

Syllabus

Biochemistry I (CHEM 351) - Spring 2011

Lecture: Tuesday and Thursday, 12:15-1.30 pm, 317 Rita Hollings Science Center

Instructor: Dr. Marcello Forconi
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Office Hours: Tuesday and Thursday, 1:45-3:00 pm

Course's website: This syllabus and other selected material will be available at the EReserve page for this course (go to <http://ereserve.cofc.edu/eres/> and then search for CHEM351).

Textbook: Garrett & Grisham *Biochemistry*, Fourth Edition
Papers from the literature will be provided when needed through the course's website.

Suggested additional book for enzyme kinetics:

Should you decide to investigate this topic more deeply, there are two almost equivalent books by Alan Fersht: "*Structure and mechanism in protein science: a guide to enzyme catalysis and protein folding*" and "*Enzyme structure and mechanism*". These books are available from the Addlestone library.

Prerequisite: CHEM 232 and 232L

Course Objectives:

- To understand structure and function of biological molecules
- To understand the principles of biological catalysis
- To understand the principles of enzyme kinetics
- To understand the thermodynamics that drive biological reactions
- To understand how chemical principles are used by Nature to generate diversity and complexity needed for life

(Tentative) Course Sequence:

Date	Chapter	Topic
01/11	1	Chemistry is the Logic of Biological Phenomena
01/13	2	Water, the Medium of Life
01/17	3	Thermodynamics
01/20	4	Amino Acids
01/24 & 27	5	Proteins: Primary Structure and Biological Functions
02/01 & 03	6	Proteins: Secondary, Tertiary and Quaternary Structure
02/08	TEST on CHAPTERS 1-6	
02/10 & 15	13	Enzymes: Kinetics and Specificity
02/17 & 22	14	Mechanisms of Enzyme Action
02/24 & 03/01	15	Enzyme Regulation
03/03	TEST on CHAPTERS 13, 14 and 15	
03/08 & 10	SPRING BREAK	
03/15 & 17	10	Nucleotides and Nucleic Acids
03/22 & 24	11	Structure of Nucleic Acids
03/29 & 04/05	12	Recombinant DNA: Cloning and Creation of Chimeric DNA
04/07	TEST on CHAPTERS 10, 11 and 12	
04/12 & 14	8 and 9	Lipids
04/19 & 21	7	Carbohydrates
04/28	FINAL EXAM, 12 -3 pm	

Remember, this is not the final schedule. Please refer to announcements during the lectures for the exact dates of the tests.

Tests: There will be three tests. Most likely, the dates will be:

- February 8th, covering Chapters 1-6
- March 3rd, covering Chapters 13,14 and 15
- April 7th, covering Chapters 10,11 and 12.

Structure Quizzes: There will be two structure quizzes: one on amino acids and one on nucleic acids.

Homework: There will be three homework assignments. Homework assignments are due the lecture periods prior to the tests. Late homework is penalized. The maximum grade you can receive on homework that is handed in late is the lowest score of the assignments that were passed in on time. You are allowed to discuss the homework with one another, but you are to write out the answers/calculations in your own words. Identically worded assignments are an indication of cheating (see below). Answers to the homework will be posted on the bulletin board outside my office and on the course's website.

Final Exam: **April 28th, 12-3 pm.**

Withdraw Date: **March 14th**

Grading:

- Test 1 190 points
- Test 2 190 points
- Test 3 190 points
- Homework 50 points (each)
- Quizzes 5 points (each)
- Final Exam 270 points

Letter	points
A	925-1000
A-	900-920
B+	870-895
B	830-865
B-	800-825
C+	770-795
C	730-765
C-	700-725
D+	670-695
D	630-665
D-	600-625
F	Below 600

Attendance: Attendance at lectures is usually proportional to your grade. I will try to post on the internet Power Point slides for each lecture prior to the actual lecture. Slides for a particular lecture will be posted on the course's website by the end of the day that lecture was taught. In any case, your learning process will be facilitated if you read the book chapter (and skim through the slides if available) before the actual lecture.

Some of the material covered in this course cannot be found in your book, but will be provided electronically or accessible on the Internet via a CofC account. You are responsible for obtaining the material and assignments.

The exact date of the tests will be announced in advance; the schedule above is **not** definitive. Attendance at exams is mandatory; however, in extreme instances (such as major medical problems or sudden family situations) there can be make-up exams. Please talk to me should such instances arise. Generally, no more than one justified absence will be tolerated.

Academic Dishonesty: Cheating and dishonesty will not be tolerated. Please refer the Student Handbook for the specific definitions. Classroom disruption will also not be tolerated. Serious and persistent classroom disruption could result in disciplinary charges, as explained in the Student Handbook.

Disabilities: If there is a student in this class who has a documented disability and has been approved to receive accommodations through SNAP Services, please feel free to come and discuss this with me during my office hours.

Other possible issues: Please talk to me if you need to discuss a change in an exam time and/or date because of your religious observances. Similarly, please talk to me if you are involved in a sport team and you have a scheduled event on one of the exam dates.