

Massasoit Community College
Fall 2008
Organic Chemistry I, CHEM 201-01

Instructor: Kendra Twomey, PhD

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Office hours: MW 8:30 –9 am; 11:50 am – 12:20 -pm

T 9 –1 0 am

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 study of the main classes of organic compounds including an introduction to natural products. The reaction mechanisms, the synthesis and general properties of alkanes, alkenes, alkynes, alcohols, and haloalkanes are discussed. Stereochemistry is also introduced. Nucleophilic substitution, elimination, and radical chain reactions are discussed. The laboratory is both preparative and analytical using classical and instrumental experimental techniques. Lecture: 3 hours Laboratory: 4 hours

Prerequisite: General Chemistry II (CHEM152) or equivalent, or Permission of Instructor

Textbook: Smith, Organic Chemistry, 2^{ed}, McGraw-Hill publishers.

Chemistry 34201 Lab Manual

Lab Notebook

Course Objectives:

- Review of VSEPR, Lewis structures, Types of bonding
- Discuss Bronsted-Lowry acid-base theory in terms of organic molecules
- Determine acidity of molecules using inductive effect, resonance, and hybridization
- Identification of functional groups
- Determining stereochemistry using R-S nomenclature and Fischer projections
- Drawing chiral molecules
- Alkane and Cycloalkanes: Nomenclature, Conformations, Physical properties, and common reactions
- Haloalkane discussion: Nomenclature, Physical properties, Preparation, Common reactions
- Reaction mechanisms for nucleophilic substitution (S_N1 and S_N2) and β -eliminations (E1 and E2)
- Identify alcohol reactions, physical properties, reactions, and thiol reactions
- Alkene discussion: Nomenclature, Physical properties, Common reactions
- Understand reaction mechanisms
- Alkyne discussion: Nomenclature, Physical properties, Preparation, Common reactions
- Identify radical reactions, radical steps

Teaching Procedures:

- At the start of each lecture class, the previous day's homework will be checked and 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 or 3.

- Before exams, problems will be handed out for practice instead of a lab as a problem session.

Grading Policy

Quizzes (10 %): There will a total of 6 quizzes. The top 5 quizzes will be averaged, if no quiz was missed. **No make-up quizzes are permitted.**

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.**

Problem Sets (10 %): These will be given at the end of each chapter. They will be due 3 – 4 days later depending on the week. They will be graded. **No late sets will be accepted.**

Labs (25 %): Labs will be performed on Wednesdays. Lab participation will also be included in the lab grade based upon my observations during lab. The lab notebook will be included in the final grade. It must show all experiments and data. A lab report will also be written and due 1 week after completion of the lab. Notebooks will also be checked the day the lab report is due. **1 point will be deducted for every day the lab report is late. 0.5 point will be deducted for every day the lab notebook is late.**

Exams (50 %): There will a total of 4 exams (30 %) plus the final exam (20 %). The exams will cover new material starting from the previous exam. **No make-up exams will be permitted.** The final will be cumulative.

Grading Policy

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

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.

Additional Resources

The Academic Resource Center (ARC), in the Student Union lower level, offers a full range of tutoring and academic support services. Free help either Walk-ins or by appointment.

