

Bioorganic Chemistry (Chem 468)

Robinson Hall, room B104

Wednesday Nights, 4:30-7:10

Instructor: Barney Bishop

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Office Hours: Thursday afternoons 3:00-4:30 or by appointment

Recommended Texts: No specific text is recommended. However, Biochemistry and Organic Chemistry texts would provide good supplemental reading for several lectures. Selected books will be placed on reserve in the library (Johnson Center) throughout the semester.

This course is intended to provide students with a basic understanding of the chemical nature of biomolecules and biomacromolecules. As part of this course, students will be introduced to biomolecules such as amino acids, proteins, carbohydrates and lipids. Specifically, lectures will focus on their biophysical properties, synthesis and modification. Throughout the semester, practical examples and visual aids will be employed in order to emphasize the significance and ramifications of the subject matter.

Goals of this course:

- 1.) Introduce/reintroduce students to amino acids, peptides, proteins and their biochemical and physical properties.
- 2.) Introduce students to the chemistry behind peptide synthesis, peptide mimetics, combinatorial chemistry, protein modification and applications for enzymes in chemical synthesis.
- 3.) Introduce/reintroduce students to carbohydrates and their biochemical properties
- 4.) Introduce students to the chemistry behind carbohydrate chemistry and oligo/polysaccharide chemical synthesis.

The bulk of the material presented in lectures will be drawn from several sources, and where appropriate reference information for primary source material will be given to the students. When lectures are drawn primarily from a text book that has placed on reserve, it is recommended that students read this material before lecture if possible and revisit sections in the chapter that are stressed in the lecture.

Grading and Examination Policy

Grades for this class will be based on:

- Two in-class or take-home exams (2/18 and 4/01) and a non-cumulative final exam. Students are primarily responsible for material covered in the lectures and selected reading material. Each of these exams will contribute equally (25%) to your final grade in the class. A grade of 0 (zero) will be assigned for missed exams.
 - Papers will be assigned to be read and then discussed in class.* Students will be expected to come to class having read the papers, and having prepared a list of 3 or more questions relating to each paper. Class participation and contribution in these discussions will contribute the remaining 25% of your final grade.
- * Graduate students taking the class will also be assigned to write short (~2-3 paragraph) summaries for selected papers, and will be required to lead the in class discussion on that/those paper(s).

Note: Please turn off cell phones and beepers in this class.