

## CHEMISTRY 312: The Chemistry of Life

Term: Summer, 2006  
Prerequisites: None  
Class time: 9:00 - 11:10 a.m., Monday, Tuesday, Wednesday, and Thursday  
Instructor: S. Jayasinghe (Jay), Ph.D.  
Office: Sci II, 229  
Office hours: 11:10 a.m. to 12:00 noon, Tuesdays and Thursdays, or by appointment  
Phone: (760) 750-8075  
E-mail: sjayasin@csusm.edu

Textbook: "Organic & Biochemistry for Today", 5th Ed., S. L. Seager and M. R. Slabaugh, Thomson-Brooks/ Cole Publishing, 2004.

Course website: <http://www.csusm.edu/jayasinghe/CHEM100/>

Although every attempt will be made to adhere to the schedule shown below I reserve the right to adjust the time spent on each topic, add or remove topics as the semester progresses.

Lecture	Description	Chapter
1	Introduction, Matter, The Atom and the Atomic Structure	Handout
2	Electron configurations, The Periodic Table, Bonds	Handout
3	Introduction to functional groups Alkanes Alkenes, Alkynes, and Aromatic hydrocarbons	1 - 2
4	Alcohols, Phenols, Ethers, Thiols and Disulfides	3
5	Aldehydes and Ketones	4
6	Carbohydrates	7
7	Carbohydrates, Carbohydrate metabolism	7, 13(sec 1,2,8,9,10,11)
8	Carboxylic acids and Esters	5
9	Lipids	8
10	Lipids, Lipid Metabolism	8, 14 (sec 1-7)
11	Amines and Amides	6
12	Proteins	9
13	Proteins	9
14	Enzymes	10
15	Enzymes	10
16	Nucleic Acids	11
17	Nucleic Acids	11
18	Nutrition	12
19	Nutrition	12

**Exams: (6/12/06, 6/19/06, 6/26/06, 7/3/06, 7/6/06)**

There will be 5 exams beginning the second week of class. At the end of the semester the exam with the lowest score will be dropped. A missed exam will be counted as the dropped exam. Any additional missed exam will receive zero points. Make up examinations will only be given if the student has a valid excuse (severe illness, death in the family, etc.) and notifies the instructor prior to test time (if possible). **No make-up examination will be given unless the instructor is notified of the emergency within two (2) days of the test.**

Exams will be **one hour** in length and **will contain both multiple choice, short answer and essay type questions.**

**Homework:**

A set of homework problems will be posted on the course web site. **Selected problems will be collected at the end of each week (on Thursday). Questions to be collected will be announced on Wednesday.**

**Project:**

The project is due by the beginning of the last day of class (July 6, 2006). The project should not be longer than six (6) typed pages (including figures etc.). **No Extensions will be given.**

**Grading (points):**

4 Exams (5 total, 1 dropped)	200
Home work	100
Project	<u>100</u>
Total	<u>400</u>

Letter grades will be assigned as follows:

- 90-100 % - A
- 80-89% - B
- 70-79% - C
- 60-69% - D
- 0-59% - F

The University Writing Requirement will be satisfied by a combination of essay questions on Examinations, homework problems, and the Semester Project.

## HOW TO STUDY CHEMISTRY IN ORDER TO EARN A GRADE OF A, B, OR C.

1. Take good lecture notes. You are responsible for everything that I write or project on the board (except videos). PDF files of the power point presentations I use are posted on the course website. Print these out and bring them to class. Make any extra notes as needed. Do not try to copy down everything I project on to the screen.
2. Make flash cards of definitions, concepts, reactions, structures, and nomenclature that are covered in lecture notes.
3. Use your lecture notes/flash cards as a guide to your **reading in the textbook**. Try to read the relevant chapters/sections before coming to class and after class.
4. Solve the homework problems. Some of the answers are in the back of the textbook. One of the best ways of learning is to find a study partner or to form a study group and work on the problems together. Doing the homework problems is how you develop the analytical/critical thinking skills to do well on the exams.
5. Attend class.
6. If you have questions, ask. Make use of the office hours.