

CHM 229-01 Winter 2004
ORGANIC CHEMISTRY II
Room 114 Chemistry
Lecture: 8:30-9:45 AM T-R

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
- Prerequisites:** CHM 227 – valence, Lewis structures, line-angle drawings, nomenclature, functional groups, degree of unsaturation, hybrid orbitals, molecular orbital (MO) theory, constitutional isomers, conformational isomers, strain, configurational isomers, symmetry, $^1\text{H}/^{13}\text{C}$ NMR, mass spectrometry, infrared spectroscopy, organic reaction terminology, $\text{p}K_a$, reaction coordinate diagrams, fundamental mechanistic steps, complex mechanisms, $\text{S}_{\text{N}}2/\text{S}_{\text{N}}1/\text{E}1/\text{E}2$, nucleophiles, electrophiles, leaving groups, electrophilic addition to π bonds, oxidation, reduction, tautomerism
- Course Description:** Second in a two course series covering organic chemical structure and reaction mechanisms.
- Course Objectives:** Students will learn how to apply general chemical concepts to the analysis of organic molecules' reaction behavior from a mechanistic point of view. In a larger sense, students will be expected to exercise logic, attention to detail, memorization and critical thinking in the solving of organic chemical problems.
- Course Outcomes:** Upon successful completion of this course, students will be able -
1. To communicate in the conventions of organic chemical mechanisms.
2. To determine the general modes of organic reaction and employ this knowledge in the solving of mechanistic problems.
- Primary Resource:** Ege, S. N. *Organic Chemistry: Structure and Reactivity, 5th ed.*; Houghton-Mifflin: Boston, MA, 2003. (required) Handouts. (supplied by Prof. Mio)
- Molecular Models:** *Molecular Visions* by Darling Models. (required)
- Course Outline:** *Readings in Prof. Ege's textbook must be completed prior to class.*

Tuesday	Thursday
6 Jan. – REVIEW	8 Jan. – 14.1A, 14.2
13 Jan. – 14.4-14.6, 15.3B	15 Jan. – 14.7, 14.9-14.10; PS#1 out
20 Jan. – 21.2, 15.1-15.2; PS#1 due	22 Jan. – 15.4-15.5
27 Jan. – 15.6	29 Jan. – 15.7; PS#2 out
3 Feb. – 17.2; PS#2 due	5 Feb. – 17.3B
10 Feb. – 17.4	12 Feb. – 21.4B; PS#3 out
17 Feb. – 17.5; PS#3 due	19 Feb. – 21.4A
24 Feb. – 21.4C	26 Feb. – 21.4D
2 Mar. – SPRING BREAK	4 Mar. – SPRING BREAK
9 Mar. – 25.6	11 Mar. – 25.1; PS#4 out
16 Mar. – 18.4, 21.6; PS#4 due	18 Mar. – 25.2, 25.4
23 Mar. – 25.3, 25.5	25 Mar. – PS#5 out

30 Mar. – 10.1-10.2, 10.4-10.5; PS#5 due	1 Apr. – 14.3B, 21.7, 20.6
6 Apr. – 19.1-19.6A	8 Apr. – PS#6 out
13 Apr. – REVIEW; PS#6 due	15 Apr. – REVIEW
20 Apr. – FINAL EXAM	

Grading:

- I. Problem Sets (PS) – 105 pts × 6 = 630 pts total
 - A. Seven questions per PS, fifteen points per question
 - B. Can be group effort, but each student must turn in an individual set of answers by 8:30 AM EST on the due date
 - C. Will be handed out **Thursdays**, due following **Tuesdays** (see schedule above)
 - D. Rigorous grading standards will be used in evaluating your work, where one to two points will be lost per error
- II. Quizzes – 100 pts banked + (2 pts × 13) bonus pts = 126 possible pts total
 - A. Quizzes will occur at random times and have a length of 5 min
 - B. Each quiz will have two multiple choice problems worth one point each
 - C. Each student receives 100 points to begin the term, miss any three quizzes and you lose 100 points
 - D. Points earned on a quiz are bonus points
- III. Final Exam – 100 pts × 1 = 100 pts total (**20 April 8-9:50 AM**)
 - A. American Chemical Society Standard Exam for Undergraduates in Organic Chemistry will be given
 - B. Students will have 110 minutes to complete the 70 question, multiple-choice exam
 - C. Exam will be open textbook only
- IV. Grading Scale (830 pts possible) – 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 = 69-60%, F = 60-0%

Study Requirements:

1. There will be no lecture **2 or 4 March**.
2. If class is cancelled for any reason, activities will resume at our next meeting.
3. Cell phone or pager activity during lecture, a quiz or the final exam period will result in the student being asked to leave class for that day or a zero.
4. With regard to attendance/turning in work: Early is on time. On time is late.
5. CHM 229 involves a heavy workload. You will be expected to follow the assignment schedule given in the course outline above. Read the text prior to class and complete all example problems as assigned. There will be both handout and Prof. Ege's textbook problems assigned throughout the term.
6. Studying in a group is fine, but the Final Exam must be accomplished individually. If you choose to study as a group, do not let one person do all the work. If you do not think for yourself, it will show on the Final Exam.
7. Plan a study schedule and adhere to it strictly. Careful, attentive, daily work is the route to success. Consult the grade sought/study habits table for more information.
8. 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).
9. 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.