

Syllabus for
CHE 211--Organic Chemistry I Lecture
3.0 Credit Hours
Spring 2010

I. COURSE DESCRIPTION

An introduction to organic structure and reactions. Course includes a review of general chemistry, alkanes, alkenes, alkynes, alcohols, and polymers.

Prerequisites: CHE 112 Lecture and Lab.

Corequisite: CHE 211 Lab.

II. COURSE GOALS

The purpose of this course is to provide students with their first full semester of organic chemistry course beyond their exposure in general chemistry. The student will learn the structure, reactions, mechanisms and names of hydrocarbons, ethers, and alcohols.

III. STUDENT LEARNING OUTCOMES FOR THIS COURSE

Terminal Objectives

As a result of successfully completing this course, the student will be able to do the following:

- A. Name the various organic compounds.
- B. Write reaction sequences for the synthesis of the major classes of organic compounds.
- C. Write simple organic reaction mechanisms.
- D. Correlate molecular structure (stereochemical, conformational, and functional groups) with physical and chemical properties.
- E. Describe the relationship between the chemical makeup of organic compounds and their pharmacological effects.
- F. Discuss bimolecular and unimolecular substitution reactions and elimination reactions of alkyl halides.
- G. Write the structure of common organic compounds.
- H. Discuss reaction kinetics in organic chemistry.
- I. Be able to interpret spectra of simple organic molecules.

IV. TEXTBOOKS AND OTHER LEARNING RESOURCES

A. Required Textbooks

- 1. Smith, Janice Gorzynski, Organic Chemistry, 2nd Ed., New York, New York: McGraw-Hill, 2008.

- B. Optional Materials
 - 1. Smith, Janice Gorzynski, Student Study Guide/Solutions Manual to accompany Organic Chemistry, 2nd Ed.
 - 2. Allyn and Bacon Molecular Model Kit

V. POLICIES AND PROCEDURES

- A. University Policies and Procedures
 - 1. Attendance at each class or laboratory is mandatory at Oral Roberts University. Excessive absences can reduce a student's grade or deny credit for the course.
 - 2. Students taking a late exam because of an unauthorized absence are charged a late exam fee.
 - 3. Students and faculty at Oral Roberts University must adhere to all laws addressing the ethical use of others' materials, whether it is in the form of print, video, multimedia, or computer software. By submitting an assignment in any form, the student gives permission for the assignment to be checked for plagiarism, either by submitting the work for electronic verification or by other means.
 - 4. Final exams cannot be given before their scheduled times. Students need to check the final exam schedule before planning return flights or other events at the end of the semester.
 - 5. Students are to be in compliance with University, school, and departmental policies regarding Whole Person Assessment requirements. Students should consult the Whole Person Assessment handbooks for requirements regarding general education and the students' majors.
 - a. The penalty for not submitting electronically or for incorrectly submitting an ePortfolio artifact is a zero for that assignment.
 - b. By submitting an assignment, the student gives permission for the assignment to be assessed electronically.
- B. School and/or Department Policies and Procedures
 - 1. The Department of Chemistry adheres to the Assessment policy concerning plagiarism as described in the University Catalog p, "Written assignments using sources must demonstrate ethical and accurate use of source material. Plagiarism and any unethical or inappropriate use of sources will not be tolerated."
 - 2. The following assessment actions will be taken in the event of documented instances of plagiarism on written assignments, copying of homework assignments, or cheating during examinations:
 - a. An automatic zero will be given for the assignment or exam.
 - b. The original assignment or exam will be kept in the student file and a copy will be given to the student. This could have a negative impact on letters of reference and admission to graduate schools and other postgraduate programs.
 - c. The Department will take repeated offences as grounds for further action.
 - 3. Any Whole Person Assessment activity required in this course must be completed and assessed prior to the end of the semester to receive credit for that assignment, otherwise the assignment will receive a grade of zero.

- C. Course Policies and Procedures
1. Evaluation Procedures
 - a. Grading System

Calculation of Points	Points
4 Hour Exams (4x1500)	600
Homework Assignments	125
Quizzes	125
Final	<u>150</u>
Total	1000
 - b. Final letter grades will be calculated based on the grade distribution curve of total points for the course:
 90-100 = A; 80-89 = B; 70-79 = C; 60-69 = D; Below 60 = F
 2. Whole Person Assessment Requirements
 Department of Chemistry ePortfolio (CHE or BMC majors only):
 No Department of Chemistry ePortfolio assignment is required
 3. The instructor reserves the right to change the syllabus.

VI. COURSE CALENDAR

WEEKS	CHAPTERS
1	Ch. 1 Carbon Compounds and Chemical Bonds
2	Ch. 2 Carbon Compounds; Functional Groups, Infrared Spectroscopy
3	Ch. 3 An Introduction to Organic Reactions: Acids and Bases
4	Ch. 4 Alkanes; Nomenclature, Conformational Analysis; Synthesis
5	Ch. 4; Ch. 5 Ch. 4 continued; Stereochemistry
6	Ch. 5; Ch.6 Ch. 5 continued; Nucleophilic Substitution and Elimination
7	Ch. 6 Ch. 6 continued
8	Ch. 6 Ch. 6 continued; Nucleophilic Substitution
9	Spring Break
10	Ch. 7 Alkenes and Alkynes I
11	Ch. 8 Alkenes and Alkynes II
12	Ch. 9 Nuclear Magnetic Resonance
13	Ch. 10 Radical Reactions
14	Ch. 11 Alcohols and Ethers
15	Ch. 12 Alcohols from Carbonyl Compounds, Oxidation-Reduction

Course Inventory for ORU's Student Learning Outcomes

Organic Chemistry I Lecture – CHE 211 Spring 2010

This course contributes to the ORU student learning outcomes as indicated below:

Significant Contribution – Addresses the outcome directly and includes targeted assessment.

Moderate Contribution – Addresses the outcome directly or indirectly and includes some assessment.

Minimal Contribution – Addresses the outcome indirectly and includes little or no assessment.

No Contribution – Does not address the outcome.

The Student Learning Glossary at <http://ir.oru.edu/doc/glossary.pdf> defines each outcome and each of the proficiencies/capacities.

OUTCOMES & Proficiencies/Capacities		Significant Contribution	Moderate Contribution	Minimal Contribution	No Contribution
1	Outcome #1 – Spiritually Alive Proficiencies/Capacities				
1A	Biblical knowledge			X	
1B	Sensitivity to the Holy Spirit			X	
1C	Evangelistic capability			X	
1D	Ethical behavior		X		
2	Outcome #2 – Intellectually Alert Proficiencies/Capacities				
2A	Critical thinking	X			
2B	Information literacy	X			
2C	Global & historical perspectives		X		
2D	Aesthetic appreciation			X	
2E	Intellectual creativity	X			
3	Outcome #3 – Physically Disciplined Proficiencies/Capacities				
3A	Healthy lifestyle				X
3B	Physically disciplined lifestyle				X
4	Outcome #4 – Socially Adept Proficiencies/Capacities				
4A	Communication skills		X		
4B	Interpersonal skills			X	
4C	Appreciation of cultural & linguistic differences			X	
4D	Responsible citizenship	X			
4E	Leadership capacity			X	