BIOS 4699 Undergraduate Research (Section: OBS) Syllabus

Variable Credit: **Adjusting your credit hours for this course:** BIOS 4699 is a variable-credit (1-12) research-based course, where 1 credit = 45 hours of research time over a semester Students typically enroll in 1, 2, or 3 credits, after discussion with their PI. Enrolling in the correct number of credits is essential for you full time student status, and cannot be easily corrected after drop add ends. To adjust the number of credits go into the registration system Oscar, select "Schedule and Options." The number of credit hours is underlined in the "Hours" column. Click on the underlined number and update to appropriate credit hours.

Summer 2026

Instructor Information

Instructor: Dr. Chrissy Spencer

Email: chrissy.spencer@biology.gatech.edu

Pronouns: she/her/hers

General Course Information

Description

In BIOS 4699 OBS, students will gain experience and practical training in modern approaches for biological research by working in a faculty lab. If the research supervisor, also known as the Principal Investigator (PI), who directs the research lab you will work in is not on the faculty of the School of Biological Sciences, then you enroll in the OBS section of BIOS 4699, where OBS stands for outside biological sciences. The research you conduct will be guided by your PI or their designee, who could be a postdoctoral fellow, graduate student, or technician in their research group.

Students cannot receive course credit for BIOS 4699 and also be paid for the same research hours. To enroll in research for pay, instead request a permit for BIOS 4698.

Course Learning Outcomes

Students will conduct research in a faculty member's research group to:

- Contribute to scientific research
- Develop research skills
- Summarize research plans and findings

Required Course Materials

None

Grading Policy:

The final grade is based on student research and the ability to communicate that research in two brief writing assignments:

Research portion (evidence that research is being conducted effectively)	80%
Work out in advance how your PI will monitor your research progress	
Scientific writing portion (evidence that student can communicate their research)	
Research Proposal	5%
Final Report	15%

Description of Graded Components

Research Proposal consists of a short plan of the project to be conducted. The proposal should be ~500-600 words and include some or all of these sections, as appropriate: a title, introductory background and justification, hypotheses or questions to be investigated, experimental design, data analysis, statement of expected results, and how the results are expected to address the proposed hypothesis or question.

Written assignments should be single-spaced, 12-point font, with 1 inch margins on all sides. Each should be uploaded to Canvas and also sent to the PI, who does not have access to Canvas. When emailing the course instructor, it might be helpful to remind them that you are conducting research for credit with the School of Biological Sciences in their lab, and send the information above about the assignment.

Weight: 5% of the course grade

DUE: Due on Canvas by midnight Friday of the 3rd full week of classes

Final report is your project update by the end of the semester and features the progress you made in the context of your research plan. The final report should be ~1000-1800 words and include background and progress updates as appropriate for your project. If you finfdthe structure of a lab report helpful, feel free to include an abstract, introduction, methods, results, and discussion, as appropriate for your research project progress. Data, if presented, should be appropriately summarized and provided in tables and/or figures with legends.

Written assignments should be single-spaced, 12-point font, with 1 inch margins on all sides. Each should be uploaded to Canvas and also sent to the PI, who does not have

access to Canvas. When emailing the course instructor, it might be helpful to remind them that you are conducting research for credit with the School of Biological Sciences in their lab, and send the information above about the assignment.

Weight: 15% of the course grade

DUE: Due on Canvas by midnight on the Final Instructional Class Day

USG Required Course Policies

Attendance and/or Participation

Coordinate your attendance with your PI, meeting the work requirement expectation of for the number of credits you have enrolled in.

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit http://www.catalog.gatech.edu/policies/honor-code/ or http://www.catalog.gatech.edu/rules/18/.

Georgia Tech Required Policies

Any student suspected of cheating, lying about course matters, stealing materials, plagiarizing, or helping others commit a violation of the Honor Code will be reported to the Office of Student Integrity, which will investigate the incident and identify the appropriate penalty for violations.

Note that plagiarism is the unattributed use of the words or ideas of others. Plagiarism includes reprinting the words of others without both the use of quotation marks and citation. As direct quotes are seldom used in scientific writing, you are expected to rephrase the words of others and provide the citation. Plagiarism will be referred to the Office of Student Integrity for adjudication. If you have any questions regarding plagiarism, please consult with the PI before you submit your work to the formal scrutiny of others, including the PI.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail your PI and me as soon to discuss your learning needs.

Student-Faculty Expectations Agreement

As members of the Georgia Tech community, we are committed to creating a learning environment in which all of our students feel safe and included. Because we are individuals with varying needs, I rely on your feedback to achieve this goal. To that end, I invite you to enter into dialogue with me about the things we can stop, start, or continue doing to make our research experience an environment in which every member feels valued and can engage actively in our community.

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Course Administration

BIOS 4699 OBS students working outside of the School of Biological Sciences (e.g., CDC, Emory, GT School of Psychology, etc.) technically have two supervisors, the 'research supervisor' and the 'course administrator'. The research supervisor will be the Principal Investigator who oversees the student's research (practically, students may work with graduate students or postdocs on a day-to-day basis). The research supervisor will serve as the primary director and assessor of the student during the research. The student is expected to work closely with the research supervisor regarding all activities. In addition, the research supervisor will work with the student to develop the research, provide research guidance, give feedback, and ultimately provide a course grade at the end of the semester.

In contrast, the course administrator will act as the administrative manager of the program. Student contact with the course administrator will likely be limited to emails, contacts through Canvas, and perhaps a few meetings during the semester if necessary. Students are encouraged to contact the course administrator at any time, particularly if there are any concerns, issues, questions, or problems regarding the research program. The course administrator is available to facilitate any communication issues to ensure that the research proceeds according to the expectations of the student and the PI.

Course Expectations

1) The student will complete all required safety and ethical training to conduct the research. The PI should advise on necessary training modules to complete.
2) The student will prepare a short proposal of the research project and submit this to Canvas and directly to the PI. This will be graded by the PI.
3) The student works throughout the semester on their project with the following time expectations:
    a. Fall / Spring semesters: 1 credit = 3 hr/wk.
    b. Full Summer semester: 1 credit = 4.2 hr/wk.
    c. Short Summer semester: 1 credit = 9 hr/wk.
4) The student brings work-stopping problems to the immediate research supervisor and/or PI as they arise rather than waiting.
5) The student may get help from others in the lab group when needed, but the project should be run by the undergraduate student.
6) The student will write a final report on research progress made during the semester and submit this to Canvas and directly to the PI. This will be graded by the PI.
7) The course administrator will coordinate with the PI to determine the course letter grade of A, B, C, … at the end of the semester before grades are due.

Lab Safety

Georgia Tech has a strict policy regarding appropriate clothing in laboratories where chemicals and organisms are used or manipulated. Students not conforming to the

following requirements will need to leave the lab to acquire appropriate clothing before returning. In the laboratory, students must wear

1) **Long pants**.

2) **Close-toed shoes** that cover the sides and top of the foot.

3) **Lab coats,** when working at the bench. Lab coats must be 100% cotton and cover the wearer to the knees. Students are responsible for keeping their lab coats in good condition and reasonably clean so as to not create a hazard.

4) **Safety glasses**, when working at the bench. Safety glasses must have side shields for splash protection and conform to the wearer's face. Glasses must be worn over prescription glasses and contact lenses. Georgia Tech Biology provides safety glasses for student use in the lab. Safety glasses prevent eye exposure to liquid reagents and breakables, as well as dangerous substances such as bacteria, toxins, acids or UV light.

Not all research occurs in a laboratory, so consult with your PI regarding appropriate safety attire, equipment, and training for your particular research project.

Student Resource Guide for Academic and Personal Support

https://students.gatech.edu/student-resource-guide