Fall 2026

BIOS 4460
Communicating Biological Research

Prof. Lin Jiang

Course Description: Biology students present seminars on recent research topics based on their own research experience and literature research. This course will be structured similarly to an academic lab meeting, where effective participation and the ability to provide constructive criticism to your colleagues are fundamental.

Course Objectives: The objectives for the course are for students to:

- develop oral and poster presentation skills on your own research
- learn to engage an audience in a scientific topic through presentation
- critically present and discuss your research results
- put your biological findings in a broader scientific context

These skills can be applied in a variety of possible future careers including: business (convincing supervisors of a new project idea, delivering results from a pilot project or clinical trial), medicine (informing colleagues about a medical case, teaching colleagues about a new treatment), government (testifying before elected officials about the importance of a research area, negotiating with bureaucrats about funding for science or education), and academia (presenting your own research in a faculty seminar or job interview, delivering a presentation at an international conference). We will also discuss strategies and techniques for scientific writing and interacting with other scientists in formal and informal meetings and conferences.

Pre- and Co-requisites: BIOL 4460 is a co-requisite for BIOL 4590 (Research Project Lab) because students will present their research from BIOL 4590 in the Communicating Biological Research course. Students who have chosen to take BIOL 4690 (Independent Research Project) or BIOL 4910 (Honors Research Thesis) as their Senior Research Experience will present their research from BIOL 4690/4910 in Communicating Biological Science, and may enroll in BIOL 4460 concurrently or after completion of BIOL 4690/4910.

Attendance: Because this is a presentation and discussion-based course, attendance and active participation are required. Thus you must have a legitimately excusable absence if you miss class. Examples of excusable absences include documented illness, death in the family, accident, and sanctioned Institute events. If you know that you are going to be absent from a class, you must let the instructor know ahead of time. Each unexcused absence will lower the final grade by 5%.

Optional text: Writing Papers in the Biological Sciences by Victoria E. McMillan (any later edition), Bedford/St.Martin's, Boston/NY.

Office hours: By appointment. Please email or consult with instructor during class to set up a meeting. Students are also welcome to visit the instructor to talk about issues other than course material (e.g., career plans, research interests).

Grading Criteria:

One mini oral presentation	10%
Two major oral presentations	40%
Self-assessment of presentation	10%

Poster presentation	25%
Class participation	15%

Oral presentations should include use of PowerPoint (or similar), should be practiced ahead of time, and will be graded by the instructor according to the rubric included with this syllabus. Mini oral presentations (5 min: 4 min talk + 1 min Q&A) may be on a scientific topic of your choosing or framed around a recent primary literature journal article. Major oral presentations (10 min: 8 min talk + 2 min Q&A) will be based on your research from BIOL 4590, 4690, or 4910.

Self assessment: Students complete an evaluation of their own major oral presentations, due one week after the presentation. This provides an opportunity for students to reflect on how they could have prepared for, practiced, and structured their talks differently, and what they would change for their next presentation.

Poster presentation: Each student will create a poster to present their research (from BIOL 4590, 4690, or 4910) in a poster session held at the end of the semester. The poster format is described at the end of this syllabus and will be further discussed in class during Week 10. The grading rubric is available at Canvas.

Class participation: Students will be judged by the extent to which they participate in class discussions (by asking questions, answering questions, offering ideas, opinions, and critiques of student presentations). **Students are expected to ask a question or offer a comment at least once every class**.

Academic Integrity: Academic dishonesty will not be tolerated. This includes cheating, lying about course matters, plagiarism, stealing classroom materials, or helping others commit a violation of the Honor Code. Students are reminded of the obligations and expectations associated with the Georgia Tech Academic Honor Code and Student Code of Conduct, available online at https://policylibrary.gatech.edu/student-life/academic-honor-code. 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. If this is unclear, please ask your instructor for help.

Learning Accommodations: If needed, we will make classroom accommodations for students with disabilities. These accommodations must be arranged in advance and in accordance with the Office of Disability Services (http://disabilityservices.gatech.edu).

Student-Faculty Expectations Agreement: 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 (https://catalog.gatech.edu/rules/22/) 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.