General Chemistry I LABORATORY
(CHE1052L)
Fall 2019 Syllabus

COURSE DESCRIPTION:

CHE 1052L is the laboratory course that accompanies CHE 1052, the first-semester general chemistry course at Point Loma Nazarene University. These two courses are separately graded corequisites designed to be taken during the same semester.

CHE1052 (4 units): Study of the basic principles of modern chemistry. Emphasis on atomic and molecular structure, chemical bonding, gas laws, states of matter, thermochemistry, and solutions. Course includes one three-and-a-half-hour laboratory each week. Prerequisite(s): Satisfactory high school background or CHE 103 or PSC 111. Corequisite(s): CHE 1052L

CHE1052L (1 unit): An inquiry-based laboratory accompanying CHE 1052. Letter graded. Corequisite(s): CHE 1052

LAB MEETING DAYS, INSTRUCTORS, TIMES, and LOCATIONS:

Monday	Tuesday	Wednesday	Thursday
	Section 3 (Alexander) Tue 8:00 – 11:30 am ST 209		Section 8 (Weiss) Thu 8:00 – 11:30 am ST 209
Section 1 (Lingner) Mon 2:45 – 6:15 pm ST 209	Section 4 (Engle) Tue 1:30 – 5:00 pm ST 209	Section 6 (Perry) Wed 2:45 – 6:15 pm ST 209	Section 9 (Martin) Thu 1:30 – 5:00 pm ST 209
Section 2 (Schumacher) Mon 6:30 – 10:00 pm ST 209	Section 5 (Schumacher) Tue 6:30 – 10:00 pm ST 209	Section 7 (Bonner) Wed 6:30 – 10:00 pm ST 209	Section 10 (Martin) Thu 6:00 – 9:30 pm ST 209

REQUIRED MATERIALS:

1. *Laboratory Manual:* General Chemistry I Laboratory, Che 1052L Lab Manual, Fall 2019, ISBN-10: 1319340873; ISBN-13: 9781319340872,
   This book is written specifically for Fall 2019 – ***Lab Manual must be purchased new.***
2. *Scientific Calculator:* Non-graphing, non-programmable calculator required.
3. *Safety Glasses and Lab Coat:* Sold in lab by Chemistry Club.
4. *Course Website:* http://canvas.pointloma.edu Course: CHE1052L-1 FA19

LAB COORDINATOR:

Dr. David Lingner Rohr Science 328 619-849-2470 davidlingner@pointloma.edu

Office Hours: Mon/Tues 10:30 – 11:30 am; Wed/Thurs 1:00 – 2:00 pm; or by email anytime.

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.

Specifically, upon completion of CHE 1052 and CHE 1052L, you will be able to:

- Demonstrate a foundational knowledge of the general principles of chemistry including atomic and molecular structure, chemical bonding, states of matter, solutions, etc.
- Solve problems related to unit conversions, stoichiometry, energy calculations, gas laws, etc.
- Perform basic chemical laboratory techniques related to the topics listed above.

General Education Learning Outcome 1(e), "Quantitative Reasoning: Students will be able to solve problems that are quantitative in nature," will be assessed directly using problems that are quantitative in nature on the Che 1052 final exam.

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. 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 can 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. There are no allowed or excused absences except as approved in writing by the Provost for specific students participating in certain university-sanctioned activities. 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, no later than the week before the lab that you will miss, to ascertain whether or not you can attend a different lab section during the same week. If you do not provide prior notice, you will not be permitted to make up missed labs or quizzes and you will receive grades of zero for each missed assignment. If you cannot provide prior notice, then ask someone else to send notice for you. 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 at the end of each 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.
* No late assignments (lab reports and lab quizzes) will be accepted. *

The following graded items will contribute to your overall grade in Che 1052L:

Lab Reports	75%
Lab Quizzes	25%

Lab safety, participation, and post-lab cleanup will be monitored and will affect student's grade in borderline situations. 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.

There is no final exam for Che 1052L.

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 CHE1052L:

- 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 procedure, 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 something. The instructors and lab assistants are here for you!

- Pay attention in lab. Know what you're doing, what chemicals you're using, and what positive or negative results you should be 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, iPods, etc.) not related to the course is not permitted during lab quizzes, nor during the lab discussion and procedures.

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.

SCHEDULE for CHEMISTRY 1052L

DATES	LABORATORY
9/2 – 9/5	**No Lab**
9/9 – 9/12	Check-in AND Scientific Measurements *(p. 1)*
9/16-9/19	Determination of a Chemical Formula: The Reaction of Iodine with Zinc *(p. 19)* AND Nomenclature Worksheet (*Che 1052*)
9/23-9/26	A Cycle of Copper Reactions *(p. 27)*
9/30-10/3	Volumetric Titration of Acids and Bases *(p. 39)*
10/7-10/10	Determining R Using a Metal-HCl Reaction (*p. 47)* AND Oxidation-Reduction Worksheet (*Che 1052*)
10/14-10/17	The Molar Volume of Dioxygen and Other Gases *(p. 55)*
10/21-10/24	Enthalpy Changes in Chemical Reactions: Hess's Law *(p. 65)*
10/28-10/31	Absorption and Emission Spectroscopy *(p. 77)*
11/4-11/7	Determination of a Chemical Formula by Titration: The Reaction of Calcium with Water *(p.85)*
11/11-11/14	Ionic and Covalent Bonding: Conductivity of Solutions of Ionic and Covalent Compounds *(p. 93)*
11/18-11/21	Writing Lewis Structures *(p. 105)* AND Models of Molecular Shapes: VSEPR Theory & Orbital Hybridization *(p. 123)*
11/25-11/28	**Thanksgiving Recess - No Lab**
12/2-12/5	Crystal Structures Lab *(p. 163).* (*Please read Ch. 12.1 – 12.6 in Che 1052 textbook*.)
12/9-12/12	Liquids and Solids: The Vapor Pressure and Enthalpy of Vaporization of Water, The Enthalpy of Fusion of Water *(p. 149)* AND Check-out