

Point Loma Nazarene University  
Department of Chemistry

**CHE4067 – Advanced Inorganic Chemistry Laboratory  
Spring Term, 2024**

Tuesday, 1:30 – 5:00 pm, Sator Hall 216

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Office hours: MW, 1:30 – 2:30 pm and by appointment

Sator 206  
(619) 849-3251

**Prerequisite.** Completion or enrollment in CHE4068 is required.

**Course Description**

A 1-unit lab course designed to accompany [CHE 4068](#). Emphasis on the preparation, purification and characterization of main group and transition metal inorganic and organometallic compounds.

**Course Learning Outcomes**

At the completion of this course, students will be able to:

- synthesize inorganic compounds using literature procedures.
- characterize inorganic compounds using a range of techniques, including NMR, UV/vis, FT-IR, and magnetic susceptibility.
- communicate the results of experiments clearly and concisely using the journal format of the American Chemical Society.

**Lab Notebook.** Lab notebooks are an essential component of research. A handout will be provided with guidelines for proper notebook format and notebooks will be inspected on random lab dates to ensure compliance with the guidelines.

**Prelabs.** Prelab write-ups of procedure are required before starting any lab. It should include a flow diagram of what you expect to accomplish during that lab period, brief procedures, waste handling, and safety considerations. Prelabs should be submitted on Canvas by 10 pm the night before lab.

**Lab Reports.** There will be three lab reports due during the semester. The details for each lab report will depend on the synthesis and will be discussed before the start of the project. Drafts and final reports are due for each lab report on the dates specified in the syllabus and will be submitted on canvas.

**Recommended texts**

There are no required textbooks for this course. The textbook required for CHE4068 will be a useful resource during this lab course.

*Grading:*

Lab Notebook	10 %
Prelab	15 %
Metal acac report	30 %
Project 1 report	20 %
Project 2 report	25 %

*Grading Scale:*

A	90 – 100 %
B	80 – 90 %
C	70 – 80 %
D	60 – 70 %
F	< 60 %

## Lab Schedule

<b>Week</b>	<b>Date</b>	<b>Topic</b>
1	1/9	<b>No lab</b>
2	1/16	<b>Lab Introduction and Safety Meeting</b>
3	1/23	<b>Synthesis of metal acac complexes I</b>
4	1/30	<b>Synthesis and purification of metal acac complexes</b>
5	2/6	<b>Characterization of metal acac complexes</b> First draft of metal acac report due.
6	2/13	<b>Characterization of metal acac complexes</b>
7	2/20	<b>Characterization of metal acac complexes</b> Second draft of metal acac report due.
8	2/27	<b>Last day to work on metal acac complexes</b> Introduction to Project 1
<b>9</b>	<b>3/5</b>	<b>Spring Break</b>
10	3/12	<b>Project 1</b> Metal acac report due.
11	3/19	<b>Project 1</b>
12	3/26	<b>Project 1</b> Introduction to Project 2 Draft of Project 1 report due.
13	4/2	<b>Project 2</b>
14	4/9	<b>Project 2</b> Project 1 report due
15	4/16	<b>Project 2</b> Draft of project 2 report due.
16	4/23	<b>Project 2</b>

**Final Exam Week: Project 2 report due by Wednesday, May 1.**

**PLNU Mission**  
**To Teach ~ To Shape ~ To Send**

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.

**PLNU FINAL EXAMINATION POLICY.** Successful completion of this class requires taking the final examination on its scheduled day. The final examination schedule is posted on the [Traditional Undergraduate Records: Final Exam Schedules](#) site. If you find yourself scheduled for three (3) or more final examinations on the same day, you are authorized to contact each professor to arrange a different time for one of those exams. However, unless you have three (3) or more exams on the same day, no requests for alternative final examinations will be granted.

**PLNU COPYRIGHT POLICY.** 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.

**STATE AUTHORIZATION.** State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on [State Authorization](#) to view which states allow online (distance education) outside of California.

**INCOMPLETES AND LATE ASSIGNMENTS.** All assignments are to be submitted/turned in by the beginning of the class session when they are due—including assignments posted in Canvas. Incompletes will only be assigned in extremely unusual circumstances.

**PLNU ACADEMIC HONESTY POLICY.** 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.

**SPIRITUAL CARE.** Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith. If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the [Office of Spiritual Development](#)

**PLNU ACADEMIC ACCOMMODATIONS POLICY.** PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities. Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center ([EAC@pointloma.edu](mailto:EAC@pointloma.edu) or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will issue an academic accommodation plan ("AP") to all faculty who teach courses in which the student is enrolled each semester.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course and/or if they do not wish to utilize some or all of the elements of their AP in that course.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC.

**ATTENDANCE AND PARTICIPATION POLICY.** Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university withdrawal date or, after that date, receive an "F" grade.