BCHM 88b: Introductory Biochemistry
Fall 2019 Syllabus

Instructor: Emily Westover, westover@brandeis, ext. 6-2304
Kosow 108; Open Office Hours: W 11-12; H 1-2 or by appointment

Assistants: Brandon Black (bblack49@brandeis) & Koe Inlow (kinlow@brandeis)

Meetings:
Lecture 9:00 – 9:50 am, MWTh, location TBD
Recitation 6:30 – 7:50 pm, Th, location TBD

Textbook: Biochemistry by Stryer, 5th Ed. available free online; may use more recent editions

Learning Goals
This course introduces non-biochemistry majors to fundamental biochemistry topics, drawing on principles of general and organic chemistry as well as cell biology. The course aims to help you develop a molecular level understanding of living systems. In your studies this semester, you will:

- Acquire and effectively use the language of biochemistry.
- Characterize the chemical and biological principles involved in biochemical interactions and enzyme-catalyzed reactions.
- Evaluate the relationship between molecular structure and function.
- Analyze the regulated outcomes of biochemical pathways.

You will show your progress on these learning goals by completing the following assessments:

Daily Exercises 90 points (max)
During each class meeting, you will have opportunities to show your understanding of biochemical terms and skills. These exercises provide frequent, low-stakes formative assessment, aka lots of practice problems worth relatively few points each, to foster your developing biochemistry knowledge. Exercises may include multiple choice, short answer, and problem solving questions and will be graded for correctness. To prepare, read the posted daily reading assignments and review notes from the previous class. You can earn a maximum of 3 points for each class meeting; however, you can earn a maximum of 90 points for these exercises. This provides a few “free days” to allow for absences due to sickness, travel, or a no good very bad day. You may post a thoughtful question about the day’s topic prior to class to receive credit for one daily exercise that day; the link for these pre-class questions is available on Latte.

Disease Project 20 points
You will prepare a mini-poster and 3-minute presentation explaining the biochemical mechanism underlying a human disease. You will share your poster on the class “Disease Day.”

Exams 270 points
You will show your biochemical understanding on four 90-point exams during this course; I will consider your best three exam scores in calculating your final grade. All exams are comprehensive and require both understanding and applying biochemical knowledge. Exams will be given on Thursdays September 26, November 7, and December 5 during the recitation period (6:30-7:50 pm). Make-up exams will only be given for University-sanctioned events. The final exam is tentatively scheduled for
BCHM 88b: Introductory Biochemistry  
Fall 2019 Syllabus  
**Wednesday, December 18, 9:15 am - 12:15 pm.** *Do not make travel arrangements that interfere with this exam.*

**Expectations**  
As per University policy, *success in this 4 credit hour course is based on the expectation that you will spend a minimum of 9 hours of study time per week in preparation for class (e.g., reading, practicing problems, attending recitation, working on the project, and preparing for exams) in addition to class attendance.*

I expect you to faithfully follow the University’s Academic Integrity policies. You should do your own work *unless explicitly* stated in course assignments.

I ask you to stay apprised of all information given in class and via LATTE. Please regularly check the class schedule/reading assignments on LATTE as changes may occur.

During class, I expect you to only use electronic devices to participate in class activities, not FB, IG, etc.

To be fair to all students, I do **not** give make-up exams or assignments except for University-sanctioned events. I want you to learn biochemistry well; to this end, all assessments will be comprehensive.

If you need a University-sanctioned accommodation, please contact me immediately.

I assign letter grades based on the percentage of total points earned using a traditional scale: A: >93%, A-: 93-90, B+: 89-87, etc. To request **regrading** of any assignment, type an explanation for the request and submit with a hard copy of the assessment within one week of the original return date.

**10 things I hope you’ll take away from BCHM 88...**

1. **Biochemistry is the study of life’s molecular details.**
2. **Biological processes--both normal and abnormal--can be understood at a biochemical level...although we still have lots to learn about most biological processes.**
3. **Water’s chemical properties underpin life as we know it.**
4. **The four biomolecule classes--proteins, carbohydrates, lipids, and nucleotides--have unique properties and biological roles.**
5. **Molecular structure and form determine function.**
6. **Covalent bonds constrain biomolecules; non-covalent weak interactions dictate biochemical structure and associations.**
7. **The laws and principles of general and organic chemistry apply to biological systems.**
8. **Chemical energy drives biological processes.**
9. **Biochemical processes are highly regulated.**
10. **Studying biochemistry will help you develop these transferable skills:**
    a. Integrating a large body of information,
    b. Solving complex, data-based problems,
    c. Interpreting and analyzing data,
BCHM 88b: Introductory Biochemistry
Fall 2019 Syllabus

d. Understanding, applying, and developing conceptual and theoretical models,
e. Communicating effectively.