as the School of Natural Resources and the Environment, the Department of MCDB, or the Life Sciences Institute.

Cellular, Molecular and Developmental Biology

The research mentor can be a member of the Department of MCDB or with approval of a co-sponsor, a scientist holding a faculty appointment in another unit of the University such as the School of Medicine or Kellogg Eye Center.

Microbiology

The research mentor can be a member of the Departments of MCDB, EEB, Microbiology, or the School of Public Health, or with approval of a co-sponsor, a faculty member appointed in another unit of the University.

- Students apply to the Honors Program in Microbiology by submitting a research proposal along with a letter from the research mentor indicating their willingness to sponsor the student's research.

Neuroscience

The research mentor can be a member of Department of MCDB or Psychology, or with approval of a co-sponsor, a faculty member in another unit of the University.

- Students apply to the Honors Program in Neuroscience by submitting a research proposal along with a letter from the research mentor indicating their willingness to sponsor the student's research.

Plant Biology

The research mentor can be a member of the Department of EEB or the Department of MCDB, or with approval of a co-sponsor, a scientist holding a faculty appointment in another unit of the University such as the School of Natural Resources and the Environment.

EEB and MCDB Faculty Co-sponsors

- The co-sponsor will evaluate the student's research proposal to ensure it is appropriate for the student's concentration.
- The student will register in the appropriate independent research course under the co-sponsor's section number.
- The co-sponsor will submit the student's grade after consultation with the research mentor about the quality of the student's work.

REQUIREMENTS APPLIED TO ALL HONORS CONCENTRATIONS

1. *Research credit*

- Students are required to register for at least two terms of independent research (EEB or MCDB 300 or 400) depending on their field of study. Most students register for three or four terms of independent research.
- Microbiology concentrators may sign up for EEB or MCDB 300 or 400, or Micro 399.
- Neuroscience concentrators may sign up for MCDB 300 or 400, or Psych 331, 326, or 422.

Students working outside the specified departments (see “Sponsors” and “Co-sponsors”) will usually register for independent research through their EEB or MCDB co-sponsor’s independent study number. However, it is permitted to use the independent study number of another department if the co-sponsor approves it.

It is highly recommended that students arrange to work full time on their honors thesis during the summer between their junior and senior years. A limited amount of funds are available from university fellowships, but in most cases support will have to come from the sponsoring lab. Students working on field-based topics are urged to contact faculty about the possibility of starting work during the summer between their sophomore and junior years.

2. *Readers*

- Prior to submitting the thesis, it is the student’s responsibility to find three readers for the thesis, one of whom is the sponsor, and, if applicable, one of whom is the co-sponsor.
- At least two readers must be faculty members from the department that administers the honors concentration (e.g., two EEB faculty are required to be readers for an EEB honors thesis). A Biology honors concentrator may have readers from either the EEB or MCDB department. A Neuroscience concentrator may have readers from either the Departments of MCDB or Psychology. Microbiology concentrators may have readers from the Departments of MCDB, EEB, Microbiology or the School of Public Health.
- Readers **must** agree to turn in their evaluations within 10 days after the thesis is submitted.

Students may petition the Honors Committee for an exception to this rule by submitting a detailed reason for the request at **least three weeks** prior to the submission deadline for the thesis.

3. *The Honors Thesis*

Thesis format—There are no set guidelines on how the thesis should be formatted, or a specific page requirement. However, the Honor Committees prefer a thesis to be written in scientific manuscript format (i.e., abstract, introduction, methods, results, discussion, and conclusion sections). There are examples of honors theses available to look at in the Program of Biology Office during regular business hours (1111 Kraus Natural Science Building).

Due dates—The thesis is due on April 1, August 1, or December 1, depending on the anticipated graduation date. If the 1st falls on a weekend, the thesis will be due on the following Monday.

Evaluation procedures—Based on the material presented in the honors thesis and the student’s overall record, the readers of the thesis will recommend a rating of No Honors, Honors, High Honors, or Highest Honors.

- Readers of honors theses are expected to file their reports with the Program in Biology Undergraduate Office (1111 Kraus Natural Science Building) within 10 days after the thesis is submitted.
- The reports of all readers should address the quality of the science reported in the thesis, as well as the quality of the written presentation.

- The report of the mentor should also address the role the student played in the design, execution, and interpretation of the experiments reported in the thesis, and should point out the role that others in the lab played.

The Honors Committees for the respective concentrations will meet approximately two weeks after the due date of the theses to review the recommendations of the readers and decide on the appropriate level of honors. The Committee will attempt to maintain uniform standards for honors and is not constrained by the level of honors recommended by the readers. The Honors Committee may decide to table discussion and request the student to revise the thesis if they believe that a revised version might merit a higher rating.

4. *Oral Presentation*

- The student will present the research results in a public forum such as a class, a poster session, departmental seminar, or a formal presentation in a lab meeting. If the number of honors students graduating in a particular term warrants it, the Program in Biology will organize a poster session that would meet this requirement.
- The mentor will declare in the thesis evaluation letter when and where the student has fulfilled the public presentation requirement.
- Students must fulfill the public presentation requirement by the last day of the term they wish to graduate.

Please note: Students who have participated in UROP and have presented their work in a public forum have not met the oral presentation requirement for honors.

TIMELINE FOR SUBMITTING AN HONORS THESIS

At the Beginning of the Term or Before

If the student has not done so already, she or he should declare an honors concentration. To do this, a student must make an appointment with a concentration advisor. See “Declaring an Honors Concentration” above. **Officially declaring honors is very important. An e-mail group will be created for honors concentrators. Students who have not declared as a honors concentrator will miss important e-mails regarding honors.**

At least six weeks before the thesis is due

- It is the student’s responsibility to find readers for their thesis (see # 2 “Readers” above for guidelines).
- It is a good idea to find readers well in advance of turning in the thesis. The end of the term is very busy for faculty as well as students, so it’s a good idea to make sure that a reader will be able to submit their comments 10 days after the submission deadline. For example, if a reader will be out of town on the due date for turning in the thesis, it is the student’s responsibility to make arrangements to submit the thesis early, or ask for an exception from the Honors Committee.
- If a student would like to ask for an exception, she or he must contact the Honors Committee at **least three weeks prior** to the submission deadlines.

At least one week before the thesis is due

- The student may come to the Biology Program Office to pick up a reader form or print it off from the Program in Biology Webpage under “concentration forms”.
- The student will have their readers sign the form and then the student will return the reader form to the Program in Biology Office to be kept on file.

Due date of thesis

- The student will bring a copy of their thesis to the Program in Biology office. At this time the student will be provided with evaluation forms (one for each reader) or the student may print the evaluation form off The Program in Biology Webpage under “concentration forms”
- The student will provide each reader with a copy of their thesis and the evaluation form.
- **The reader is responsible for turning in the evaluation form 10 days after the thesis submission due date to the Program in Biology Office.**

10 days after submission

Readers must turn in their comments to the Program in Biology Office to be reviewed by the Honors Committee.

Notification of Honors

Students will be notified by a letter of the level of the honors earned. It is **unlikely** that students will know their level of honors before the end of the term or graduation ceremony.

- Students have the option of participating in an honors graduation ceremony, but they will probably not know what level of honors they have received before the ceremony.
- The honors level will be noted on the official diploma and transcript.