

# Advanced Biochemistry/Chemical Biology – CHM 4034 Syllabus

CHM 4034-5250, Fall 2012: Tuesday and Thursday (4:05 pm-5:50pm) in Leigh 104  
Prof. Rebecca A. Butcher, butcher@chem.ufl.edu  
T.A.: Yue (Flora) Zhou, yzhou@chem.ufl.edu

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**Course Description.** We will cover advanced topics in biochemistry and chemical biology.

**Prerequisites.** CHM 3218 (or its equivalent).

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**Topics to be covered:** Physical properties of nucleic acids, amino acids and proteins; DNA/RNA synthesis; Translation; Enzymes and point mutagenesis; Peptide synthesis; Unnatural amino acids; DNA damage & repair; Directed evolution of enzymes; Natural product biosynthesis; Antibiotics; Chemical genetics; Small-molecule/drug discovery

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**Textbook:** Required readings will come from review articles and some research articles (references will be provided in class). **Principles of Biochemistry** by David Nelson and Michael Cox, 5<sup>th</sup> Edition, WH Freeman and Company, 2008 will provide a review of basic background.

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**Problem Sets.** Problem sets will be posted on Sakai. Your answers for certain questions on each problem set (those marked with an asterisk) will be collected for grading (check plus/check/check minus). Problem sets are due at the beginning of class: Problem Set #1 is due on **Sept. 13**, Problem Set #2 is due on **Oct. 11**, and Problem Set #3 is due on **Nov. 6**. An answer key will be posted for all questions on Sakai on those dates. Although only questions marked with an asterisk will be graded, you should do the entire problem set in order to prepare for the exams.

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**Grading.** There will be three midterm exams and one final exam. The lowest midterm score will be dropped. Your grade will be based on the two remaining midterm scores (24% each), the final exam score (24%), as well as a literature presentation (16%), an in-class participation grade (6%), and a problem set grade (6%). The midterms are not designed to be cumulative, but you may expect some natural amount of material from a previous midterm to be important and necessary. The participation grade will be based on your attendance and participation during the presentation portion of the class. In order to obtain full credit, you must be present for all four presentations and ask a question of one of the four speakers on each of the presentation days.

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**Office Hours.** Prof. Butcher's proposed office hours are Fridays 3-4 pm in Leigh 340. The T.A.'s proposed office hours are Mondays 11:45-12:45 pm in Leigh 400. Extra office hours will be provided before each exam.

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**UF grading policies for assigning grade points.** Information can be found on the undergraduate catalog web page <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

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**Makeup Examinations.** Since the lowest exam score will be dropped, no makeup examinations will be given.

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**Presentations.** You will be randomly assigned one of the six presentation days. You must e-mail (via Sakai) a PDF file of the article that you would like to present to the T.A. for approval. Your article must be approved by the T.A. by **Nov. 2** at 5 pm. In order to be approved, your article must meet certain criteria that are posted on Sakai.

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**Accommodations for students with disabilities.** Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

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**UF Honor Code: We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.**

"The university requires all members of its community to be honest in all endeavors. A fundamental principle is that the whole process of learning and pursuit of knowledge is diminished by cheating, plagiarism and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the university will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff and administrators who practice dishonest or demeaning behavior."

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