

LAKE TAHOE COMMUNITY COLLEGE

CHM 202 – *Fundamentals of Organic Chemistry*

Spring 2009

LECTURE: M & W 1:00-2:50pm A-208
LABORATORY: M 3:00-5:50pm D-103
CHEMISTRY @ LTCC PAGE: www.ltcconline.net/wallace/

revised 4/19/2009

I. INSTRUCTOR: Martin Wallace (*M.S., Chemistry Education*): "Martin", "Marty", "Mr. Wallace"..
CONTACT: (530) 541-4660, ext 284; Wallace@LTCC.edu; office: D-105

OFFICE HOURS: Mon & Wed 10-11am; Tue & Thu 3-4:30pm, *and by appointment*

II. PREREQUISITE: CHM 201 with a grade of "C" or better

III. REQUIRED MATERIALS:

TEXT: *Introduction to Organic Chemistry, 3^d ed.*, Brown & Poon; ISBN 0-471-44451-0
LAB MANUAL: *The Organic Chem Lab Survival Manual, 7th ed.*, Zubrick;
ISBN 978-0-470-12932-6

LAB NOTEBOOK: bound notebook, ~100 pages, about \$2, NOT spiral-bound

SAFETY GOGGLES: must have (1) indirect venting, and (2) ANSI Z87.1 impact protection
The Uvex "Stealth" (Uvex #S-3960) meets these requirements, is reasonably comfortable and durable, and costs about \$15.

CALCULATOR: ***Programmable calculators cannot be used during quizzes or exams.***
You will need a simple scientific calculator. Basic models can be purchased at office supply stores for about \$10-\$15. See me if you have any questions.

IV. STUDENT LEARNING OUTCOMES:

1. Use an infrared spectrophotometer to determine molecular structures contained in a compound.
2. Predict molecular geometry, bond angles and bond polarity in for simple amines, aldehydes, ketones, carboxylic acids and functional derivatives of carboxylic acids.
3. Compare and rank physical properties between and within the following categories of organic compounds: amines, aldehydes, ketones, carboxylic acids and functional derivatives of carboxylic acids.
4. Name and draw structural formulas for simple amines, aldehydes, ketones, carboxylic acids and functional derivatives of carboxylic acids.
5. Predict products of major reactions of amines, aldehydes, ketones, carboxylic acids and functional derivatives of carboxylic acids.
6. Describe and/or use mechanisms to explain products for the following reactions: nucleophilic addition to aldehydes and ketones, nucleophilic substitution on carboxylic acid derivatives, acid-base reactions of amines and carboxylic acids, condensation reactions of carbonyl compounds, and polymerization.
7. Identify, name, and classify simple carbohydrates, amino acids, polypeptides, nucleic acids, and biologically important lipids.

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V. ACCOMODATIONS FOR STUDENTS WITH DISABILITIES:

Lake Tahoe Community College and I are committed to accommodating students with disabilities. The Disability Resource Center (DRC, room A-205, ext. 249) facilitates accommodations for learning, psychological, hearing, visual and communication disabilities as well as health disorders and mobility limitations. Students requesting any special services should contact the DRC.

VI. SCHEDULE

Lecture Topics, Quizzes, & Exams

A (constantly updated) class schedule that includes lab experiment, lecture topic, quiz and exam dates can be found by following the [CHM202](#) link from the LTCC Chemistry Home page:

<http://www.ltconline.net/wallace/>

Exam Dates:

Exam #1 (ch 9-11).....Monday, May 4
Final Exam (ch. 9-11 & 13-15)Wednesday, June 24 @ 12noon
Makeup exams will only be given for "serious and compelling reasons"; see me immediately if you miss an exam. Your makeup exam score will be no higher than the average of your other exam scores.

Other Important Dates:

Poster presentations (w/ physics & calculus students) Tuesday, June 2 @ 11am*
Project talk / presentation (in class) Monday, June 22 @ 2pm
Final Project Paper & notebook due..... Monday, June 22 @ 2pm

Last day to drop classes and receive a refundFriday, April 17
Last day to drop with no record Friday, May 1
Last day to drop with a "W" grade Friday, May 22

Other VERY Important Dates:

Memorial Day Holiday, campus closed Monday, May 25

Laboratory

Starting the 3rd week of class, students will be required to submit a weekly lab/research report; these will typically be due on Mondays during our regular lecture meeting.

To earn the maximum number of points for the laboratory component of CHM202, you will need to spend 50 hours working on this project. A minimum of 50% of the hours you submit must be work in the lab. You may earn a maximum of 10 hours per week.

Further details regarding the lab policies and due dates can be found by following the [CHM202](#) link from the LTCC Chemistry Home page. This will be continuously revised/updated during the quarter.

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VI. SCHEDULE (*continued*)

Other Important Dates:

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VII. GRADING

Overall *Approximate* Point Breakdown

Mid-term Exam (ch. 9-11).....	100
Final Exam (ch. 9-11+13-15)	100
Quizzes (5 @ 20 points each; lowest quiz score dropped).....	80
Laboratory, independent project 50 hrs (max.) @ 3 points/hour	150
Laboratory, I.R. Exercises Project.....	40
Laboratory, extraction lab (<i>revised 04/19/09</i>)	20
Laboratory, Poster Presentation	20
Laboratory, final Project report	20
Laboratory, lab notebook.....	10
<i>Approximate</i> TOTAL:	540

Overall Grading Scale

A = 90.0–100%; B = 80.0–89.9%; C = 70.0–79.9%; D = 60.0–69.9%; F = <60.0%

Laboratory Work

The lab portion of this class will primarily consist of independent research projects selected by each student or student group. The first two assignments will be structured and specific, but students are free to pursue their own interests starting around the 3rd week of the quarter.

1. The first lab assignment – I.R. exercises – is worth 40 points.
2. The second lab assignment (extraction) is worth 10 points.

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VII. GRADING (*continued*)

Independent Research Project

3. Students will earn 3 points per hour of lab or research time for a maximum of 150 points.
4. At least 50% of the total time must be spent performing experiments in the lab.
5. Part of your lab grade will be based on keeping a notebook record of your work; the grading criteria for your notebook points is detailed in your lab manual (Zubrick, ch. 2).
6. A weekly report will be required; this will be a simple, one page form that will summarize the week's progress and serve to report time spent on lab activities. This is available from the class Web page calendar in both MSWord and .PDF formats.

To earn the maximum amount of points for the lab component of CHM202, you will need to spend 50 hours working on your project(s); at least half of this time must be spent in the actual lab. You may work in the lab during our regularly scheduled lab time (Mondays 3-5:50pm), and you may also work in the lab on the following schedule:

- Wednesdays: 3-5pm
- Thursdays: 6-8pm

Note that other students will be working in the lab during some of these times; please take care not to disturb their work. The maximum number of hours that may be earned each week is 10. hours.

Complete details regarding the lab component of CHM 202 can be found by following the links from the LTCC Chemistry Homepage: www.LTCCOnline.net/wallace/

"Homework"

"Homework" problems will not be collected or graded. However, I will suggest appropriate, in-chapter study problems from your text. *Note that the exam questions will be selected, verbatim, from these suggested study problems in your text.*

Suggested study problems can be found by following the [CHM 202](#) link from the LTCC Chemistry Home page.

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VIII. POLICIES, DEFINITIONS, & ADDITIONAL DETAILS

Tips for success in this class

1. Work on this class a little bit every day. Spend at least 1 hour per day doing some combination of the following: reading the text, reviewing your notes, working study problems, studying with classmates, and/or meeting with your instructor.
2. Read the text and work example problems before attempting assigned homework problems.
3. Stay ahead of the lecture with your reading, or at least read the book concurrently with the lecture topics.
4. Complete and turn in every item that has a point value: lab reports, quizzes, exams, etc.
5. Participate in the lectures and ask questions.
6. Form small study groups and work together to master this material.
7. Be honest with others and yourself. If you really hate this kind of work, don't complain or cheat, but instead find something that you do like to do. Life is too short to be miserable.

"Homework"

In-chapter and odd-numbered problems have answers provided in your text; answers to other problems may be obtained by consulting with me or the study guide associated with your text. I have placed a copy of the complete solutions guide for your text on reserve in the library.

Exams

Exams will be administered during the regular lecture meeting during the week scheduled. You will be given 1hr 50mins (the full class meeting time) to complete each exam. Exams will be closed-notes, closed-text, but I will provide you with a periodic table, constants, and some formulas.

*Makeup exams will only be given for "serious and compelling reasons"; see me immediately if you miss an exam. **If you request to postpone an exam on the day the exam is scheduled, the request will most likely be denied.***

Serious and compelling reasons for making up an exam include situations like illness or hospitalization, family emergencies, serious accidents, etc. Reasons for making up an exam include do NOT include:

1. *I need more time to study or I simply haven't studied enough.*
2. *I've been really busy and haven't had enough time to study.*
3. *I have a full class schedule on the day of the exam.*
4. *(other reasons determined to be unreasonable at the discretion of your instructor)*

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Laboratory

We will review safety, policies & procedures during our first lab meeting, but one of the most important policies is:

1. ***Whenever ANYONE in lab is working with chemicals, glassware, or equipment of any kind, you are required to wear safety goggles; no other type of eye protection is acceptable.***
2. ***You may not work in the lab alone.***

You may work in the lab during our regularly scheduled lab time (Mondays 3-5:50pm), and you may also work in the lab on the following schedule:

- Wednesdays: 3-5pm
- Thursdays: 6-8pm

Note that other students will be working in the lab during some of these times; please take care not to disturb their work. The maximum number of hours that may be earned each week is 10. hours.

Academic Dishonesty (“Cheating”)

I take cheating very seriously, and I will pursue the strictest penalties for clear-cut cases of cheating. However, I will assume that you are innocent until proven guilty.

1. Cheating will be defined as, but not limited to (1) using any method to copy another’s work on an exam or quiz; (2) directly copying another student’s homework assignment or laboratory report; (3) using any method other than your own honest efforts to complete and earn grades for exams, quizzes, outside-of-class assignments or laboratory reports.
2. The following activities are NOT cheating: (1) collaborating with other students to complete laboratory reports; (2) working with other students to study for exams or quizzes.

Disciplinary actions for cheating will be per the “Student Rights and Responsibilities” section of the current LTCC catalog and are outlined below:

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Academic Dishonesty ("Cheating") (*continued*)

OBVIOUS CHEATING:

1. The first incident of obvious cheating will result in recommendation (to the Vice President, Academic Affairs and Student Services) of **disciplinary suspension from the class** for the remainder of the term. The student will be assigned a grade of "F" for that quarter.

BEHAVIOR OR EVIDENCE OF POSSIBLE CHEATING:

1. The first incident that appears to be cheating will result in a written **warning**; a copy of this warning will be sent to the dean.
2. A second suspicious incident will result in zero points assigned for the item involved and an **official reprimand**.
3. A third suspicious incident will result in recommendation (to the Vice President, Academic Affairs and Student Services) of **disciplinary suspension from the class** for the remainder of the term. The student will be assigned a grade of "F" for that quarter.