

**CHEM2511K/001 Fall 2008**  
**MODERN ORGANIC CHEMISTRY I**  
**(COREQUISITE: ORG CHEM I LAB)**

**Instructor: Jack Duff, MS    Office: E-232    Tel: (678) 915-3603    e-mail: jduff@spsu.edu**  
**Office Hours: M, W, F 10:00-11:00    Tu, Th 10:30-12:00    M 1:00-2:00**

**Required Text:** Organic Chemistry, 2<sup>ND</sup> ed., Janis Gorzynsky Smith

**Description:**

This is the first course in a two-semester sequence covering the fundamental principles and applications of organic chemistry. Laboratory exercises compliment and supplement the lecture material.

**Expected Learning Outcomes**

Upon successful completion of this course, students will be able to

1. understand concepts of hybridization theory and bonding as applied to organic compounds,
2. use curly-arrow mechanisms in reactions
3. identify major organic functional groups and the effect of structure on physical properties,
4. distinguish between conformational, configurational, and constitutional isomers
5. identify and understand the mechanisms of Sn2, Sn1, E2, and E1 polar reactions and the effects of structure, concentration, and solvents on the course of a reaction.
6. know methods of preparation for a variety of organic compounds including halides, alcohols, alkoxides, ethers alkenes and alkynes and predict the reactions of same with a number of given reagents,
7. understand radical chain reactions and predict the product of such reactions,
8. suggest methods of synthesis for organic compounds from the methods learned in the class

**Attendance:**

Attendance in lecture is expected but not required. You are responsible for any material covered in class or in assigned readings. **Laboratory attendance is required. You must pass the lab to pass the course.** Students who pass the lab with a grade of 70% or better may not be required to retake the lab if they repeat the course, subject to permission from the instructor and the department chair. Registration for the course without the lab requires an override available only at the BCP office.

A midterm grade will be posted via Banner prior to the last day to withdraw without academic penalty. This grade will be given as an "S" (satisfactory, 70% or better) or a "U" (unsatisfactory, less than 70%) and will be based only on graded exams, quizzes, and lab experiments, each appropriately weighed according to your syllabus. No grades will be dropped for this estimation and **any reports due but not yet received will be graded as zeros.**

**Grading:**

Five Exams 60% (12%/ea)    Final Exam 20%    Lab 20%    Total 100%

All students are required to take the Final Exam. The grade for any one of the four exams that is missed or bombed may be replaced by the Final Exam grade. Thus the Final may amount to 32% of your grade. **No make-up exams will be given.** The following point scale will be employed. **No extra-credit assignments or additional points will be given.**

A	B	C	D	F
100-90	89-80	79-70	69-60	<60

**Honesty:**

Academic honesty as detailed in the Student Handbook is expected. The use of calculator programs as crib sheets will be considered cheating. The memories of programmable calculators may be cleared before exams. The use of cell phones or any electronic devices other than calculators during exams will be considered cheating. You generally will not even need a calculator for Organic Chemistry exams.

**Cell Phones:**

Cell phones must be turned off before you come to class. If you have an urgent need to have yours on, see me before class begins to request an exception be made for you.

## Tentative Syllabus Fall 2008:

### Subject

### Readings:

Structure and Bonding	Ch 1
Acids and Bases	Ch 2
Organic Molecules and Functional Groups	Ch 3.1-3.4
Isomers I. Constitutional vs.cis/trans Stereoisomers	Ch 4.13, Ch8.2
Nomenclature: alkanes, alkenes, alkynes, halides, and alcohols	Ch 4.4-4.6, Ch 7.2, Ch 9.3, Ch 10.1-10.3, Ch 11.2, Handouts

**Mon, 9/1 Labor Day Holiday**

### **Wed, 9/10 Exam I**

Alkanes	Ch 4
Isomers II. Stereochemistry: Conformational vs. Configurational Isomers	Ch 4.9-4.13 Ch 5

### **Wed, 10/1 Exam II**

**Thursday, 10/11 is the LAST DAY TO WITHDRAW W/O ACADEMIC PENALTY:**

Polar Substitution and Elimination Reactions: S <sub>N</sub> 2, S <sub>N</sub> 1, E2, and E1 Mechanisms	Ch 7 Ch 8 Ch 9.6-9.9, 9.11, 9.13
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### **Fri, 10/24 Exam III**

Alcohols, Ethers, and Alkoxides	Ch 9
Alkenes	Ch 10
Alkynes	Ch 11

### **Wed, 11/12 Exam IV**

Oxidation and Reduction	Ch 12
Radical Reactions	Ch 15

**Wed, 11/26 through Sun, 11/30: Thanksgiving Holiday**

### **Wed, 12/3 Exam V, Last Day of Class**

#### **Final Exam: TBA**

The Final Exam will be comprehensive of all the material in covered in Organic I.

**Students with disabilities** who believe that they may need accommodations in this class or laboratory are encouraged to contact the counselor working with disabilities at (770) 528-7226 as soon as possible to ensure that such accommodations are implemented in a timely fashion.