Organic Chemistry II - CHE262
Spring 2012

Instructor: Dr. Timothy A. Sherwood HSC 370 (Office 946-7296, Home 946-3214)
Office Hour: MTWF 9:00-11 AM, MWF 2-3 PM and by appointment

Class: CHE262 Lecture: MWF @ 12:50 in Philips Lecture Hall
Laboratory 1: T 7:40 to 10:40 in HSC359 - Boylan
Laboratory 2: T 2:00 to 5:00 in HSC359 - Boylan
Laboratory 3: T 6:30 to 9:30 in HSC359 - Sherwood

Texts: Lecture. "Organic Chemistry" by Jones and Fleming, Norton (2010).
Laboratory. "The Organic Chem Lab Survival Manual" Eighth Edition by Zubrick, Wiley (2010).
"Laboratory Research Notebook", Jones and Bartlett (1994).

Description: This course details organic molecules by reactivity and emphasizes the differences between organic reactions. Specifically, organic reactions will be surveyed by type of reaction keying on the movement of electrons. In concert with the lecture, laboratory activities will probe the reactivity of molecules and how changes in structure produce changes in reactivity. Reading assignments, note outlines and class problems are available on my website as "pdf" files which is printed easily on almost any computer and printer system with Adobe Acrobat Reader. These materials are designed to allow the student to be more prepared for class and to spend more time thinking about and working through concepts in class.

Objectives:

- Students should learn the similarities of chemical reactivity in organic chemistry. Instead of discussing reactions of each functional group in gross detail, the material will be ordered mechanistically by reaction type.
- Students should be able to clearly and concisely present chemical information in both written and oral forms.
- Students should be able to successfully analyze and solve chemical problems individually and as part of a group.
- Students should be able to explain chemical concepts to peers and learn concepts from peers.
- In the laboratory, students should students will investigate types of reactions through synthesis and chemical analysis.

Grading:

A ≥ 90.%	74% > C ≥ 69%		
90.% > B+ ≥ 86%	69% > C− ≥ 65%	Homework	16%
86% > B ≥ 82%	65% > D+ ≥ 61%	Exams (4)	48%
82% > B− ≥ 78%	61% > D ≥ 54%	Final	16%
78% > C+ ≥ 74%	54% > D− ≥ 50.%	Laboratory	20%

Class Schedule: ***Preparation for class*** - Reading assignments

Class - Overview lecture
Working through problems
Answers to Problems
Questions and Answers

Follow Up - Homework Problems

Important Dates: Exam will be given on Feb. 8th, Feb. 29th, Mar. 28th, and Apr. 23rd.
Homework will be handed out on Mondays and collected on Fridays during weeks without exams.
Final is on May 8th from 8:00 to 10:00 AM.

Course Order: Bonding, Molecular Orbitals & Resonance
Understanding Organic Reactions
Nucleophilic Addition to Carbonyls
Organometallic Reagents
Electrophilic Additions
Electrophilic Alkenes
Delocalization & Conjugation
Conjugate Addition
Nucleophilc Substitutions at Carbonyls
Equilibria, Rates & Mechanisms
Nucleophilic Substitutions at Carbonyls with Loss of Oxygen
Nucleophilic Substitutions at sp^3 Carbons
Elimination Reactions
Electrophilic Aromatic Substitutions
Formation and Reactions of Enolates
Alkylation of Enolates
Other Reactions of Enolates

Laboratory Schedule: *Tentative*
Professional Presentation of Molecules & Safety
Moving Electrons
Not Another Vanilla Lab
Adventures with Lycopene
Identification of a Conjugated Diene from Eucalyptus Oil
Ooo Ooo That Smell? Grignard Synthesis
Williamson Ether Synthesis
Nucleophilic Substitution at Carbonyls
Dehydration of 2-Methylcyclohexanol
Air Oxidation of Fluorene
Bromination of Acetanilide

Lab Clothing: On Lab days, you must wear must wear sleeved shirts, and pants or skirts long enough to cover your knees, closed-toed shoes, and a pair of splash goggles. Without this attire you will not be permitted to participate in lab!

Academic Integrity: The Westminster undergraduate catalog states, "Academic dishonesty…can take several forms, including, but not limited to, plagiarism, cheating, misrepresentation of facts or experimental results, unauthorized use of or intentional intrusion into another's computer files and/or programs, intentional damage to a computer system, and unauthorized use of library materials and privileges."

Academic dishonesty will not be tolerated. The first citation of academic dishonesty will result in a grade of zero for the specific assignment. The second citation will result in a failing grade for the course. All citations of academic dishonesty will be reported to the Dean of the College, in accordance with college policy.