Fall 9-1-2015

BCH 480.00: Advanced Biochemistry I

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Biochemistry 480

Fall 2015

Instructor: Assoc. Prof. Brooke Martin
Office: Chem 207 ***Office Hours:*** 11-12 MWF or by appointment
Phone: 243-4546 ***email:*** Brooke.Martin@umontana.edu
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. Additional questions or problems sets for each chapter may be suggested for your self-study.

Tests/Quizzes/Tutorials: Problem sets will be handed out at the beginning of each chapter or at the discretion of the instructor, to be handed in one week later. 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. Curving of this grading system 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. Martin and DSS to make arrangements.

Approximate class topics schedule: (subject to change)

August 31	Course Introduction
Sept 2-4	Chapter 1: Biochemistry is Chemistry
Sept 7	Labor Day; No class
Sept 9-11	Chapter 2: H_2O, pH, Ionic equilibria
Sept 14-18	Chapter 4: Amino Acids
Sept 21-25	Chapter 5: Protein Primary Structure
Sept 28-Oct 2	Chapter 6: Protein Structure
Oct 5	Test Review
Midterm Exam 1 (Chapters 1-6) Tues. 10/6 7-9 pm	
Oct 5-9	Chapter 7: Carbohydrates
Oct 12-16	Chapter 8: Lipids
Oct 19-23	Chapter 9: Membranes
Oct 26-30	Chapter 10: Nucleotides
Nov 2	Test Review
Midterm Exam 2 (Chapters 7-10) Tues. 11/3 7-9 pm	
Nov 2-6	Chapter 11: Nucleic acids
Nov 9,13	Chapter 12: Recombinant DNA
Nov 11	Veterans Day Holiday
Nov 16-20	Chapter 28: DNA replication, repair, recombination
Nov 23	Chapter 29: Transcription
Nov 25-27	Thanksgiving holidays
Nov 30	Test Review
Midterm exam 3 (Chapters 11-12, 28) Tues. 12/1 *7-9pm*	
Dec 2-4	Chapter 29: Transcription
Dec 7-11	Chapter 30: Translation
Dec 11	Final Review
Final examination (Comprehensive) **Wednesday December 16th 8-10 am ISB 110** **Please note that University policy prohibits rescheduling of a final exam.**	