

**Massasoit Community College**  
**Spring 2009**  
**Organic Chemistry II, CHEM 202-01**

**Instructor:** Kendra Twomey, PhD

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**Office hours:** MW 8 –9 am

T 11 am-12 pm

F 10 -11 am

**Class Times:** M 1 – 2:50 pm

W 1 – 4:50 pm (Lab)

F 1 - 1:50 pm

**Course description:** This is a continuation of the study of the main classes of organic compounds, including aldehydes, ketones, carboxylic acids, amines, and aromatics. The reaction mechanisms, the synthesis and the general properties of these compounds are discussed. The techniques of MS, NMR, and IR spectroscopy will be introduced. The laboratory is both preparative and analytical using classical and instrumental experimental techniques. Lecture: 3 hours Laboratory: 4 hours

**Prerequisite:** Organic Chemistry I (CHEM201) or equivalent, or Permission of Instructor

**Textbook:** Smith. *Organic Chemistry*, 2<sup>nd</sup> Ed. 2007.

Chemistry 34201 Lab Manual

Lab Notebook

**Course Objectives:**

- Interpret the MS spectrum of organic compounds

- Interpret the NMR spectrum of organic compounds
- Interpret the IR spectrum of organic compounds
- Name and draw aldehydes and ketones; discuss the physical properties
- Understand aldehyde and ketone reaction mechanisms
- Name and draw carboxylic acids; discuss the physical properties
- Understand carboxylic acid reaction mechanisms and the synthesis
- Name and draw benzene and its derivatives; discuss the physical properties
- Understand benzene and its derivatives reaction mechanisms
- Show synthesis reactions with benzene and its derivatives
- Reaction mechanisms for electrophilic aromatic substitution

### **Teaching Procedures:**

- At the start of each lecture class, the previous day's homework will be discussed. New material will then be presented with problem examples. At the end of each class, homework will be assigned and due at the beginning of the next class.
- Quizzes will be given at the start of the class.
- For the lab, a brief discussion of the experiment and safety issues will be discussed at the beginning of each lab period. Students will work in groups of 2.
- Before exams, problems will be handed out for practice instead of a lab.

### **Grading Policy**

**Quizzes (10 %):** There will be a total of 5 quizzes. **The top 4 quizzes will be averaged, if no quiz was missed.**

**Homework (5 %):** The assignment will be given at the end of class, and due at the beginning of the next class. Homework will be checked at the beginning of class before we go over it. No late homework will be accepted. If work is required on a problem, the work must be shown to receive credit for the homework.

**Problem Sets (10 %):** These will be given at the end of each chapter.

**Labs (25%):** Labs will be performed on Wednesdays. Lab participation (5 %) will also be included in the lab grade based upon my observations during lab. A lab report (20 %) will also be written and due 1 week after completion of the lab with the yellow lab notebook pages attached. The lab notebook must show all experiments and data.

**Exams (50 %):** There will 4 exams plus the final exam. The exams will cover new material starting from the previous exam. **The top 3 will be averaged if none are missed.**

### **Grading Policy**

The grades will be based upon quizzes, exams, labs, and homework. If you have an A (94 – 100) at the end of semester, you will be excused from the final exam.

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|----|--------------|
| A  | 94-100       |
| A- | 90-93        |
| B+ | 87-89        |
| B  | 83-86        |
| B- | 80-82        |
| C+ | 77-79        |
| C  | 73-76        |
| C- | 70-72        |
| D+ | 67-69        |
| D  | 63-66        |
| D- | 60-62        |
| F  | less than 60 |

**Attendance Policy:** Students are expected to attend all classes. You are responsible for the material you missed. Contact a fellow student for the material as soon as possible. Lateness to lab will not be tolerated as safety issues and labs procedures will be discussed during the first minutes of labs.

**Accommodations:** Students with disabilities who believe that they may need accommodations in the classroom are encouraged to contact a disability counselor as soon as possible. Students with learning disabilities should contact Andrea Henry, at extension 1805. Students with physical disabilities should contact Mary Berg, at extension 1425. Students at the Canton Campus should contact Stan Oliver at extension 2468.

