CHM 228-01 Fall 2003
ORGANIC CHEMISTRY LABORATORY I
Chemistry Building Room C12
Lab: 2 – 5 PM M-W

COURSE INFORMATION

Instructor:
Prof. Matthew J. Mio
Office: Chemistry Building Room C215A
Phone: 313.993.1188
E-mail: miomj@udmercy.edu
Office Hours: 12 – 1 PM M-T-W-R-F or anytime by appointment

Primary Resource: Weeks, D. N. *Pushing Electrons; A Guide for Students of Organic Chemistry, 3rd ed.;* Harcourt: Orlando, FL 1998. (required) Preparation handouts. (supplied by Prof. Mio)

Molecular Models: *Molecular Visions* by Darling Models. (required)

Lab Notebook: For recording experimental data. (required)

Safety Equipment: Glasses or goggles are required by law. Contact lenses are never to be worn in the laboratory. Lab coats are highly recommended. Gloves will be provided.

Course Description: First in a two course series covering organic chemical lab techniques and reactions.

Course Objectives: Through this course, students are expected -
1. To learn basic organic chemical lab techniques.
2. To acquire knowledge concerning the principles behind observed phenomena.
3. To develop an internal database of organic reactions.
4. To appreciate how organic chemistry shapes contemporary experience and values through historic and current impact on our lives.

Course Outline: *Readings or lab notebook prepwork must be completed prior to lab period.*

Monday	Wednesday
1 Sept. – LABOR DAY	3 Sept. – Lewis Structures
8 Sept. – Lewis Structures/Model Kits	10 Sept. – Resonance Structures
15 Sept. – Safety/Notebooks/Glassware	17 Sept. – Technique: Simple Distillation
22 Sept. – Reaction: Dehydrohalogenation (dist., GC-MS)	24 Sept. – Reaction: Dehydrohalogenation (dist., GC-MS)
29 Sept. – Technique: Thin Layer Chromatography	1 Oct. – Technique: Thin Layer Chromatography
6 Oct. – Technique: Solubility and Extraction (TLC)	8 Oct. – Technique: Solubility and Extraction (TLC)
13 Oct. – Technique: Recrystallization and Melting Point Determination	15 Oct. – Technique: Recrystallization and Melting Point Determination
20 Oct. – Technique: Extraction of Caffeine from Tea (recryst., mp, extract., NMR)	22 Oct. – Technique: Extraction of Caffeine from Tea (recryst., mp, extract., NMR)
27 Oct. – Reaction: Oxidation of Borneol (extract., TLC)	29 Oct. – Reaction: Oxidation of Borneol (extract., TLC)
3 Nov. – Reaction: Reduction of Camphor (extract., TLC)	5 Nov. – Reaction: Reduction of Camphor (extract., TLC)

10 Nov. – Reaction: Synthesis of Aspirin (recryst., mp, TLC, IR)	12 Nov. – Reaction: Synthesis of Aspirin (recryst., mp, TLC, IR)
17 Nov. – REVIEW	19 Nov. – REVIEW
24 Nov. – LAB PRACTICAL	26 Nov. – NO CLASS
1 Dec. – CLEAN UP	3 Dec. – NO CLASS
8 Dec. – NO CLASS	10 Dec. – NO CLASS

Grading:

I. Quizzes – 50 pts × 10 = 500 pts total
   A. Lab notebook pages from the previous week must be turned in to begin a quiz
   B. Questions will number 4-5 per Quiz
   C. Will be given in first 20 min of lab **Mondays** starting **15 September**
   D. Quizzes will be founded in lab techniques and observations

II. Lab Notebook Pages – 10 pts × 9 = 90 pts total
   A. Data must be recorded as experiments are performed
   B. Thoughtful conclusions must be written for each experiment
   C. Questions from preparation handouts must be answered
   D. Technique and example pages are attached

III. Lab Practical – 110 pts × 1 = 110 pts total
   A. Takes place **Monday 24 November** in C12
   B. Questions will number 10-12
   C. Length of exam will be three hours
   D. Both theoretical and practical lab work will be examined

IV. Grading Scale (700 pts total) - A = 100-93%, A- = 92-90%, B+ = 89-88%, B = 87-83%, B- = 82-80%, C+ = 79-78%, C = 77-73%, C- = 72-70%, D+ = 69-68%, D = 67-60%, F = 60-0%

Study Requirements:

1. With regard to attendance and turning in work: Early is on time. On time is late.
2. If class is cancelled for any reason, activities will resume at our next meeting.
3. You will be expected to follow the tentative course schedule detailed above by securing preparation handouts and arranging notebook entries prior to lab sessions.
4. Cell phone or pager activity during lab or a quiz will result in the student being asked to leave class for that day or a zero, respectively.
5. Careful, attentive, daily work is the route to success. Get help as often as you need it! At any given moment I am not lecturing, I am available between the hours of 6 AM - 5 PM, six days a week, in my office (Chemistry Building Room 215A).
6. Cheating or plagiarism will not be tolerated. Students are expected to adhere to the highest standards of academic integrity. For further information, see the UDM Undergraduate Catalog or the Engineering and Science Student Handbook.