

## Syllabus 4690

**Course description:** Independent research with proposal and manuscript writing, conducted with the guidance of a faculty member.

Students must be juniors or senior biology majors to enroll in this 3-credit course. This course is one of three options for Biology majors to fill their Senior Research Experience: BIOL 4690 (this course), BIOL 4910 (Honors Research Thesis), and BIOL 4590 (Research Project Lab). In BIOL 4690, students propose, design, execute, interpret, and report on an independent research project conducted in any area of biological sciences supported and mentored by a faculty member in the School of Biology. Faculty in other Schools at Georgia Tech may mentor Biology students provided they have a co-mentor from Biology and the prior approval of the course instructor.

BIOL 4690 is a pre- or co-requisite for BIOL 4450 Senior Seminar. In Senior Seminar, students will present their proposal and research findings from their BIOL 4690 project. Thus, it is preferable that students take BIOL 4450 during the same semester they take BIOL 4690, although students may opt to take BIOL 4450 in the semester immediately after they have completed BIOL 4690.

In order to register for this course, a student must secure the approval of a faculty mentor. Students are expected to spend at least 9 hours per week throughout a 15-week semester on research activities. Before the end of the second week of the semester, each student should prepare and submit a brief (1 page) research proposal for grading by their mentor. Most of the work of the semester will involve conducting the research project, analyzing data, and interpreting results. At the end of the semester, each student will submit a manuscript of their research findings, written in scientific manuscript style, for grading by their mentor. This manuscript should be formatted as if for submission to a scientific journal, and should include the following sections: Title, Abstract, Introduction, Material & Methods, Results, Discussion (or Results & Discussion as one section), Figures/Tables, References. Specific questions regarding formatting, length, focus, etc. should be discussed with the research mentor, and will vary according to each student's area of biological research.

A final copy of the manuscript should be submitted electronically by the student to Prof. Eric Gaucher by 5pm on Friday, December 12<sup>th</sup>. The mentor should also communicate the suggested course grade to Prof. Gaucher by 5pm on Friday, December 12<sup>th</sup>. Prof. Gaucher will assess the manuscript and submit the course grade to the registrar as the instructor of record. If the final manuscript and course grade are not submitted by 5 pm on Friday, December 12<sup>th</sup>, a grade of I (incomplete) or F (fail) will be entered, depending on circumstances. **It is up to the student to make sure that Prof. Gaucher receives the final manuscript and grade before the deadline:**

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### *Grading Scheme:*

Research proposal	10%
Final manuscript reporting research results	40%
Course participation in lab	50%