

CHEM-3521-A Syllabus

Biochemistry 1, Section A, 3 Credits

Fall 2026

Instructor Information

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General Course Information

Description

This course focuses on the fundamentals of contemporary biochemistry, namely, the structure and activity of the four major classes of biological (macro)molecules: nucleic acids, proteins, carbohydrates and lipids. We will delve into how each type of biomolecule harbors an essential function in a living organism and how the chemical properties of biomolecules sustain a living cell.

Course Learning Outcomes

This course offers an introduction to the chemistry and biochemistry of proteins, nucleic acids, lipids, carbohydrates, and other biomolecules. You will develop mastery of the nomenclature, structure, and function of these major classes of biomolecules associated with living organisms. You will also learn about state-of-the-art experimental techniques used in modern biochemistry research. The subject matter is intended to provide you with a foundational understanding of biochemistry core concepts as well as practical examples of applications of biochemistry in research and medicine.

Required Course Materials

Nelson and Cox, "*Lehninger Principles Fundamentals of Biochemistry, 8th Edition*", Macmillan, © 2021, ISBN: ISBN:9781319322342.

A simple calculator (NOT GRAPHING) for exams

Grading Policy:

Midterm Exams (300 pts; 100 pts each)

Final Exam (100 pts): The final will be comprehensive for the course.

There will most likely be a curve for the final grade based upon the overall class average, but the following are **guaranteed minimums** for grade cutoffs:

- Greater than 90% = A
- Greater than 80% = B
- Greater than 70% = C
- Greater than 60% = D
- 59% or less = F

The lowest exam grade for midterm exams 1-3 will be dropped.

Description of Graded Components

All exams are in class and closed book and notes.

Course Policies

Attendance and/or Participation

Attendance and active participation are critical for success in this class. Thus, you must have a legitimately excusable absence if you miss class. Examples of excusable absences include documented conferences, 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.

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. Please 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 has to 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 me 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.

Pre-Requisites

Organic Chemistry (CHEM 2311 or equivalent). This means I expect you to know (a) charges given a pH and a pKa value (from Gen Chem) (b) nucleophiles and electrophiles (c) functional groups in organic compounds (d) periodic table element and ionization trends.

Extra Credit Opportunities

N/A

Collaboration, Group Work, and Use of Generative AI

N/A

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

There is no scheduled makeup exam. Planned absences for exam dates that coincide with an Institute-approved activity must be cleared with your instructor no later than three weeks prior to the date of the exam. In addition to the verbal request, the approval must be requested in an email message (see <http://www.deanofstudents.gatech.edu> for information on Institute Approved Activities).

Student Use of Mobile Devices in the Classroom

As a courtesy for those sitting around you, these items are not permitted for use during class. Please, turn these items off prior to the start of each session. Students with ODS accommodations are permitted to use approved mobile devices.

Campus Resources for Students

Undergraduate Student Academic Success Resources:

A list of resources for undergraduate students' academic success and information about advising can be found at [Success at Tech](#).

- 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.

Graduate Student Academic and Professional Success Resources:

A list of resources for graduate students is given on the [Office of Graduate and Postdoctoral Education](#) website. Specific information for [current graduate students](#) includes

- [Academic Resources](#) such as the Communications Center, Language Institute, Library, Catalog, Registrar, resources for conducting research, Advocacy and Conflict Resolution resources, and how to manage unexpected situations that may impact your academic performance;
- [Student Resources](#) such as Campus Services, Child Care/Family programs, Health & Wellness, Career Services, and the Student Resource Guide; and
- [Professional Development](#) such as *the programming from the Career Center and other professional development resources and events*"

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 \(gatech.edu\)](#))