

CH225– Organic Chemistry

Fall 2012

5 Credit Hours

Instructor: Jeff Stephens

Office: TBD

Office hours: TBD

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Lecture Times: TR 8:00 – 9:15 THO 407

Lab Times: R 10:50 - 13:30 THO 408

ABOUT THIS CLASS

Three hours of lecture and three hours of laboratory per week are included. This is a study of the basic principles, laws and theories of chemistry, designed for those students needing five or more hours of general chemistry. Inorganic, important metallic and nonmetallic substances are covered. The course is recommended for certain students of agriculture, home economics, nursing, biology and general education. A physical lab is required with lecture in this course. (Offered each semester)

COURSE MATERIALS:

Required Text: *Organic Chemistry*, Robert Morrison, Robert Boyd

Students are expected to attend classes. However, various sports events, the judging team, etc. will require students to miss class. If a student is absent, it is his/her responsibility to obtain the notes and any assignments.

COURSE REQUIRMENTS

Lecture Exams: 4 exams, 100 pts each

Quizzes: 10 pts each

Final Exam 200 pts

Lab Write-Ups: 20 pts each

COURSE OBJECTIVES

1. A higher level of critical and creative thinking processes
2. The ability to solve problems using a variety of techniques and methods
3. The ability to utilize the technology relevant to the learner's discipline
4. An enhanced awareness of the world around you.

Assessment Outcomes tested during this course:

Students will be able to, but not limited to:

- Name organic compounds according to IUPAC rules
- Demonstrate an understanding of the physical properties of functional groups, and methods of manipulating said groups.
- Gain an understanding of FMO theory, and how it pertains to bonding, structure, and reactivity.
- Determine the stereochemistry of compounds, including olefin geometry, R and S designations, and an understanding of nomenclature, and the differences between meso compounds, diastereomers, enantiomers, geometric isomers, and constitutional isomers.
- Understand the working of IR, UV, MS, and proton and carbon NMR, and demonstrate the ability to determine significant structural details of unknown compounds utilizing these analytical techniques.
- Gain an understanding of substitution and elimination reactions, and apply these reactions in synthetic strategies toward complex compounds.
- Demonstrate an understanding of electrophilic addition to olefins, including alkenes, alkynes, and dienes, including the ability to write detailed reaction mechanisms using curved arrow conventions.
- Be able to apply various organic reactions in synthetic problems.
- Show an understanding of radical reactions.
- Demonstrate the ability to create cycloalkenes in an efficient manner.

ATTENDANCE/MAKEUP POLICY

It is the responsibility of the student to check his/her schedule and make any adjustments through the drop/add procedure. Students must attend classes within the certification period in order to be enrolled. State law requires the withdrawal of any student who does not attend class at least one time during this period.

Students will have five instructional days to add or drop with a full refund for a full-semester or first 8-week classes. To add a class after five days, the student must first receive written approval from the Dean of Academic Affairs and then the instructor. After 15 days students will not be allowed to add a full-semester or first 8-week class.

Students may withdraw any time after this five day period and until the date published by the Registrar's Office as the last date to withdraw, in which case a W will be recorded on their transcripts. After that time a grade of W cannot be given.

ASSIGNMENT POLICY

All assignments must be typewritten unless otherwise indicated. All assignments are due at class time on the due date unless other arrangements are made with the instructor prior to the due date. No Exceptions! True emergencies will be discussed.

TEST POLICY

All tests, quizzes and exams must be taken the date scheduled unless arrangements are made with the instructor prior to the test date. No Exceptions! True emergencies will be discussed.

FINAL EXAMINATION

A comprehensive final exam will be scheduled according to the final schedule and cannot be altered. The final exam will be composed of one-half of the material covered since the last exam and one-half comprehensive material. Generally, the test will be (but not limited to) true and false, matching and short answer.

LABORATORY SESSIONS

Laboratory sessions meet once a week for the designated 180 minute long periods found in the line schedule, for a total of three hours in lab each week. Each lab exercise that is evaluated will be valued up to 100 points. Any biological/natural science laboratory is associated with the possibility of exposure to chemical preservatives, disinfectants and potentially pathogenic organisms. Any individual with known allergies to chemical agents, is pregnant, or immunity challenged, should consult the instructor and their physician prior to attending lab. All students are expected to attend all lab sessions. Missed Lab assignments cannot be made up. No eating, drinking, chewing or smoking is allowed in any of the labs at any time.

GRADING SYSTEM

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
59% and below	F

ACADEMIC INTEGRITY

Colby Community College defines academic integrity as learning that leads to the development of knowledge and/or skills without any form of cheating or plagiarism. This learning requires respect for Colby's institutional values of quality, service and integrity. All Colby Community College students, faculty, staff, and administrators are responsible for upholding academic integrity.

Cheating is giving, receiving, or using unauthorized help on individual and group academic exercises such as papers, quizzes, tests, and presentations through any delivery system in any learning environment. This includes impersonating another student, sharing content without authorization, fabricating data, and altering academic documents, including records, with or without the use of personal and college electronic devices.

Plagiarism is representing or turning in someone else's work without proper citation of the source. This includes unacknowledged paraphrase, quotation, or complete use of someone else's work in any form. It

also includes citing work that is not used and taking credit for a group project without contributing to it. The following procedure will be used for students who violate the policy:

- First Offense – Student will receive a zero for the assignment and the student will be reported to the Dean of Academic Affairs.
- Second Offense – The student will be reported to the Dean of Academic Affairs and removed from the class.
- Third Offense – The student will be reported to the Dean of Academic Affairs and dismissed from the college.

Any questions about this policy may be referred to the Dean of Academic Affairs.

Access and Opportunity - Reasonable Accommodation and Institutional Standards

According to the Americans with Disabilities

Act, it is the responsibility of each student with a disability to notify the college of his/her disability and to request accommodation. If a member of the class has a documented learning disability or a physical disability and needs special accommodations, he/she should contact Student Support Services, which is located in the Student Union.

EXTRA CREDIT

Reserved for true emergencies and at the discretion of the instructor.

LECTURE SCHEDULE Spring 2012

Week	Date (Tuesdays)	Date (Thursdays)
1		22-August Introduction
2	27-August Bonding	29-August Bonding
3	3-September Labor Day	5-September Alkanes
4	10- September Alkanes	12-September Exam #1
5	17-September Alkenes	19-September Alkenes
6	24-September Alkynes	26-September Stereochemistry
7	1-October Stereochemistry	3-October Exam #2 (Chp 3-4)
8	8-October Analytical Chemistry	10-October Analytical Chemistry
9	15-October Analytical Chemistry	17- October Substitutions

10	22-October Substitutions	24-October Exam # 3
11	29- October Eliminations	31- October Eliminations
12	5-November Additions to Alkenes	7-November Additions to Alkenes
13	12-November Addition to Alkynes	14-November Exam #4 (Ch 8-9)
14	19-November Addition to Alkynes	21-November Thanksgiving
15	26-November Addition to Alkynes	28-November Dienes
16	3-December Dienes	5-December Dienes
17	Finals	Finals

LAB SCHEDULE Spring 2012

Week	Topic (Tuesday or Thursday)
2	Seperation of Analgesic Drugs
4	Seperation by Extraction
5	Isolation of Caffeine
6	Synthesis of Aspirin
7	Models
8	Synthesis of Cyclohexanol
9	NMR Worksheet
10	S _N 2 Reaction
11	Dehydration of Cyclohexanol
12	Qualitative Tests
13	Diels-Alder
14	Special Project

Disclaimer: This syllabus is not a contract and the instructor retains the right to make changes in the course's schedule, policies and requirements as necessary so long as those changes with the policies of Colby Community College and do not affect transferability.