

BIOS 3450 Syllabus

Cell and Molecular Biology, RBT, 3 credit hours

Summer 2026

Instructor Information

Instructor: Brian Hammer

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General Course Information

Description

Modern cell biology is a unifying discipline that describes the structure and function of cells in all their genetic, biochemical, developmental, physiological, and pathophysiological aspects. This course will introduce students to the dynamic relationships between cell structure and the biochemical reactions that are necessary for cell growth, differentiation, survival, and death with an emphasis on eukaryotic cells.

Course Learning Outcomes

Upon successful completion of this course, students should be able to:

- Acquire, explain, apply, and evaluate biological information related to genomes, genetic regulatory mechanisms, cellular structure and function, and complex cellular systems in eukaryotic organisms. (Content Knowledge)
- Examine scientific evidence critically and ask effective questions to further your knowledge of cell and molecular biology and related disciplines. (Scientific Methodology)
- Interpret evidence and reflect upon how advancements in cell and molecular biology can influence human, environmental, economic, and societal health. (Authenticity & Reflection)

Required Course Materials

Alberts et. al, *Molecular Biology of the Cell*, Seventh edition, W.W.Norton publisher
eBook available for purchase at <https://wwnorton.com/books/9780393884821>

Biomedical search tools: PubMed (and Google Scholar)

<http://www.ncbi.nlm.nih.gov/pubmed/>. Online access available to most journals through the GT library if connected to Georgia Tech VPN.

All course content, assignments, and due dates will be available on Canvas.

Grading Policy:

Your final grade will be assigned as a letter grade according to the following scale:

A 90-100%

B 80-89%

C 70-79%

D 60-69%

F 0-59%

Assignments

- Assignments and Activities, 30%
- Midterm Exams, 40%
- Final Exam, 30%

Description of Graded Components

Assignments and Activities are a combination of homework and in-class activities.

The course includes two midterm exams and a final exam.

Course Policies

Attendance and/or Participation

Attendance and participation in class are essential to learning in the accelerated schedule of this program. Both are assessed through in-class activities. If you miss class due to illness or an excused absence, you can make up the work within a week of returning to class.

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. Review [Georgia Tech's Honor Code](#) and the student [Code of Conduct](#).

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

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 instructors as soon as possible in order to set up a time to discuss your learning needs.

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](#) 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.

Collaboration, Group Work, and Use of Generative AI

Approved use of generative AI and collaborative work will be specified on each assignment.

Extensions, Late Assignments, & Re-Scheduled/Missed Exams

In case of illness or extenuating circumstances, please contact the instructors.

Campus Resources for Students

Undergraduate Student Academic Success Resources:

- Academic Support: Academic Success and Advising (a unit in the Office of Undergraduate Education & Student Success) provides free support for your courses. Students can attend scheduled supplemental review (PLUS) sessions, stop by Drop-In Tutoring, or schedule a one-on-one appointment through Knack. To explore what options work best for you, please visit us online at success.gatech.edu/tutoring, email us at tutoring@gatech.edu, or come see us at Clough Undergraduate Learning Commons, Suite 283.

Student Well-Being:

At Georgia Tech, we are concerned about your overall physical, social, and mental well-being. A [comprehensive list](#) of wellness related resources has been compiled and maintained by the Office of the Vice President for Student Engagement and Well-being ([student-resource-guide \(gatech.edu\)](#))