

CORE BIOCHEMISTRY CLASS (FALL 2019) BCHM 5771

INSTRUCTOR: Marcelo Sousa
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COURSE WEBSITE: The course will be available through Canvas. Class materials will be available for download through this site. In order to comply with federal privacy laws, course grades will ONLY be distributed through the site.

EXAMINATIONS AND GRADING:

Problem sets: problem sets will be administered during the course. The due date for each set will be on the set itself and will be collected at the beginning of class on the due date.

No late problem sets will be accepted.

Exams: There will be a midterm and a final exam. These will be administered in class on the dates shown in the schedule.

Grading: 50% Exams, problem sets and paper critiques
25% Research Proposal.
20% Oral Presentation and critiques
5% Class participation.

INDEPENDENT RESEARCH PROPOSAL: It will be focused on a topic independently chosen by each student. The due dates related to the independent proposal are included in the schedule. Details on the format of the final proposal and the requirements of the intermediate assignments are detailed in a separate document.

STUDENT ORAL PRESENTATIONS: Each student will present a 15-20 minute talk on a paper related to the materials covered in class (it will be assigned by the instructor). The presentation should include a brief introduction and enough background on the experiments presented to ensure that a non-expert audience can follow the presentation.

PAPER CRITIQUES : Papers will be assigned to read and evaluate. Each student will write a one-page critique detailing the main point(s) of the paper and the strengths and weaknesses of the results and conclusions. These critiques will be discussed in class and everyone should be ready to lead the discussion when asked by the instructor.

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FALL 2019 -- TOPICS

- L1 Molecular Forces
- L2 Thermodynamics I
- L3 Thermodynamics II
- L4 Macromolecular Binding
- L5 Protein Structure
- L6 Methods focus: binding
- L7 Enzymes and kinetics I
- L8 Enzymes and kinetics II
- L9 Methods focus: Protein Purification
- L10 Translation I
- L11 Translation II
- L12 Methods Focus: Fluorescence-based technique
- L13 Protein Folding
- L14 Protein Transport
- L15 Protein Trafficking
- L16 Protein Degradation
- L17 Methods Focus: Single Molecule Techniques
- L18 The Unfolded Protein Response
- L19 Methods Focus: Macromolecular Structure Determinations
- L20 Signaling

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ASSIGNMENT SCHEDULE

August	26	28	30 Ethics
September	2 Labor Day NO CLASS	4	6 Ethics
	9	11	13 Ethics
	16	18	20 Ethics
	23 Translation I Paper Marcelo	25 Quiz in class	27 Paper Student 1 Ethics
September/ October	30 Paper Student 2		4 Paper Student 3 Ethics
	7 Protein Folding	9 Paper Student 4	11 EXAM 1. In class
	14 Rotation Talks	16 Rotation Talks	18 Rotation Talks Ethics
	21 Specific Aims Due	23 Paper Student 5:	25 Ethics Paper Student 6
October/ November	28	30	1 Ethics
	4 Paper Student 7	6 Paper Student 8	8 Ethics Paper Student 9
	11 Proposal Due for Student Review	13 Paper Student 10	15 Ethics Paper Student 11
	18 Student reviews due back	20 Paper Student 12	22 Ethics Paper Student 13
	25 Fall Break NO CLASS	27 Fall Break NO CLASS	29 Fall Break NO CLASS
December	2 Proposal Due	4 Paper Student 14	6 EXAM 2. In class
	9 Study Section	11 Study Section	13

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CLASS POLICIES:

HONOR CODE: All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at <http://www.colorado.edu/policies/honor.html>; <http://www.colorado.edu/academics/honorcode/>

SPECIAL NEEDS: If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322.

DISCRIMINATION AND HARASSMENT: The University of Colorado Policy on Sexual Harassment applies to all students, staff and faculty. Sexual harassment is unwelcome sexual attention. It can involve intimidation, threats, coercion, or promises or create an environment that is hostile or offensive. Harassment may occur between members of the same or opposite gender and between any combination of members in the campus community: students, faculty, staff, and administrators. Harassment can occur anywhere on campus, including the classroom, the workplace, or a residence hall. Any student, staff or faculty member who believes s/he has been sexually harassed should contact the Office of Sexual Harassment (OSH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the OSH and the campus resources available to assist individuals who believe they have been sexually harassed can be obtained at: <http://www.colorado.edu/sexualharassment>

CLASSROOM BEHAVIOR: Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at <http://www.colorado.edu/policies/classbehavior.html> and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code

RELIGIOUS OBSERVANCES: Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. For this class, I have checked the interfaith calendar and no religious holiday conflicts with the midterms or final exam. Please let me know before the first midterm exam if you have a religious conflict with the tests. See full details at of the university policies at: http://www.colorado.edu/policies/fac_relig.html