BCHM 100a: Advanced Introductory Biochemistry
Fall 2019 Syllabus

Instructor: Emily Westover, westover@brandeis, ext. 6-2304
Kosow 108; Open Office: M 12:30-1:30, W 11-12 or by appointment

Assistants: MacKenzie Patterson (mpatterson@brandeis)
Tina Quasney (cquas@brandeis)

Meetings: Lecture 10:00 – 10:50 am, MWH, location TBD
Recitation 6:30 – 7:50 pm, H, location TBD

Textbook: Lehninger Principles of Biochemistry by Nelson and Cox, 5th, 6th or 7th Ed.

Learning Goals
Biochemistry illuminates the molecular details of living things. This semester, you will:
1. Acquire and effectively use the language of biochemistry.
2. Characterize the chemical, physical, and biological basis of the reactions and interactions that take place in living things.
3. Evaluate the relationship between molecular structure and function.
4. Analyze and calculate thermodynamic and kinetic parameters of biological systems.
5. Describe, predict, and construct biochemical transformations with chemical detail.

You will show your biochemical knowledge and problem solving skills learning through the following assessments:

Problem Sets: 84 points
You can show your biochemistry knowledge and skills on nine 12-point problem sets. See Latte class schedule for due dates (usually Monday by 11:59 pm). Because we all have busy times and bad days, only your 7 best Problem Set scores will factor into your final grade. During recitation, you may take the opportunity to give a thoughtful and correct explanation of one Problem Set problem from the previous week’s assignment to earn 1 bonus point (max grade/PS = 12).

Exams: 300 points
You can show your biochemical understanding on four 100-point exams given during the semester, including the final exam. I will only consider your 3 best exam scores when calculating your final course grade. All exams will be comprehensive and require extensive problem solving and application. 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 currently scheduled for Thursday, December 19, 9:15 am - 12:15 pm. *Do not make travel arrangements that interfere with this exam.*

Metabolic Mastery Assessment: 16 points
You will show your mastery of key electron pushing mechanisms for metabolic transformations. You have multiple attempts to complete this Assessment prior to November 25.
**Grades:** To request regrading of any assessment, type an explanation for the request and submit with a hard copy of the assessment within one week of the return date. Your BCHM100 grade signifies your preparation for further biochemistry major classes. I will assign final letter grades based on the percentage of total points you earn (7 best Problem Sets, 3 best Exams, Metabolic Mastery) using a standard scale: A: >93%, A-: 93-90, etc.

**Expectations**

As per University policy, success in this 4 credit hour course is based on the expectation that students will spend a minimum of 9 hours of study time per week in preparation for class (e.g., readings, problem sets, recitations, and exam preparation).

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 expect you to stay apprised of all information given in class and via LATTE. Please refer to the “Dynamic Class Schedule” on LATTE for current assignments.

During class, I ask you to *only* use electronic devices to participate in class activities.

To be fair to all students, I do not give make-up exams except as per University policy. 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.

**Top 10 things I hope you’ll take away from BCHM 100...**

1. Biochemistry is the study of life's molecular details.
2. Biological processes--normal and abnormal--can be understood at a biochemical level.
3. Water’s chemical properties underlie life as we know it.
4. The four biomolecular classes (proteins, carbohydrates, lipids and nucleotides) have unique properties and biological roles.
5. Molecular structure determines function.
6. Covalent bonds constrain biomolecules; non-covalent weak interactions dictate biochemical structures 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,
    d. Understanding, applying, and developing conceptual and theoretical models,
    e. Communicating effectively.