9-2014

BCH 480.01: Advanced Biochemisty I

Kent D. Sugden
University of Montana - Missoula, kent.sugden@umontana.edu

Biochemistry 480
Fall 2014

Instructor: Prof. Kent Sugden
Office: Chem 306 **Office Hours:** 11-12 MWF or by appointment
Phone: 243-4193 **email:** Kent.Sugden@umontana.edu (easiest way to get in touch with me)
Text: Garrett and Grisham Biochemistry, 3rd ed or higher (4th preferred).

Overview: In the first semester of Biochemistry we build the foundation of the field by introducing the building blocks and basic mechanisms of life processes. We study the chemical components of living systems, investigate the physico-chemical logic behind their behavior, and study information transfer. The first semester of Biochemistry sets the stage for the second semester in which you will study the processes and mechanisms of metabolism.

Prerequisites: Because biochemistry is a subdiscipline of chemistry, students should have a working knowledge of general and organic chemistry. We have found that students with poor preparation in organic chemistry have a more difficult time with biochemistry than those with solid organic skills. It is a good idea to review organic functional groups in preparation for this class.

Requirements: Students are expected to study the text and are encouraged to seek out supplementary materials prior to the corresponding lectures. Questions or problems sets will not be formally assigned for each chapter although some may be suggested for your self-study.

Tests/Quizzes/Tutorials: Occasional quizzes announced at least one lecture ahead of time may be given at the discretion of the instructor. Three midterm exams (100 points each), and a comprehensive final exam (100 points) will serve as the primary metric for assigning grades. Midterm exams will be held at 7pm on three evenings during the semester as noted below. The midterm exams are scheduled in the evening to allow students more time (two hours) to complete them (if you work or have other evening obligations please make appropriate arrangements as early or late test taking will only be granted in extreme cases). Biochemical structure tutorials may be handed out which will be for your benefit and not necessarily graded. Final grades are assigned using the classic 90/80/70/60: A-F grading system. Curbing of this grading system (down but never up) is at the discretion of the instructor. Your final grade will consist of the best 2 out of 3 midterm tests and the final (300 points total). Since you are allowed to drop one test, **there will be no excuse for a missed test**. Any missed test, for any reason, will be considered your lowest test score.

The instructor reserves the right to change this grading format.

Student participation: You are encouraged to participate in classroom discussions. Please ask questions as they pertain to the lecture but also to explore relevance to your own interests.

General Policies
University policies on drops, adds, changes of grade option, or change to audit status will be enforced. These policies are described in the current catalog or can be found online.
The use of any electronic devices (calculators, translators, cell phones etc) for quizzes and exams requires the advanced approval of the instructor.

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University.

All students need to be familiar with the Student Conduct Code. The Code is available for review online at http://www.umt.edu/SA/VPSA/index.cfm/page/1321.

Special accommodations: If you are registered with Disability Student Services and require special accommodations, please contact Dr. Sugden to make arrangements.

Approximate class topics schedule: (subject to change)

August 25,	Course Introduction
Aug 27-29	Chapter 1: Biochemistry is Chemistry
Sept 1	Labor Day; No class
Sept 3-8	Chapter 2: H_2O, pH, Ionic equilibria
Sept 10-15	Chapter 4: Amino Acids
Sept 17-24	Chapter 5: Protein Primary Structure
Sept 24-Oct 1	Chapter 6: Protein Structure
Oct 3	Test Review

Midterm Exam 1 (Chapters 1-6) Tues. 10/7 7-9 pm

Oct 6-10	Chapter 7: Carbohydrates
Oct 13-17	Chapter 8: Lipids
Oct 20-24	Chapter 9: Membranes
Oct 27-29	Chapter 10: Nucleotides
Oct 31	Test Review

Midterm Exam 2 (Chapters 7-10) Mon. 11/3 7-9 pm

Nov 3-7	Chapter 11: Nucleic acids
Nov 10	Chapter 12: Recombinant DNA
Nov 11	Veterans Day Holiday
Nov 12-17	Chapter 28: DNA replication, repair, recombination
Nov19-24	Chapter 29: Transcription
Nov 26-28	Thanksgiving holidays
Dec 1	Test Review

***Midterm exam 3 (Chapters 11-12, 28, 29) Tues. 12/2* 7-9pm**

December 3-5	Chapter 30: Translation
Dec 5	Final Review

Final examination (Comprehensive) **Thursday December 11th 8-10 am ISB 110**

Please note that University policy prohibits rescheduling of a final exam.