

Organic Chemistry Laboratory

CHM 215



Wright State University
Fall Quarter 2005

Course

Description

The purpose of this course is to introduce the student to fundamental organic chemistry laboratory techniques and equipment used to analyze and synthesize organic chemicals. **Safety in the laboratory will be stressed at all times.** The student will also learn to have a healthy respect for chemicals and laboratory equipment. In addition, organizing and preparing for each experiment will require that the student become familiar with the proper use of laboratory notebooks.

Instructor

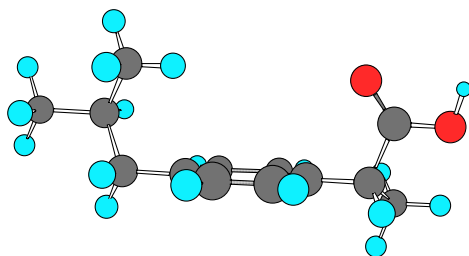
Daniel M. Ketcha, Professor of Chemistry
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Please Note

Individual laboratories will be supervised by Mr. Jon Grieb, Organic Chemistry Laboratory Director (Room 405 Oel), and Graduate Teaching Assistants. Most questions should be addressed initially to your GTA.

Textbooks

“Catalyst: The Prentice Hall Custom Laboratory Program for Chemistry” compiled by David E. Portlock, Pearson Prentice Hall and Student Lab Notebook, Hayden McNeil.



Course Layout

Laboratory safety goggles as well as lab coats must be worn at all times in the laboratory (available at the bookstore in the student union). **Safety rules will be strictly enforced.** Safety is no accident. The first Organic Chemistry Laboratory will meet during the week of Monday, September 12, 2005.

Tentative Schedule

<u>Week</u>	<u>Date</u>	<u>Scheduled Lab</u>	<u>Lab Book Pages</u>
One	12 Sept.	Lab Safety (mandatory); pH Measurements	iii, 5-21; 23-29
Two	19 Sept.	Recrystallization and Melting Point	37-41; 345-354; 383-389
Three	26 Sept.	Extraction (acid-base)	31-36; 301-306
Four	3 Oct.	Distillation	357-365; 375-382
Five	10 Oct.	TLC Analysis of Drug Components	91-96; 325-330
Six	17 Oct.	Dehydration: 2-Methylcyclohexanol (GC)	103-112; 403-411
Seven	24 Oct.	Bromine Addition: <i>trans</i> -Cinnamic Acid	113-119
Eight	31 Oct.	Addition, Mixing, Preparation of Camphor	59-65
Nine	07 Nov.	Laboratory Clean-up (mandatory)	-----
Ten	15 Nov.	Comprehensive Final Exam (10:45-12:45 am, 109 Oel)	----

Recitation

Each laboratory will be preceded by a 45 minute presentation of the day's experiment as well as a quiz on the previous week's lab. Each student will be expected to have read the pages tabulated above before lab. Attendance is mandatory!



Format Each lab should take about 2.5 hours and this should leave ample time for clean-up and check-out with the lab instructor. It is imperative that you keep an organized lab notebook (see pages 473-474) and write comprehensive lab reports (see pages 475-479). Lab reports are due at the start of the following week's recitation.

Grading For each laboratory:

Laboratory participation	10 points
Lab report	10 points
Quiz	10 points
Clean-up and GTA checkout	5 points
Total points for each lab	35 points
Final Exam	100 points

Grading System There is a total of eight experiments scheduled. The best seven labs will count toward your final grade. Because you can drop one lab grade, there will be no make-up labs. Your final grade will be based on a total possible score of $(7 \times 35 \text{ points} + 100 \text{ points}) = 345 \text{ points}$. For example: A = 90% of possible points.

Suggestions It is strongly suggested that students read the sections of the lab manual for the week's experiment *before* each lab. If you have questions, ask for help during recitation or lab. **Failure to participate in lab clean-up during the week of 07 Nov will result in a grade of X for this course.** The comprehensive laboratory final exam will be held on Tuesday, Nov. 15 from 10:45-12:45 am in Room 109 Oelman.