

# Organic Chemistry I Laboratory (1 Unit)

## CHEM 2094L

### Fall 2020

Remotely - 1.5 hours per week 8/17-11/21

Instructor: Dr. Marc Perry / Dr. Matthieu Rouffet / Doug Zuill

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- Student Outcomes:** The following outcomes are expected and will be assessed on laboratory reports and quizzes:
  - apply theory in the characterization of organic compounds
  - demonstrate the ability to set up a reaction and follow its progress
  - perform common purification techniques
  - Utilize computer modeling (Hyperchem ) to investigate chemical processes

**Program Learning Outcomes:** PLO 2 is introduced and developed but not mastered in this course, so there are no course assignments used for assessment of our PLO's.

- Texts:** *Organic Chemistry I Lab CHE 2094L* with experiments from Lehman, J.W. *Microscale Operational Organic Chemistry: A Problem-Solving Approach to the Laboratory Course, 4th ed.*; Pearson Learning Solutions, Inc.: Boston, 2010. This is a digital book and must be purchased directly from Pearson.
- Lab Worksheets:** With the remote format of lab, there really isn't a good reason to write lab reports in the same format as when we meet face to face. You will instead have a worksheet to fill out for every lab. The worksheets will be due the week after the lab is completed via synchronous zoom. Worksheets handed in late will be penalized 10% per day up to 50%. Lab worksheets will count for 85% of your lab grade.
- Quizzes:** There will be three quizzes throughout the semester. They will cover the theory discussed as well as information from the worksheets that you filled out. They will count for 15% of your lab grade.
- Grades:** Grades will be calculated based on your performance on the worksheets and quizzes. The weighting of the two types of assessment are shown below.

Lab Worksheets	85 %
Quizzes	15 %

In order to calculate your grade, you will use the formula shown below.

$$\text{Final \%} = (\text{Worksheet Average} \times 0.85) + (\text{Quiz Average} \times 0.15)$$

Your letter grade will then be assigned as shown in the list at the top of the following page.

92 – 100%	A
90- 92%	A-
88-90%	B+
82-88%	B
80-82%	B-
78-80%	C+
72-78%	C
70-72%	C-
68-70%	D+
62-68%	D
60-62%	D-
<60%	F

6. **Lab Attendance and Make-ups:** You are required to meet synchronously with the section that you have been assigned. If you miss a synchronous session, you need to communicate with your instructor as soon as possible. If your absence is not excused, you will get a zero for the worksheet that week. If your absence is excused, you may seek approval to attend another synchronous session during the week, or complete the worksheet by viewing a recording of the synchronous session.
78. **Office Hours:** We will make every effort to be available for office hours via zoom. Feel free to reach out via email if you would like to set up a zoom appointment outside these fixed times.

Office Hours		
<b>Perry</b>	<b>Rouffet</b>	<b>Zuill</b>
Monday: 3-4, Thursday: 11-12	Available by Appointment	Wednesday: 7:30-9pm

8. **Laboratory Schedule:** Below is a schedule of the experiments to be performed.

Week of	Experiment	Skill(s) Introduced
8-17	Course Expectations	Course Navigation
8-24	SDS and Navigating Journals	Information Literacy
8-31	Effect of pH on a Food Preservative	Vacuum Filtration
9-7	Separating the Components of Panacetin	Liquid/Liquid Separations (Separatory Funnel)
9-14	Identifying a Constituent of Panacetin	Recrystallization and Melting Point
9-21	Preparation of Synthetic Banana Oil	Reflux
9-28	Preparation of Synthetic Banana Oil	Simple Distillation/Gas Chromatography
10-5	Hyperchem I/Tutorial	Computational Tool
10-12	Separation of Petroleum Hydrocarbons	Fractional Distillation
10-19	Identification of a Petroleum Hydrocarbon	Boiling Point and Refractive Index
10-26	Isolation & Identification of Major Constituent of Clove Oil	Steam Distillation and IR
11-2	Thin-Layer Chromatography Analysis of Drug Components	Thin Layer Chromatography (TLC)
11-9	Structures and Properties of Stereoisomers	Optical Rotation
11-16	Hyperchem II/ butanols	Molecular Dynamics Simulations

9. **Academic Accommodations:** While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments, modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the Disability Resource Center (DRC), located in the Bond Academic Center. ([DRC@pointloma.edu](mailto:DRC@pointloma.edu) or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation

Act and the Americans with Disabilities Act. Section 504 (a) prohibits discrimination against students with special needs and guarantees all qualified students equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.

If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

10. **University Mission:** Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.
11. **Copyright:** Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.
12. **Academic Honesty:** Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See [Academic Policies](#) for definitions of kinds of academic dishonesty and for further policy information.