SCI1001L: Chemistry in Our Everyday Lives (Lab)

1 Units

Chemistry Department

Fall 2026

October 26 - December 20

Online

Meeting Days: Online Asynchronous

Meeting Times: Online Asynchronous

Meeting Location: Online

Final Exam (Day/Time): N/A

Instructor: Professor William Schumacher

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Phone: 858-354-6182

Office Location and Hours: Zoom, by appointment

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.

General Education Mission

PLNU provides a foundational course of study in the liberal arts informed by the life, death, and resurrection of Jesus Christ. In keeping with the Wesleyan tradition, the curriculum equips students with a broad range of knowledge and skills within and across disciplines to enrich major study, lifelong learning, and vocational service as Christ-like participants in the world's diverse societies and culture.

Course Description

SCI1001 is an introductory chemistry class designed to teach you the basics of the chemistry of cooking and is suitable for anyone who has never taken any chemistry classes before. Chemistry might be scary for some of you, but we would like to challenge you to work regularly, practice, and ask questions in order to succeed. I am glad you are here, and I look forward to helping you discover the importance of chemistry in cooking.

Course Learning Outcomes

1. Design and conduct an investigation based on the scientific method.
2. Analyze observable facts and numerical data to arrive at an evidence-based conclusion.
3. Apply knowledge of fundamental chemistry/biochemistry principles to food and cooking examples.
4. Identify and use appropriate and sufficient scientific evidence to evaluate claims and explanations about the natural and designed world in the context of food and cooking.

General Education Learning Outcomes

Learning Outcome

- GELO 1d: Critical Thinking: Students will be able to examine, critique, and synthesize information in order to arrive at reasoned conclusions.

Assessment

- Weekly Cooking Lab Reports

Required Texts and Recommended Study Resources

Laboratory # 1: Chopping skills and measurements

- 1 cucumber
- 2 tomatoes
- 1 onion
- 2 carrots
- 2 shallots
- olive oil
- balsamic vinegar (or other kind if unavailable)
- salt and pepper
- dijon mustard (old style if possible but other kinds will do)
- bread (French baguette if possible)

Laboratory # 2: Mozzarella and Ricotta Cheese

- 1 gallon of whole milk (or raw milk)
- ¼ rennet tablet
- citric acid (1.5 tsp)
- bottled water (1.5 cups)
- digital thermometer
- cheesecloth
- tomatoes
- basil
- salt and pepper
- bread (French baguette if possible)

Laboratory # 3: Ice Cream and Caramel

Ice Cream:

- 1 cup of salt
- ¼ cup of table sugar
- ½ cup of whole milk
- ½ cup of heavy whipping cream
- ¼ teaspoon of vanilla
- 3 cups of crushed ice
- 1lb zip seal plastic freezer bag
- 1 store-bought brand of ice cream

Caramel:

- ¼ teaspoon salt
- ¾ cup of table sugar
- 2 tablespoons of unsalted cultured butter
- ½ cup of heavy whipping cream
- ¼ teaspoon of vanilla
- 2 tablespoon of corn syrup
- Digital thermometer

Laboratory # 4: Browning and Meat Lab

Browning

- 1 carrot
- 1 potato
- 1 apple
- lemon juice
- vinegar
- baking soda
- purified or bottled water

Meat

- 1 or 2 cuts of steak (if possible)
- unsalted butter
- salt
- pepper
- other herbs (optional)
- thyme

Laboratory # 5: Egg lab

- 12 eggs
- unsalted butter
- kosher salt
- English muffin (if possible)
- ham (if possible)
- sugar
- dark chocolate
- pepper
- other herbs (optional)
- crushed ice
- avocado (if possible)

Note: Students are responsible for having the required textbooks prior to the first day of class. Students are also encouraged to begin reading the books in preparation for the class as soon as possible.

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. All supplemental materials posted on this course site (including articles, book excerpts, or other documents) are provided for your personal academic use. These materials may be protected by copyright law and should not be duplicated or distributed without permission of the copyright owner.

Course Credit Hour Information

It is anticipated that students will spend a minimum of 37.5 participation hours per credit hour on their coursework. The time expectations for this course are shown below:

Estimated Time to Complete Course

Activity Category	***Time-to-Complete (Hours)***
Required Resources	2
Labs	12.5
Lab Reports	18
Lab Discussions	10
Surveys	1
Total:	43.5

Assessment and Grading

Weighted Grades

This course uses weighted grades. Each assignment category is worth a certain percentage of the total grade (100%) for the course, as specified in the table below:

Course Assignments

Assignment Category	***Description***	***Percentage of Total Grade***
Lab Discussions	After each lab, you will participate in a "photo finish" discussion in which you will share photos and discuss your lab experience with your classmates.	**100**
Lab Reports	The week after each lab, you will compile your results and findings into a formal lab report.	**120**

Surveys	You will complete required PLNU surveys to evaluate your experience with this lab course.	**5**

It is important to read the comments posted in the gradebook, as these comments are intended to help students improve their work. Final grades will be posted by the due date as posted in the Academic Calendar.

Grading Scale

The following grading scale will be used for all exams and final course grades:

- 93 – 100% = A
- 90 – 92% = A-
- 87 – 89% = B+
- 83 – 86% = B
- 80 – 82% = B-
- 77 – 79% = C+
- 73 – 76% = C
- 70 – 72% = C-
- 67 – 69% = D+
- 63 – 66% = D
- 60 – 62% = D-
- Below 60% = F

General Course Concerns

If you have a concern related to the content or structure of this course, please bring your concern(s) to me (the instructor) in a timely manner, so that we have the opportunity to discuss your thoughts and work together toward a solution.

Late Assignments

All assignments are to be submitted by the due dates. There will be a 10% reduction of possible points for **each day** an assignment is late, and assignments will **not be** accepted for credit four

days after the due date. If missing assignments result in the failure to meet learning outcomes, you may receive a letter grade reduction on the final grade in addition to the loss of points for missing work. Assignments will be considered late if posted after the due date and time using Pacific Standard Time. No assignments will be accepted after midnight on Sunday night, the last day of class.

Exceptions for extenuating circumstances must be pre-approved by the instructor and the program director.

PLNU Spiritual Care

PLNU strives to be a place where you grow as a whole person. To this end, we provide resources for our Graduate and Accelerated Undergraduate students to encounter God and grow in their Christian faith. We have onsite chaplains at our different campuses who may be available during class break times across the week. If you have questions or a desire to meet or share any prayer requests with our chaplains, you can find them at the Chaplain's Page via myPLNU.

In addition, the Mission Valley and Balboa campuses have a prayer chapel for use as a space set apart for quiet reflection and prayer.

Student Success

The Center for Student Success supports our Graduate and Professional Studies students throughout their academic journey. We provide student services such as academic advising and planning, resource workshops, and connect students to career services, writing support, tutorial services, and wellness resources. The Center itself is located on the first floor of the Mission Valley Campus. If you have any questions about how to access resources at PLNU, please start by reaching out to the Center for Student Success by email or by phone at 619-563-2850. Please visit myPLNU Student Success for more details. If you are in the School of Education, please contact SOE Advising.

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 distance education outside California.

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.

PLNU Recording Notification

In order to enhance the learning experience, please be advised that this course may be recorded by the professor for educational purposes, and access to these recordings will be limited to enrolled students and authorized personnel.

Note that all recordings are subject to copyright protection. Any unauthorized distribution or publication of these recordings without written approval from the University (refer to the Dean) is strictly prohibited.

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.

For all student appeals, faculty and students should follow the procedures outlined in the University Catalog. See Adult Undergraduate Academic and General Policies for definitions of kinds of academic dishonesty and for further policy information.

During the first week of class, you will be asked to submit an Academic Honesty Verification Statement. Submitting the statement is a requirement of this course. By submitting the Academic Honesty Verification Statement, you will be verifying all assignments completed in this course were completed by you. Carefully review the Academic Honesty Statement below.

Statement: “In submitting this form, I am verifying all the assignments in this course will be completed by me and will be my own work.”

PLNU Academic Behavior Policy

Both faculty and students at Point Loma Nazarene University have the right to expect a safe and ordered environment for learning. Students are expected to take the initiative to learn and conduct themselves in a mature and civil manner in the classroom environment. Any student behavior that is disruptive or threatening is a serious affront to Point Loma Nazarene University as a learning community. Students who fail to adhere to these behavioral standards may be subject to disciplinary action, including removal from class or further university sanctions. For a full definition of disruptive behavior, response procedures, and the appeal process, please consult the Academic Behavior Policy in the University Catalog.

PLNU Artificial Intelligence (AI) Policy

The use of Artificial Intelligence (AI) tools (e.g., ChatGPT, Gemini Pro, GrammarlyGo, Perplexity, etc.) is prohibited in this course for any aspect of your work, including idea generation, drafting, editing, or final submissions. This course is designed to assess your independent critical thinking, writing, and research skills without the assistance of AI technologies. Any reliance on AI tools in this course is subject to an academic honesty violation.

PLNU Academic Accommodations Policy

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center on the PL campus, the first floor of the Balboa campus, and the second floor of the Mission Valley campus. For all students, including those on the Bakersfield campus, virtual appointments are available. You can reach the Educational Access Center (EAC) by email or phone at 619-849-2533. Students can access both requests for and evidence of disability through the Accommodate link on the main page of OneLogin. Once a student’s eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines approved accommodations. Professors are able to view a student’s approved accommodations through Accommodate.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their approved accommodations in that particular course. Accommodations are not retroactive; as such, clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes.

Students who need accommodations for a disability-related need should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to ensure appropriate accommodations can be provided. In accordance with the ADA, accommodations cannot constitute a fundamental alteration to course outcomes; therefore, planning ahead is vital in establishing appropriate accommodations for equal access to this course. It is the student's responsibility to make the first contact with the EAC. Students cannot assume that because they had accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC eligibility process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any accommodations.

Language and Belonging

Point Loma Nazarene University faculty are committed to helping create a safe and hospitable learning environment for all students. As Christian scholars, we are keenly aware of the power of language and believe in treating others with dignity. As such, it is important that our language be equitable, inclusive, and prejudice-free. Inclusive/Bias-free language is the standard outlined by all major academic style guides, including MLA, APA, and Chicago, and it is the expected norm in university-level work. Good writing and speaking do not use unsubstantiated or irrelevant generalizations about personal qualities such as age, disability, economic class, ethnicity, marital status, parentage, political or religious beliefs, race, gender, sex, or sexual orientation. Inclusive language also avoids using stereotypes or terminology that demeans persons or groups based on age, disability, class, ethnicity, gender, race, language, or national origin. Respectful use of language is particularly important when referring to those outside of the religious and lifestyle commitments of those in the PLNU community. By working toward precision and clarity of language, we mark ourselves as serious and respectful scholars, and we model the Christ-like quality of hospitality.

If you (or someone you know) have experienced other forms of discrimination, you can find more information on reporting and resources at PLNU's Nondiscrimination webpage.

Sexual Misconduct and Discrimination

In support of a safe learning environment, if you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that accommodations and resources are available through the Title IX Office. Please be aware that under Title IX of the Education Amendments of 1972, faculty and staff are required to disclose information about such misconduct to the Title IX Office.

If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services or consult the list of campus pastors.

If you (or someone you know) has experienced other forms of discrimination or bias, you can find more information on reporting and resources via the Nondiscrimination and Anti-harassment Policy.

PLNU Course Modality Definitions

1. Online Courses: These are courses with class meetings where all instruction and interaction are fully online.
    1. Synchronous Courses: At least one class meeting takes place at a designated time.
    2. Asynchronous Courses: All class meetings are asynchronous.
2. Hybrid Courses: These are courses with class meetings that take place both in the classroom and online synchronously and/or asynchronously.
3. In-Person Courses: These are courses that meet in person with the instructor and students in a physical classroom setting. With approval by the area dean, this may include up to 25% of qualified class interactions through a Learning Management System (such as Canvas).

PLNU Attendance and Participation Policy

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. Therefore, regular attendance and participation in each course are minimal requirements.

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.

Students who anticipate being absent for an entire week of a course should contact the instructor in advance for approval and make arrangements to complete the required coursework and/or alternative assignments assigned at the discretion of the instructor. Acceptance of late work is at the discretion of the instructor and does not waive attendance requirements.

Refer to Academic Policies for additional details.

Synchronous Attendance/Participation Definition

For synchronous courses that have specific scheduled meeting times (including in-person, hybrid, and synchronous online courses), absences are counted from the first official meeting of the class regardless of the date of the student's enrollment. For courses with specific attendance requirements, those requirements are outlined in the course syllabus.

Note: For synchronous courses with an online asynchronous week, refer to the Online Asynchronous Class Attendance policy listed below.

Online Asynchronous Attendance/Participation Definition

Students taking online courses with no specific scheduled meeting times are expected to actively engage throughout each week of the course. Attendance is defined as participating in an academic activity within the online classroom, which includes, but is not limited to:

- Engaging in an online discussion
- Submitting an assignment
- Taking an exam
- Participating in online labs
- Initiating contact with a faculty member within the learning management system to discuss course content

Note: Logging into the course does not qualify as participation and will not be counted as meeting the attendance requirement.

Use of Technology

In order to be successful in the online or hybrid environment, you'll need to meet the minimum technology and system requirements; please refer to the *Technology and System Requirements* information. Additionally, students are required to have headphones, speakers, a microphone, or a webcam compatible with their computer available to use. Please note that any course with

online proctored exams requires a computer with a camera (tablets are not compatible nor allowable) to complete exams online.

Problems with technology do not relieve you of the responsibility of participating, turning in your assignments, or completing your classwork.

GPS Academic Resources

PLNU offers the following free academic resources virtually for Graduate Professional Studies (GPS) Students. Visit myPLNU through the links below for more information.

- **The GPS Writing Center offers:**
    - **Zoom Writers Workshops** offered each quad on a variety of helpful topics
    - **One-to-one appointments** with the Writing Coach
    - **Microlearning YouTube Video Library** for helpful tips anytime
- **Research Help Guide** to help you start your research
    - The physical office is located on the third floor of the **Mission Valley Regional Center** off the student lounge
- **Academic Writing Resources Course:** Found on your Canvas Dashboard, this course is non-credit with 24/7 access, no time limits, and self-paced content. **Watch a quick video run-through** and take time now to explore!
- **Grammarly**: Students have unlimited FREE access to Grammarly for Education, a trusted tool designed to help enhance writing skills by providing real-time feedback, identifying areas for improvement, and providing suggestions. Grammarly's Generative AI is NOT available with our student accounts.
- **Tutoring**: Students have access to 24/7 live or scheduled subject tutoring through Tutor.com, including a Paper Drop-Off Service with feedback within 12 hours.

Assignments-at-a-Glance

The course summary below lists our assignments and their due dates. Click on any assignment to review it.