Wright State University
Department of
Biological Sciences

Honors Program

Information

And

Application Form

DEPARTMENTAL HONORS PROGRAM IN BIOLOGICAL SCIENCES

To recognize distinguished work by Biology majors of high ability, the Department of Biological Sciences encourages participation in the Departmental Honors Program. The program is centered upon the production of a senior honors thesis based upon original research. The student works closely with a faculty sponsor on the formulation and execution of the research project and thesis preparation. The faculty sponsor in concurrence with the departmental Honors Committee is responsible for the evaluation and approval of the thesis.

The individual student is responsible for initiating an application for admission to the Honors Program and for obtaining the sponsorship of a departmental faculty member. A typical program will consist of three semesters of participation although, at the option of the student and faculty sponsor, a four-semester program may be submitted.

The completed application form *(page 5)* must be filed with the Honors Committee on or before the end of *Fall Semester* of the student's junior year (or fifth semester before graduation, see B.5). **Except under unusual circumstances, no application after that date will be accepted**. A 3-5 page proposal is expected to be completed after one semester of acceptance into the program *(details on pages 3-4)*

Once the student has been accepted into the Honors Program they may elect from one to three credits of BIO 4950 during each semester of the proposed program, beginning with the first semester following admission to the program. A minimum of five hours must be completed, and no more than eight may be applied toward the degree. The number of BIO 4950 hours a student registers for each semester will be decided by the students and faculty sponsor. Additionally, the student may register for BIO 4950 for no more than four semesters, unless the student continues the research through the summer between the Junior and Senior years, or chooses an August graduation.

With permission of the Biological Sciences Honors Committee, Honors Research may be supervised by faculty in other departments. In such cases, Honors candidates will be subject to all Honors Requirements stated herein except that five to eight hours of Honors Research credits from the Research Supervisor's home department may be substituted for BIO 4950.

Information on the research programs of Biological Sciences faculty may be obtained from the Department of Biological Sciences, 235 BH, (937) 775-4226 or online at:

www.wright.edu/biology

Further information on the Biological Sciences honors program may be obtained from:

Jeffrey Peters, Chair, Biological Sciences Departmental Honors Program
235 Biological Sciences
(937) 775-3606
Jeffrey.peters@wright.edu

Laura Calkins, Asst. to the Chair
235 Biological Sciences Bldg.
(937) 775-2427
Laura.calkins@wright.edu

A. Requirements for Admission:

1. A grade point average of at least 3.4 for the 30 credit hours immediately preceding the winter semester of the student's junior year. Usually, a student will participate during his/her last 3-4 semesters as an undergraduate.

2. An application to the Honors Committee containing the following information:

   a. An application form (attached) including the Faculty sponsor's signature.
   b. A list of courses (including the number of credit hours) and grades for the 30 credits used to determine eligibility. When in doubt, include data on all relevant courses. An unofficial transcript is acceptable.
   c. Anticipated graduation date, with an indication that all degree requirements will be fulfilled in time for graduation.
   d. A tentative schedule for the last semester of the junior year and for the senior year.
   e. NOTE: *A research proposal of no more than 5 double-spaced typewritten pages, discussing the student's proposed project (see B.3) must be submitted at the end of the first semester of acceptance.* ***If not received, a student is eligible for dismissal from the honors program.***

B. Application Procedure:

1. The prospective Honors student chooses a research project in consultation with a faculty sponsor. Students should arrange a meeting with a faculty member to discuss potential topics, and then with the faculty members consent, complete the application.

2. Submit a completed Honors Program Application Form. Remember the completed application form must be filed with the Honors Committee on or before the end of Fall Semester of the student's junior year (or fifth semester before graduation, see B.5). **Except under unusual circumstances, no application after that date will be accepted**.

3. After acceptance into the program, the student will be approved to register for BIO

4950. The first semester should be used to read background literature, work out the specifics of the project, start learning techniques and possibly begin gathering data. **Within one semester of acceptance**, the student is expected to submit a proposal organized to include the following: Title, Introduction, Materials and Methods, Discussion, and Literature Cited. The Introduction shows the logical relationship between the student's project and previous studies. It should include a general statement of the problem, a brief literature survey, and a specific description of the project including the specific hypotheses to be tested. The Materials and Methods section is a statement of the specific techniques that the student will use while carrying out the project. The Discussion elaborates on the specific hypotheses to be tested, and expected results insofar as they can be anticipated.

The proposal should be reviewed and approved by the faculty advisor before submission. More information about proposal guidelines may be found at the end of this packet.

C. Requirements for Graduation with Honors in the Biological Sciences

1. Satisfactory completion of a research project.
2. Completion of an Honors Thesis based on the research project and 5-8 semester hours of BIO 4950. While BIO 4950 hours will be assigned a letter grade, the thesis will be independently judged acceptable or not acceptable. The faculty sponsor and the Honors Committee will make evaluation of the thesis**. The Honors Thesis MUST be in the hands of the Honors Committee before the last day of classes of Spring Semester, senior year (or semester of graduation)**.
3. Oral presentation (approximately 20 minutes) of research results at a departmental seminar, usually given at the end of spring semester.
4. Maintenance of a B (3.4) average during the Honors Program, with no course grade lower than a C.
5. Participation in the Biological Sciences Departmental Honors Seminar (BIO 3920) while in the Honors Program.

D. Recommended Time Table for Completion of Honors Programs for June Graduation.

1. In order to successfully complete the Honors Program, research should be started in the Spring Semester of junior year. ***All students are expected to continue their research the summer semester after acceptance.*** In addition, the student should have ample time in his/her senior year to devote to the program. The writing of the thesis should begin in time to complete all review and processing by the end of Spring Semester of the senior year (or semester of graduation).
2. **Spring Semester of the senior year is critical**. On or before April 1, the student and his/her advisor must inform the Honors Committee of the status of the research project. Also, before the end of the semester, the thesis advisor reviews the completed thesis, and recommends to the Honors Committee whether the thesis should be approved. The Honors Committee then informs the student of the approval.
3. If adequate progress is not made during the Honors Program, the student may be asked to withdraw or may be dropped from the program. No penalty or loss of credit will be involved with such withdrawal.

E. Funds for Presentation of Honors Research.

1. Funds are available to facilitate the presentation of honors research at extramural scientific meetings.
2. To be eligible, a current or recently graduated honors student must be the presenting author of a poster or research talk.

   f. The Department of Biological Sciences will provide a $150 stipend toward registration/room and board/travel for domestic meetings, $300 for international meetings.

   g. Applications for stipends must be received at least two weeks in advance.

   h. Application for matching funds, from the Honors Advisor, the College of Science and Mathematics, the Meeting Organizers, etc. is encouraged.

   i. Honors students are eligible for one meeting stipend during their undergraduate career.

   j. Applications for meeting stipends should be made using the attached application.

F. Helpful Hints for the Prospective Honors Student.

1. Make certain that your study has a beginning, middle, and end. Open-ended studies do not make satisfying Honors Project.
2. Do not try to do too much. This is the most common mistake that Honors students make. Remember to work with your faculty advisor in developing your project and understanding the nature and scope of your undertaking. *Don't forget to keep an eye on your deadlines!*
3. Pick a project where (1) others have worked out the techniques and (2) you can master those techniques. Consider developing and implementing a technique new to the lab.
4. The purpose of the proposal is to make you bring your project into sharp focus in the context of previous work. The proposal should convince your faculty sponsor and the Honors Committee that you are knowledgeable of the research you are pursuing. Spend time thinking about what you want to do before you write. A hurriedly written or sloppy proposal will be returned to you for rewriting.
5. Remember, completion of application, proposal, and the requirements of the Honors Program within the allotted time frame are your responsibility.

Honors Research Meeting Stipend Application

name _____ signature/date _____

email _____ telephone _____

honors sponsor _____ signature/date _____

research supervisor _____ amount requested $ _____
(if different from sponsor)

meeting _____

location/date _____

title/authors _____

(**Presenting Author in Circled**) / Presentation Type (circle one - Poster / Talk)

abstract (use separate page if necessary)

Department of Biological Sciences
Guidelines for Writing the
Undergraduate Honors Proposal and Honors Thesis

These guidelines are intended to assist students in preparing to write their research proposal and honors thesis. They are not intended to replace the advice of your mentor. Each student should discuss their writing strategies with his/her mentor for additional guidelines that may cater to individual project needs and/or advisor expectations.

Thesis Proposal

1. The proposal should be 3-5 pages of double- spaced text that includes an introduction to the research topic, a hypothesis, research methods, and a brief discussion about what you anticipate the project will contribute toward your field of research (what does this research project aim to accomplish?). Projects that develop a method are acceptable if the method will implement a new and vital approach to a WSU research lab or a research area.

2. An introduction should provide background information and relevance for the research project.

3. The proposal should clearly state a hypothesis and how the hypothesis will be tested.

4. Methods/approaches for addressing the hypothesis should be mentioned, but elaborate detail about methods is not necessary in the proposal.

5. Literature citations should be provided as additional pages at the end of the document. Ask your advisor for suggestions regarding appropriate citation formats, since this may vary depending on research field.

6. The proposal should be completed and submitted by the end of the first semester of active research in the mentor's lab.

TIMELINE: The proposal should be submitted by the end of the Honor's Candidate's first semester of BIO 4950 to the Departmental Honors Committee.

Honors Thesis

1. The thesis should be 10-15 pages of double-spaced, written text that includes the sections described below (not including references). Note that some projects may exceed this number of pages if they include large numbers of figures or other large data sets. Make sure that you proofread your thesis and ask your mentor to read it and suggest necessary revisions. Sometimes several revisions are necessary, so be sure to allow plenty of time for revising before the submission deadline.

2. SECTIONS OF THE THESIS:

a) Abstract

b) Introduction

Provide background information pertaining to your research topic. Define all relevant terms and systems used in the study. What previous findings led you to design this project?

c) Materials and Methods

List and describe each method that is used in your research project. Provide details about instruments and instrument settings that were used, all protocols that were used, as well as composition of buffers and other reagents.

d) Results

Present the results of the study in detail but do not discuss results in this section; perform statistical analysis to show significant differences among test groups where relevant.

e) Discussion

Discuss/interpret the meaning of the results obtained in the study; what conclusions can be drawn from the data you obtained?

f) Literature Cited (provided as additional pages at the end of the document)

Number of references will range, depending on your topic, but should be between 5-20 references. Ask your advisor for suggestions regarding appropriate citation formats, since this may vary depending on research field.

3. TIMELINE: The thesis should be completed by the middle of the final semester of research in the mentor's lab. This will allow ample time for printing and final

submission of the document.

4. ORAL PRESENTATION: Completing the thesis by end of the last research semester will also allow time for the student to work with the mentor to develop slides (and practice your talk!) for oral presentation. All honors students in the Department of Biological Sciences must participate in "Spring Sing" prior to graduation. Students who graduate at the end of fall, winter or summer terms and who cannot participate in Spring Sing must arrange an alternate presentation date. Talks are typically 15-20 minutes, with extra time for questions from the audience afterward.

Biological Sciences Honors Program Application Form

Name _____ UID _____

Address _____ Phone Number _____

City _____State_____ Zip _____ Expected Graduation _____
(semester/year)

e-mail_____

Honors Sponsor Signature_____ Date_____

Graduation Requirements Completed:

	Yes	No	
General Education	____	____	Number of Biology credits ____
Chemistry	____	____	Total credits completed ____
Mathematics	____	____	
Physics	____	____	

Separate Documents to Attach:

- List of courses (including hours) and grades used to compute eligibility: (30 credits minimum; 3.4 minimum GPA)
- Tentative schedule for remaining semesters before graduation

Student Signature _____ Date _____

Submit application to: Biological Sciences Honors Committee
235 Biological Sciences
Phone: 937-775-2655
jeffrey.peters@wright.edu or laura.calkins@wright.edu