Welcome to Chemistry 30B!
Office hours: Tuesday and Thursday 9:00-10:45 AM
Room 4431 or PSME Center (see schedule below) or by appointment

Instructor: Dr. Craig J. Mossman e-mail: mossmancraig@fhda.edu

Office: 4431

Our Scheduled Meetings: Tuesday/Thursday 2:30 PM - 4:20 PM Lecture 4813
Thursday 11:00 AM -1:50 PM Lab 4719

My Website: Please visit the following website to view and print lecture notes and to find supplemental information for this course:
http://www.foothill.edu/psme/directory.php?s=1&rec_id=1578

Required Materials
1) McMurry/Castellation; Fundamentals of General, Organic and Biological Chemistry, VL.II Custom Ed. for Foothill College; Prentice Hall, 2010.

2) Mastering Chemistry access code (packaged with custom text)

3) Laboratory Manual for Chemistry 30B

4) Calculator

Also required
1) Safety goggles or glasses (Z87)
2) Proper lab attire: Closed-toe shoes and clothing covering at least shoulders to knees.

Registering for Mastering Chemistry

NOTE: If you purchased a new textbook from the bookstore in Chemistry 30A this academic year it should have come with an access code and you should already be registered with Mastering Chemistry. Thus, you can skip to step 4 of these instructions. Otherwise, start at step 1.

1. Visit www.masteringchemistry.com and click on “New Student”. 
2. If you do not have an access code then you will need to purchase the access code online from the website. (cont.)

3. Follow the prompts to register for Mastering Chemistry. When selecting your textbook for the course, choose: *Fundamentals of General, Organic, and Biological Chemistry*, by McMurry/Castellion/Ballantine/Hoeger/Peterson.

4. Once registered, you must log in to your account and enroll in your course. You can find your course by entering the course ID **MCMOSSMAN29869**.

5. Recall that assignments will be due as listed on MC. 25% per day will be subtracted from late assignments. You can click on “Assignments” on the left side of the screen to see all of your assignments and due dates.

6. Do not forget to submit the first assignment, Intro to Mastering Chemistry, by **Friday, April 8, at 11:59 PM**. This first assignment is to familiarize you with the Mastering Chemistry program. You will receive full credit for completing this first assignment regardless of opened hints and incorrect answers, just be sure to submit an answer to every problem in the assignment.

**Important Information About MC**

Students will be allowed a maximum of 6 attempts per short answer question.

*Points are gained by:*

- Answering a question in a part correctly
- Not opening a hint (1% bonus)

*Points are deducted for:*

- Incorrectly answering a question in a part
  - Multiple choice uses the formula \( 100\% / (n-1) \)
  - Short answer has a 10% deduction per incorrect answer
- Exhausting all attempts to answer a question in a part
- Opening a hint (1% deduction)
You will learn about grading in the Intro to Mastering Chemistry, but remember that you can always click on “Grading Policy” to review the grading for Mastering Chemistry.

**Course Objectives:**

A. Name basic organic compounds, and identify functional groups by name.

B. Identify chiral versus achiral compounds.

C. Identify structural isomers and stereoisomers.

D. Recognize common monosaccharides, disaccharides, and polysaccharides. (cont.)

E. Recognize the structure of lipids and understand the difference between saturated and unsaturated fats.

F. Describe the structure and permeation of the lipid bilayer that makes up a cell membrane.

G. Describe the difference between low density and high density lipoproteins (LDL and HDL).

H. Draw the basic structure of an amino acid and understand the formation of a peptide bond.

I. Describe the various roles that proteins play in biological processes.

J. Describe the primary, secondary, tertiary and quaternary structure of proteins.

K. Know the vitamins that are water-soluble and fat-soluble.

L. Explain enzymes, substrates and the induced-fit theory.

M. Explain why enzymes are common drug targets, and understand the basic way in which these drugs function.

N. Describe the structure of DNA, and show how base pairing occurs.

O. Predict the complementary structure of a DNA strand in replication.

P. Explain RNA synthesis (transcription) and state the function of mRNA, rRNA and tRNA in protein synthesis (translation).

Q. Understand how mutations can cause genetic diseases such as sickle cell anemia.

R. Explain photosynthesis in plants and metabolism in animals.

S. Describe the ultimate fate of carbohydrates, lipids, and proteins in catabolism.

T. Explain the significance of ATP and know how ATP is synthesized in glycolysis, the Krebs Cycle and cellular respiration.

U. Discuss how blood sugar levels are controlled and explain diabetes.
How to Succeed in this chemistry course: It is strongly suggested that you not get behind in your study of the assigned material. Concepts learned in early chapters must be mastered first because they will be used again in later chapters. Cramming the night before an exam will almost never result in a good grade. I also recommend previewing the text material to be covered the night before it is covered in class. Repetition is an effective way to learn difficult subject matter. I also suggest you work all of the assigned book problems (I will not grade them) as a way of really learning the concepts of chemistry. The Mastering Chemistry assignments will be graded. Learn by doing! The more you think about a solution to a problem, the more you learn. I think it is beneficial to study in pairs or in groups, (when preparing for exams), test each other over subject matter, discuss the problems, etc. If you are having difficulties with the assigned problems, please attend my office hours or take advantage of the tutoring resources available. Benefits from tutoring are directly proportional to your effort.

My Teaching Philosophy: My role as an instructor is to help you succeed in the study of chemistry and thereby reach your professional goals. I will give you an outline of material to be covered in class for the semester, present lecture material clearly, engage you in interesting discussions, give you a study guide before each exam, write test questions that are closely linked to our discussions and assigned problems and hopefully allow for some fun once in awhile. Your job is to work hard, prepare thoroughly, then succeed!!

Office hours: I will be available to answer questions on Thursday from 8:30-10:45 in RM 4431 and in the PSME center on Tuesday from 9:00 AM- 12 PM or by appointment. Please come prepared with specific questions, instead of “I really don't understand this chapter”. You need to, at least, try to work homework problems yourself before I can help you.

Lecture Attendance: Please arrive on time and ready to work. As a courtesy to the class please refrain from talking during the lecture. It has been my experience that those students who attend the lectures on time are those who attain the best grades. I will often select test questions directly from examples we work in class. You must pass the lecture portion of this class to pass the course.

Lab Attendance is Mandatory Three absences will result in a failing grade for the course. No exceptions! You must be present for lab check-in and the Organic Nomenclature lab.
Grading:

Exams: (30%) Two exams will be given in class (see the schedule below). There will be no make-up exams. Regular class attendance will improve your chances for a good grade.

Final Exam: (25%) The final will be cumulative.

Homework (15%): Mastering Chemistry assignments will be graded. Assigned homework from your textbook will not be graded; however, quiz and exam questions occasionally will be taken from text problems. Online homework assignments are usually due at 11:59 PM (see schedule for the dates). Please visit masteringchemistry.com and create an account using your access code. Be sure to register for the correct section of Chemistry 30B. Assignments for Mastering Chemistry are outlined below in the lecture and lab schedule, and they are also accessible by logging into your account online.

Labs: (25%) Mastering Chemistry pre-lab assignments are due Sunday nights and post-lab assignments are due the following week on Thursday nights. Please be punctual to the lab, we have a lot to do in a short period of time. The lab lecture will be devoted to quizzes and/or a brief discussion regarding the days' lab experiment. Your lab reports will be graded and are worth 20 points each. Lab quizzes will be worth a total of 90 points. Your lowest lab score will be dropped. Your first lab absence will result in a zero (which may be counted as your lowest lab). Your second absence results in another zero. After a third absence, you will be dropped from the course. No exceptions. You will not have an opportunity to make-up labs.

Class Performance (5%) Good attendance, participation, preparedness, improvement, and teamwork, can result in extra points awarded at the end of the semester.

Grading Scale Breakdown:

I. Online Homework: 15% (150 pts total)

II. Midterms: 30% (300 pts total)
   2 exams @ 150 pts each = 300 pts

III. Lab: 25% (250 pts total)
   8 labs @ 20 pts each = 160 pts (lab 8 and 9 are graded together as one lab)
   lab quizzes (number TBD) = 90 pts

IV. Final Exam: 25% (250 pts total)

V. Evaluation: 5% (50 pts total)
91-100% = A  
90-90.9% = A-  
88-88.9% = B+  
81-87.9% = B  
80-80.9% = B-  
78-79.9% = C+  
70-77.9% = C  
60-69.9% = D  
Below 60% = F

**Academic Integrity:** Academic dishonesty is defined by "an act of deception in which a student claims credit for the work or effort of another person or uses unauthorized materials for fabricated information in any academic work". This definition includes, but is not limited to:

1) cheating on an exam or quiz by copying another's work, use of unauthorized notes or information derived from electronic devices, obtaining test questions prematurely, or changing answers on an exam after it has been graded and returned.

2) Handing in lab results or answers to questions obtained by another. Please note that there will be times when lab results are obtained by teams, I will make sure to clearly distinguish those times.

3) Falsifying lab results and data. (considered a very serious crime in the real world)

If caught cheating a student will receive a zero for that exam, quiz, or lab and a letter sent to the Dean of Student Affairs.

Any requests for re-grading of labs, quizzes, or exams needs to be made by the student no later than one week after receiving your score.

**Please note:** I routinely photocopy exams before returning them.

**Resources:** Check out the resources available on campus just for you at:  
www.foothill.edu/services/index.php

**Tutoring:** The tutorial center is a great resource for students! For more information (including a schedule) visit the website.

**EOPS (Extended opportunity program and services):** EOPS provides support in the form of tutoring, counseling, and more to students who are educationally and/or financially disadvantaged. For information visit the website.
ALD (Adaptive Learning Division): ALD offers courses and services designed to help students with disabilities. For more information, visit the website.

STEM Center: The STEM Center: This is located in 4213. Help is available from a wide variety of tutors/instructors. Visit the first week of classes (it opens on Wednesday) for the current tutor schedule or go to the PSME website psme.foothill.edu. In order to use the facility throughout the quarter, you must enroll in CHEM 100, CHEM 100X or CHEM 100Y by the end of the second week of classes. All of these courses are pass/no pass and will give you complete access during operating hours to the PSME tutoring facilities during the quarter. CHEM 100 is a 0.5 unit course that requires you to be logged into the PSME Center for a total of 18 hours during the quarter to pass. CHEM 100X is a 1.0 unit course (requiring 36 hours) and CHEM 100Y is 2.0 units (requiring 72 hours). Add codes may be obtained at the center.

KCI (Krause Center for Innovation): The KCI is the 4000 building on Foothill's campus. At the KCI you can relax at the cyber café, use the high tech computer labs (both PC and Mac), and enjoy a great study environment.

Please visit the following website to view and print lecture notes and to find supplemental information for this course:
http://www.foothill.edu/psme/directory.php?s=1&rec_id=1578
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<th>Lab</th>
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<td>Ch. 12: 30, 34, 40, 44, 48, 50, 52, 56, 58, 62</td>
<td>Intro to MC and Ch. 12</td>
<td>Lab Safety and Check in</td>
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<tr>
<td>4/7</td>
<td>Ch 13.1-13.4: Alkenes and Alkynes</td>
<td>Ch. 12: 30, 34, 40, 44, 48, 50, 52, 56, 58, 62</td>
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<td>4/12</td>
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<td>Ch 13: 18 and 21.2-21.3</td>
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<td>4/14</td>
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<td>Reducing Sugars &amp; Hydrolysis of a Disaccharide</td>
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<td>Ch 17: Carboxylic Acids and Derivatives; Ch 23.1-23.4: Lipids</td>
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<td>5/05</td>
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<td>5/10</td>
<td>Ch 15: Amines; Ch 18: Amino Acids and Proteins</td>
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<td>5/26</td>
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<td>617</td>
<td>Review</td>
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<td>DNA Fingerprinting Analysis and Check-out</td>
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**Important Dates:**

- Last Day for Adds: April 17, 2016
- Last Day for Drops w/o W: April 17, 2016
- Last Day for Drops: May 27, 2016