

Biological Sciences 4950/4950H/4952/4952H **Undergraduate Research in Biological Sciences**

OBJECTIVE:

One of MU's prime missions is to promote interdisciplinary research in the life sciences, leading to discoveries that will boost the production and quality of food, improve human and animal health and enhance the environment. As an MU student, you have a unique opportunity to participate in these discoveries by working with world-class researchers in a variety of science departments on campus. We strongly encourage this hands-on research experience!

The heart of the research experience is intensive theoretical, field, and/or laboratory research in any area of biology. You may seek your own faculty research mentor from within or outside the Division of Biological Sciences, or we can help you find a research mentor. You and your mentor will collaborate to design your own personalized research project. If you are interested in assistance and advice for finding a faculty mentor, you can find information in 3 Tucker Hall or on the MU Life Sciences Undergraduate Research Opportunity Program web site (LS UROP; <http://lsurop.missouri.edu>). While we can help, in the end it is your responsibility to arrange the details of your research experience.

The following Guidelines and Agreement are designed to help insure the best possible experience for both you and your mentor.

HOURS AND CREDIT:

Variable credit: 1-3 hours. May be repeated up to a total of 12 hours. Upon completion of a total of 6 hours, 3 hours may be applied as elective credit toward the BA or BS in Biological Sciences. Any remaining hours may be applied as general elective hours toward graduation. You are expected to work a minimum of 3-4 hours per week for each hour of credit.

PREREQUISITES:

Overall GPA of 2.7 or greater [the Honors sequence prerequisite is an overall GPA of 3.3 or greater]. Completion of at least 20 total hours of Biology and/or Chemistry. Department and instructor's consent. Any exceptions will require departmental consent.

COURSE REQUIREMENTS:

To initiate and complete your Undergraduate Research program in Biological Sciences you must:

1. Identify a faculty member who will agree to be your research mentor.
2. Submit the GUIDELINES AND AGREEMENT FOR UNDERGRADUATE RESEARCH IN BIOLOGICAL SCIENCES to the Biology Advising Center, 3 Tucker Hall, for approval.
3. If you wish to use this research experience as a Capstone experience in Biological Sciences, you must complete at least 6 hours of undergraduate research with a grade of C- or greater and your research program must conclude with an oral or poster presentation and/or a written report. The second course in the sequence must be completed after you have completed 75 hours of total coursework. The presentation can be part of an on-campus symposium (e.g. the Life Sciences Undergraduate Research Symposium) or a regional or national meeting of a scientific society. A written report should resemble journal articles in your field.

**GUIDELINES AND AGREEMENT FOR UNDERGRADUATE RESEARCH
IN THE DIVISION OF BIOLOGICAL SCIENCES**

Student Name: _____ Student Number: _____

E-mail: _____ Phone: _____ Overall GPA: _____

Biological Sciences and Chemistry courses completed or currently enrolled in:

(Dept & Number: e.g. BIOSC 1500, CHEM 2120)

Faculty Mentor Name: _____ E-mail: _____

Campus Address: _____ Phone: _____

Semester: Fall Spring Summer Year 20__ Credit Hours: __

Course Number: 4950 4950H 4952 4952H Reference Number: _____

Capstone? Yes No

A written report and/or oral presentation is required to receive Capstone credit.

Expectations of undergraduate researchers:

- Identify a faculty member who will serve as your research mentor
- Become familiar with the research literature in the field and be a partner with your faculty mentor in the design of your research project
- Work at least 10-12 hours per week on your research project for 3 hours credit
- Participate in laboratory research meetings
- Learn to read critically the primary research literature in the area of your research project

Expectations of faculty mentors:

- Design a research project in which your undergraduate researcher can make reasonable progress in 1 or 2 semesters working 10-12 hours per week in the research laboratory
- Provide a real research experience (not simply media preparation or "extra hands" for graduate students or postdoctoral fellows)
- Incorporate your undergraduate researcher fully into the informal research laboratory community including laboratory research meetings and laboratory social activities
- Introduce your undergraduate researcher to the primary research literature through laboratory meetings or laboratory journal clubs
- Act as a role model
- Discuss research careers with your undergraduate researcher
- Provide a final grade on the progress of your undergraduate researcher to the Division of Biological Sciences at the end of each semester

I understand these expectations and obligations.

Undergraduate Researcher signature date

Faculty Mentor signature date

Biological Sciences Honors Program date
Director Approval (for 4950H/4952H)

Division of Biological Sciences Approval date