

FINGER LAKES COMMUNITY COLLEGE
CHM 211-01: Organic Chemistry I
Dr. Robert O. Kalbach
Fall 2006

MF Room C 322 Lecture 2:00 – 3:50 p.m. W C318 Laboratory 2:00 – 4:50 p.m.
Office: C319 394-3500 ext 7320 Office Hours: As Posted & By Appointment
kalbacro@flcc.edu <<http://paws.flcc.edu/~kalbacro>>

TEXTS

1. Paula Y. Bruice, *ORGANIC CHEMISTRY*, 5E, 2007, Pearson Prentice Hall
2. Schoffstall, et. al, *Microscale and Miniscale Organic Chemistry Laboratory Experiments* 2E 2005
3. James G. Traynham, *Organic Nomenclature* Prentice Hall
4. HGS Molecular Models & Computer Disks

PREREQUISITES

General Chemistry 122 with a grade of C or higher

CHAPTER OUTLINE

Date	MF Chapter / Title – Wednesday Laboratory
W 9/6	Welcome to Organic Chemistry and <i>Laboratory Safety</i>
F 9/8	Chapter 1 – Electronic Structure and Bonding • Acids and Bases
M 9/11	Chapter 1 – Electronic Structure and Bonding • Acids and Bases
W 9/13	<i>Laboratory Exercises B.2, B.3 & C.2, C.3</i>
F 9/15	Chapter 2 – Introduction to Organic Compounds
M 9/18	Chapter 2 – Introduction to Organic Compounds
W 9/20	<i>Laboratory Exercises Q.1, Q.2 & Q.3 – A Dry Lab</i>
F 9/22	Chapter 3 – Alkenes: Structure, Nomenclature • Thermodynamics and Kinetics
M 9/25	Chapter 3 – Alkenes: Structure, Nomenclature • Thermodynamics and Kinetics
W 9/27	Test # 1 2 – 4:30 p.m.
F 9/29	Chapter 4 – The Reactions of Alkenes
M 10/2	Chapter 4 – The Reactions of Alkenes
W 10/4	<i>Laboratory Exercises D.1 & D.2</i>
F 10/6	Chapter 4 – The Reactions of Alkenes
M 10/9	Chapter 5 – Stereochemistry
W 10/11	<i>Laboratory Exercises F.1, F.2 & F.4</i>
F 10/13	Chapter 5 – Stereochemistry
M 10/16	Chapter 5 – Stereochemistry
W 10/18	<i>Experiment 3.6, Part A – Extraction of Caffeine</i>
F 10/20	Chapter 6 – The Reactions of Alkynes: An Introduction to Multistep Synthesis
M 10/23	Chapter 6 – The Reactions of Alkynes: An Introduction to Multistep Synthesis
W 10/25	Test # 2 2 – 4:30
F 10/27	Chapter 7 – Delocalized Electrons • More About Molecular Orbital Theory
M 10/30	Chapter 7 – Delocalized Electrons • More About Molecular Orbital Theory

W 11/1	Laboratory Exercises G.2 & H.2
F 11/3	Chapter 8 – Substitution Reactions of Alkyl Halides
M 11/6	Chapter 8 – Substitution Reactions of Alkyl Halides
W 11/8	Laboratory Exercises K.1
F 11/10	Chapter 8 – Substitution Reactions of Alkyl Halides
M 11/13	Chapter 8 – Substitution Reactions of Alkyl Halides
W 11/15	Experiment 3.7, Part A – Effect of Polarity on Elution
F 11/17	Chapter 9 – Elimination Reactions of Alkyl Halides
M 11/20	Chapter 9 – Elimination Reactions of Alkyl Halides
W 11/22	Thanksgiving Day – College Closed
F 11/24	Thanksgiving Day – College Closed
M 11/27	Chapter 9 – Elimination Reactions of Alkyl Halides
W 11/29	Test # 3 2 – 4:30 p.m.
F 12/1	Chapter 10 – Reactions of Alcohols, Amines, Ethers, Epoxides, and Sulfurs
M 12/4	Chapter 10 – Reactions of Alcohols, Amines, Ethers, Epoxides, and Sulfurs
W 12/6	Laboratory Experiment 3.1 Parts A & B – A Literature Search
F 12/8	Chapter 10 – Ethers and Epoxides; Thiols and Sulfides
M 12/11	Chapter 11 – Radicals • Reactions of Alkanes
W 12/13	Laboratory Notebook and Reports (An Out-of-Class Assignment)
F 12/15	Chapter 11 – Radicals • Reactions of Alkanes
M 12/18	Finish & Review
W 12/20	Comprehensive Final 2-4:30 p.m.

Attendance

You are expected to attend - *and be on time* - for all classes and laboratories. Quizzes may be given within the first 15 minutes of any class or laboratory experiment, therefore tardiness will impact your final grade. Please turn off your cell-phone ringer in the classroom.

<u>Grade Distribution</u>		<u>Relative Grading Scale %</u>	
3 Tests & FINAL	70%	A (100-91.0)	
Lab Reports	15%	B ⁺ (90.9-88.0)	B (87.9-80.0)
Quizzes	10%	C ⁺ (79.9-78.0)	C (77.9-68.0)
Lab Notebook	<u>5%</u>	D ⁺ (67.9-65.0)	D (64.9-60.0)
	100%	F ≤ 59.9	

There are no make-up laboratories. Should you miss any test, then a special make-up test must be taken within three days of returning to class. You must present a valid reason, supported with written documentation to the satisfaction of your professor. Automotive failure is not an acceptable excuse.

Class Notes

Be prepared to work harder than you did in general chemistry. Read the textbook and keep a class notebook. I will discuss material that is not in the book, therefore class notes are very important. The class notes will reinforce the textbook, and the textbook will reinforce the class. Time restraints will not allow a discussion of everything in the book, *therefore outside reading is very important*. Learning is more than just reproducing what you were told in the classroom. Aim for a greater command of the material, especially the ability to apply what you have learned to new situations whenever relevant. Organic chemistry covers a lot of material, not all of which can be covered in class, therefore class time is at a premium, and it must be used efficiently.

Chemistry, like math and physics, builds upon itself, therefore, chemistry by its very nature is cumulative, and so are the tests. Tests may include multiple choice, matching, fill in the blank, problems, and essay questions. Test questions will reflect material that was covered in class, as well as the textbook. The following questions are unacceptable: 1) Will this be on the test? 2) Is today's class important?

You cannot be "taught" everything in the classroom. **It is your responsibility to learn the material.** Most learning takes place **outside** of the classroom. Read the appropriate section(s) of the book **before** the material is presented in class. Then the class will make more sense. If you haven't read the book beforehand, try to learn what you can from the class. Absorb the general ideas, while taking thorough notes. Sort it out later, while studying from the book outside of class. If you must miss a class, get notes from a friend in the class. If you don't know anyone in the class, make a friend before the semester ends.

Organic chemistry requires much memorization, but the real objective is to learn the concepts and theories. Rote memorization will NOT get you through the course.

The University of Rochester will ONLY transfer chemistry courses with a B or higher (C's for science majors may not transfer to U of R).

Laboratory

The experiments illustrate general concepts and theories. Complete as much of the lab work as possible before lab class. Students will work in teams. Generally, the work can be subdivided, so that both partners are not doing all of the same tasks in each experiment. Each partner will turn in his/her own computer generated laboratory report. It should be neat and complete. If two students turn in laboratory reports that are essentially identical the grade assigned to each student will be the grade on the paper divided by two. (i.e. $100/2 = 50\%$)

Dress appropriately, and always wear protective eyewear in the laboratory. If you do not wear protective eyewear you will be dismissed from the laboratory and will receive a zero for that experiment. **Gloves and a personal laboratory coat are recommended.**

All lab reports are due two weeks from the date of completion in the laboratory. No lab report will be accepted one week after the due date. Completion of the laboratories, and the laboratory reports, is a requirement for the course. If you miss a lab class, for any reason, you will not have an opportunity to make it up. A missed lab is a zero.

Any student who has a documented learning disability or handicap may be eligible to receive assistance from the College in completing class assignments. Please contact me by the third class meeting, if you have a learning disability/handicap. Additional information is available by contacting the Director of the Student Health Center at (585) 394-3500, ext 7297; the Chairperson of the Developmental Studies Department at (585) 394-3500, ext 7392; or the Coordinator of Services for Students with Learning Disabilities at (585) 394-3500, ext 7390.

Fall 2006
Organic Chemistry I - Laboratory Schedule

WEDNESDAYS

Dress appropriately and **always wear protective eyewear in the laboratory**. If you do not wear protective eyewear you will be dismissed from the laboratory and will receive a zero for that experiment.

Week	Date	Title
1.	9/6	Welcome to Organic Chemistry and <i>Laboratory Safety</i>
2.	9/13	<i>Laboratory Exercises B.2, B.3 & C.2, C.3</i>
3.	9/20	<i>Laboratory Exercises Q.1, Q.2 & Q.3 – A Dry Lab</i>
4.	9/27	Test 1 2:00-4:30 p.m. Chapters 1 to 3
5.	10/4	<i>Laboratory Exercises D.1 & D.2</i>
6.	10/11	<i>Laboratory Exercises F.1, F.2 & F.4</i>
7.	10/18	<i>Experiment 3.6, Part A – Extraction of Caffeine</i>
8.	10/25	Test 2 2:00-4:30 p.m. Chapters 1 to 6
9.	11/1	<i>Laboratory Exercises G.2 & H.2</i>
10.	11/8	<i>Laboratory Exercises K.1</i>
11.	11/15	<i>Experiment 3.7, Part A – Effect of Polarity on Elution</i>
12.	11/22	Thanksgiving Day – College Closed
13.	11/29	Test 3 2:00-4:30 p.m. Chapters 1 to 9
14.	12/6	<i>Laboratory Experiment 3.1 Parts A & B – A Literature Search</i>
15.	12/13	<i>Laboratory Notebook and Reports (An Out-of-Class Assignment)</i>
16.	12/20	FINAL 2:00-4:30 p.m. Chapters 1 to 11

Completion of the laboratories, and the laboratory reports, is a requirement for the course.
All Experiments are Subject to Change

Fall 2004
Organic Chemistry I - Laboratory Schedule

WEDNESDAYS

Dress appropriately and **always wear protective eyewear in the laboratory**. If you do not wear protective eyewear you will be dismissed from the laboratory and will receive a zero for that experiment.

Week	Date	Exp #	Title
1.	9/6	TECH-700	Practicing Safety in the Organic Laboratory
2.	9/13	TECH-701	Measuring the Melting Points of Compounds
3.	9/20	TECH-702	Microscale Techniques
4.	9/27	©	Test 1 2:00-4:30 p.m. Chapters 1 to 3
5.	10/4	TECH-703	Purifying Acetanilide by Recrystallization
6.	10/11	TECH-704	Separating Cyclohexane and Toluene
7.	10/18	TECH-707	Separating a Mixture by TLC
8.	10/25	©	Test 2 2:00-4:30 p.m. Chapters 1 to 6
9.	11/1	SYNT-745	Synthesizing Aspirin: The Acetylation of Salicylic Acid
10.	11/8	ANAL-727	Classifying an Unknown by Functional Group
11.	11/15	ANAL-728	Identifying an Unknown Aldehyde or Ketone
12.	11/22	©	Thanksgiving Day – College Closed
13.	11/29	©	Test 3 2:00-4:30 p.m. Chapters 1 to 5
14.	12/6	ANAL-729	Identifying an Unknown Alcohol
15.	12/13		
16.	12/20	©	FINAL 2:00-4:30 p.m. Chapters 1 to 11

Completion of the laboratories, and the laboratory reports, is a requirement for the course.
All Experiments are Subject to Change