

Spring 2017

Steven F. Pedersen

WELCOME TO CHEMISTRY 3B

Course Philosophy: From a pragmatic point of view, it is important that you attend lectures since all exams in this course will be based on the material covered in lecture. The textbook should be used as a supplement to the lectures. There are many topics covered in lectures that are not in the text and you will be responsible for knowing this material.

The official title of this course is "Chemical Structure and Reactivity". An alternative title could be "Applications of Organic Chemistry". An important goal of this course is for you to leave lecture with knowledge of organic chemistry that is relevant to everyday objects, moments, and life. I am not asking that you ruin the aesthetic value of a stand of redwoods, a flock of geese or a herd of bison by imagining that they are made up of a "bunch" of organic molecules. However, organic chemistry does surround us from product labels to the nightly news. After studying this subject for a year you should be able to look at a food label or read a newspaper and develop informed conclusions about what you have just encountered. Use this information to decide whether or not to sign a petition about an environmental issue. Use it to decide which packaged foods to buy. In other words:

LEARN IT TO USE IT!

- **Office Hours:**

Dr. Pedersen: To Be Announced

Teaching Assistants: To Be Announced

- **Voluntary Review Session:** This semester there will be voluntary review sessions led by our Head Teaching Assistant, Colin Gould. They will be on Monday's from 7-9 PM in 10 Evans. They will begin on Monday, January 23.
- **Course Website:** <http://bcourses.berkeley.edu>
- **e-mail:** pedersen@berkeley.edu

All e-mail concerning Chemistry 3B should have "Chem3B" in the title. Use e-mail for asking simple questions about the course or if you would like to make an appointment to see me about an administrative matter. Do not expect detailed answers to chemical questions since organic chemistry is a very visual science and generally requires structures to explain concepts.

- **Lectures:** Lectures are on Tuesday and Thursday from 8-9:30 AM (Lecture Section 001) or from 3:30-5 PM (Lecture Section 002). Both lectures are in 105 Stanley Hall. Unlike in the fall semester, you will not be able to go to whatever lecture you choose since both sections are close to being full. For fire safety reasons, I cannot have students sitting or standing in the aisles so please be sure to go to the lecture you signed up for.
- **Texts and Molecular Models:**
K. P. C. Vollhardt, N. E. Schore; "Organic Chemistry, 7th Edition," Freeman, New York.
N. E. Schore, Study Guide, Freeman, New York.
HGS Maruzen Molecular Structure Models
- **Chemistry 3B Exam Book/Answer Keys: 2nd Edition**
These two books contain midterm and final exams from many of the 3B courses I have taught. One of the books is a set of blank exams and the other contains handwritten answer keys to these exams. These answer keys provide no

explanations as to how to approach solving a problem. For that type of information you should attend one or more of the many available office hours. These two manuals are sold as a packaged set and are available at the Cal Student Store Bookstore or at The Student Store (across the street).

- **Exams:**

Midterm #1: Monday, February 27 from 7:00-9:00 PM.

Midterm #2: Wednesday, April 5 from 7:00-9:00 PM.

Final exam: Wednesday, May 10, 8 AM – 11 AM.

There will be no make-up exams. All exams are only offered at the scheduled time.

- **Grading:**

The course will be graded on the basis of 525 points, distributed as follows:

Each midterm is worth 150 points.

Final exam is worth 225 points.

- **Course Grade**

Final letter grades in this course will be based on the total points in the course.

Distribution of letter grades will be approximately:

A (15-20%); B (35%); C (40%); D, F (5-10%)

What this means is that 15 to 20% of the students will receive some type of A, 35% of the students will receive some type of B, and so on.

- **Course Outline:**

The following topics will be discussed in the order shown below (subject to change).

The number of lectures per topic will vary. Topics not found in the text will be inserted when appropriate.

<i>Topic</i>	<i>Chapter</i>
Delocalized Pi Systems	14
Aromatic Compounds	15 and 16
Aldehydes and Ketones	17 and 18
Carbohydrates	24
Carboxylic Acid Chemistry	19 and 20
1,3-Dicarbonyl Compounds	23
Amines	21
Amino Acids, Peptides	
Proteins	26