Introduction to General, Organic, and Biological Chemistry Laboratory - CHE1003L
Fall 2022 Syllabus

INSTRUCTORS:

Lindsey Fleckenstein
Email: lflecken@pointloma.edu

J. Chris McGaugh, M.A.
Email: jcmcgaugh@pointloma.edu

Kelly Hunter, Ph.D.
Email: khunter@pointloma.edu

SCHEDULE

Section 1: M	2:45 pm – 5:35 pm	ST 221	McGaugh
Section 2: M	6:00 pm – 8:50 pm	ST 221	McGaugh
Section 3: T	9:30 am – 12:20 pm	ST 221	Fleckenstein
Section 4: T	1:30 pm – 4:20 pm	ST 221	Fleckenstein
Section 5: T	6:00 pm – 8:50 pm	ST 221	Fleckenstein
Section 6: Th	1:30 pm – 4:20 pm	ST 221	Hunter

COURSE DESCRIPTION:

CHE1003L is the laboratory course that accompanies CHE1003, Introduction to General, Organic and Biochemistry at Point Loma Nazarene University. These two courses are separately graded corequisites designed to be taken during the same semester.

CHE1003L: An inquiry-based laboratory that is a co-requisite for CHE1003.

TEXTBOOK & SUPPLIES:

- Laboratory Experiments to Accompany General, Organic and Biological Chemistry: An Integrated Approach, 3rd Edition, by Charles Anderson, David B Macaulay, 2013 (ISBN: 978-1-119-91825-7). *Required*.
- Laboratory safety glasses and lab coat (sold by the Chemistry Department in lab during the first week). *Required*.

LEARNING OUTCOMES:

An understanding of chemistry is a necessary part of an education in the basic and applied sciences, engineering, and medical professions. It also provides insight and increased comprehension regarding current events and proposed policies.

Upon completion of CHE 1003 and CHE 1003L, you will be able to:

- Identify the different properties of solids, solutions, and gases
- Describe the properties of atoms, ions, molecules, and molecular compounds
- Write and balance chemical reactions and explain quantities associated with them
- Identify the main functional groups (alkenes, amines, ketone, alcohol)
- Utilize basic biochemistry concepts to assemble proteins from functional groups
- Describe biochemical processes using the functions of these protein systems

SAFETY:
Safety is a priority in the lab. You will be required to sign a safety agreement form before you can take part in the lab. The agreement form delineates safety rules set forth by the department (including closed-toed shoes, proper PPE, etc.). If you fail to comply with any one of the rules in the safety agreement, you may be excluded from the lab and will not have the opportunity to make up missed assignments.

ATTENDANCE POLICIES:
Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings (one lab period), the faculty member may file a written report which may result in de-enrollment. If the absences exceed 20 percent (three lab periods), the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. See Academic Policies in the Undergraduate Academic Catalog.

Laboratory sections will meet on a weekly basis, see the schedule for details. There are no allowed or excused absences except as approved in writing by the Provost for specific students participating in certain university-sanctioned activities, such as sports, debate, music, etc., or due to medically-verified illness. If you must miss a lab for a valid reason (Provost-*approved* activity or Wellness Center-*verified* illness, etc.), then you must make *prior* arrangements by sending an email to the Lab Coordinator (lflecken@pointloma.edu), no later than the week *before* the lab that you will miss. If you do not provide *prior* notice, you will receive grades of zero for each missed assignment. If you cannot provide *prior* notice, then ask someone else to send the email for you *before* the class you will miss. No other shifts in lab schedules will be permitted.

GRADING:

You are responsible for all the material covered in lab even if you did not attend. Some experiments will be done individually, while others are best worked in pairs. Your lab instructor will specify when you work in pairs. In either case, *individual* lab reports will be submitted no later than the end of each lab period. A quiz, given during the first 10 minutes of the lab period, is designed to test each individual student's understanding of the current and previous week's experiments. Lab quizzes will not be allowed to be completed if a student is more than 10 minutes late to the lab period. *No late assignments (lab reports and lab quizzes) will be accepted. *

The following graded items will contribute to your overall grade in CHE 1003L:

Participation	15%
Lab Quizzes	15%
Lab Reports	70%

Lab safety, participation, and post-lab cleanup will be monitored and will affect a student's grade. The participation component will evaluate your preparedness for each experiment as you arrive in lab; your participation in each part of the experiment, whether working individually or with a partner; your attention to lab safety and neatness during lab; and cleanup of your lab space and public lab spaces, as needed, including equipment and chemicals, before you leave the lab for the day. You will need to receive a signature from either an instructor or TA, signifying that your laboratory area (including the bench and bench drawers) was clean, in order to receive full points for participation.

There is no final exam for CHE 1003L.

Letter grades will be assigned at the end of the course based on your percentage of total possible points, according to the following APPROXIMATE scale:

A	90 – 100%
B	80 – 89%
C	70 – 79%
D	60 – 69%
NC/F	< 60%

(+) and (–) grades will be assigned within each bracket. (There is no A+ grade.)

STRATEGIES for SUCCESS in CHE1003L:

- Come prepared to lab. Read the lab manual and envision what you'll be doing in the lab. Write a summary or outline of the procedures in your own words, so you can work more efficiently and effectively, and anticipate what data will be collected. Look at the report pages to see what questions or calculations are needed.
- Get help if you don't understand. The instructors and lab assistants are here for you!
- Pay attention in lab. Know what you're doing, what chemicals you're using, and how to interpret positive or negative results you are observing during the lab procedure.
- Take the lab seriously from the very beginning. Review labs directly after class, and prior to the following week's lab quiz.

ADMINISTRATION:
The use of portable electronic devices (phones, laptops, iPads, etc.) is strictly **prohibited** during lab quizzes, and during the pre-lab discussion.

PLNU's course-information website, Canvas (http://canvas.pointloma.edu), is used as a repository for course material such as grades and miscellaneous items. Announcements will be sent out via Canvas. It is your responsibility to check Canvas regularly and to confirm that your correct email address is in the system. Grades will be posted periodically to Canvas.
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 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.

Academic Accommodations Policy: 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 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.

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 becomes an expression of faith. Being of Wesleyan heritage, we aspire to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

INTRO TO CHEMISTRY LABORATORY (CHE 1003L)
Fall 2022 Laboratory Schedule

Session	Dates	Experiment	Lab Manual
1	August 29-September 2*	Measurement	pp. 27-44
1	September 5-9**	Measurement	pp. 27-44
2	September 12-16	Ions; Role in Nutrition	pp. 53-68
3	September 19-23	Chemical Reaction	pp. 123-138
	September 26-30	**No labs**	
4	October 3-7	Stoichiometry; Mole Relationships	pp. 139-150
5	October 10-14	Acids, Bases, Buffers, and Antacids	pp. 169-188
6	October 17-21	Aspirin and Related Compounds	pp. 207-220
7	October 24-28	Iodine Separation	On Canvas
8	October 31-November 4	Paper and Thin-Layer Chromatography	pp. 69-86
9	November 7-11	Proteins	pp. 267-280
10	November 14-18	Enzymes	pp. 281-291
	November 21-25	**Thanksgiving break – no labs**	
11	November 28-December 2	Carbohydrates	pp. 233-251
12	December 5-9	Lipids	pp. 253-266

*ONLY Monday lab sections meet
**ONLY Tuesday and Thursday sections meet