Biological Sciences
BIOL 498: Independent Research
Student Information

BIOL 498 is a single term, 3 credit course, in which students plan, conduct, and communicate the results of an independent research project in Biological Sciences under the direction of a faculty mentor. The Calendar description is below:

In this course, students plan, conduct, and communicate the results of an independent research project in Biological Sciences under the direction of a faculty supervisor. Registration will be contingent on the student having made prior arrangements with a faculty member willing to supervise the research. Note: This course is intended for students in the final year of their degree. This course may be taken up to two times. Prerequisite(s): Minimum grade of B- in a minimum of one 300-level Biological Sciences course as indicated by the participating faculty member.

The course has 72 laboratory instructional hours associated with it, which reflects the fact that students should be spending the equivalent of 6 hours per week on their project. Of course, given the nature of research, this number will likely vary from week to week.

Potential BIOL 498 projects will be reported on a BIOL 498 Project Template Form by faculty members who have projects for the upcoming academic term. Available projects will posted for students to review in March for anticipated Fall term projects, and in November for anticipated Winter term projects.

Students interested in participating in a posted project should discuss their interest with the faculty member. If following the discussion(s) the student remains interested in participation they should complete an electronic copy of the BIOL 498 Project Application Form (available from the faculty member) and return the completed application to the faculty member. Application forms will be due no later than 4:00 pm on the last day of classes. Successful applicants will be contacted after review of applications.

In preparing course schedules, students should build schedules that do not include BIOL 498, as the number of available projects may be insufficient to meet all student interest. Students can reconfigure their course schedules after receiving confirmation of a successful BIOL 498 application. Students successful in obtaining a BIOL 498 project will be required to complete a BIOL 498 Course Agreement prior to registration.
All students in BIOL 498 in a given term will be evaluated using the same assessments and criteria. The following evaluation tools are used in BIOL 498:

- Written Research Proposal
- Oral Presentation of Research Proposal
- Midterm Evaluation
- Laboratory/Field Notebook
- Laboratory/Field Skills Appraisal
- Final Written Research Paper
- Final Oral Research Presentation

Due dates and weighting for each of the evaluations will be included in the BIOL 498 Course Agreement signed by the student prior to registration. A copy of the Final Written Research Paper will be retained in the department.

All students registered in BIOL 498 are required to attend a mandatory group orientation session, which is offered early in each of the Fall and Winter terms (prior to engagement in their projects). The purpose of this session is to clearly outline the expectations, evaluation process, and safety (chemical/biosafety/field) issues associated with the course. All students registered in BIOL 498 are also required to attend the research proposal presentations and the final research presentations for their cohort. Dates for these mandatory presentation sessions will be published in the Course Agreement Forms signed by the student and faculty member. The oral presentations will be open to all faculty, staff and students.

It may be possible that a student may negotiate a project with a faculty member outside of the published dates. For example, a student may have participated in research activities with a faculty member during May – August (after the normal deadlines for applying for a BIOL 498 project) and wish to continue as a BIOL 498 student with the faculty member. After consultation with, and agreement from the faculty member, the faculty member will complete a BIOL 498 Project Template Form and submit for Departmental review. Following a favorable project review by the Department of Biological Sciences, the student would complete a BIOL 498 Course Agreement prior to registration.

The BIOL 498 project may be an extension of previous work, or utilize materials and/or data from previous work; however, any paid design, analysis, written work, literature reviews etc. performed while not registered in BIOL 498 (for example while working as a summer student) cannot be included for credit in BIOL 498. Students taking this approach should carefully discuss their projects with their faculty supervisor to ensure that the research proposal clearly outlines experimental work that has not already been performed by the student.

BIOL 498 represents an excellent opportunity for students to conduct undergraduate research. With careful preparation, diligence and perseverance students might find their results are publishable beyond the final research paper.