

## Syllabus – Organic Chemistry I

### Course Information

Chemistry 221 – Organic Chemistry I for Chemistry Majors

Instructor: Dr. Chad Eichman  
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Phone: 773.508.3357

### Weekly Schedule

Lecture: Monday, Wednesday, Friday 2:45-3:35 PM in Cuneo Hall 002

Discussion: Tuesday 1:00-2:15 PM in Cuneo Hall 002

Laboratory: Tuesday and Thursday 2:30-5:15 PM in Life Science Building 115

### Office Hours

Monday 4:00-5:00 PM

Tuesday 5:30-6:30 PM

Friday 10:30-11:30 AM

To schedule an alternative appointment, please email me.

### Course Description

*“A lecture, discussion and laboratory course for chemistry majors covering structure and bonding in organic molecules; nomenclature, chemical and physical properties and reactions of non-aromatic hydrocarbons, alkyl halides, alcohols, ethers; stereochemistry and conformational analysis; and spectroscopy.*

*Outcome: Students will understand the chemical behavior of organic molecules and the mechanisms of reactions.”*

### Textbook and Additional Course Materials

Textbook: Organic Chemistry – Structure and Function (6<sup>th</sup> Edition)  
Authors: K. Peter C. Vollhardt and Neil E. Schore  
Publisher: W. H. Freeman and Company  
ISBN: 1-4292-0494-X

Study Guide: Study Guide and Solutions Manual for Organic Chemistry (6<sup>th</sup> Edition)

Molecular Model Kit: Molecular Visions Organic Model Kit (#3) or Preferred Kit

Lab Guide: Catalyst – Organic Chemistry Lab A  
Author: Tim Thomas  
ISBN: 0-536-94370-2

Website: <https://blackboard.luc.edu/>

## Grading

4 Quizzes (25 points)	100	6.7%
4 Problem Solving Sessions (25 points)	100	6.7%
3 Midterm Exams (200 points)	600	40%
1 Final Exam (400 points)	400	26.7%
Laboratory Work and Exams	300	20%
Total	1500	100%

### Quizzes

There are **five** quizzes offered during the semester during the Discussion Section on the dates listed below. The quizzes will be worth 25 points each. *The lowest scored quiz will be dropped.* There are NO MAKEUP quizzes. If you miss one quiz, it will be dropped and the 4 remaining quizzes will be counted.

**Quiz Dates:** September 4, September 18, October 16, November 13, and December 4.

### Problem Solving Sessions (PSS)

You will be assigned to groups of 4 or 5 to work through problems pertaining to recent lecture AND laboratory topics. The problems will be distributed during the designated Lab Section and you will have 1 hour to complete the assignment. There are **four** problem solving sessions worth 25 points each. Everyone in the group will receive the same grade.

**PSS dates:** September 11, October 11, November 8, and December 4.

### Midterm Exams

There are **three** midterm exams during the semester on the dates listed below. The midterm exams cover only lecture topics and will be held on Tuesdays at 2:30-4:30 PM in a location TBA. EACH EXAM COUNTS.

**Midterm Exam Dates:** September 25, October 23, and November 20.

### Final Exam

The final exam will take place **1:00-3:00 PM on Friday, December 14** in a location TBA. *The final exam is cumulative.* All topics discussed during lecture over the semester are on the final.

**IMPORTANT:** I must be made aware of any exam conflicts by **Friday, September 21**. I will arrange an alternative exam time ONLY if notified before this date.

### Laboratory Work and Exams

The laboratory work will be graded as shown in the Lab Syllabus. The lab portion is worth 300 points, equaling 20% of your final grade.

## Final Grades

A guideline for grades is shown below. At minimum, you will receive the grade indicated, however, if the class average is below ~70%, there may be a curved grading system.

A = 89-100%, B = 78-88%, C = 63-77%, D = 51-62%, F = 0-50%

## **Lecture, Discussion Section, and Reading**

The class lectures will be the *most critical source* of information for this course. Because of this fact, please attempt to hold questions to a minimum during the lectures. If you miss a lecture, please find notes from another student in class.

The discussion section will develop your problem solving skills through working problems and taking quizzes. This time will also be dedicated to answering questions and clarifying any topic covered in lecture. The discussion section is OPTIONAL when there is not a quiz. However, quizzes will be distributed once all questions have been answered and *no one will be admitted into the room once the quiz has begun*.

Suggested reading assignments will be made throughout the semester. Do not expect to learn all of the course material through the textbook. As stated before, lectures are the best source of instruction for the course and reading assignments will serve to complement the lectures.

## **Class Etiquette**

Come to class on time.  
No cell phones.  
No eating.

## **Problem Sets**

There will be multiple problem sets throughout the semester to help you master the course material. The problems will include questions from the Vollhardt/Schore textbook as well as additional problems pertaining to the current topics. These can be found on Blackboard (<https://blackboard.luc.edu/>) as the semester proceeds. We will use these problems as a basis for the Discussion Section. The problem sets will NOT be graded and are there to help you prepare for the quizzes and exams.

## **Academic Integrity**

All students in this course are expected to have read and to abide by the demanding standard of personal honesty, drafted by the College of Arts & Sciences, that can be viewed at: [http://www.luc.edu/cas/pdfs/CAS\\_Academic\\_Integrity\\_Statement\\_December\\_07.pdf](http://www.luc.edu/cas/pdfs/CAS_Academic_Integrity_Statement_December_07.pdf)

Anything you submit that is incorporated as part of your grade in this course (quiz, exam, lab report, etc.) must represent your own work. Any students caught cheating will, at the very minimum, receive a grade of "zero" for the item that was submitted and this grade cannot be dropped. Cheating on any lab material results in a 0/200 points for the lab portion of the course. If the cheating occurred during a course exam, the incident will be reported to the Chemistry Department Chair and the Office of the CAS Dean. Depending on the seriousness of the incident, additional sanctions may be imposed.

## Dropping and Withdrawal

Be aware of the following dates in the semester:

September 4: Last day to withdraw without a "W" grade

September 9: Last day to withdraw with a 100% Bursar credit

September 23: Last day to withdraw with a 50% Bursar credit

September 30: Last day to withdraw with a 20% Bursar credit

November 2: Last day to withdraw with a "W" grade, thereafter a "WF" will be assigned

## Email

You must use your Loyola email address for all communication during this course. Emails from outside sources are often blocked automatically.

## Changes to Syllabus

There may be changes to the syllabus during the semester. ***You are responsible for all syllabus changes made in class whether or not you attend.***

## Tutoring

From LUC Tutoring:

*"FREE tutoring services will be offered for many undergraduate courses beginning **Monday, August 27<sup>th</sup>** in **Sullivan 245 (Center for Tutoring and Academic Excellence)**. To sign up for a collaborative learning group (tutoring group), students should visit our website at [www.luc.edu/tutoring](http://www.luc.edu/tutoring). Our collaborative learning groups meet for one hour each week and are grouped by subject/instructor. Groups will continue to open as needed through mid-November.*

*\*\*We also offer **Walk In** tutor led study halls for most core classes. Check out our website for the Fall 2012 Study Hall Schedule!!"*

## Course Topics

Chapter 1: Structure and Bonding in Organic Molecules

Chapter 2: Structure and Reactivity

Chapter 3: Reactions of Alkanes

Chapter 4: Cycloalkanes

Chapter 5: Stereoisomers

Chapter 6: Properties and Reactions of Haloalkanes

Chapter 7: Further Reactions of Haloalkanes

Chapter 8: Hydroxy Functional Group: Alcohols: Properties, Preparation, and Strategy of Synthesis

Chapter 9: Further Reactions of Alcohols and the Chemistry of Ethers

Chapter 10: Using Nuclear Magnetic Resonance Spectroscopy to Deduce Structure

Chapter 11: Alkenes: Infrared Spectroscopy and Mass Spectrometry

Chapter 12: Reactions of Alkenes

Chapter 13: Alkynes

**FALL 2012 CALENDAR**

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	8/27	8/28	8/29	8/30 Glassware	8/31
2	9/3 Labor Day	9/4 <b>QUIZ 1</b> Last day to drop without a "W"	9/5	9/6 Safety and Modeling	9/7
3	9/10	9/11 <b>PSS 1</b>	9/12	9/13 Organic Chemical Behavior	9/14
4	9/17	9/18 <b>QUIZ 2</b> Library Training	9/19	9/20 Melting Point	9/21
5	9/24	9/25 <b>MIDTERM 1</b>	9/26	9/27 Distillation	9/28
6	10/1	10/2	10/3	10/4 Crystallization	10/5
7	10/8 Fall Break	10/9 Fall Break	10/10	10/11 <b>PSS 2</b>	10/12
8	10/15	10/16 <b>QUIZ 3</b>	10/17	10/18 Extraction	10/19
9	10/22	10/23 <b>MIDTERM 2</b>	10/24	10/25 TLC	10/26 Mid-semester Alert
10	10/29	10/30 Column Chromatography	10/31	11/1 <b>LAB PRACTICAL EXAM</b>	11/2 Last day to withdraw without WF
11	11/5	11/6 Review	11/7	11/8 <b>PSS 3</b>	11/9
12	11/12	11/13 <b>QUIZ 4</b> 2-chloro-2- methylpropane	11/14	11/15	11/16
13	11/19	11/20 <b>MIDTERM 3</b>	11/21 Thanksgiving	11/22 Thanksgiving	11/23 Thanksgiving
14	11/26	11/27 Cyclohexene	11/28	11/29 Cyclohexanol	11/30
15	12/3	12/4 <b>QUIZ 5</b> Review and Lab Checkout <b>PSS 4</b>	12/5	12/6 <b>LAB WRITTEN EXAM</b>	12/7 Last Day of Classes!!
16	12/10	12/11	12/12	12/13	12/14 <b>FINAL EXAM</b>