Biology 375: Biochemistry
Fall 2026
Course Information and Policies

Instructor: Dr. Monica Chander
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610-526-5096

Lecture
Tu, Th 10:10–11:30 am (Park 245)

Laboratory
W 1:10-4 pm (Park 126)

Office Hours and Emails

TBD first week of classes in consultation with students (either my office PSB 113 OR teaching lab PSB 126)**.** You may also email me to set up an appointment for specific issues. I encourage you to attend office hours to discuss not only class material but also studying strategies, learning styles, etc.

Please note that I will respond to emails as expeditiously as possible but cannot guarantee that I will read or respond to emails over the weekend or evenings. So please do not wait until the last minute to inquire about matters of urgency.

Course Description and Learning Goals

Biochemistry is the study of biological processes at the cellular and molecular level. A truly interdisciplinary field, Biochemistry utilizes the methods of chemistry, physics, immunology, molecular and cell biology to study the structure and behavior of complex macromolecules, and how these molecules interact to form cells, tissues, and organisms. Biochemistry has provided insight into the causes of many diseases, and also the tools to manage or cure these diseases.

This semester, we will study the structure and function of proteins, carbohydrates and lipids, enzyme kinetics, and central metabolic pathways. This material will be investigated via lecture, discussion of primary literature, and laboratory experimentation. *My goals are for you to be able to apply the fundamentals you learn in class to solving new problems, to think critically and analytically about scientific data, to appreciate the benefits of working collaboratively, and to communicate effectively.* This is a writing-attentive class, so please be aware that you will be turning in several lab reports over the course of the semester. *Prerequisites:* Biology 110 and one year of Organic Chemistry with merit grade.

Creating an ideal learning environment

The best classes are where both students and instructors are engaged and excited about learning. We can all contribute to a positive class environment by coming well prepared,

participating in intellectual exchanges with each other, collaborating during group work, and being unafraid to admit when we have trouble understanding something.

Recommended textbook and lecture slides

Nelson and Cox, 2013, *Lehninger Principles of Biochemistry*, 6th edition, New York, NY, W.H. Freeman. PDFs of textbook readings will be posted on Moodle, and textbook copies are also on reserve in Collier Library. You are strongly encouraged to use the textbook to supplement material that is covered in lectures. Textbooks also provide additional resources, such as practice problems at the end of the chapter.

Be aware that lecture material may not be covered in the textbook, therefore, your textbook cannot replace class attendance. Lecture slides will be posted on Moodle in advance. You are encouraged to download and/or print the slides to facilitate note taking in class.

Evaluation and Grading

Remember that grades are never an evaluation of you or your potential but rather of one piece of academic work. My job as an instructor is to help you grow in your scientific thinking and writing over the course of the semester.

Total points for the semester = 400 (100%). Work will be weighted as follows:

- Two midterm exams worth 70 points each (35%)
- Non-cumulative final exam worth 70 points (17.5%)
- Eight problem sets worth 10 points each (one with lowest score dropped) (17.5%)
- Presentation of primary literature worth 20 points (5%)
- Four lab reports worth 80 points total (20%)
- Class participation worth 20 points (5%)

In general, grades in this class are assigned as follows:

93-100% = 4.0
90-92% = 3.7
87-89% = 3.3
83-86% = 3.0
80-82% = 2.7
77-79% = 2.3
70-76% = 2.0

All work submitted for a grade must be your own (including lab reports).

Examinations

In keeping with learning goals, the exams are written to test your ability to synthesize and apply the material you learn in class. The best *study tips* I have are: be regular and consistent with your studies, keep up with assigned textbook readings, take notes during lecture and review your notes within a couple of days to make sure you understood the material. If not,

come to office hours immediately, instead of waiting until right before the exam. Also try and work on the problem sets on your own and tackle additional problems in your textbook (I will provide recommendations). The more you practice and apply the material you learn, the better you will learn and remember it!

Midterms: There will be two midterms (worth 70 points each). Students will be able **to pick up and return these exams at Collier Library** at any point during a six-day period when the library is open. Once the exam is picked up, students will have **3 hours** to complete their checked-out exam and return it to the Collier front desk. These exams will be available on the designated Thursday at noon and must be completed by noon the following Wednesday (see lecture syllabus for dates).

Collier Library hours: M-F: 8 am-8 pm; Sa, Sun: 10 am-8 pm (double check library hours for any last minute changes and plan accordingly).

Final exam: Non-cumulative (worth 70 points). Self-scheduled exam administered by Registrar's office.

Guidelines for exams:

- ***All exams will be closed book, closed notes, and non-collaborative. There will be no make-up exams.*** In case of unforeseen circumstances that are out of your control, please contact me as soon as possible.
- Exams will contain a mix of multiple choice and short answer questions.
- When exams are returned to you, please take time to examine it immediately for mathematical accuracy. You have **one week from the time the exam is returned to request adjustments.** After that week, the score is considered final.
- Please read the comments provided and come to office hours to go over any lingering questions.

Problem sets

Eight open note, open book problem sets will be given throughout the semester (one problem set with the lowest grade will be dropped). The purpose of these assignments is to reinforce concepts communicated in class and for YOU to assess your level of comprehension. Therefore, while you may work on these problem sets with your classmates, please keep in mind that understanding the problems and being able to solve them independently will greatly facilitate your performance on the closed-book non-collaborative exams.

Primary Literature and Paper Presentations

Biochemistry is an experimental science driven by hypotheses, experimentation, analyses, interpretation. All the material we learn in the classroom (and from textbooks) are based on findings from original research. We will discuss three articles this semester, which will be

presented by students working in groups. Through this exercise, you will learn to research background information, critically evaluate experimental data, and lead a class discussion on the assigned topic (part of our learning goals). Students not presenting the assigned article should please read it **prior** to the day it will be discussed so as to participate in class discussions. Your participation in class discussion will be reflected in your grade in this course.

Attendance and Participation

Regular attendance is essential to staying up-to-date and being successful in this course. If you miss class, you are responsible for getting notes from a classmate. Active interaction and engagement with the course material is essential to successful learning, and participation in discussion enriches everyone's learning experience. Participation points (5% of grade) can be earned by contributing to class discussions, asking thoughtful questions, attending office hours, coming well prepared to lab, and generally being curious about the course material. Frequent and consistent participation is required to earn full points.

Extensions and late submissions

Let's face it—deadlines help us get things done! In addition, meeting deadlines helps ensure that you are keeping up with the material and building a foundation for upcoming topics. Sometimes, however, there are valid reasons (major illness, religious observances, unforeseeable emergencies) when we are unable to meet deadlines. If you find yourself in such a situation and need an extension, please contact me as soon as possible. **Extensions will not be granted after the fact.** In other cases (like workload, a cold, or personal issues), you will have **4 one-day "grace" days**, each of which allows for a no-penalty 24-hour extension on an assignment. Note the following policies:

- Grace days can be used individually or together on homeworks and lab assignments.
- You can only apply a single grace day per exam.
- You may not use any grace days for paper presentation.
- If you opt to use grace days on an assignment, you DO need to let me know ahead of time.
- Once the grace days are used up, the late assignment penalty will be 10% for each day that the assignment is late (including weekends).

Other policies

I will **not** be recording classes. Video recording of lectures is not allowed unless otherwise agreed upon with the instructor, however, ***audio recordings are allowed and encouraged***. Students may use electronic devices during class for taking notes or engaging in Biochemistry class-related activities only. Please consider silencing notifications while you are studying—while we may think we are good at multi-tasking, many studies have shown that it reduces our productivity and recall of information.

Accomodations

Bryn Mawr College is committed to providing equal access to students with a documented disability. Students needing academic accommodations for a disability must first register with

Access Services. Students can call 610-526-7516 or email accessservices@brynmawr.edu to make an appointment to begin this confidential process. Once registered, students should schedule an appointment with me as early in the semester as possible to make appropriate arrangements. Please note that accommodations are not retroactive and require advance notice to implement. More information can be obtained at the Access Services website (http://www.brynmawr.edu/access-services/).

Respect for Diversity

It is my intent that students from all backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity of backgrounds and identities that students bring to this class be viewed as a resource, strength and benefit. It is my intent to provide an equitable learning environment for **all** students. I welcome and encourage students to please reach out to me with **any** concerns or suggestions.

Honor Code/Artificial Intelligence/ChatGPT

All students in Bryn Mawr classes are bound by the Bryn Mawr College Honor Code. If you witness another student cheating or violating any other rules outlined in this document, you are expected to confront that person promptly but politely. Students are **not** allowed to use any form of Artificial Intelligence (AI) to complete any of the assigned work for this course; doing so will be considered a violation of the Honor Code.

Gender-based discrimination

The Title IX federal civil rights law states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance." Bryn Mawr College is committed to providing an inclusive environment, free from sexual and gender-based discrimination (which includes sexual harassment and assault). Any community member concerned about a Title IX violation should immediately contact the College's Title IX Coordinator: **https://www.brynmawr.edu/titleix**

NOTE: All Bryn Mawr employees (except for Confidential Resources) are designated as "Responsible Employees" and therefore **required to report sexual misconduct** with the Title IX Coordinator.

Lab

Please see separate handout for lab policies and expectations. The lab exercises are worth 80 points (20% of total grade).

While I will try my best to adhere to the schedule, changes to the syllabus/course format may be necessary due to unforeseen circumstances. If so, I will announce the change(s) by email and will update the course Moodle page accordingly.