

Welcome to Chemistry 3BL

The goal of this laboratory course is to continue your introduction to the theory and techniques of experimental organic chemistry. Many of this semester's experiments will focus on exploring reaction chemistry. The techniques you learned in Chemistry 3AL will be applied to actual reactions where you will be expected to setup, monitor, workup, isolate, purify and characterize products. An equally important goal of this course is to continue teaching you how to navigate through the laboratory in a safe and efficient manner. Awareness of the health and safety aspects of laboratory science is fundamental to anyone interested in pursuing a career in the sciences.

Lectures

Monday 5-6 PM in 100 Lewis and Wednesday 5-6 PM in 1 Pimentel. Wednesday lectures are a repeat of Monday lectures.

The lectures will NOT serve as a "walk-through" of the actual experiment, but rather will focus on the theory and practical aspects of what you will be discovering in the lab. We will often go "off-topic" to talk about other subjects relevant to the organic chemistry laboratory and laboratory science in general.

There are no Lab Lectures the following weeks: January 19th, February 16th, March 23rd and April 27th.

Laboratory

Laboratories are 4 hours long. You should plan on being in lab for this period of time. You will find that the techniques learned in Chemistry 3AL are crucial to the successful completion of the experiment. NMR spectroscopy and mass spectrometry are very important tools in determining the structures of products isolated from reactions. Thus, we will make considerable use of these techniques in this course. Almost all experiments make use of thin layer chromatography as an analytical tool for both monitoring reaction progress and qualitatively assessing the minimum number of different compounds present in a reaction mixture. Occasionally, experiments require that you work in groups so that several pieces of data can be collected and then analyzed. Group work requires cooperation and patience. It is important to check each other's data and discuss with each other whether or not that data is consistent with what was expected. Individuals will be graded on a group's data as well as their own. Therefore, it is important to evaluate everyone's data as though it were your own. Please note that no person(s) in a group is to rush another group member(s) in order to finish early. If it is determined that this is occurring, the teaching assistant will excuse the person(s) involved from lab for that day. They will also receive 0 points for that lab AND this score cannot be used as the dropped score.

Office Hours

Dr. Pedersen: To Be Announced

TA: To Be Announced (they will be the same as those for Chemistry 3B)

Course Website

The course website is <http://bcourses.berkeley.edu>. If you are enrolled in the course, you will have access to this site. Announcements, along with many other items will be posted on this website. It is recommended that you check this regularly to see if there are any relevant announcements that you might have missed in class.

Required Texts

“Understanding the Principles of Organic Chemistry. A Laboratory Experience.” Steven F. Pedersen and Arlyn M. Myers. (ISBN-13: 978-0495829935). Organic Chemistry Laboratory Notebook. Steven F. Pedersen, Jesse H. Pedersen. Both books are available at the Cal Student Store.

Lab Attendance and In-Lab Observations/Spectral Analysis

There are eight graded experiments. Each experiment is worth 10 points. Your lowest lab score will be dropped. See the handout on lab grading to determine what is necessary for the successful completion of a lab. *It is your responsibility to read the information in this handout.* As you will see, there are important consequences associated with not attending lab and/or not turning in the appropriate data/analyses. Course ethics are also highlighted in this document.

Lab Worksheets

There will be three lab worksheets distributed throughout the semester. These are take home worksheets and will be assigned randomly. They are due at the beginning of the next laboratory period (i.e. one week, except when there holidays). Each worksheet is worth 5 points and the lowest score will be dropped.

Laboratory Quizzes

There will be three unannounced laboratory quizzes given throughout the semester. These quizzes will focus only on material presented in the lab lectures. Each quiz is 10 minutes and worth 5 points and your lowest quiz score will be dropped.

Lab Practical

During the weeks of April 13th and 20th there will be lab practicals that require you demonstrate your proficiency of certain laboratory skills that you have learned over the course of Chemistry 3AL and 3BL. These will be performed in 2 hour 45 minute blocks, in a small group environment. Sign-up times and details regarding the lab practicals will be provided at the beginning of March. Your lab practical CANNOT be used as your dropped lab score.

Lab Exam

On Wednesday, April 29^h from 7-8 PM there will be a 1-hour laboratory exam. The exam will focus on the material covered in the lab lectures as well as the theory behind all techniques you have learned about in the Chemistry 3 laboratory series (3AL/3BL). This exam MUST be taken AND a score of ≥ 10 points must be obtained in order to pass the class. If you score less than 10 points on the exam, you will receive a grade of Incomplete in the class (assuming your lab scores are of passing quality) no matter how well you scored on your in-lab observations and spectral analyses. To remove the Incomplete grade, you will need to take the 3BL lab exam offered in the summer or fall of 2015. If you do not pass the exam the second time, you will receive a failing grade in the course.

Grades

The point total for this course is 150. These are broken down as follows:

- 70 points for lab attendance and lab reports
- 10 points for the laboratory worksheets
- 10 points for the laboratory quizzes
- 30 points for the lab practical
- 30 points for the laboratory exam

Grades at the end of the semester will be assigned as follows:

Grade	Includes	Points
A	A and A-	125-150
B	B+, B and B-	105-124
C	C+, C and C-	90-104
D	D	75-89
F	F	0-74