

Chemistry 12A- Organic Chemistry Fall 2006

Instructor: Dr. Bernier

Phone: (951) 222-8220

e-mail: Daniel.bernier@rcc.edu

Office Location: PS 201K

Office Hours: Mon. 10-12, Tue. 2-3, Fri. 9-11, or by appointment.

Course Description: The first semester of organic chemistry. This course covers the structure and bonding of organic molecules, the stereochemistry (3 dimensional structure) of organic molecules, and the naming, structure, and reactivity of alkanes, alkenes, dienes, alkynes, alkyl halides, alcohols and ethers.

Approach to the Material: You should read over the material in the textbook before lecture, take careful notes during lecture, review your notes and text, and do all the assigned problems.

Learning Objectives - By the conclusion of the course you should be able to:

1. Name simple organic molecules.
2. Look at a molecule and discuss structure, bonding and stereochemical properties.
3. Synthesize simple organic molecules.
4. Understand nucleophilic substitution and elimination reactions from a mechanistic point of view.

Materials:

**Textbook: Organic Chemistry by J.McMurry, 6th Ed. Brooks/Cole
Study Guide and Solutions Manual by S. McMurry**

**Lab Text: "Introduction to Organic Laboratory Techniques-
A Microscale Approach" Pavia, Lampman, Kriz and Engels, 4thEd.**

Molecular Models: Darling Model Kit (in bookstore)

TENTATIVE CALENDAR

Week 1 8/28-8/31	Structure and Bonding Chapter 1: 3, 6-17, 24-25, 27, 29-30, 33, 37, 39, 43, 45
Week 2 9/5-9/7	Polar Covalent Bonds; Acids and Bases Chapter 2: 1-5, 8-13, 15, 17, 19, 20-23, 27, 30-32, 35-37, 39-40, 43, 45, 49, 55, 57
Week 3 9/12	Organic Compounds: Alkanes and Cycloalkanes Chapter 3: 1-6, 8, 11-12, 16-19, 24-25, 27, 29, 31, 35, 39, 43-45, 47, 50
Week 4 9/14-9/19 *Exam 1- 9/21	Stereochemistry of Alkanes and Cycloalkanes Chapter 4: 2, 4, 7-9, 11-14, 17, 21, 26, 29, 31-38, 40, 48
Week 5 9/26-9/28	An Overview of Organic Reactions Chapter 5: 1-10, 15, 16, 18, 21, 23, 24, 26-27, 39-40, 42, 47
Week 6 10/3-10/5	Alkenes: Structure and Reactivity Chapter 6: 1-7, 9, 11, 13-16, 19, 24-25, 29-31, 39-40, 42, 44, 47, 49
Week 7 10/10-10/12	Alkenes: Reactions and Synthesis Chapter 7: 1-5, 7-10, 12-15, 23-26, 29-31, 36, 38, 40, 43, 51, 55
Week 8 10/17 *Exam 2- 10/19	Conjugated Dienes Chapter 14: 1-4, 6, 12, 19-21, 25, 27, 50
Week 9 10/24-10/26	Alkynes: An Introduction to Organic Synthesis Chapter 8: 1, 3-6, 8-11, 13-14, 20, 22-24, 27, 29-30, 37, 43

Week 10 10/31-11/2	Stereochemistry Chapter 9: 2-3, 6, 8-9, 11-12, 14-15, 17-19, 22-23, 32-33, 45-46, 50, 57, 65
Week 11 11/7-11/9	Alkyl Halides Chapter 10: 1-3, 5-8, 10-11, 13, 18, 20, 23, 32, 35-37, 42
Week 12 11/14-11/16 *Exam 3- 11/21	Reactions of Alkyl Halides Chapter 11:1-2, 4-6, 8, 11-12, 14-15, 19-20, 25-28, 31-32, 34-36, 39-40, 49, 54
Week 13 11/28-12/1	Alcohols and Phenols Chapter 17: 1-4, 6-9, 13-16, 24, 30, 32-34, 40, 44, 57, 59, 65
Week 14 12/5-12/8	Ethers and Epoxides Chapter 18: 1-3, 5-8, 11-13, 18, 24, 26-27, 30 33, 36, 45, 49, 52
*Final Exam 12/14	11-1:30pm, PS 202

What successful students should expect to do in this course:

Planning Time:

Successful students, those that get A's, and B's, use their time wisely. The standard formula for college coursework is that every one hour of class time will result in two to three hours of homework, so a three unit class will do an average of six or more hours of homework (reading, research, studying) per week. You must work the problems to do well in this course.

Successful students plan their time wisely so that they keep up with assignments. You cannot "cram" the night before an exam and do well in this class. They also meet with the instructor during office hours so that they can get much needed feedback on their work.

Attendance:

ATTENDANCE IS EXPECTED, and you must be present and ON TIME for all class sessions. The laboratory may be locked 15 minutes after lab begins.

Please turn off all beepers, cell phones, and watch alarms that make noise before coming into class and lab; they are a serious distraction in college classes and a safety hazard in lab. Please instruct relatives or friends to call campus security in case of an emergency. Security will look up the class in the system and then send someone to the class.

Communicating:

I encourage students to communicate with me and to work out difficult questions or problems. It is better for me to know you don't understand a topic now, then when I am grading your exam! I am always approachable, so please do not feel or assume that I am "too busy" to talk with you. If I am too busy at that particular moment, I will tell you and offer an alternative time. I may advise tutoring if you need extensive assistance. Let me know if you are going to miss a class or if you are having trouble completing an assignment. I am available during office hours and via voice mail and e-mail.

Special Needs:

If you have a **physical, psychiatric/emotional, medical, or learning disability** that may impact your ability to carry out assigned course work, I urge you to contact the staff in Disabled Student Services at 222-8060. They will review your concerns and determine, with you, what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who choose not to continue the course are responsible for turning in a drop card to the admissions office. *Please* do not assume that I have filed a drop card. Failure to officially drop the course may result in an "F". If you miss work after the deadline to drop and have an acceptable reason (like hospitalization), an "Incomplete" would be more appropriate. When in doubt, communicate.

Deadline to drop without a "W"- September 29th.

Deadline to drop with a "W"- November 20th.

Grading:

Grades will be based on your performance in the following areas:

Exams 1, 2, 3 = 100 points each for a total of 300 points.

Final Exam = 200 points.

Quizzes (5) = 15 points each for a total of 75 points.

Organic Molecule Assignment = 15 pts.

Laboratory Experiments and Exam = 200 pts.

Class total = 790 pts.

*There are no Quiz make-ups. You must contact me immediately if you will miss an Exam or you will receive a 0.

What you can expect when you submit exams or lab reports for grading:

I make every effort to return exams and lab reports within one week. Occasionally, other professional obligations make this impossible. I will advise you of this when the work is submitted and let you know when you can anticipate return. Please discuss any grading questions you have regarding exams, quizzes or lab reports.

Questions about course content, grading, study habits, and so forth are welcome. Every reasonable effort will be made to **assist in a student's success**, especially **when that need is expressly communicated**.